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

**Computer-Mediated Relationship Development: A Cross-Cultural Comparison**

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**Abstract**

This study extends prior scholarship on the role of self-disclosure in relationship development on the Internet in three different cultures: Korea, Japan, and the United States. The duration of the online relationship was considered as well as the two typical dimensions (i.e., breadth and depth) of self-disclosure. The results suggest some cross-cultural differences and similarities in the associations between self-disclosure and relationship qualities. For Americans, Japanese, and Koreans, self-disclosure was directly associated with online relationship development. However, the relationship between self-disclosure and trust was positive only for Americans.

**Introduction**

The popularity of cyberspace interactions and relationships in the U.S. and other countries has increased dramatically in recent years, and research interest in this area has increased accordingly (e.g., Dainton & Aylor, 2002). The Internet provides another context and channel for people to meet with strangers for the first time, initiate meaningful and satisfying conversations, and build stable, long-term relationships, similar to face-to-face (FTF) interactions (Walther & Burgoon, 1992). Through frequent and extensive verbal exchange of social information, partners interacting on the Internet may actively engage in self-disclosure and come to feel close to and bond with each other. Accordingly, many people regularly use the Internet to meet a special someone or to maintain personal relationships (e.g., Parks & Floyd, 1996; Ryan, 1995; Stafford, Kline, & Dimmock, 1999). Some CMC researchers (e.g., Bonebrake, 2002) believe that online relationships are already regarded as normal experiences.

Despite the fact that computer-mediated communication (CMC) has become a common tool of communication in industrialized countries, little is yet known about how people utilize CMC as a relational communication channel in different cultures. It is widely recognized that Internet access and frequency of online interactions in East Asian countries are comparable to (if not higher than) in the U.S. (Johnston,
According to Ma (1996), most cross-cultural studies comparing the communication styles of East Asians and North Americans have focused on FTF interactions.

The present study addresses theoretical and practical questions regarding CMC and its impact on relationship development among people in East Asia (Japan and South Korea) and the U.S. The first question concerns the extent to which theories of FTF communication and relationship development are applicable to CMC settings in these countries. For example, social penetration theory (SPT) assumes that relationship escalation is closely tied to information exchanges in communication (i.e., self-disclosure) and the uncertainty reduction that results (Altman & Taylor, 1973; Berger, 1988). Yet, this assumption is primarily based on observations of FTF interactions. Will the assumptions of social penetration theory hold in CMC in different cultures? Only one study has investigated an international sample to address a similar question (Parks & Roberts, 1998); however, the composition of the sample made it impossible to perform a cross-cultural comparison. Second, on a pragmatic level, the present study tests to what extent people in different cultures use the Internet for interpersonal purposes, and what the implications are of this use.

Given that Internet users have few spatial constraints, may engage in interactions and relationships with foreign Internet users, and may encounter unexpected communication behaviors and barriers due to cultural differences, it is necessary to conduct an empirical study to help better understand the theoretical and practical implications of culture on CMC and relationship development and facilitate relationship building for intracultural and intercultural partners.

Social Penetration Theory and Relationship Development

Relationships develop as the level of social penetration increases (Altman & Taylor, 1973). In other words, people feel closer to their partners as they disclose more intimate and personal information about themselves, and they expect their partners to do the same. Social penetration has typically been investigated in terms of self-disclosure, the common indicators of which are the depth and breadth of information exchange. The main route to social penetration is through sharing a wide range of topics (breadth) and personally revealing information that is at the core of one’s self-concept (depth). Both depth and breadth are equally crucial to the process of social penetration. Relationships develop in a "gradual and orderly fashion from superficial to intimate levels of exchange as a function of both immediate and forecast outcomes" (Taylor & Altman, 1987, p. 259).

The pattern of self-disclosure has a significant impact on relationship escalation and progress. In the early stages of typical FTF interactions, people exchange non-intimate, impersonal topics (low in depth) and open up and share a more intimate level of information increasingly over time as they find their partners to be rewarding. This applies to virtually all types of interpersonal relationships, from friendship to romantic relationship (Altman & Taylor, 1973; Taylor & Altman, 1987). Breadth (i.e., the range of topics) of self-disclosure is also limited when the duration of relationship is short. Generally speaking, however, the rate of increase in impersonal topics (breadth) is faster than the rate of increase in intimate information (depth). Research has suggested that greater self-disclosure is linked to greater emotional involvement in dating relationships (Rubin, Hill, Peplau, & Dunkel-Schetter, 1980). In marital relationships,
greater self-disclosure is also associated with greater marital satisfaction (Hansen & Schuldt, 1984). However, in order to understand fully the phenomenon of self-disclosure, it is necessary to consider multiple factors that may influence self-disclosure (e.g., duration of interaction, context, and culture).

