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Conflict Processes on Computer-Mediated Communication

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This study attempted to examine aggression processes involved in CMC (computer-mediated communication). Fifty-seven Japanese university students participated in the role-playing conflict experiment and interacted with a confederate in either CMC, positive, or negative VOC (vocalic communication) conditions. Experienced emotions, perception of intents of the confederate and aggressive responses were measured. It was found that the participants in the CMC conditions did not experience more angry emotions, did not perceive more negative intents, or did not react in a more aggressive fashion than those in the VOC conditions. In the VOC condition angry emotions and perceived negative intents prompted aggressive responses, while these effects were not found in the CMC condition. These results suggest that the participants in the CMC were too busy for typing messages (large transaction costs) to attend to their emotions or attribution of intents, and therefore, these internal variables did not affect their behavioral responses.

Key words: CMC, VOC (vocalic communication), conflict resolution, intentions.

Introduction

CMC (Computer mediated communication) is a useful communication media which releases people from both time and space boundaries and makes long-distance communication easier. Nevertheless, a lot of conflicts such as flaming have been reported by CMC users. Kiesler, Zubrow, Moses, and Geller (1985) and Siegel, Duvrovsky, Kiesler, and McGuire (1986) conducted a series of experimental studies in which they attempted to measure flaming in CMC and FTF (Face to Face communication). They observed aggressive messages more frequently in CMC than in FTF, especially most aggressive remarks were found in anonymous CMC. The similar results were found in Sproull and Kiesler's (1986) survey research, which indicated that company employees experienced flaming 33 times per month.

There are two theoretical approaches to explain aggression in CMC. One is Reid's (1996) messaging threshold theory that focuses on information processing in human communication. According to this theory, the quality of communication in CMC is determined by three cognitive factors, that is, transaction cost, task urgency, and norm-oriented utterance. Transaction cost is generally high in communication in CMC than in FTF or VOC (vocalic communication such as

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telephone), because the sender must type one's messages using key board, and therefore, the attention resource to process socio-emotional aspects of communication is restricted in CMC (Hilts, Johnson, and Turoff, 1986). This may lead to inhibition of aggression, provided that activation of social emotions (empathy, pity, or consideration) reduces aggression (Baron & Richardson, 1994, pp.344-346). In short, the messaging threshold theory suggests that the low level of activation of social emotions cause intensive aggression in CMC. In this study, we focused on VOC as a non-CMC condition, in which transaction cost is assumed to be smaller than CMC because speech is less costly than typing. We made the following two hypotheses based on the above discussion.

Hypothesis 1a: Participants would experience less socially emotional activation in which they were communicating by CMC than they did by VOC.

Hypothesis 1b: Social emotions would negatively correlate with aggression.

The second theoretical approach to aggression in CMC is derived from Kiesler et al's (1984) filter theory, which attends to lack of nonverbal messages in CMC. People decode nonverbal messages involved in communication as social cues for inferring the others' intentions, motives, and affects. The absence of these social cues may cause misunderstanding of messages and lead to conflicts. Manusov and Rodriguez (1989) proposed that the inference of intentions from nonverbal messages are characterized by positivity bias, that is, people are more likely to attend to nonverbal cues implying positive intentions (altruism, respect, or love) than those implying negative intentions (hostility or disregard). The authors explain that this positivity bias is related to people's concern for maintenance of self-esteem. This theory suggests that the attribution of positive intentions may be more strongly made in VOC involving positive nonverbal messages than in CMC, which lacking in nonverbal messages, but the attribution of negative intentions may not differ between in VOC involving negative messages and in CMC. Ohbuchi and Kojima (1998) found that the attribution of negative intentions increased aggressive reactions in conflict situations. In this study, therefore, we made the following hypotheses regarding attribution and aggression.

Hypothesis 2a: Participants in CMC would perceive more negative intentions of the other than those in VOC involving positives nonverbal cues (positive VOC).

Hypothesis 2b: Participants in CMC would be more aggressive than the one did in positive VOC.

Hypothesis 3: There would be no differences in the attribution of intentions and aggression between participants in CMC and those in VOC involving negative nonverbal cues (negative VOC).

Method

Participants

Participants were 57 Japanese university students (38 males and 19 females). They voluntarily participated in this experiment and were given 500 Japanese Yen as a reward.

Procedures

The present study used a role-playing method (Ohbuchi, Chiba, & Fukushima, 1996). When the participants arrived at the experimental room, they were told that the purpose of the present experiment was to investigate the functions of our daily communication. After an unacquainted female confederate was introduced to the participant, they were asked to seat in separate booths and to interact with each other in two hypothetical conflict situations in which the participant was asked to accept an unreasonable request by the confederate. In the job situation, the participant was asked by a colleague (the confederate) of a shop to work on the next day, which he/she had previously scheduled as a holiday in order to prepare for important exams. In the club activity situation, the participant was asked by another student (confederate) of a university sport club to join the club activity on a day when he/she was going to work for money.

The participant interacted four times with the confederate in each situation. The participant's verbal responses were recorded for content analysis (Ohbuchi et al., 1996). The order of conflict situations was randomized. The participants interacted either in CMC (Microsoft NetMeeting) or through vocalic intercom system (VOCconditions), in neither condition they met during conversation. In VOC conditions the confederates' voice was controlled in either a positive or negative tone. The participants were randomly assigned into one of these conditions, that is, CMC, positive VOC, or negative VOC.

