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A Study on Online Conferencing System to Ensure
Psychological Safety of Negative People

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This paper describes a study on an online conferencing system that ensures psychological safety for reluctant people. In recent years, the use of group work, group discussions, and other multi-person discussions has increased due to the introduction of active learning and other factors. Active discussion among members and interactive exchange of interests enable all members to share their experiences and backgrounds. The active mutual discussion among members and interactive exchange of interests enable the sharing of the experiences and backgrounds of all members. This leads to the solution of problems and the generation of creative ideas. In such occasions, it is believed that creative ideas are generated when each person takes the initiative and engages in active discussions, but reluctant people tend to hesitate to speak up. Behind the emergence of such reluctant people is a concern for social status, as well as concern for the eyes and criticism of those around them. When such reluctant people are created, they hinder active discussions by the team as a whole. In efforts to encourage individual members to participate in discussions proactively, a state of "psychological safety," in which everyone on the team can honestly express their thoughts and feelings without feeling anxious about being criticized, is emphasized. Perceived psychological safety has been shown to positively influence creativity and needs to be ensured for the generation of novel and useful ideas. Therefore, the purpose of this study is to create an environment in which the psychological safety of reluctant people is ensured and they can easily speak up in order to realize active participation in discussions by all team members. Among other things, we set out to promote the speaking up of content that one would like to say but cannot, such as original opinions or criticisms of others' opinions. By having multiple topics of discussion going on simultaneously, we aimed to ease the attention to what is said and to dilute the awareness of criticism from others. In the preliminary experiment described in Chapter 3, we investigated the effects of having multiple agenda items running concurrently on discussions, using both regular chat and a prototype for the experiment. The results showed that more respondents were unable to concentrate on the agenda when using the experimental prototype than when using the regular chat, suggesting that the experimental prototype may divide attention to what is being said.　Based on the results of the preliminary experiment, we thought that the sense of attention from others was still weak, so we added a mechanism to allow users to see which timelines were not attracting attention, and named this mechanism MessOnChat. In the experiment described in

Chapter 4, we compared the effectiveness of MessOnChat in promoting speech with that of a normal chat system and an experimental prototype. Three different themes were given to each method, and participants were asked to discuss them for 30 minutes. The subjects were divided into 4 groups of 24, with 6 participants per group. In this experiment, a pre-experiment questionnaire was created using the Rejection Avoidance Desire Scale, which indicates the tendency to avoid negative evaluations from others, and eight subjects were defined as negative, two per group, in order of highest score. After the experiment, subjects were asked to rate four items: "Did you feel comfortable speaking up?", "Did you feel comfortable discussing things?", "To what extent were you unable to express your own original opinions because you were concerned about the eyes of others?", and "To what extent did you feel comfortable saying things you had difficulty saying, such as objections or criticisms of the opinions of others in the passive group? The participants were asked to rate the items on a seven-point scale. In the results of the experiment described in Chapter 5, the 8 negative group members were compared with the non-positive group, and the 16 non-positive group members were compared with the negative group. The Kruskal-Wallis test, a type of nonparametric test, was used to examine significant differences in the "promotion of original opinions and criticism of other people's opinions," which is something that the participants wanted to say but were unable to do so. The results of the four evaluation items showed that MessOnChat was rated higher than the other two methods on the question "Did you feel it was easy to discuss? The results of the Kruskal-Wallis test also showed a p-value of 0.1201, which is close to the criterion of 5%, although it does not meet the criterion, and thus the possibility of a significant trend was recognized. In the discussion described in Chapter 6, we discussed the behavioral change for each subject and the overall tendency of reluctant people and the categories of reluctant people's statements. When using MessOnChat, the behavior of asking questions that included elements of criticism and questioning of others' opinions was more common than in the other two methods. This suggests that MessOnChat may lower the desire to avoid rejection for negative people because it allows them to ask questions while others are not looking. In the future, we will analyze the elements that make reluctant users feel noticed, and consider designing a UI that makes it easier for reluctant users to speak up.