Duration of interaction affects self-disclosure. In general, as relationships develop, partners communicate less superficial and more deeply personal topics, incrementally penetrate one another's public identities to reach their core identities, and become intimate (Walther, 1993). This process of social penetration depends on a cost-benefit analysis that each person performs as he/she considers the possibility of a close personal relationship. If the perceived mutual benefits outweigh the costs of greater vulnerability caused by self-disclosure, the process of social penetration and relationship development will proceed (Altman & Taylor, 1973). This means that the depth and breadth of information, taking into consideration the length of the relationship, will by and large reflect the quality of relationship.

Although in escalating relationships the amount of self-disclosure is in general a useful index of relationship quality (e.g., involvement, satisfaction, and intimacy), in established relationships self-disclosure alone may not be the most reliable indicator of relationship quality. In the long haul, privacy and independence may be as important to both partners as self-disclosure and intimacy (Altman, Vinsel, & Brown, 1981). These assumptions and research findings are all based on face-to-face communication in Western contexts.

Context is another factor that may affect self-disclosure. For example, research has indicated that self-disclosure is not necessarily incremental over time but sometimes rather is in the form of "quick revelation" without relational commitment or escalation; this is called the "stranger-on-the-train (or plane, etc.)" phenomenon. In this context, a person may confide a great deal of personal, revealing information without intending to become close to a total stranger whom he or she has just met, presumably to unload bottled-up emotions and maintain his or her own psychological (and even physical) health (Pennebaker, Colder, & Sharp, 1990). The Internet provides another ideal context for quick self-disclosure in which interactants may break the rules typically governing self-disclosure (e.g., that it should be a gradual process). Based on empirical research, Ma (1996) claimed that East Asian and North American college students tend to display greater self-disclosure in CMC as compared to FTF interactions, because they perceive little or no risk related to self-disclosure in CMC (e.g., no physical presence, no commitment). However, the East Asian students were not perceived by the North American students as self-disclosing as much as the East Asian students perceived themselves to be. Culture is thus another factor that may influence self-disclosure, and is the focus of this study.

Computer-Mediated Communication

CMC is a common yet unique interaction setting that may substitute for and/or supplement FTF interactions. According to Utz (2000), approximately 80% of MUDders (users of multi-user domains) reported the formation of online personal relationships. In the same vein, in a study with an international sample (91% from the U.S., Canada, and Australia), Parks and Roberts (1998) found that approximately 94% of the participants had formed at least one actively-involved personal relationship on the Internet.
Still, it is notable that scholars do not converge with respect to the question on whether or not, and to what extent, individuals develop meaningful relationships on the Internet, as compared to FTF. Although many believe that the Internet has liberated communicators and relationship partners from traditional constraints and boundaries like time and place, CMC has apparent disadvantages in terms of building a personal relationship as compared to FTF interactions, in which an abundance of verbal and nonverbal cues are available.

One of the barriers in CMC is a higher degree of uncertainty about interactants due to limited cues. Some scholars (Berger & Calabrese, 1975; Parks & Adelman, 1983) maintain that CMC, as compared to FTF, should result in greater uncertainty and therefore make it more difficult to identify behavioral norms, rules governing relationships, and attributions and interpretations of certain behaviors displayed in interactions. This could end up preventing or discouraging the development of intimate personal relationships. Attraction in CMC settings appears unlikely to occur because interpersonal attraction typically assumes physical presence, frequent interaction, and access to a wide range of social information (Lea & Spears, 1995). In addition, a lack of nonverbal intimacy cues or affect displays between partners poses challenges for online relationships (Lea & Spears, 1995). The text-based nature of most CMC and its relative lack of socio-emotional cues may even facilitate aggressive and impulsive behavior, as a result of which people may forge fewer socioemotional bonds (Kim, 2000).

A lack of interaction history and shared norms poses another challenge to close relationship development online. CMC users tend to engage in more verbal aggression, inappropriate self-disclosure, and conflict-inducing behavior than do FTF interaction partners (e.g., Dubrovsky, Kiesler, & Sethna, 1991; Sproull & Kiesler, 1991). For example, "flaming" poses a threat to online relationship development (e.g., Lea, O'Shea, Fung, & Spears, 1990; Witmer, 1997). Flaming refers to abrasive and impulsive, or even abusive behavior, and is common in CMC. Witmer (1997) maintains that flaming may keep quality online communication and relational development from occurring. Slouka (1995) is also one of those who view online relationships as impersonal, "shallow," illusory, and even "dangerous." In all, considering the uncertainty related to the lack of prerequisites for relationship development mentioned above (e.g., frequent interaction and nonverbal affect display), relationship development would appear to be a challenging task for CMC users.

