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Original Paper

Relationships among the Types of Digital Games and Rolefulness

Daiki Kato[1*], Genki Kato[2], Aya Futamura[1], & Mihoko Tsuruta[1]

[1] Kinjo Gakuin University, Nagoya, Japan

[2] Kumanomae Elementary School

[*] Daiki Kato, Kinjo Gakuin University, Nagoya, Japan

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Abstract

The purpose of this study is to investigate the relationships among different types of digital games and rolefulness. We hypothesized that the sense of rolefulness increases through collaborative game playing and the effect is different among the types of games. Four categories—"individual", "competitive", "cooperative", and "non-player"—are assumed in this study, and the rolefulness scores were compared among these groups. The social and internal rolefulness scores were compared among the four groups using ANOVA. The results of the analysis showed significant differences. Multiple comparisons showed significant differences between the "competitive" and "non-player" categories in social and internal rolefulness.

Keywords

game-mediated communication, rolefulness, social skills

1. Introduction

The term "rolefulness" has been defined as the continuous sense of role satisfaction in an individual's daily life (Kato & Suzuki, 2018). This concept encompasses two aspects: social rolefulness and internal rolefulness. Social rolefulness is the sense of role satisfaction based on social experiences and relationships with others. It includes the items "My role is necessary for other people" and "I have a role in the group that I belong to". Conversely, internal rolefulness is a more internalized feeling of role satisfaction based on individuality and confidence. It includes the items "I realize my individuality by my role" and "I gain confidence because of my role". Kato and Suzuki (2020) showed that collaborative block activities improved an individual's social competence, confidence, and sense of rolefulness.

Wiklund (2005) surveyed interpersonal relationships through playing digital games and defined this as "game-mediated communication". As multiplayer games evolve in functionality and increase the number of participants, in-game communication between players is also increasing (Wiklund, 2005). He also said that as in-game communication increases, games may be considered the natural medium for computer-based communication in general. Akin (2023) mentioned that video games offer a platform for players to develop essential social and emotional skills with online gamers, such as predicting behaviors, providing support, and building relationships. Additionally, it has been shown that through shared experiences, players can form close bonds and support each other in difficult situations. Online gaming enables individuals who have never met face-to-face to establish strong and meaningful friendships.

As demonstrated by previous studies, playing digital games with others could enhance interpersonal relationships and rolefulness. Therefore, we hypothesized that the sense of rolefulness increases through playing games with others. We also hypothesized that the effect of increasing rolefulness mediated by digital games varies among different types of games. In this study, four categories—"individual", "competitive", "cooperative", and "non-player"—were assumed, and the scores of rolefulness were compared among these groups.

2. Method

Participants

In this study, 322 female university students (Mage = 18.99. SD = 2.57) participated.

Measurement

The rolefulness scale (Kato & Suzuki, 2018) was employed to measure social rolefulness ($\alpha = 0.89$) and internal rolefulness ($\alpha = 0.90$). Participants were asked about the duration of their daily digital gameplay and the types of games they played. Participants were also asked to write the titles of the games they usually played.

3. Result

First, the game titles that participants usually play were categorized by communication level. We categorized participants into four groups: "individual" (n = 128), "competitive" (n = 47), "cooperative" (n = 51), and "non-player" (n = 96). Solo-playing games, such as "TSUM TSUM" and "Genshin", were included in the individual category. Competitive games, such as "APEX LEGENDS" and "Mario Kart", were included in the competitive category. Cooperative games, such as "Splatoon" and "MONSTER HUNTER", were included in the cooperative category. Both competitive and cooperative games included the factor of communication with others. The competitive group focused more on competing with others and other teams. In contrast, the cooperative group focused on solving and achieving common tasks together with other players. Additionally, we categorized the fourth category as

"non-player". People in this group did not mention any game titles they usually played.

The social rolefulness scores were compared among the four groups using ANOVA. The result of the analysis indicated a significant difference (F (3, 318) = 2.70, $p < 0.05$, $\eta^2 = 0.025$). Multiple comparisons revealed a significant difference between the "competitive" and "non-player" categories ($p < 0.05$).

