Make Your Choices: The Revelation of Gender Identity Through Choosing Video Game Characters

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Abstract *– Video game characters experienced a huge change from point metrics to elaborate humanoid design. Game creators embodied their perception of gender roles in the creation of characters. Stereotyping content in video games influences how players see themselves in a gendered avatar. The current study investigates whether the gender of the player and the character choice are related and what the role of other motives is when selecting gendered characters.*

We present five scenarios based on the opening vignette of multiple successful fantasy role-playing games. Participants need to rank six characters with binary genders and give reasons behind their choices. The results show that there are no absolute relations between the gender of the player and the selected character. However, male participants had a remarkable preference for male characters when the scenario is not objective-driven, while female participants are more sensitive to the stereotypical content of character appearances. Male participants cared more about the gameplay and the powerful features of characters but their selection results were more motivated by character genders than female participants.

Index Terms **–** Fantasy Video Games, Game Characters, Gender Identity

I. Introduction

You wake up on a sandy beach. No one is by your side. Only the warm wind blows on your face. Now you walk to the seaside at a slow pace. The reflection of your image emerges on the water.

The above brief vignette depicts a classic scenario before you choose your character at the beginning of a fantasy video game. A fantasy video game is a type of video game that is set in a fictional world, often inspired by real-world mythologies and folklore (Schwartz, 2006). These games often feature magic, mythical creatures, and other supernatural elements. Some examples of popular fantasy video games include The Legend of Zelda (1986), Final Fantasy (1987), and World of Warcraft (2004). These games typically involve a or multiple player-controlled character(s) who embarks on a quest or adventure, facing challenges and enemies along the way. The goal of the game is often to defeat the final boss or enemy, save the world from destruction, or achieve some other heroic objective. Fantasy video games can be played on a variety of platforms, including consoles, computers, and mobile devices. When video games become portable entertainment and diverse complex content attracts a wide range of players, the user persona in the game market is not male-dominant anymore. A report from Entertainment Software Association (ESA) shows there are 48% of video game players [1] are identified as female and the remaining 52% are male (ESA, 2021). Merely compared with the demographic data 6 years ago, the percentage of female players had increased by 4%. As the number of female gamers has increased, now the ratio of male players to females has been close to 1:1. Female players are no longer a bystander or the minority within the game market. The previous strategies of gearing character representations toward male players (James, 2006) are not suitable for game producers to draw adequate fans into their games. Focusing on a particular target audience is always essential for companies (Bortun et al., 2013), but as female gaming begins to emerge (Lopez-Fernandez et al., 2019) and get into the core community, companies need to adjust their strategies and adapt to the new audience.

In most traditional video games, female characters are often shaped into sexualized appearances to serve male players' imagination and expectations (Jansz and Martis, 2007), even in Tomb Raider (2001), in which the main character is a powerful female. Male characters are curated with heroic features to offer male players the achievability of conquest. However, when there is a turn of the target audience, male characters are not only serving male players to have more powerful skills but also using a good-looking appearance to attract female players. More female characters are also included in the selectable controlled characters to meet the demands of female players (Lopez-Fernandez et al., 2019).

Unlike the era when games were still a relatively new phenomenon, game characters nowadays have gone far beyond a point or simple geometry shape, from humanoid images to personalized creations with elaborate designs and story backgrounds. With the help of advances in character development, higher resolution displays and realistic facial expressions, games show the possibility of inviting players to

interact with game characters as they do in real life; complex stories, interactive experiences and highly recognizable personalities make players easily relate themselves and more likely to invest hours of gaming with the selected character (Beck & Wade, 2004).

Video games, particularly fantasy games, allow players to interact with game characters. Comparisons between players and these characters may occur on various levels. Players may put themselves in the shoes of characters or other non-human agents, such as cars in racing games, to get immersive experiences (Klevjer, 2012). The stereotyping content may have an impact on self-esteem and other social cognition when players compare themselves with characters who have a higher level of beauty or heroic values. Video games offer a new place for players to have social activities and relate the virtual experience with real life. As socialized communication and performance are considered to be essential reasons for the construction of socialized knowledge, such as gender identity (Wood 1994), playing games, as an important aspect of socialization among young people, would have an impact on the perception of the social world. Correspondingly, in video games, the characters have stereotypical gender expressions and the visualization of those characters is influenced by the interpretations of gender roles in our living societies (Daniel, 2017).

The purpose of this research is to investigate how the gender identity of the player and the character are related in video games with fixed game characters, how the gender features and other factors influence players' selections of characters and try to find connections between them. Section I gives an overview of relations between players and video game characters and a binary view of gender distribution on players. Section II will share the related works concerning gender roles, fantasy video games, character stereotypes and players' attitudes and choices for game characters. Section III introduces the research question and hypotheses. Section IV explains the quantitative research process and coding scheme used to answer the research questions. Section V presents the major findings from 85 valid online questionnaires and analyzes the data in detail. Section VI discusses the results to enrich our understanding of video games.

II. Related Works

Before approaching the gathered data, we need to understand the relations among players, fantasy video games and characters a bit more. Section A specifies the fantasy video game definition and the background of the methodology. Section B explains the existing stereotypes in current video games. Section C discusses players' attitudes toward game characters and what aspects of games may have an impact on the selection of choices in games.