These pessimistic assumptions about relationship development in CMC, however, were subsequently questioned by new theories and empirical findings. Walther and his associates (Walther & Burgoon, 1992; Walther, Anderson, & Park, 1994) proposed a social information processing perspective (SIP) on CMC that maintained that CMC's weaknesses due to channel deficiency and reduced cues could be overcome over time if interaction occurs frequently and is sustained for an extended period of time. Although few (especially, nonverbal) social cues are present in CMC, self-disclosure can occur through elaborate verbal exchanges and can accurately represent the level of relationship development. Therefore, given enough time for message exchange and self-disclosure, intimate relationship development can occur in CMC just as in FTF interactions (Walther & Burgoon, 1992). People learn to verbalize and elaborate feelings on the Internet that would be nonverbal and hence implicit in FTF interactions (Walther & Burgoon, 1992). CMC partners can not only become intimate over time, but may even become "hyperpersonal" and create a greater sense of intimacy than FTF partners can (Walther, 1996). The equivalent of nonverbal symbols
(i.e., emoticons) and other visual signs can contribute to the success of relationship development over time.

Some research findings confirm these SIP-based speculations. Utz (2000) found support for the social information processing theory (SIP) in a study of predominantly German college students. Internet users in Utz's study reported developing friendships online and expressing emotion through paralanguage (i.e., emoticons such as smileys). The link between the use of paralanguage and making friends online is modified by the time spent on the Internet and the verbal expression of relational content. Therefore, a sustained online interaction should be able to overcome the absence of physical displays of affection and lead to a close, meaningful relationship.

Utz's findings can be further explained by social exchange theory and social penetration theory. These theories are rather optimistic about relationship development via CMC and focus on processes and rewards associated with exchanges of verbal, text-based information (as opposed to nonverbal cues). For example, social exchange theory predicts that rewards or positive outcomes deriving from CMC are incentives for forming and maintaining relationships (e.g., Kelley, 1979). Participants in Utz's study might have found their interactions with online friends rewarding and worthwhile. As discussed above, social penetration theory (Altman & Taylor, 1973) predicts that when people perceive that rewards associated with self-disclosure outweigh costs, they will reveal personal information to indicate their commitment to the ongoing relationship, which will in turn increase relationship quality. Likewise, according to SIP, the disadvantages of CMC as a means of relationship development can be overcome eventually through positive self-presentation (e.g., controlling and editing communication) and idealization of the partner, which intensifies interaction between the partners (Walther, 1993, 1996; Walther & Burgoon, 1992). In general, then, CMC may be comparable to FTF in terms of self-disclosure. Yet, the implications of self-disclosure on online relationship development remain untested.

**CMC, Self-Disclosure, and Relationship Development**

Once they become established, online personal relationships demonstrate the same relational dimensions and qualities as FTF relationships: e.g., greater interdependence, predictability/understanding, code convergence, commitment, and online and offline network sharing/convergence (e.g., Parks & Floyd, 1996; Parks & Roberts, 1998). Parks and Floyd (1996) observed moderate to high degrees of these relational qualities in online relationships. A majority of participants (61%) in Parks and Floyd's study felt intimate with their online partners, and over half (57%) of the respondents perceived that their online conversations covered a wide range of topics. With respect to code convergence (i.e., the extent to which partners develop a specialized and efficient way of communication in order to reinforce their relational identity), CMC participants also reported using highly developed, personalized codes (Parks & Floyd, 1996). About half of the Internet users also displayed high commitment to the ongoing online relationship in question (Parks & Floyd, 1996).

However, a vast majority of Parks and Floyd's (1996) respondents (more than two-thirds) fell well below the midpoint of the scale regarding network convergence, which involves both sharing preexisting online networks (online network convergence) and sharing preexisting offline, FTF social networks (offline...
network convergence). Network convergence was greater than the average when only other online contacts were considered (i.e., online relationship partners are more likely to introduce the other to their existing online network than to their existing FTF social network). According to Parks and Floyd (1996), approximately 30% of the respondents had highly advanced online personal relationships, another 30% had less developed relationships, and 40% had no online relationships. One-third of those in Parks and Floyd’s study (1996) who started a personal relationship in cyberspace eventually moved beyond CMC and met their partner FTF. Parks and Floyd concluded that online relationships can be supplemental or instrumental to normative offline personal relationships.

Formation and development of personal relationships via CMC appears to be prevalent in diverse Internet interaction settings. Parks and Roberts (1998) replicated Parks and Floyd (1996) in a more advanced Internet context (i.e., MOOs) with an international sample, primarily representing Western cultures (the U.S., approximately 80%, Canada, 9%, and Australia, 3%). Parks and Roberts’ respondents’ levels of relationship development were, on average, moderate to high in terms of interdependence, intimacy (breadth and depth of conversation), code convergence, perspective taking (“predictability/understanding”), commitment, and online network convergence. In the present study, the convergence of online relationship partners into offline social networks occurred about half of the time, and approximately 41% of the respondents rated their level of offline convergence high, which somewhat replicates Parks and Floyd’s (1996) previous finding (as stated above, one-third of the respondents were self-reportedly high on offline network convergence). Other evidence in the literature suggests that online relationships can develop into serious FTF dating relationships or even marriage (Bruckman, 1992; Reid, 1991, cited in Parks & Floyd, 1996). Given the moderate to high levels of self-disclosure and other positive relational characteristics in CMC (e.g., Parks & Floyd, 1996; Utz, 2000), these relational outcomes are not surprising.

