An Examination of Gender Differences in Happiness and Unhappiness Perceived by Japanese University Students in Games

# ABSTRACT

This study aimed to investigate gender differences in the elements of happiness in games and to obtain basic knowledge for future enhancement of education and game development using games. We asked 138 Japanese university students to write freely about what aspects of games make them happy. The results showed that the common features for both men and women were “communicating with friends in games,” “getting good items and characters through gacha,” “playing games well,” and “clearing games.” Males “clear difficult games” and “win against opponents.” Women tended to feel pleasure “when communicating in games with less competitive elements,” “playing games with a favorite character,” and “pulling out a gacha related to a favorite character.” Based on these differences, it is hoped that game development education and game development in a company will be enhanced.

## Keywords

gender differences, happiness, well-being, university students, covalent network

# INTRODUCTION

It is reported that there are approximately 300 million active game users in the world today (Statista, *n.d.*). Games are one of the media that influence many users, and the impact of games is significant. In other words, it is essential to seek ways to enhance the positive effects of games and consider the negative impact of games.

According to Digital Culture (2019), there is concern about the association between violent games and aggression in recent years. If playing a game brings happiness or unhappiness, it could significantly impact many gamers’ mental health. Therefore, it is crucial to conduct research focusing on the effects of games on users’ happiness and unhappiness.

Frey and Stutzer (2002) stated that happiness can be divided into “subjective happiness” and “objective happiness.” Seligman (1998) proposed positive psychology, which focuses on human beings’ positive aspects, and this field has studied happiness extensively. Diener *et al.* (1999) pointed out that women tend to have a higher sense of happiness than men. Other studies on gender differences in happiness can be found (*e.g.,* Chui and Wong, 2016). The fact that there are gender differences in happiness in games is expected to have important implications for the future use of game development and its education.

In a study on happiness in games, Johannes *et al.* (2021) reported a weak positive correlation between game playing time and happiness in users playing “Plants vs. Zombies: Battle for Neighborville” and “Animal Crossing.” They also point out that this result refutes the conventional view that users who spend more time playing games are more likely to become addicted to them and that their health is impaired.

Regarding gender differences in game playing, Veltri *et al.* (2014) reviewed various gaming literature to understand the online gaming behavior of men and women. Their findings point to similarities and differences in game selection, motivation, play behavior, and performance between men and women.

Thus, while there are studies on gender differences in happiness, gender differences in gameplay, and the relationship between gameplay and happiness, there are no detailed studies on gender differences in happiness in games. Clarifying these findings would provide vital information to enhance future game education and development. Of course, games come in many different platforms, genres, and play styles, and we do not intend gender to be the most critical factor. In advancing research on happiness in games, it is essential to develop research based on gender differences in happiness, etc., to use previous studies' findings. Therefore, as a first step in our research on happiness in games, we conducted a survey and analysis focusing on gender to clarify the actual situation and obtain basic knowledge for future game education and game development.

# Methodorogy

## Survey Targets and Survey Procedure

An online survey was conducted in September 2022 among students at two private universities in Japan. The number of valid responses was 134 (66 Men, 68 Women), and the valid response rate was 97.10% (134/138). The survey was conducted without names, and no items were set that could identify individuals. When the subjects responded to the survey, we explained to them that participation was voluntary, that they would not be disadvantaged if they did not respond, and that they could stop responding at any point during the survey.

## Measurement Items

The following three items were set as survey items, and the respondents were asked to answer freely. Here, games are digital games, including smartphone games. Although there are various definitions of happiness, in this survey, we asked questions about the subject’s sense of happiness and did not define happiness in advance.

1. What scenes in the games you have played have made you feel happy?
2. In what kinds of games have you felt happy?
3. What type of interaction (communication) in games have you played so far that made you feel so glad?

## Analysis Procedure

Free responses to the questions were analyzed using KH-coder 3, and a co-occurrence network diagram was created. Differences in the factors that make men and women feel happiness in games were examined.

## Results and Discussions

A co-occurrence network was generated based on the free descriptions of happiness. Here, we introduced a gender parameter to identify the elements of happiness shared by men and women, the features of happiness felt by men, and the aspects of happiness felt by women. This network is shown in Figure 1. Based on the Figure 1, we extracted the characteristic elements and comments and presented in Table 1 which is the parts of happiness that are common to men and women, the elements of happiness that are strongly observed in men, and the elements of happiness that are strongly observed in women, respectively.