A. Fantasy Video Games

When mobile devices have equal performance to the computer or are even more powerful in some aspects such as sensor capabilities (Mäyrä, 2015), it is now impossible to tell the difference between a mobile game and a console game just from the visuals alone. ESA report shows that smartphones are becoming the most preferred device for playing video games (ESA, 2021). Console and personal computer (PC) are followed. The majority of the play of mobile games happened at home (Joffe, 2005). But the flexibility of time and place allows players to play games almost everywhere when they have time (Bell et al., 2006). The portability of mobile devices pushes games to new heights of popularity. People can play games when commuting or waiting. The change in the environment creates more chances to bring games into social life. Players will even use games to cope with stress and anxiety (Dunham et al., 2022). Playing games is not merely entertainment, but also has a positive effect on players' social life and affective needs.

Besides the influence on the creation of game content, video games also introduce new phenomena, recontextualize the way players perceived the changes in the socialization around people and assign new meanings to familiar words such as place names (Dunham et al., 2022). Video game environments are embedded with metaphors and ideas for political and mythological constructs (Schwartz, 2006). Fantasy video games often draw inspiration from a wide range of sources, including medieval European legends, Greek and Roman mythology, and various indigenous folklore traditions (Schwartz, 2006). Many of these games feature a fantasy setting, such as a medieval kingdom or a mythical land filled with magical creatures and enchanted objects. The gameplay in these games is often focused on exploration and combat, with the player using various weapons and abilities to defeat enemies and progress through the game.

Fantasy video games are enjoyed by people of all ages, and are often seen as a form of escapism, allowing players to explore fantastical worlds and experience adventures that they might not be able to have in real life (Deleuze, 2019). These games can also be a source of inspiration and creativity, as players use their imagination to create and customize their characters, and make choices that shape the course of the game. Additionally, many fantasy video games have rich, complex storylines that can be thought-provoking and emotionally resonant, making them appealing to a wide range of players.

In our research, we curated a virtual game environment as the background in the questionnaire. Scenarios and characters are refined from a selection of fantasy games with a good reputation and popularity. Concluded from what we discussed in the above content, there are at least two useful boundary conditions of the virtual game world that we formed. Firstly, players must have one or more avatars before we can imagine a scenario. The second would be that the play is partially spatial and has social aspects, which means that, to some extent, the real-world activities are present at least in an abstract form in the game context (Bainbridge, 2007). With

those conditions, we can start to investigate the relationship between players' choices and the knowledge in the real world.

B. Stereotypes of Video Game Characters

People are socialized to be masculine and feminine through daily communication and expressions in reality (Daniel, 2017). Socialization of gender contributes to the formation of gender identity. The normative performances which are regarded as consistent with the biological sex are strengthened by a commendation from society from early childhood on (Wood, 2013). Similarly, the gender roles in games originated from reality and society and are set up based on creators' perceptions of stereotyping gender in the process of socialization.

An analysis (Martins, Williams, Harrison & Ratan, 2009) of female body imagery in video games found that highly photorealistic games have more chances to arouse female dissatisfaction. Compared with average American women, female characters have significantly larger heads, smaller waists and chests, which is corresponding with a thin-ideal female body shape. Gestos, Smith-Merry and Campbell (2018) noted that it is confirmed that female self-efficacy and self-objectification will be negatively affected by female sexualized content. Creating a social norm in a variety of media formats contributes to negative feelings about the female body and eating habits. James (2006) indicated an interesting gender dichotomy in video game characters. Female characters are more likely to be portrayed in sexualized images as playable characters than males.

The situation is changing according to experts' opinions on the female representations in video games, female characters are not always sexually provocative or dressed in seductive ways and games are trying to have better equally represented male and female protagonists (Kondrat, 2015). In recent thirty years, there are a small group of powerful and competent female characters showing up in fantasy video games. Tomb raider (2001) is one of the games in that female protagonists take the lead and have a dominant position (Jansz & Martis, 2007). However, the physical features of gendered characters were still highly stereotypical. Males were always extremely muscular while females were portrayed in a sexualized dress. Jansz and Martis (2007) also pointed out that even though female leaders are powerful in video games, they are always presented sexually as much as they were in previous male-dominated games.

C. Players and Characters

Klevjer (2012) proposed that controlled characters are functioning as prosthetic extensions of our bodies. When players are being in a video game as humanoid characters like Lara Croft (from Tomb Raider, 2001) or Mario (from Super Mario Bros, 1985), they move buttons, sit in front of the screen and operate the controllers, just like they get to be in the shoes of another human body in the game. This can happen to other non-human agents as well, such as cars in racing games. Players consider themselves as being in the 'avatar' of the character.

With the improvement of the performance of mobile games and the portable capability of mobile devices, Genshin Impact (2020) and other mobile gacha games introduce a different way of inviting players to interact with game characters. Relying on the psychological associations with gambling, the games created connections with the affective compulsions that players can notice. Gacha games encourage players to build deep emotional links with characters and offer opportunities for them to curate personal aesthetic assemblages (Woods, 2022). With the help of social features, the embodied emotions of players take greater effects than merely gambling stimulus on the result of investing money and time. To satisfy the need for social achievements and personal values, gacha game players are easier to relate themselves as the "avatar" or agents who give the player emotional payoff.

Besides direct stimuli, affective relationships with the game world and characters are also built up with a long period of investing and immersive story background. Final Fantasy (1987) and other role-playing games (RPG) hold together the imaginarily fictional game world of the subjective player by affect and expanding the degree of immersion (Van Ommen, 2018). When players have spent hundreds of hours companying with their characters, they will understand the characters more. Deeper connections between the knowledge of the player and the character may emerge through this process. For example, if a player plays as a character with Egyptian decorations in a game and knows the story background after walking through the whole virtual game world for tons of hours, he/she may start to be interested in the Egyptian culture in the real world and substitute the image of the character for the main character of another book which tells an Egyptian story while reading the book.