Counter-evidence to the positive impact of self-disclosure on online relationship development also exists in the research literature. Ma (1996) observed that people who self-disclose in CMC do not appear to have the same level of commitment as those who do it in FTF. As discussed above, people self-disclose for a different reason (e.g., low risk) in CMC as compared to FTF. However, in Ma's study, the participants were East Asians and North Americans, and their reports were based on their perceptions of intercultural (versus intracultural) interactions in CMC. Therefore, one might imagine that factors other than self-disclosure could have affected their perceptions of risk and commitment in these interactions. One possibility is that in intracultural CMC, the partners are typically not as far apart geographically as in intercultural, international CMC. Supporting this reasoning, in a study with an intracultural sample, Wolak, Mitchell, and Finkelhor (2002) found that about one-third of the participants indicated that their CMC partners were in the vicinity, and more than two-thirds had offline contact (e.g., phone, FTF). In another study, online relationship partners (who met online) showed empathy for others and enjoyed genuine relationships in an intracultural study (McCown, Fischer, Page, et al., 2001).

Another possible explanation is that miscommunication may be more frequent in intercultural CMC versus FTF, resulting in dissatisfaction and confusion with the interaction. Ma (1996) indicated that in an intercultural CMC study, North American and East Asian partners (mis)perceived and (mis)interpreted the other's self-disclosure behavior due to different frames of reference. These might have infringed on the
self-reported levels of commitment and relationship development.

Taken together, these studies lead to the prediction that partners in online relationships can create and preserve a quality of relationship equal or comparable to that of FTF relationships. Therefore, the following hypothesis was posited:

**H1:** The effect of self-disclosure on relationship quality in CMC is not different from the effect of self-disclosure on relationship quality in FTF interactions.

**Culture, Self-Disclosure, and Relationship Development in CMC**

Theories about FTF interpersonal interactions have often times been criticized for Euro-centric bias, meaning that they may be valid and useful in Western sociocultural contexts but fail to work outside non-Western contexts. For example, L. Chen (2003) states that culture's influence on interpersonal communication is most evident in self-disclosure in terms of topic variety (breadth) and intimacy (depth). A direct and open (low-context) communication style is expected in individualistic cultures, whereas indirectness and restraint in self-disclosure (high-context communication style) are desirable in collectivistic cultures (Gudykunst & Nishida, 1986). In short, individualists tend to self-disclose more than do collectivists (G. M. Chen, 1995; Ting-Toomey, 1991). Therefore, one might predict that in some cultures self-disclosure is not as significant a factor in relationship development as it would be in other cultures, at least, in FTF communication settings.

Contradicting this speculation, recent literature on the associations between positive FTF communication strategies and relationship development suggests that the effect of self-disclosure on relationship quality is rather similar across cultures. Yum and Canary (1997) found that although Korean romantic partners tend to engage in self-disclosure (i.e., open and direct communication) less than do their American counterparts, both Koreans' and Americans' self-perceived degrees of self-disclosure were positively associated with the quality of relationship in terms of, e.g., liking, trust, commitment, and mutual influence. One should note that the participants in Yum and Canary's (1997) study were young college students who had been educated in democratic and egalitarian beliefs and values. It appears that, regardless of culture, young people have similar expectations about communication and the quality of close relationships they choose to form and continue.

The amount of self-disclosure in CMC may also be similar across cultures. One study specifically compared self-disclosure in bulletin board systems (BBSs) between East Asians and North Americans and found that regardless of cultural membership, the amount of self-disclosure was greater in CMC than in FTF conversations (Kim & Raja, 1991, cited in Ma, 1996). Kim and Raja speculated that in CMC, self-disclosure is high because the participants may perceive a relative absence of cultural constraints and thus feel less need for inhibition or self-monitoring as in FTF interactions. However, Kim and Raja did not focus on the specifics of self-disclosure (e.g., context and goal) for the purpose of developing or maintaining a relationship.

In light of the equivocal findings in the extant cross-cultural FTF communication literature, and the lack of cross-cultural research on the association between self-disclosure and relationship development in CMC,
the following question was posited:

**Q1:** Does the magnitude of the association between self-disclosure and relationship quality in CMC vary among Americans, Japanese, and Koreans?

