

Analyzation of the Influence of Video Games on Young People's Social Satisfaction

Shixin Zheng *

Department of Business School, Curtin University, Singapore, 117684, Singapore

* Corresponding Author Email: feiga@ldy.edu.rs

Abstract. In recent years, with the rapid development of digital entertainment technologies and the increasing sophistication of storytelling in interactive media, video games have evolved beyond mere leisure activities to become complex social and psychological spaces. The parasocial interaction (PSI) between players and game characters is becoming increasingly significant. As a one-way emotional connection, PSI might affect the player's psychological experience and social behaviours. Through questionnaire survey and interview, this study explored the influence of PSI's cognitive, emotional and behavioral factors on players' social satisfaction. The results showed that cognitive and behavioral factors were significantly related to social satisfaction, while emotional factors did not show significant correlation. However, the interview showed that different types of game players may be affected by different factors. Importantly, the study found that PSI might has a positive effect on social satisfaction, and might be able provide some optimization directions for game designing to enhance the social experience of players.

Keywords: Parasocial interaction; social satisfaction; correlation analysis.

1. Introduction

With the popularity of video games, the Parasocial Interaction (PSI) between players and game characters (such as NPCs and player characters) has become increasingly prominent. The one-way emotional connection between players and game characters might affect players' psychological experience and social behaviours.

Previous research suggests that players can form attachments to digital games, and make immersion and relationships with fictional characters, while games may also provide players with emotional value and changing on thinking patterns [1, 2]. However, the link between players and game characters and social satisfaction remains underexplored [3, 4].

Parasocial relationships (PSR) in games may have the capability to provide emotional support and enhance social satisfaction to players, which may also impair real-life sociability and lead to social isolation. This study aims to explore how PSI with game characters affect players' social satisfaction, and providing new perspectives for game designing and psychosocial research.

2. Literature Review

The ways that individuals socialize has changed due to the rapid growth of video games, and in recent years, many studies have focused on PSI and PSR.

Parasocial was originally used to describe a one-sided interaction with a TV or radio personality that designed to create intimacy. However, further researches into these phenomena have begun to broaden the definition to cope with the digital age [5]. And PSR refers to the social relationships that individuals establish in a virtual environment that may affect real-world interactions [6]. Meanwhile, PSI occurs during viewing contents, while a PSR resembles a sense of involvement with [7].

In 1956, the psychologists called Horton & Wohl proposed the concept of PSI [8]. With the development of technology, the high immersion, de-identity and emotional substitution

characteristics of contemporary video games may deepen the influence of PSI, and may affect players' cognition, emotions, and behaviours, which might affect real-world social interactions [9, 10].

Social Satisfaction is generally defined as an individual's overall subjective feelings about people's social relationships and interactions [11]. And social satisfaction is also a key measure of an individual's social well-being.

Meanwhile, social satisfaction might be influenced by video games. Research has explored how video games shape social experiences, such as PSR can be used as an extension of social relationships rather than a replacement, and PSI can help build romantic relationships [12-14]. Nonetheless, research on how PSI affects social satisfaction in digital games is still lacking.

Although there exist some blanks in the relationship between social satisfaction and PSI, there is abundance studies shows that digital games can affect real-world socialization. Some studies shows that multiplayer online games, such as World of Warcraft and Fortnite might be able to provide opportunities for collaboration, teamwork and social interaction among players, thereby enhancing the sense of belonging. Meanwhile, friends in virtual world might be able to provide emotional support that is hard to come by in the real world [15]. However, there is also some researches shows that excessive addiction to virtual relationships may lead to the weakening of real social relationships and reduce the quality of real social interactions [16]. Moreover, indulging in PSR might lead to social anxiety, increased loneliness, and even affect mental health.

In all, the impact of video games' PSI on players' real-world social interactions is complex and multifaceted. On one hand, PSI can enhance social connections and provide emotional support, which may increase social satisfaction; On the other hand, addiction to virtual relationships may lead to alienation of real social relationships and reduce social satisfaction. Future researches should focus on different types of games, individual player differences, and how emerging technologies shape the relationship between PSI and social satisfaction.