The internal rolefulness score was compared among the four groups using ANOVA. The analysis result indicated a significant difference (F (3, 318) = 2.99, $p < 0.05$, $\eta^2 = 0.028$). Multiple comparisons indicated a significant difference between the "competitive" and "non-player" categories ($p < 0.05$). Rolefulness scores among the types of games are presented in Table 1.

Table 1. Rolefulness Scores among the Types of Games

Types of Games	Individual $n = 128$		Competitive $n = 47$		Cooperative $n = 51$		Non-player $n = 96$				
	Mean	*SD*	*Mean*	*SD*	*Mean*	*SD*	*Mean*	*SD*	*F*	η^2	
Social Rolefulness	3.06	1.06	3.33	0.88	2.89	1.04	2.84	1.03	2.70	0.025	*
Internal Rolefulness	3.51	1.19	3.80	0.92	3.48	0.92	3.23	1.16	2.99	0.028	*

*$p < .05$

4. Discussion

Overall, the result revealed that the score of both social and internal rolefulness was the lowest in the "non-player" group. Papoutsi (2023) summarized how playing games can foster empathy in healthcare fields. Playing games, as demonstrated by this evidence, can have a positive impact on increasing our empathy. Therefore, empathy is one of the important factors in forming rolefulness, and there is a significant relationship between rolefulness and playing games.

There were notably significant differences observed between the groups categorized as "competitive" and "non-player". The rolefulness score in the "competitive" group was the highest among all groups. Wu, Chen, and Huang (2014) investigated whether communicative skills and intrinsic motivation could be enhanced through exposure to relevant contexts and adequate gaming practice. They demonstrated that computerized simulations adapted from board games provide contextually immersive experiences that encourage communication. The impact of digital games on elementary school students was examined, revealing that students believed digital games enhanced their cognitive skills, including problem-solving and decision-making. Additionally, students reported that games facilitated the development of social skills such as collaboration, competitiveness, and empathy (Kougioumtzidou, Botsoglou, Beazidou, & Zygouris, 2023). Competing with others through games, as their study showed,

is one of the positive factors that enhances social skills and empathy. Recent digital games are very sophisticated, requiring players to manage multiple tasks simultaneously. In this study, competitive games have simple structures that make it easy to be aware of opponents' presence. Players are also aware of their roles, which is a positive factor in increasing rolefulness. Such a feature might promote social and internal rolefulness.

This study investigated the relationships between rolefulness and game types using ANOVA. While we could demonstrate significant relationships among them, further examination is needed to determine causal effects. Future studies are needed to confirm the process of how playing digital games with others facilitates our rolefulness.

References

Akin, M. S. (2023). Communication with the Social Environment in Multiplayer Online Games: The Turkey Case. *International Journal of Game-Based Learning*, *13*(1), 1-14.

Kato, D., & Suzuki, M. (2018). Rolefulness: Social and Internal Sense of Role Satisfaction. *Education*, *138*(3), 257-263.

Kato, D., & Suzuki, M. (2020). The Effects of Collaborative Block Creation on the Sense of Rolefulness. *Journal of Psychology & Behavior Research*, *2*(1), 39-42.

Kougioumtzidou, E., Botsoglou, K., Beazidou, E., & Zygouris, N. (2023). Exploring the Impact of Digital Games on Elementary School Students' Cognitive and Social Skill Development: A Perception-based Study. *International Scientific Educational Journal*, *11*(2), 10-24.

Papoutsi, C. (2023). The Role of Digital Games for Sensitive Social Groups to Foster Empathy. *Global Journal of Engineering and Technology Advances*, *16*(2), 57-64.

Wiklund, M. (2005). Game Mediated Communication: Multiplayer Games as the Medium for Computer Based Communication. *Proceedings of DiGRA 2005 Conference*, 16-20.

Wu, C. J., Chen, G. D., & Huang, C. W. (2014). Using Digital Board Games for Genuine Communication in EFL Classrooms. *Educational Technology Research and Development*, *62*(2), 209-226.