Players will also use their existing knowledge to criticize the stereotyping content in games. Behm-Morawitz and Mastro (2009) researched the influence of participants' gender on the perception of gendered stereotyping content. The study reveals that if players feel that they are offended by the gender features of the characters, the players, especially females, would develop poor views of those characters. Female and male participants also feel lower self-worth when the character they play in games has a much higher level of beauty and heroic values than themselves.

Another research in 2010 indicates that players have different motives for playing games and the options during their playing differ on gender and genre (Bradley et al., 2010). In the sample, males always spent more time on average than females and tend to play physically oriented video games while female players prefer traditional and thoughtful games.

DiGiuseppe (2007) studied how players choose fantasy characters in World of Warcraft (WoW). The study showed that male players choose from a wider range of characters

while female players only choose from several character classes. As females become more experienced players, they may consider other character classes. To some extent, this reflects males' greater experience with games in general. Another research further explored the relationship between player gender and player behaviour (Martey, Stromer-Galley, Banks, Wu & Consalvo, 2014) in WoW. They found that player gender is one of the factors in differences in player behaviour but doesn't guide all aspects of gendered play style. Chat behaviour of a male player who chooses a female avatar tended to act similarly to that of women, but in other ways remained male distinction.

Sexualized features may affect players' willingness on selecting characters as well. For instance, female characters with small body types would draw attention from males who were used to looking at females this way (Kennedy, 2002; Schleiner, 2001). However, this sort of design will offend female gamers and potentially affect players' perceptions of gender features. Fox and Tang (2017) pointed out that women are reinforcing the idea that they should mask their sex in play due to general offence and sexual harassment in video games.

III. Research Question

As a summary from the prior works, we know that the characters are functioning as the extension of the player's body, particularly in games with action elements (Klevjer, 2012); Selecting an interested character may offer better immersion and affect satisfaction (Woods, 2022; Van Ommen, 2018; DiGiuseppe, 2007) while experienced gamers may select characters more equally; Players may feel uncomfortable with a poor character design which makes them feel offended by a stereotyping looking (Behm-Morawitz and Mastro, 2009); experienced gamers will choose characters more equally regardless of gender features and focus more on the gameplay of interesting characters (DiGiuseppe, 2007).

The purpose of this research is to investigate whether there are relations between the gender identity of the player and the character selection in video games and whether there are other factors impacting character choices. Gender identity is understood as socially constructed through daily communication and reinforced by positive feedback. Games, as a considerable part of socialization for gamers, affect the perception of social norms and gender roles. Correspondingly, game characters are biased towards stereotyping content in social life. The bidirectional correlations unavoidably lead to a number of inconsistencies between the sex identification of the player and the images of characters in games according to players' attitude on the stereotyping content of characters, which probably lead to a lower selection rate of the characters with the consistent player gender or a higher selecting rate of the opposite gender. Because we emphasized a binary view of gender, the main research question, together with the two sub-questions formed the basis of this study:

MAIN RQ: Are the gender identity of the player and the character related in fantasy video games with fixed game characters?

RQ1: Do players who identify as male more often choose male characters?

RQ2: Do players who identify as female more often choose female characters?

Based on prior works, the scale of male characters is still massively large than the scale of females. We could easily find examples in many well-known games with fixed characters that players may not have the chance to pick a female character at first. When the gender ratio of consumers in the video game market stands at around 1:1 in recent years (ESA, 2021), the proportion and diversity of female characters are not making a great stride. According to the players' behaviours and attitudes on selecting characters, females will be more sensitive to the appearances of female characters, which may lead to a lower selection rate. In conclusion, we composed the following hypotheses:

H1: Male players would choose male characters more often. The gap is obvious between the percentage of selecting male characters and selecting females.

H2: Female players would like to choose more female characters. However, since there are less satisfying female characters available for females to choose from, the gap between selecting male and female characters would not be obvious, compared with that of male players.

To answer the main question, we need to build a network to reflect the relational degree with possible reasons behind the scenarios (see Section IV.D). Therefore, we invited the third sub-question:

RQ3: Are there other motives that affect players' character choices?

Regarding this question, we gave the following hypothesis:

H3: Appearances or the intensity of characters will affect players' choices with variances under different scenarios. Different gamer identities (see Section IV.G) may have an influence as well.

However, we are unsure about whether females or males won't choose a character due to that they feel offended by the character design, leading to a lower selection rate, and whether gender identity is a determining motive in selecting characters. To solve these sceptical points between the knowledge and our hypotheses, an experimental study is introduced in the next section, we will use standard character picks and reason analysis of character preferences to build a quantitative questionnaire guided by a qualitative method.

IV. Method

In this research, five curated scenarios were presented to the participants. Participants will choose characters under

different circumstances and give reasons for their choices. Besides, as discussed in previous sections, some demographic information and gaming experiences will be included in the questionnaire to help with subsequent analyses and discussions. The remainder of this section discusses the research framework, the data collection and the details of the questionnaire.

A. Qualitative and Quantitative Design

As noted by Onwuegbuzie and Leech (2005), when comes to pragmatic research, the combination of qualitative and quantitative methods is important to build a reliable construct.

To fully investigate the relations between the character and the gender identity of the player, this study used an experimental online survey design (Guin, 2012; Näher & Krumpal, 2012) to guide the construction of a quantitative questionnaire conducted through Qualtrics. *The phenomenology of perception* (Merleau-Ponty, 1945) introduces a philosophical perspective as well as an approach to qualitative methodology. Phenomenology focuses on relating people's subjective experiences with the interpretations of the world. In our study, we want participants to relate themselves to the game materials and then make choices using or recalling their past gaming experiences. The scenarios and statements within the questionnaire are extracted from selected games and related materials discussed in previous content.