3. Method

This study used the form of scale questionnaire and interview to conduct experiments. The questionnaire is made of two scales, PSI Scale and Satisfaction with Life Scale (SWLS). Specifically, the study measuring the cognitive impact, emotional engagement and behavioral impact by PSI Scale [17]. In addition, SWLS is used for measuring participants' social satisfaction [18]. Meanwhile, the PSI scale is measured on a five-point Likert scale, and the SWLS is measured on a seven-point Likert scale.

The questionnaire was released on social medias that commonly used in China (such as WeChat and Xiao Hongshu). Various game players aged between 14 and 28 were selected as experiment subjects. In total, there is 235 questionnaires were collected, and the questionnaires from subjects who answered the questions for less than 40 seconds and participators who did not play digital games were regarded as invalid questionnaires. In all, 81 invalid questionnaires and 154 valid questionnaires were collected, accounting for 65.5% of effectiveness. For the collected data, the study used SPSS to do descriptive analysis and correlation analysis, and measured the impact of cognitive, emotional and behavioral factors on social satisfaction in the PSR. Based on the results, a further interview experiment was conducted.

For the high probability emergence of three main game types in the questionnaire, this study chose 6 subjects who play (1) competitive games like Arena Valor, (2) open exploration games like Genshin Impact, (3) emotional games with a complex and relatively complete storyline and character background, like Love and Deepspace to interview (each type of game got two interviewees).

4. Result

Among the 154 valid questionnaires, female subjects took the largest percentage, at 81.17%, 17.53% were male, and 1.3% were non-binary (Fig. 1). And most of the subjects were between 20 and 24 years old, and the quantity of 22-year-old subjects ranked first (Fig. 2).

The proportion of gender distribution.

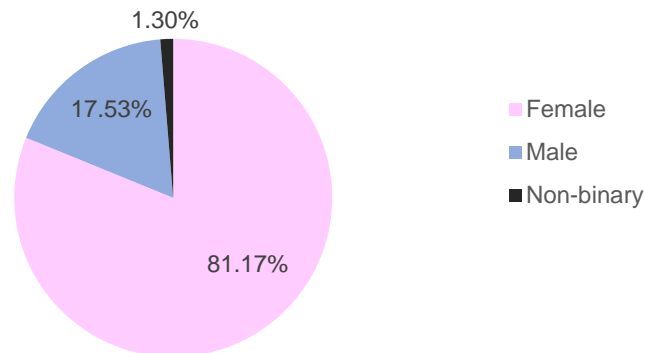


Figure 1. The proportion of gender distribution

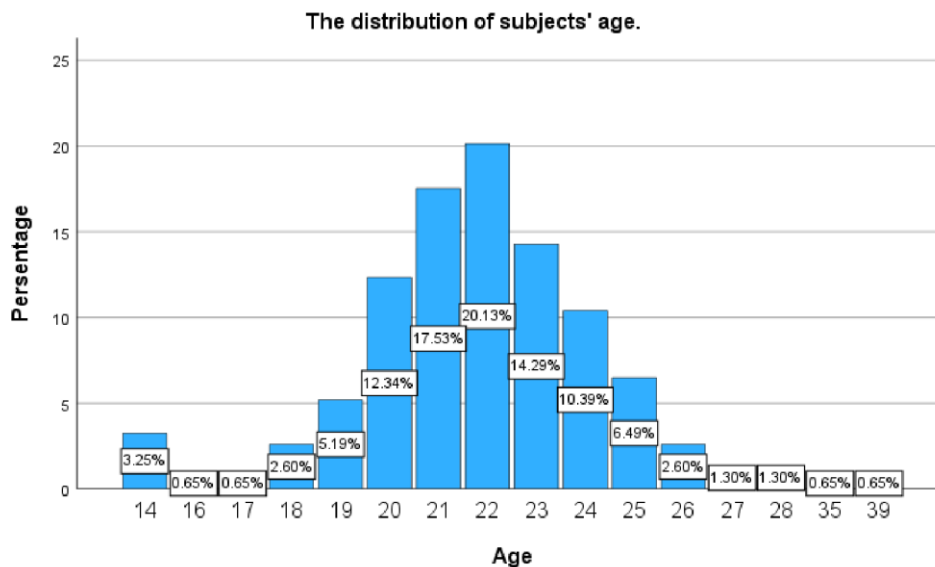


Figure 2. The distribution of subjects' age

Through the correlation analysis of SPSS, the present study found that behaviour was significantly related to social satisfaction ($p < 0.01$), and cognition was also related to social satisfaction ($p < 0.05$). The emotional connection might not correlate with social satisfaction significantly (Table 1). At the same time, the subjects' social satisfaction was generally higher.