グラフ, レーダー チャート

自動的に生成された説明

**Figure 1:** Co-occurrence network diagram for happiness in games

|  |  |  |
| --- | --- | --- |
| **Element** | **Element Description** | **Example** |
| 1. Commonalities of Elements in Men and Women | | |
| Friends and Communication | Play games and communicate in-game with friends. | * Play and chat with friends while connecting to voice chat * Play with a large group of friends together in Minecraft |
| Gacha to get Item and Character | Gacha gives you the character or item you want. | * I get a character/item I like/want in a gacha |
| Good gameplay | I could play well, and in a way, I had never been able to before. | * I was able to make a “god play (a good play).” or a play that I had not been able to make before. * I made a difficult combo. |
| Game clear and achieve | Complete specific goals in the game, such as defeating enemies and clearing the game | * Defeat the boss/enemy * Clear the game |
| 2. Elements in Men | | |
| Online and PVP games | Work on games that focus on competing with other players online.  (*e.g.,* Splatoon, VALORANT, APEXLEGENDS, Super Smash Bros, and Pokemon) | * Defeated enemies in APEX, played with friends and won. * Beat them all in VALORANT. Won, got ranked up. |
| Beat their opponents | Winning against other players | * I got ranked up in Splatoon. * Killed a strong opponent. * I was praised by a friend. |
| Raise my rank | Raising my in-game rank | * Rank has been raised. * Reached the target rank. |
| Tackle difficult games | Achieve difficult in-game quests, or missions. | * When I was able to do a full combo of a difficult song. * When you perform a difficult combo. * When you conquer a difficult stage or event. * When you win a difficult battle. |
| 3. Elements in Women | | |
| Games with few elements of competition with other players | Working on games with less competitive elements with other players (*e.g.,* Dragon Quest, Disney Tsum Tsum, Touken Ranbu, Animal Crossing) | * When I took a stroll, or when I won the jackpot at the casino in Dragon Quest. * When I got lucky in Tsum Tsum, got a high score, or got a character I wanted in a gacha. * When I got a new character in Touken Ranbu. * When I saw an episode of my favorite character. |
| Favorite characters, items, and events | Drawing in events, items, and gacha of your choice. | * A character of my choice, a recommended event/scene or a recommended item were found in the gacha. |
| Full combo, score in sound game | Achieving a full combo or breaking my own score, mainly in sound games and Disney Tsum Tsum. | * I got a full combo in Ensemble Stars! or Project Sekai. * Got a full combo on a difficult song in BanG Dream! * I improved my score in Tsum Tsum. |

**Table 1:** Elements and Examples of Happiness

From these results, the typical responses for both men and women were “communicating with friends in the game,” “getting good items and characters in the gacha,” “playing the game well,” and “clearing the game.” Males selected “clearing difficult games” and “winning against opponents.” Women tended to feel pleasure “when communicating in games with less competitive elements,” “playing games with favorite characters,” and “pulling out gachas related to favorite characters.” Of course, each of these factors cannot be completely separated, but these trends were observed.

Based on these differences, education and game development using games will be expected to be enhanced. For example, when developing games for users of a specific gender, it is assumed that it is helpful to create games based on gender differences in advance. Also, in in-game developer education, it is assumed that it may be beneficial to use subject matter that focuses on enhancing a sense of well-being and increasing interest based on prior knowledge of the reality of gender differences. Therefore, it is crucial to set up a flexible curriculum that allows students to choose their materials and to absorb factors, including gender differences, rather than providing separate materials for men and women.

# Conclusion

The purpose of this study was to investigate gender differences in happiness in games and to obtain basic knowledge for future game development and its education. As a result, we found gender differences in happiness in games and clarified the factors that contribute to these differences.

Of course, gender is not the only reason for these differences; it is only one parameter. There are many other possibilities, such as hobbies and preferences, previous gaming experience, the influence of other game players, and differences in gaming platforms owned by players. It is also necessary to examine these factors and clarify in detail where the sense of happiness in games lies.