B. Participants and Data Collection

To be eligible for this research, Participants are preferred to be over 18 years old and have a clear understanding of their gender identity. It's tolerable to be a bit younger than 18 years old but the participant needs to have a strong understanding of his or her gender identity (self-rated knowledge level of gender identity needs to be greater than 8). The number of participants has to meet the requirement of containing two considerable and balanced groups of males and females. We gave non-binary options (including Intersex, Transgender, Non-conforming, Personal and Other) in genders and make it possible for participants to hide or skip answering those questions having personal information asked. However, while most of the other questions of demographic information were non-obligatory in the Qualtrics interface, gender is an essential category for later analysis. Therefore, we excluded the responses without answers or with non-recognizable genders in the results.

The online questionnaire (see Appendix A) is a quantitative method to collect data and visualize the results. The first block contains 5 questions on gaming experiences. The duration of playing games, platform preference and some lists of specific games are asked in this block. The results will differentiate players from starters with little or no prior experience to gamers with a huge investment of time in games. The second block consists of 5 scenario-based questions. Participants will need to select from 6 game characters with fixed genders to play in the depicted context. Each scenario is followed by a multiple-choice question to inquire about the reasons that attract players to those characters in the last questions. The third part of the questionnaire asks for demographic information including participants' gender, age, knowledge level of gender identity, sexual orientation and area of birth. The ethics application is approved by the Media Technology Board in the Faculty of Science, Leiden University.

Within a week from September 14th to 21st, we received 186 responses from multiple game communities on National Geographic of Azeroth and Discord. 47% of participants completed the online questionnaire. Excluded the individuals who are younger than 18 years old, whose gender is missing and whose gender group is lacking data ($n < 10$), 85 effective samples in total are considered and used in the data analysis. Thirty-five participants identified their gender as female, and fifty identified as male.

The rest of this section will present some aspects of the questionnaire in detail and discuss the settings for characters and scenarios.

C. Measurement

The main variables were the participants' gender and the gender of the characters in the scenarios. It was measured how the participant prioritized a character given the scenario, and this score was interpreted in terms of the matching or not matching of the characters' and participants' gender. As we excluded other gender options due to lacking data ($n < 10$), the genders of players were transformed into a binary variable in analytical tables, where *0* represented 'Female' and *1* represented 'Male'.

D. Scenarios

The scenarios come from classic game openings or combinations within some famous video games either in history or the current game industry. Participants will choose their preferred characters under different circumstances and label the choices from 1- 6 (see Figure.1), from the most favourite to least favourite. After answering the above question for every scenario, participants need to select the statements that best explain their choices. We will discuss the statements later in Section IV.F.

From previous studies, we know that players will have different standards and feelings towards the controllable characters and non-playable characters (NPCs). The 'Avatar' situations encourage players to relate experience and knowledge to interact with the characters or non-human agents (Klevjer, 2012) while choosing NPCs attracts more attention from players on dishing out criticism on the appearance. In our study, we want participants to choose their avatars in games. However, the boundaries between the two types of situations are sometimes unclear. For example, the character you were talking with might become controllable in the next battle. Players will have expectations to have the character in their team before it authentically joined if players keep an eye on that character. Therefore, we curated three 'Avatar' scenarios with correspondence to Scenario 1, 2 and 4 in the

questionnaire and 'NPC' Scenario 3 as a control group, to investigate the influence of this nuanced difference. Scenario 5 is specially designed to ask about unfavorite characters to get an opposite view against selecting favourite characters.

Figure.1: *Options present after the first scenario narrative containing three pairs of characters with one male and one female in each pair and displayed in random order.*

We selected seven fantasy video games as case materials, based on the Evil Resident series (1996), the Tomb Raider series (2001), Devil May Cry series (2001), the Xenoblade Chronicles series (2013), the Fire Emblem series (1990) and Genshin Impact (2020). They are successful in the game industry and have a huge scale of the audience (Jansz & Martis, 2007; Woods, 2022; Van Ommen, 2018). We extracted literary or visual sketches from the selected games which offer both male and female controllable characters. The five curated scenarios are as follows:

> *Scenario 1: When you first enter the game world, you wake up on a beach. You feel a bit dizzy, but soon you stand up and approach the sea at a slow pace. You see yourself from the reflection of the water.*

The first scenario in the questionnaire comes from the opening scene of Genshin Impact (2020), after which players select their avatars in the game.

> *Scenario 2: When you are about to move, you fall to the ground unconsciously. After you wake up again, you find yourself locked inside an unknown house. When you are looking for something to open the door, you are hearing the roar of a beast from outdoors. Immediately after you broke the door and then get out of the house, the beast is standing in front of you.*

The second scenario is derived from Evil Resident, extracted from the first scene after you selected your character and start the game.

> *Scenario 3: You expelled the beast. There is a truck next to the house. Luckily, you can drive, and the truck is working well! You drive into a village. You want to get some information about this world from another character who looks like an experienced adventurer.*
> *Scenario 4: This village welcomes your arrival and invites you to have dinner with all the villagers. You experienced a wonderful night. In the morning, you are lying beside the fountain on the grass in the centre of the village. You are enjoying the beautiful scenery. A gentle breeze blew across your face. You have an opportunity to make a photo of yourself.*

The third and fourth scenarios are a combination of common events that players will frequently encounter during gaming. When players step on new land or unlock a new scene, they will have chances to interact with NPCs or items to get information from; when players open their bags or character panels and stand idly, they can rotate their view around the character. Some games such as Genshin Impact (2020) also provide a camera-like view for players to easily look around their controlled characters, adopt a pose and make photos.