Table 1. Correlation analysis of cognitive, emotional and behavioural factors on players' social satisfaction

| Variable | M | SD | Cognition | Affection | Behaviour | Social Satisfaction |
|---------------------|-------|------|-----------|-----------|-----------|---------------------|
| Cognition | 21.16 | 3.49 | 1 | | | |
| Affection | 10.98 | 1.77 | .444** | 1 | | |
| Behaviour | 9.98 | 1.91 | .310** | .305** | 1 | |
| Social Satisfaction | 23.55 | 6.31 | .165* | .103 | .264** | 1 |

** . At level 0.01 (two-tailed), the correlation was significant.

* . At level 0.05 (two-tailed), the correlation was significant

Then, by interviews, study found that players of different game types had different reasons for increasing social satisfaction in terms of cognition, emotion and behaviour.

Competitive game players can be divided into two categories: (1) A participant shows that he got the similar experience of being bullied with the game character, which gave him a strong emotional resonance with the game character, and made him usually feeling comforted when playing game. Hence, players might develop emotional attachment to game characters, which resulting in the increased sense of companionship, reduced loneliness, and ultimately increased social satisfaction. (2) Another participant shows that she felt she is similar to the game character in terms of personality and behaviours, and sometimes she will put herself into the game character subliminally. So, some players might show empathy and sympathy with the game character, or even insert themselves into the characters. Also, both participants show that the competitive game itself and the function of grouping with friends in the game provide them with a strong sense of pleasure. The happiness increased by receiving emotional support and pleasure from the game might lead to the increasing in social satisfaction to some extent.

For emotional game players, both participants shows that the game plot and character dialogue give players a strong emotional impact. For example, the participants said that the encouragement and comfort from the game characters could provide players with a strong emotional support. Through interaction with game characters, players can get a significant increase in sense of companionship and obvious decrease in loneliness, also a strong emotional support, which lead to the significant increase in social satisfaction.

For open exploration game players, cognitive factors like game characters' personality, thinking style, life attitude may affect the player's cognition in reality. Some participants said that the positive attitude of game characters might make players be more positive about life. For example, a participant said that "I often feel very anxious and depressed, and my favourite character is a very cheerful person, when I feel sad, I think of his strong and optimistic, I will not be so depressed".

5. Discussion

According to the results of the research, the cognitive and behavioural aspects of PSI might be able to impact social satisfaction positively and significantly, while emotional aspect of PSI might not significantly relate with social satisfaction. However, interviews shows that the affection is also an important factor for some game players to increase social satisfaction. Meanwhile, through interviews, research found that players of different types of game might have different factors to improve the happiness when facing game character interaction.

The society should give proper guidance on the usage of electronic games for contemporary young people. Specifically, game companies can strictly monitor the game content and improve the game rating system in ages. And public medias should strengthen social publicity and education to raise public awareness of the negative effects of games. Also, communities can provide offline cultural and entertainment activities regularly to promote healthy life style, and using PSR properly to help improve the social satisfaction of young people while avoiding the addiction of electronic games.

6. Conclusion

This study investigated how the cognitive, emotional and behavioral factors in PSI impact on game players' social satisfaction through questionnaires and interview. The research discovered how cognition, affection and behaviour impact on three main kinds of game players. And the study shows that PSR might play a positive role in enhancing young people's social satisfaction, and society should reasonably guide the usage of video games as a way to promote social satisfaction.

The research provides a theoretical basis for enhancing social satisfaction through video games, and exploring in depth how the PSI manifests in an interactive gaming environment and the impact on players' psychology. Secondly, the study contributes to understanding the role of PSI in modern

society, and in particular, how games can play a role in augmenting real-world social relationships. From a practical point of view, this paper can inform game designing and help developers optimize character shaping and social mechanics to enhance positive player experiences.