**Culture and Types of Online Relationships**

Prior research has shown that online relationships are likely to involve opposite-sex partners. Parks and Floyd (1996) reported that online opposite-sex relationships are more common than online same-sex relationships. A majority of people who are involved in an online relationship identify their relationship as friendship, and among those friendships, slightly more were opposite-sex than same-sex (Parks & Floyd, 1996). Less than 10% of Parks and Floyd's (1996) respondents described their online relationships as romantic. Among those who have an online relationship, 41% were close friendships, 26% were friendships, and 26% were romantic relationships. Similarly, Parks and Roberts (1998) found that a vast majority of online relationships (approximately 84%) were involved with opposite-sex partners. Among close friends, 90% were opposite-sex. Wolak et al. (2002) also reported that most participants (more than 70%) in their nation-wide survey of 1,500 adolescent Internet users identified their online relationships as cross-gender relationships; 14% being close friendships and 2% being online romances. All in all, these studies suggest that online relationship development is most common between opposite-sex partners.

Considering that online interactions may go beyond the traditional boundaries and cultural constraints (e.g., time, place, and relationship norms) of interpersonal communication—and, in fact, people can find interaction partners online who have a wide range of similarities yet live in a place thousands of miles apart—cross-cultural variation may not exist with respect to relationship type and the gender of relationship partners. Therefore, a hypothesis was posited:

**H2:** Regardless of culture, a majority of relationships formed through CMC are opposite-sex friendships, versus same-sex friendships and romantic relationships.

**Method**

**Participants**

A total of 361 college students in three different cultures responded to a survey on a voluntary basis: 126 Japanese (40 males and 82 females), 112 U.S. Americans (69 males, 42 females), and 123 South Koreans (52 males, 61 females). 10 individuals did not indicate their gender identity, and 4 individuals were homosexuals; they were not included in the sample. The participants in the study were enrolled in non-CMC courses in their respective countries at the time of data collection. Instructors announced the 10-minute survey in class and briefly described its purpose. Depending on the circumstances, students were instructed to do the survey during the class or at home, and return the completed survey to the instructor next class. No extra credit was offered. At the time of the distribution, the instructors made it clear that the students' participation was entirely voluntary. Participation was considered as implied consent.
All final participants were Internet users who were involved in online relationships at the time of data collection (95% of U.S. Americans, 48% of Japanese, and 96% of Koreans were selected from the initial respondent pool). Instead of lumping Koreans and Japanese together as East Asians, each national sample was considered as a separate culture, based on suggestions from prior studies (e.g., Kim et al., 1996; Kim & Wilson, 1994).

Participants' ages ranged between 18 and 31 years, and the mean for the entire sample was slightly over 20 years ($SD=2.74$). Means and standard deviations for individual cultures were: $M=19$, $SD=2.26$ for Japanese; 20, 2.23 for U.S. individuals; and 21, 3.26 for Koreans.

On average, participants had been involved in the online relationship in question for approximately two years, six months (two years, four months for Japanese, three years, one month for U.S. Americans, and one year, seven months for Koreans). The duration did not fluctuate significantly across the three cultures (Table 1). The average number of hours spent on the Internet did not vary significantly across cultures (approximately one and one half hours for Japanese, and two hours and 20 minutes for both Americans and Koreans).

**Measures**

To assess online self-disclosure and relationship development, the present study employed several scales constructed in previous Internet and FTF relationship studies (e.g., Parks & Floyd, 1996; Parks & Roberts, 1998). Self-disclosure was operationalized by the depth and breadth measures used by Parks and Floyd (1996). A separate self-disclosure variable was created by the composite score of depth and breadth, for each dimension is crucial to representing self-disclosure in theory. Correlation between breadth and depth was significant for all cultures, ranging from low to high ($r=.36$, $p<.001$ for Japanese, .64, .001 for U.S. Americans, and .31, .05 for Koreans). In addition, the validity of the composite self-disclosure scale was confirmed by comparing the correlation coefficients of the respective depth and breadth measures with relationship development measures in the present study.

Relationship quality was operationalized by a composite of items from established measures for salient relational features frequently used in previous studies. The scales included are the breadth and depth of conversation (self-disclosure), interdependence, interpersonal predictability/understanding, code convergence, commitment, and network convergence (for detailed information, see Parks & Floyd, 1996; Parks & Roberts, 1998). In addition to the relationship development measure, the present study involved other salient relationship quality measures such as liking, love, and trust (see Canary & Stafford, 1992, 1994, for more information on these measures). All these scales obtained moderate to high reliability coefficients in the present study. Reliability coefficients of these measures ranged between .50 (interdependence) and .90 (love). Table 1 presents the means and standard deviations for each variable.

The entire questionnaire was back translated into Korean and Japanese for the purposes of the study (Banks & Banks, 1991). To evaluate and determine levels of relationship development among Korean CMC users, the theoretic midpoint of each scale was used as a reference point (following Parks & Floyd,
1996). A score below the midpoint indicates a low level of relationship development, whereas a score above the midpoint indicates a high level of development in terms of the scale in question.