> *Scenario 5: You are organizing a team to go on an adventure. You get along well with the villagers. Many people are willing to join your team. You can freely switch controls between the characters that you have invited to your team in the following adventure.*

The last scenario happens before players set out to a new place or challenge. This is the moment that players make decisions depending on the situations they may encounter in the subsequent adventure or due to personal preferences.

The purpose of all these scenarios is to simulate familiar moments and formulate gaming contexts for participants to make choices about which character they would prefer to play with. The purpose of this research is to investigate whether players use their gender identity knowledge to choose characters instead of being driven by gender identity only.

E. Characters

As the options for the given scenarios, six characters will be present after the narrative of scenarios (see Figure.1). We provide three pairs of characters with one male and one female in each pair for every scenario. The characters in the same pair shared the common art styles from the same games to avoid the violation of selecting characters without the consideration of gender (see Figure.2).

We sampled a selection of 18 characters from 7 games. Nine game characters are males and the same number for females. Except 2 games merely provide one character, the other characters are coded in pairs from the same game. This means that we have 8 pairs of males and females from the same source respectively and the other pair from different games but

with similar art styles. All character information is shown in Table.1.

Figure.2: *Female character Lucina (left) and male character Marth (right) from the Fire Emblem series. The above images present the high-resolution remake models from Super Smash Bros Ultimate (2018).*

Three of nine pairs of characters are selected for each scenario and the present order is randomized. Players will sort those characters from 1-6 with their favourite one as number 1, the second favourite as number 2, etc. At least one character needs to be selected for every question.

Table 1: *Game Character List in Pairs*

No.	Character	Gender	Game
1	Ada Wong	Female	Evil Resident
	Leon	Male	Evil Resident
2	Lara	Female	Tomb Raider
	Dante	Male	Devil May Cry
3	Lighting	Female	Final Fantasy
	Cloud	Male	Final Fantasy
4	Mio	Female	Xenoblade Chronicles
	Noah	Male	Xenoblade Chronicles
5	Eunie	Female	Xenoblade Chronicles
	Lanz	Male	Xenoblade Chronicles
6	Lucina	Female	Fire Emblem
	Marth	Male	Fire Emblem
7	Lumine	Female	Genshin Impact
	Aether	Male	Genshin Impact
8	Ayaka	Female	Genshin Impact
	Tartaglia	Male	Genshin Impact
9	Beidou	Female	Genshin Impact
	Diluc	Male	Genshin Impact

We tried to introduce characters with high public acceptance to reduce the influence of extreme personal preferences. The selected games are considered widely accepted for great commercial performance in the current game industry or history (Jansz & Martis, 2007; Woods, 2022; Van Ommen, 2018). Pair 1, 2, 3, 4, 6 and 7 contain the main characters of the seven games. Pair 5, 8, and 9 are randomly selected from the rest of the characters with high reviews by the target audience.

F. Statements

The rank order questions which followed the scenarios help us verify if the player will prefer to choose a character with the same gender as his/hers. However, to investigate the relation between the gender of the player and the character, we still need to know how much the gender of the character affects the decisions. To conduct a correlational analysis, we attached a multiple-choice question after every scenario to know about the reasons behind the choices.

Some motives are extracted from the summary of prior research in choosing characters (see Section III): the extension of the body, the avatar in a virtual world, likes and dislikes of gendered features and non-gendered features, appearances and gameplay. In conclusion, unsatisfied designs may have a negative impact on character selection, while in contrast, players would like to choose characters who offer better immersion and affective satisfaction. For example, a character with a familiar cultural background makes the player feel more confident in communication (Baker & MacIntyre, 2003) which increases the immersive level. We propose that gender would be one of the primary reasons for selecting characters as players can relate to and reflect their behaviours on the character they are operating.

We rephrased the motives into statements from players' subjective perspectives. The following assumptions are made accordingly:

1) if the player is seeing the characters as the extension of the human body, he/she may see the character as the avatar in the games, potentially using the gender identity knowledge to get a better immersion;

2) if the player is attracted by some gendered-related feature, such as appearance, as players would feel uncomfortable with poor design on characters with the same gender and feel delighted with good design, he/she potentially uses little gender knowledge while selecting the characters or excluding other selections;

3) if the player is attracted by some low gendered-related features, such as clothes or other decorations, it is hard to say whether players used gender identity knowledge to make choices;

4) If the player selects characters due to the weapons, skills, intensity of characters or familiarity with the character, which is related to pure gameplay, players didn't use gender knowledge to select characters.

Therefore, we constructed several statements with different gender-related levels for players to choose from (number 1 indicates strong relation with gender identity, and number 6 indicates no relation):

1. *The character has the same gender as mine.*
2. *I see the character as my avatar.*
3. *The character has an appealing appearance.*
4. *The character has nice decorations/clothes.*
5. *I am more familiar with this character.*
6. *The character looks more powerful.*

Players may choose up to three options in this question. As a result, we will obtain metrics to measure the dependency of choices on gender identity.

G. Gaming Experience

In general, people who play games more frequently may care less about the appearance of characters (DiGiuseppe, 2007). They focus more on the playability of characters, who show a negative attitude toward gender differences within characters. Players on different platforms may have differences in their attitude toward game content. We distinguished gamers mainly by the amount of investment of time in playing. The lists of games aim to precisely position the target audience on different platforms and measure the familiarity that participants have with specific games.