However, one of the limitations of the study is that more than half of the samples are from female. And the PSI scale used in the study was originally suitable for traditional medias and may need improvement for highly immersive video games. In addition, the experiment did not design different scales for different kinds of game players, which might affect the experimental results.

References

- [1] Bopp, J. A., Mekler, E. D., & Opwis, K. (2016). Negative emotion, positive experience? Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems, 2996 – 3006.
- [2] Rain, M., & Mar, R. A. (2021). Adult attachment and engagement with fictional characters. *Journal of Social and Personal Relationships*, 38 (9), 2792 – 2813.
- [3] Kryś, K., Park, J., Kocimska-Zych, A., Kosiarczyk, A., Selim, H. A., Wojtczuk-Turek, A., Haas, B. W., Uchida, Y., Torres, C., Capaldi, C. A., Bond, M. H., Zelenski, J. M., Lun, V. M.-C., Maricchiolo, F., Vauclair, C.-M., Poláčková Šolcová, I., Sirlopú, D., Xing, C., Vignoles, V. L., & van Tilburg, W. A. P. (2020). Personal life satisfaction as a measure of societal happiness is an individualistic presumption: Evidence from fifty countries. *Journal of Happiness Studies*, 22 (5), 2197 – 2214.
- [4] Buijs, V. L., Jeronimus, B. F., Lodder, G. M. A., Steverink, N., & de Jonge, P. (2020). Social needs and happiness: A life course perspective. *Journal of Happiness Studies*, 22, 1953 – 1978.
- [5] Elvery, G. (2024). Parasocial phenomena in video games. *Encyclopedia of Computer Graphics and Games*, 1327 – 1332.
- [6] Hoffner, C. A., & Bond, B. J. (2022). Parasocial relationships, social media, & well-being. *Current Opinion in Psychology*, 45 (1), 1 – 6.
- [7] Dibble, J. L., Hartmann, T., & Rosaen, S. F. (2016). Parasocial interaction and parasocial relationship: Conceptual clarification and a critical assessment of measures. *Human Communication Research*, 42 (1), 21 – 44.
- [8] Horton, D., & Wohl, R. (1956). Mass communication and para-social interaction: Observations on intimacy at a distance. *Psychiatry*, 19 (3), 215 – 229.
- [9] Rosenkrantz, N. V. (2015). Reality substitution in video gamers: Exploring the reality substitution model and its ability to predict health and behavioral outcomes. *Studenttheses.uu.nl*.
- [10] Jeffrey, C. F. H. (2017). Relevance and immersion in digital games. Proceedings of the 3rd International Conference on Human-Computer Interaction and User Experience in Indonesia, 24 – 27.
- [11] Diener, E. (2000). Subjective well-being. The science of happiness and a proposal for a national index. *The American Psychologist*, 55 (1), 34 – 43.
- [12] Feng, Y. (2024). From fun to fantasy: Gaming experiences, perceived presence, and adolescent romantic parasocial attachments in romantic video games. *Psychology of Popular Media*, 14 (2), 256 – 263.
- [13] Gong, A.-D., & Huang, Y.-T. (2023). Finding love in online games: Social interaction, parasocial phenomenon, and in-game purchase intention of female game players. *Computers in Human Behavior*, 143, 107681.
- [14] Tukachinsky, R., Walter, N., & Saucier, C. J. (2020). Antecedents and effects of parasocial relationships: A meta-analysis. *Journal of Communication*, 70 (6).
- [15] Vella, K., Johnson, D., & Mitchell, J. (2016). Playing Support. Proceedings of the 2016 Annual Symposium on Computer-Human Interaction in Play Companion Extended Abstracts - CHI PLAY Companion '16, 343 – 350.
- [16] James, C., Davis, K., Charmaraman, L., Konrath, S., Slovak, P., Weinstein, E., & Yarosh, L. (2017). Digital life and youth well-being, social connectedness, empathy, and narcissism. *Pediatrics*, 140 (2), 71 – 75.
- [17] Schramm, H., & Hartmann, T. (2008). The psi-process scales. A new measure to assess the intensity and breadth of parasocial processes. *Communications*, 33 (4).
- [18] Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment*, 49 (1), 71 – 75.