<table>
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<th>Variables</th>
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Table 1. Self-disclosure and relationship qualities of online relationships by culture
Note: M=Means, SD=Standard Deviation; ** p<.001

Results

H1 predicted that self-disclosure in CMC would be similar to that of FTF, meaning that in both contexts self-disclosure is positively associated with relationship quality. Partial correlation analysis (controlling for duration of relationship) produced mixed results (Table 2). Self-disclosure was significantly positively associated with all relationship quality variables except online network convergence, which was not associated with level of self-disclosure at all. Although significant, the association between self-disclosure and trust was weak (.32), while other correlations were moderate to strong. In terms of the two key dimensions of self-disclosure, an identical pattern emerged for depth but not for breadth. Breadth of interaction was significantly positively related to all relationship qualities, and depth was also except for online network convergence.

Q1 concerned whether cultural differences exist in the relationship between self-disclosure and relationship qualities. Although self-disclosure was significantly associated with most relationship qualities for all three cultures, some exceptions and significantly different cultural patterns emerged (Table 2). Self-disclosure was significantly related to love, liking, commitment, and code change across the board. That is, regardless of cultural membership, people who reported greater self-disclosure indicated greater love, liking, commitment, and willingness to adjust their communication style to match their partner's.
At the same time, some cultural variation with respect to the relationship between self-disclosure and relationship quality emerged. For Koreans, self-disclosure was not significantly correlated with interdependence and predictability/understanding. People who reportedly disclose more did not necessarily feel that they could count on or have confidence in their partner. For Japanese, self-disclosure was not a good indicator of trust and online/offline network convergence. Greater self-disclosure was not related to greater trust or higher probability of introducing a partner to preexisting social networks, whether online or offline. For U.S. Americans, self-disclosure was not a significant contributor to online network convergence: Greater self-disclosure generally had little to do with sharing other online buddies with the online partner. It appears that individuals build and expand online relationships as they would in FTF settings. Research has shown that online relationship building has become normal relationship practice, and people who initially form an online relationship are likely to form several new online relationships (Bonebrake, 2002). Surprisingly, self-disclosure was significantly negatively associated with trust for Koreans, whereas the association was significantly positive, yet weak, for U.S. Americans.

H2 posited that CMC relationships are more likely to be opposite-sex friendships versus same-sex friendships or opposite-sex romance. This hypothesis was not supported, suggesting that the most frequent type of online relationship cannot be generalized and may vary from sample to sample. The results, overall, indicated that a majority of CMC users in the study labeled their ongoing online relationships as same-sex friendships (39%), followed by romance (20%) and opposite-sex friendship (18%). The rest were identified as acquaintances or other. Depending on culture, however, the proportions of individuals in each type of personal relationship varied considerably. A vast majority of Japanese Internet users were currently involved in same-sex friendships (65%, versus 36% of Americans and 18% of Koreans). The second largest majority of Americans was involved in opposite-sex friendships (28%), closely followed by romantic relationships (27%). A number of Koreans (38%) were involved in acquaintance-only relationships, whereas 17% of Koreans were in opposite-sex friendships and 14% in romantic relationships. More Koreans (versus Japanese and Americans) being in acquaintance relationships may be related to the shorter period of relationship duration (1.6 years, versus 3.1 for U.S. and 2.3 for Japan) for the Koreans in the study.

**Discussion**

The findings from the present study suggest that there exist more similarities than differences between FTF and CMC with respect to the link between self-disclosure and relationship quality. As in FTF, self-disclosure is linked to positive and desired relational qualities in CMC. Participants who reported engaging
in greater self-disclosure in CMC were more likely to experience the benefits of personal relationships. Although no statistics exist regarding to what extent perceived qualities of virtual relationships transfer to actual FTF contexts, it appears that many people have confidence in ongoing cyberspace relationships and consider cyberspace as a medium for expanding meaningful FTF relationship experiences and networks. For example, Wolak et al. (2002) indicated that more than two-thirds of teenagers who maintain a close online relationship reported introducing their online partners to their FTF social network (e.g., their parents). This finding is consistent with the findings of other empirical studies that online relationship partners consider such properties as trust, honesty, and commitment important, just as in traditional FTF relationships (e.g., Whitty & Gavin, 2001).

However, due to limited social cues and the absence of nonverbal displays, deception (e.g., masking or exaggerating emotions or facts) or hints of a lack of commitment or trustworthiness is not as easy to detect in CMC as in FTF interactions. Yet unrealistic idealization of lovers or close friends when they are physically distant is not unique to CMC, but rather is common in any long-distance relationships (Stafford & Reske, 1990). Based on a study of premarital long-distance romantic partners, Stafford and Reske reported that partners who are geographically separated tend to develop idealistic images of the other due to restricted communication. Future studies need to identify what strategies and methods people use to detect partners' deception and excessive impression management, and also develop genuine relationships in CMC.