V. RESULTS

In this section, we analyzed the data from 85 valid online questionnaires from 188 responses (N = 85, excluded responses that didn't meet the standards, see Section IV.B for detailed explanations). The final sample consists of 35 female participants and 50 male participants. Several characteristics of participants are listed in Table 2.

To have an overall impression of the participants' gaming experience, we asked participants about the weekly playing time. According to the ESA report, players who played video games one hour per week (corresponding to the answer with 0-2 hours per week of playing time in the questionnaire and Table 2) on average are generally considered as players (ESA, 2022), aka 'gamers' in our context. Table 2 shows that the majority of participants are experienced players.

Table 2: *Several Characteristics of Participants*

Gender	**n**	**Age**	**n**	**Playing Time**	**n**
Female	35	0-18*	5	0	2
Male	50	18-25	58	0-2	8
		25-30	16	2-5	19
		30+	6	5-10	22
				10+	34
Total	85		85		85

**. Five participants are under 18, but they all have a high self-rated gender-identity knowledge (greater than 8 in the related question). Therefore, we still count them (see the more detailed explanations in Section IV.B).*

Table.3: *Descriptive Statistics of Five Scenarios*

Character-Pair Index	Participants' Gender = Female, n = 35				Participants' Gender = Male, n = 50			
	Character Gender = Female		Character Gender = Male		Character Gender = Female		Character Gender = Male	
	N	Mean Rank	N	Mean Rank	N	Mean Rank	N	Mean Rank
Scenario 1								
7	31	2.11↑	32	2.40	37	2.82	40	2.70↑
1	17	5.37	18	4.43↑	25	5.02	29	3.88↑
3	24	3.69	26	3.00↑	32	3.72	39	2.86↑
Scenario 2								
2	25	2.89	24	2.54↑	32	2.76	34	2.26↑
4	22	3.23↑	23	4.09	32	4.68	30	4.22↑
6	25	3.46↑	18	4.80	26	3.92	28	3.16↑
Scenario 3								
3	22	3.30	23	3.14↑	32	3.52	33	2.98↑
1	15	5.41	14	4.44↑	23	4.86	31	3.87↑
8	28	2.59	26	2.11↑	31	3.11	32	2.66↑
Scenario 4								
7	29	1.80↑	26	2.57	32	2.50	37	2.28↑
6	18	3.14↑	16	5.17	23	5.06	25	3.24↑
2	17	4.37	16	3.94↑	23	4.25	23	3.67↑
Scenario 5								
5	16	2.63	29	1.71↓	22	3.62	37	1.60↓
9	11	4.46↓	10	5.57	15	5.26	17	4.50↓
2	20	3.03↓	19	3.60	21	3.28	28	2.74↓

We used the Friedman test in SPSS statistics and Bonferroni correction to analyze the results of scenario questions. The Friedman test is similar to the parametric repeated measures ANOVA but a non-parametric statistical test (Friedman, 1937, 1939, 1940) which is more suitable to sort data with ranking orders. Bonferroni correction is used for multiple comparative analysis characterization. The effectiveness of the above methods for analyzing questionnaires, similar to ours in this study, has been verified in multiple studies in different fields (Hailu, Boecker, Henson & Cranfield, 2009; Fong, Pang, Chung, Hung & Chan, 2012).

Table.4: *Friedman Test Results*

Scenario	N	Chi-Square	df	Sig.
Participants' Gender = Female				
1	35	77.792	5	<.001
2	35	34.020	5	<.001
3	35	75.139	5	<.001
4	35	76.290	5	<.001
5	35	93.873	5	<.001
Participants' Gender = Male				
1	50	57.360	5	<.001
2	50	61.257	5	<.001
3	50	44.730	5	<.001
4	50	80.141	5	<.001
5	50	119.257	5	<.001

A. Scenario Choice Analysis

In the descriptive statistics table (see Table.3), the selected number of times and weighted mean rank of each character choice are shown from the second column to the ninth column, which is corresponding to the female character that is selected by females, the male character that is selected by females, female character that is selected by males and the male character that is selected by males. The first column presents the index of the character pair that is used in this scenario. Differences in the selected number of times and mean ranks with pairs were presented by comparing different columns with the same pair index in the same scenarios. There is an up arrow or down arrow after mean rank to mark a more favourite character gender in this pair. When we looked at the verification statistics of Friedman's test results (see Table.4), every asymptotic significance was below 0.001, which was well below the significant level of 0.05. This means that the mean rank of these characters was indeed very different between characters with different genders within every given scenario.

The frequency data (the N in Table.3) shows that the male and the female characters in the same pair shared a similar seletion rate (an error of 5 cases) except for some pairs including Pair 3 in male selection of Scenario 1, Pair 1 in male selection of Scenario 3 and Pair 5 in both male and female selection of Scenario 5. For those pairs with similar seletion rate, we need to compare the mean rank the characters. It is remarkable that, in those pairs which have an obvious difference in selection rate of characters with different gender, the character with higher selection rate also has a higher mean rank (with a lower rank value).

Regarding H1, the results are presented in two dimensions of comparison between characters and in pairs. It was statistically significant that male participants choose male characters more often in any circumstance. For males, in each pair of characters, the mean rank of the male character was always higher (with a lower rank value) than that of the female character, which means that between the two characters with the same origins and different genders in a group, male participants had preferences for choosing male characters. The top character choice by male participants was male Aether (7), Dante (2), Tartaglia (8), Aether (7) and Lanz (5) from Scenario 1 to 5.