Dependent Measures

After the interactions in each situation the participants were asked to indicate which kinds of emotions they experienced during the interactions by rating 14 items on 7-point scales ranging from Not at all (1) to Very strongly (7). After averaging the scores of each emotion between the two situations, we factor analyzed them by using principal factor analysis followed by varimax rotation and obtained three factors. On the first factor (Eigen value = 5.63, Percentages of contribution was 40.2), 4 items ("angry with the partner," "dissatisfaction with the partner's utterance," "unpleasant with the partner's utterance," and "hostile with the partner") showed high loadings (.77~.89), and thus, we interpreted it as "angry emotions." On the second factor (E = 5.63, Percentages of contribution was 18.0), 3 items ("squeeze with the partner," "miserable," and "ones self esteem was damaged") showed high loadings (.56~.82), and thus it was "threatening emotions." The third factor (E = 1.07, Percentages of contribution was 7.7) was consisted with the items such as "feel embarrassment with the partner," "feel a sense of guilty," and "sympathy with the partner" which have high communality (.50~.72). They were social emotional items, which suggest the consideration for the partner, named "consideration emotion". The factor scores were used for the following analyses.

Then, the participants were asked to infer the confederate's intentions by rating 6 items on 7-point scale. These items were used in Kojima and Ohbuchi (1998). Of them, three items were to measure negative intentions: "intend to suffer the participant," "hostile for the participant," and "hates the participant". Other three items were to measure positive intentions: "favorite for the participant," "respect the participant's thought," and "consider the participant." Scores of negative and positive intentions were the means of items.

Regarding to the measure of the participant's strategies, two trained raters classified the participant's verbal responses into four categories (Integrative, Appeasing, Distributive, and Hostile) using the Ohbuchi et al.'s (1996) coding system. Among them, we regarded distributive and hostile strategies as aggression. The distributive strategy consisted of assertion, demand, doubt, rejection, and disagreement. The hostile strategy constructed threats, criticize, and display of anger. The scores of them were the mean numbers of aggressive responses in each situation. Controlling the number of responses, we computed percentages of aggressive responses to the total responses and then converted them into arc sin for statistical analysis.

Results

In MANOVA for the scores of emotions using the communication media and the emotion factors (angry, threat, and consideration) as independent variables, a main effect of emotion factors was significant, $F(4, 224) = 4.95, p < .01$. A simple effect of media was significant only for the threatening emotion, $F(2, 54) = 7.1, p < .01$, meaning that the participants in the CMC condition ($M = -3.7$) and in the positive VOC condition ($M = .04$) experienced less threatening emotions than those in the negative VOC condition ($M = .11, p < .05$), there was no significant difference between the CMC and positive VOC conditions. Although a simple effect of consideration emotion was not significant, $F(2, 54) = .80, n.s.$. A multiple comparison test revealed that the participants in the CMC condition experienced more consideration emotions than those in the negative VOC condition ($M = .18$ and $-.28, p < .05$), there was no difference between the CMC and positive VOC conditions ($M = -.08$). The effect of angry emotion was not significant ($F(2, 54) = .87, n.s.$).

We conducted MANOVA for the scores of strategies using the media and the strategy as independent variables. Neither of main effects of media nor an interaction of media and strategy was significant, $F(2, 54) = 1.28, 2.2, n.s.$

In MANOVA for attribution of intentions using the media and the quality of attribution as independent variables, neither main effect of media nor interaction of media and quality of attribution was significant, $F(2, 54) = .01$ and $1.3, n.s.$

Separately in CMC and VOC conditions, we performed a stepwise regression analysis using either the distributive or hostile strategies as dependent variables and the experienced emotions and the perception of intentions as independent variables. In the CMC condition, only the perceived negative intention significantly increased the hostile strategy ($\beta = .56, p < .01, R^2 = .31$), but none of the emotions had effects on any strategy. In the VOC condition, the anger emotion and the perceived negative intentions significantly increased the hostile strategy ($\beta = .34$ and $.38, p < .01$), but the consideration emotion significantly decreased it ($\beta = -.25, p < .01, R^2 = .39$). For the distributive strategy, none of the emotions and intentions had effect in either of the conditions.

Discussion

In this study, we examined a series of hypotheses regarding the relationships between the type of communication media, the experienced emotions, and the perception of intentions of the communication partners. It was found that the anger emotions prompted the aggressive responses but the consideration emotions inhibited them in VOC situations, and that any kind of emotions was not related to aggressive responses in CMC. Therefore, Hypothesis 1 b was supported only for VOC. Although Hypothesis 1a was not supported, the present study appears to suggest that emotions were less clearly articulated in CMC than in VOC probably because cognitive resources to decode emotional cues were not sufficient in CMC, as the threshold theory assumed. After the experiment, actually, some of the participants remarked, "I felt cool in CMC exchanges", or "I couldn't infer the partner's feeling." These comments appear to suggest that the participants were in an emotionless state in CMC situations.

Unexpectedly, we found that the participants coped with conflicts in CMC situations showed more consideration than those did in the negative VOC condition. It casts doubt for the interpretation of emotionless state of CMC, rather suggests that the participants in CMC were too busy for typing (large transaction cost) to attend to their emotions, and, as a result, their responses were not affected by emotions though they internally experienced them. Future research should examine how emotional experiences are processed in CMC and how they affect message making.

Consistent with Ohbuchi and Kojima (1998), the perception of negative intents prompted the participants to produce aggressive reactions to conflicts. This was observed in both CMC and VOC situations. However, there was neither significant difference in the use of strategies nor the perception of intents between these types of media. Therefore, the present study did not find that CMC caused more intense conflicts than VOC and, therefore, Hypothesis 2 and 3 were not supported. Nonverbal cues did not effect on the attribution of intentions in the present study, suggesting that the manipulation of nonverbal messages was weak. We attempted to manipulate it by changing vocal tone in the speech of the confederate, but it might not have been sufficient to produce differences in the participants' attribution of intents. In the future research more strong manipulation of nonverbal cues should be used.

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