As in FTF, people meet and break up in CMC. Online partners may break up when they perceive that their relationship does not meet their ideals or expectations. In other cases, CMC-originated relationships are successful offline and lead to long-term commitment. According to Baker (2002), as in relationships formed offline, online partners build intimacy through mutual and frequent self-disclosure over a long period of time (before meeting offline). In addition, Baker stated that online relationships formed on the basis of common interests or similarities (e.g., meeting a partner in cyberspace based on hobbies and interests) tend to last longer. Overall, the more popular online relationships become, the more similar the expectations and patterns of online relationships are likely to become to those of offline relationships. Online is becoming simply another social context in which people meet their prospective relationship partners, as well as forming, developing, ending relationships, and starting over, sometimes without ever experiencing actual physical contact.

Although self-disclosure was positively associated overall with relationship quality, the present study found evidence that culture may modify the role of self-disclosure in relationship development. An important cultural difference concerned the association between self-disclosure and trust. A positive association of self-disclosure with trust emerged only for Americans, which is consistent with previous findings (Parks & Roberts, 1998). It is an established notion in the West that self-disclosure typically reduces uncertainty about others and increases interpersonal trust. In FTF romantic relationships, Yum and Canary (1997) found that young Americans enact greater openness along with other constructive behaviors and as a result experience greater trust, commitment, and liking, as compared to Koreans, although the general trend was similar in both cultures. However, for Koreans and Japanese in the present study, this assumption was not supported. For Koreans, self-disclosure was inversely associated with trust, whereas it was a non-factor for Japanese. The more Koreans felt they self-disclosed, the more likely they were to...
distrust their online partners. Theory-based explanations and additional scrutiny of this finding are in order.

It is possible that the meaning of self-disclosure may vary across cultures, as suggested by L. Chen (2003). Self-disclosure may have a negative connotation for East Asians (especially, in acquaintance relationships). If one partner reveals too much about himself or herself, the other may take it as inappropriate or as an indicator of incompetence. Furthermore, in the context of online relationships, Koreans and Japanese may anticipate strategic self-disclosure in the form of factual (especially, positive, self-promotional) information exchange and impression management, at least at the early stages of relationship development. In cross-cultural FTF communication research, it is known that face saving in personal interactions is a greater concern for collectivists than for individualists (Ting-Toomey, 1988). Still, this finding should be taken with caution and not be generalized to a wider population. Future studies could investigate individual variability, for example, in the Korean sample by identifying the role of personality traits of individual participants on the beliefs and behaviors associated with self-disclosure.

Another explanation for the disparity in the implications of self-disclosure on relationship quality might be relationship-specific, e.g., relationship length, relationship stage, and timing. Considering that the self-identified length of the online relationship was the shortest for the Koreans, followed by the Japanese, this is a reasonable speculation. It might be that Koreans in particular judged their partners' credibility harshly and negatively, feeling that they were exposed to "too much information, too soon." Revelation of one's true feelings and weaknesses may be expected to occur farther into the process of relationship development, or to be done in a more implicit manner for both Koreans and Japanese, as compared to Americans.

Self-disclosure sometimes involves revealing one's vulnerabilities and previous failings, which may induce the partner's negative evaluation of the discloser, reduce the level of attraction, and thus decrease the stability of the relationship, especially in the context of a brief interaction and close to zero relationship history (Walther, 1996). Premature self-revelation may cause discomfort and repulsion; that is, disclosing information about oneself too much too soon online may become a deal breaker. This speculation is indirectly supported by the findings from the present study that Koreans and Japanese felt considerably lower degrees of love, interdependence, and commitment in their online relationships than did Americans. Future studies need to identify the implications of varying degrees of negative and positive self-disclosure and types of topics on online relationship qualities at specific stages of relationship development (e.g., initiating, experimenting, intensifying, integrating, or bonding, and casual or serious).

It follows from the varying degrees of association between self-disclosure and relationship quality that social penetration theory and social information processing theory may be culturally specific. Self-disclosure in terms of breadth, depth, and relationship duration, in general, appears to reflect the relationship development process of Americans more accurately than that of East Asians. Cultural convergence emerged only for liking, love, commitment, and code change. However, although both Japanese and Koreans are allegedly high in collectivism and low in individualism, the associations between self-disclosure and relationship quality did not show any more similarities between Japanese and Koreans than between Koreans (or Japanese) and Americans. Self-disclosure was not significantly associated with
trust and offline network convergence among Japanese, whereas self-disclosure was linked to greater offline network convergence for Koreans and Americans. Self-disclosure was significantly associated with online network convergence for Koreans but not for Americans and Japanese. These findings suggest that in cultures defined by nationality and probably language, people may construct culturally specific norms and patterns of online interactions and relationships and will continue to do so as the role of the Internet evolves and expands.