Regarding H2, female participants preferred selecting female characters in Scenario 2, 4 and 5 (two of the three preferred character choices with the highest mean rank (lowest rank value) within the same pair among 3 pairs of the same scenario are female characters). In Scenario 1 and 4, the most favourite character was female. The top character choice by female participants was female Lumine (7) in Scenario 1 and 4, male Dante (2), Tartaglia (8) and Lanz (5) in Scenario 2, 3 and 5.

From Table.3 and Table.4, we can conclude the characters with a mean rank in the given scenario and compare them between pairs to get which characters are more popular, but we still need to verify the significance level of those characters within the same pair, as Friedman test only tells us the significant level of each character among 6 options. Here comes the Bonferroni correction for ANOVA analysis and multiple comparisons to compare the popular level of characters with different genders within the same pair.

Table.5: *Tests of Between-Subjects Effects*

Source	F	Sig.
Gender = Female		
S1	18.324	<.001
S2	3.241	.008
S3	19.641	<.001
S4	21.582	<.001
S5	25.554	<.001
Gender = Male		
S1	9.769	<.001
S2	9.802	<.001
S3	3.777	.002
S4	12.761	<.001
S5	28.209	<.001

In the tests of Between-Subjects Effects (see Table.5) of the Bonferroni correction, for example, F = 18.324 and significance was less than 0.001 in scenario 1 when participants were female, which was well below 0.05. This means that when using ANOVA for analysis, the mean values

between the characters varied significantly. Therefore, we can advance to multiple comparisons.

Table.6: *Multiple Comparisons of Mean Difference Between Character Choices in Pairs Across Different Scenarios. Simplified Table of Bonferroni Correction Results.*

Character Index, Female (I)	Character Index, Male (J)	Mean Difference (I-J)	Sig.
S1, Female[1]			
1, 0	1, 1	.843	.058
3, 0	3, 1	.340	1.000
7, 0	7, 1	-.369	1.000
S1, Male[2]			
1, 0	1, 1	.974*	.003
3, 0	3. 1	.638	.226
7, 0	7, 1	.164	1.000
S2, Female			
2, 0	2, 1	.329	1.000
4, 0	4, 1	-.423	1.000
6, 0	6, 1	-.711	.484
S2, Male			
2, 0	2, 1	.368	1.000
4, 0	4, 1	.472	.916
6, 0	6, 1	.348	1.000
S3, Female			
1, 0	1, 1	.811	.057
3, 0	3, 1	.089	1.000
8, 0	8, 1	.366	1.000
S3, Male			
1, 0	1, 1	.396	1.000
3, 0	3, 1	.088	1.000
8, 0	8, 1	.148	1.000
S4, Female			
2, 0	2, 1	.011	1.000
6, 0	6, 1	-1.271**	<.001
7, 0	7, 1	-.809	.057
S4, Male			
2, 0	2, 1	.094	1.000
6, 0	6, 1	.918**	.001
7, 0	7, 1	.182	1.000
S5, Female			
2, 0	2, 1	-.154	1.000
5, 0	5, 1	.800*	.019
9, 0	9, 1	-.811*	.016
S5, Male			
2, 0	2, 1	.258	1.000
5, 0	5, 1	1.556**	<.001
9, 0	9, 1	.408	.598

1. *Participants' gender = Female*
2. *Participants' gender = Male*
*. *The mean difference is significant at the 0.05 level.*
**. *The mean difference is significant at the 0.001 level.*

In terms of multiple comparisons (see Table.6 below and the full data report in Appendix B), the column marked with * or ** showed that the mean rank of the character is significantly lower or higher than the other character with a different gender in the same pair. The results of multiple comparisons indicated that in Scenario 1, 4 and 5, participants had significantly different choices within some pairs. In the scenarios with significant differences between character choices, male players had a clear preference for male characters versus female characters with no exception, while female players had a general preference for female characters with one exception of Lanz (5) in Scenario 5.

B. Review of Reasons

Regarding Hypothesis 3, we asked the participants about the reasons behind their choices. Options are defined and classified in Section IV.F, Figure 3 presents the frequency distribution of statements that participants picked.

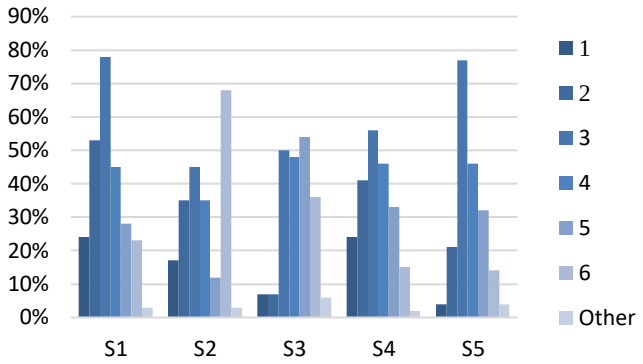

Figure.3: *Frequency Histogram of Reasons Behind Scenario Choices. 1-6 means the index of statements, which is defined in Section IV.F.*

Overall, the analysis (see Figure.3) showed that a normal distribution is observed except for an exception in Scenario 2. In Scenario 1 and 4, the statements with the highest percentage ranged from 2 to 4. At the same time, Scenario 2 had a similar pattern while Statement 6 stands out. This means that in Scenario 1, 2 and 4, participants choose characters based on a similar reason, which was seeing the character as his/her avatar in games or that the character had a nice appearance in any way. However, the second scenario tended to entice players to pick a stronger character to fight with a beast, which result in participants choosing "The character looks more powerful" the most frequently among all statements. This also explained why female participants ranked the most powerful-like man on the top choices more often in the second scenario.

