外 国 語 要 旨

論文題目　　　Effects of social interaction in online games on shyness

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　　　　　　Shyness characteristics can inhibit necessary social activity. Previous studies investigated the relationship between computer-mediated communication and shyness. This study focused on massively multiplayer online role-playing games (MMORPGs). MMORPGs are highly popular not only because of their entertainment value but also because of their numerous features that promote social interaction among players. The purpose of this study was to examine the causal relationship between social interaction in MMORPGs and shyness. Thus, it investigated the effects of two types of social interaction in MMORPGs on shyness: the social interactions occurring regularly in MMORPG play and intentional play.

　　　　　　In study 1, a two-wave panel survey was conducted to investigate the causal relationship between shyness and time spent playing MMORPGs or using communication media such as email or SNS. A structural equation model analysis revealed some differences in the effects of shyness on media use depending on media type. These results were discussed in terms of media characteristics such as synchronicity. Results for MMORPG play showed that the higher an individual's degree of shyness as a trait and behavioral aspects of shyness, the longer that individual played MMORPGs. Furthermore, the longer an individual played MMORPGs, the lower the degree of affective aspects of shyness.

　　　　　　Study 2, a two-wave panel survey of MMORPG players, analyzed the causal relationship between social interaction in MMORPGs and shyness. The results of multiple regression analyses revealed that players whose shyness scores (defined by interpersonal inhibition or avoidance) were high felt attracted to the gaming aspects of MMORPGs, thus playing the games longer, but their social interactions in MMORPGs were inhibited. A reversed causal relationship was also implied since the social interaction in the game positively impacted shyness.

　　　　　　In study 3, the causal relationship between social interactions in MMORPGs and shyness was investigated in reference to interpersonal networks. An experiment was conducted to examine the effects of starting a game on interpersonal networks with new MMORPG players as participants. The experimental group freely played an MMORPG for six weeks, and the control group continued with their normal lives. A comparison between the two groups revealed very little change in the size of individuals' interpersonal networks after beginning to play the MMORPG. Among the experimental group participants, a three-wave panel survey was conducted to investigate the relationship between in-game social interactions and interpersonal network size. Results indicated that more social behavior in the MMORPG led to very little

change in the size of an individual's interpersonal network; conversely, large interpersonal networks promoted social interaction in the MMORPG.

In study 4, a training program was developed to alleviate shyness with an MMORPG. First, the interpersonal settings that shy individuals found difficult and the behaviors necessary for acting appropriately in those settings were identified. Participants were then exposed to these scenarios through the MMORPG over a five-week period, with the scenarios causing the lowest degrees of anxiety presented first and those causing the highest degrees of anxiety presented last. To evaluate the training program, three conditions were compared: the training group, the game group (in which participants freely played the MMORPG 4.5 hours a week), and the control group (in which participants lived as usual). The results showed marginally significant differences between the training and control groups in the two types of shyness scores measured immediately after training. However, there were no significant differences in shyness or self-esteem among the three groups in the data obtained after a month. The results of behavior rating when participants met someone new showed that the training group was significantly more extroverted than the game and control groups. The training program might show short-term benefits for alleviating shyness.

The results of these studies suggest that social interaction in MMORPGs has positive effects on alleviating shyness. However, the results also revealed that a high degree of shyness inhibited social interaction in MMORPGs. These results support the rich-get-richer hypothesis, in contrast to many previous studies examining the relationship between computer-mediated communication and shyness, which supported the social compensation hypothesis. The differences in the results were discussed in terms of the characteristics of the MMORPG, such as synchronicity in social interaction. Moreover, for effective use of MMORPGs in alleviating shyness, some ingenuity may be required. Two aspects of the screening for participants and improvement in the program content were proposed as the possible requirements for enhancing the effect of the program.