The Korean participants in the present study, regardless of online or offline, preferred to introduce new online buddies to their existing social networks. This finding may be attributed to the duration and type of online relationships in which Koreans were involved and the reasons for online interaction in the first place. The average length of Korean online relationships was the shortest among the three cultures. Many Koreans in the present study identified their online relationships as non-intimate acquaintances and casually introduced their online acquaintances to their social networks. It might be the case that Koreans consider online to be a relational intermediary or a place to first get introduced to someone to figure out the possibility of subsequent offline relationship formation and development. In a matchmaking stage, negative self-disclosure is not expected or desired, but self-presentation is. Overall, regardless of culture, it appears that the longer the interaction lasts, the more self-disclosure is expected, up to a point. Still, future studies need to consider CMC and FTF simultaneously, for the present study showed that Internet users in online relationships tend to prefer to find a date or friends FTF, have more trust and comfort in FTF interactions, and be more likely to enjoy and keep FTF partners, as opposed to CMC.

Although there is no consensus among prior studies, a few studies (e.g., Parks & Roberts, 1998; Wolak et al., 2002) indicated that opposite-sex friendship was the most common form of online relationship. In the present study, same-sex friendship was overall the most frequently identified relationship type. No obvious explanation for the inconsistency is available for the moment. However, the proportion of people involved in romantic relationships in the present study—which is consistent in all three cultures—was comparable to prior findings (Parks & Floyd, 1996; Parks & Roberts, 1998). This finding confirms that across cultures people engage in online personal relationships for various interpersonal/relational purposes.

**Directions for Future Research**

The cross-cultural divergence identified in the present study suggests that it is necessary to further investigate potential barriers to intercultural online relationship development. Ma (1996) indicated, in the aforementioned study with East Asian and North American participants who reported on their online intercultural interactions, that East Asians indeed felt that they crossed their typical cultural constraints and engaged in greater self-disclosure. However, North Americans still perceived that their East Asian partners were indirect and did not self-disclose sufficiently, while East Asians felt that their North American partners were over-explicit and rude. When people with high-context and low-context communication styles interact with each other online, more negotiation and communication may be necessary to manage face (or identity) concerns effectively and prevent miscommunication. A more sophisticated research design with a larger sample would enable researchers to identify issues in CMC in different cultures and compare patterns of online self-disclosure and relationship building across cultures.
While the present study focused on national cultural-level comparison, it is reasonable to assume that individuals within a certain culture have idiosyncratic qualities, in that they come from all walks of life and have different personal characteristics (e.g., communication skills, loneliness) (Bonebrake, 2002). Future research is necessary to identify what needs drive individuals to form a certain type of relationship (e.g., opposite-sex versus same-sex friendship) and what communication patterns (e.g., self-disclosure) they display in their relationships (e.g., in FTF interactions, men tend to disclose more to women than they do to other men; Derlega, Winstead, Wong, & Hunter, 1985). Individuals may vary in the specific needs and purposes they seek to fulfill through self-disclosure in a particular type of online relationship. Considering individual difference variables and relationship type may help explain differences in specific computer-mediated relationship behaviors.

Future research further needs to consider the process of relationship development in relation to the level of self-disclosure over a sustained time span, compare the quality of relationships formed on versus off the Internet, and if applicable, compare the differences between relationship quality during the online phase and offline phase. It is also important to identify to what extent a particular online relationship, among multiple simultaneous ongoing relationships, affects the quality of other online and/or offline relationships, given the concerns related to simultaneously ongoing (i.e., extra-relational) relationships (e.g., infidelity, jealousy, and deception) in both FTF and CMC settings. As online relationships become more real, so do the legal and emotional ramifications of online relationship behaviors. In addition, interpersonal deception may occur more often online than in FTF. McKenna and Bargh (2000) observed that one’s identity (or identities) may become rather fluid in CMC due to a relative anonymity and a lack of physical presence, and he/she may modify his/her identity or create a new, desirable one under the circumstances and not realize its psychological, relational, and legal consequences. This observation requires systematic investigation in the context of online relationship formation.

Acknowledgments

Part of the data for this study was presented at the 52nd ICA Convention in Seoul, Korea in July 2002. An earlier version of this paper was presented at the 53rd ICA Convention in San Diego, CA, in May 2003. The study was funded by grants awarded to the first author by the North East Asia Council, Kansas State University, and the Korean Society for Journalism and Communication Studies in 2002. The authors extend many thanks to Rob Sack (Kosin University, Korea) for his help with data collection in Korea.

Notes

1. The primary method of finding a date for the Japanese was quite different from the U.S. Americans and Koreans: 47% of Japanese respondents preferred to find a date through the Internet (versus 47% face to face), whereas 97% of Americans and 84% of Koreans relied primarily on FTF interactions. The primary method of communicating with friends also varied from culture to culture: FTF communication was the most preferred method for 89% of Japanese and 58% of Americans, versus only 12% of Koreans. Telephone was the most common method of communication with friends for Koreans (68%), versus 32% of Americans (for whom it was the
second most popular method) and 6% of Japanese. Approximately 17% of Koreans used the Internet to communicate with friends, versus 10% of Americans and 6% of Japanese.

**References**


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