In Scenario 3, when participants were asked to chat with NPCs, their answers were around 3-5 while Statement 5 was selected the most. This means, when participants were having a chance to talk with other people in games, they preferred to talk with a familiar character or had appealing appearances. In Scenario 5, Statement 3 statistically stood out among all statements while the percentage of choosing statements before 3 was significantly lower than that after 3. This indicated that participants relied on appearances very much to select a least favourite character. The result also explained why the male character with uncommon skin colour was ranked first in both the male and female groups.

The frequency histogram of reasons indicated that participants used their gender identity more often to choose characters in "Avatar" situations than in "NPC" situations. When participants needed to cope with an event with a fixed tendency towards somewhere, such as fighting or chatting,

their choices were affected by corresponding motivations, such as pursuing powerful strength and looking for familiarity or safety.

C. Self-rated Gender Identity

At the end of the questionnaire, all participants were asked to rate themselves on how much they think that they know their gender identity and how much they feel that they used gender identity knowledge to answer previous scenario questions (see Figure.4). This rating used a promoter question with scores ranging from 0 (not at all) to 10 (very well). It was clear that all participants have a positive score (higher than or equal to 6) on the knowledge level of gender identity. Thus, all participants had the eligibility to join the research.

However, participants had different feelings about whether they used their gender identity knowledge to select characters. The result takes on an inverse normal distribution and the overall net promoter score is -12. The net promoter score of females is -44 while that of males is 10. This means that female participants didn't feel that they used much gender identity knowledge when selecting characters while males related gender identity with their characters on a certain level.

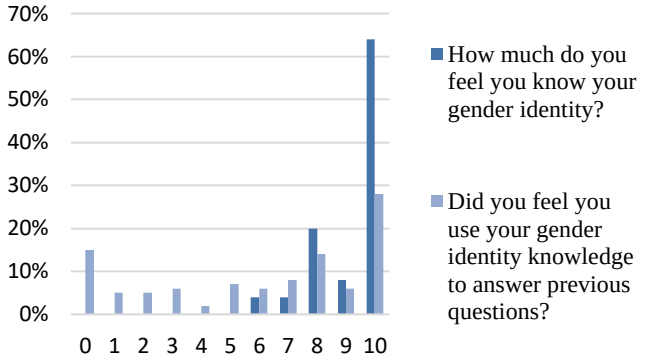

Figure.4: *Self-rated Knowledge Level of Gender Identity and Feelings of Knowledge Use*

VI. Conclusion and Discussion

A. Conclusion

We looked into the relations between gender roles in reality and gendered characters in video games, discussed the stereotyping content of male and female characters, and researched the motives and reasons for the character choices of players. To answer the research questions, a quantitative questionnaire was built based on ranking order questions in various scenarios.

According to the results, we found that males had a remarkable preference for selecting male characters in "Avatar" situations. When it came to selecting an uncontrollable character, the selecting percentage of female characters increased. Female players are more sensitive to the appearance or the stereotyping content of character design (Behm-Morawitz and Mastro, 2009). The results vary significantly among scenarios with different objectives for female participants.

The between-pairs results implied that only in some pairs of characters, players will have a significant preference for specific genders. When we compared the mean difference in pairs in "Avatar" situations, the pair of characters with a higher selection rate showed a lower difference between genders. In conclusion, the gender identity of the player doesn't have a strong relationship with the gender of the characters.

In terms of motivations for selecting characters, male players cared less about character identity but they showed a higher preference for characters of the same gender as they are. However, in terms of reasons, males would report a higher focus on the gameplay and the overall intensity of the characters.

We designed several statements to predict the motivations that players have when selecting characters as discussed in previous sections. The statements covered major reasons that were collected during the research. Participants also noted some features of characters that were not mentioned in the statement options, such as the convenience of carry-on in Scenario 1, useable weapons in Scenario 2, and reliability in Scenario 3. This revealed a corner in the real situation of selecting characters in games. A lot of distractions can become the motivation for selecting a character, particularly in games with a complicated system or gameplay.

The analysis of reasons behind choices didn't take on different patterns between the male and female groups. This implied that players of different genders may have the same motives to select characters in games. In the second scenario, when participants tended to select a powerful character, they preferred a male character regardless of personal gender. If male characters are identified as stronger, then the relation between the gender of the character and player may be more indirectly based on stereotype characteristics, instead of directly based on the player's gender.

B. Discussion

In this research, we distributed questionnaires mainly among game communities. Therefore, most of the participants are experienced players. In our context, based on previous gaming experience, those "gamers" were easier to be distracted from regarding characters as an avatar which has a gendered relevance with the gender of the player. Furthermore, when the game continues, gamers consider more factors when choosing characters and setting off for adventure, as the complexity of the environment in games increases with the accumulation of personal experience and game content.

Our research results showed females would also like to choose male characters, particularly in scenarios which encourage players to select a more powerful character. This indicates that both the game creators and players identify male characters as a stronger gender role. In most fantasy games with fixed characters, such as Final Fantasy (1987) and Fire Emblem

(1990), the default career for a male character is always a swordsman or another power character while female characters will start from a medical career or a ranged class with remote weapons. This phenomenon enlarged gender discrimination in some ways. Female players would even rather hide their gender in open-community video games because of general offence and sexual harassment (Fox and Tang, 2017). Females are around 50 percent of all video game players (ESA, 2022), but it turns out that actually, both male and female characters are still lacking focus on the demand of female players. If more female characters, for example, have powerful looking or use claymore or sword as their weapon, females might feel also comfortable and safe selecting a female character.

However, when it comes to other genres of games, things might be different. We limited our research field to fantasy video games with the third perspective. Players can always see the full image of their characters on the screen. But in first-player perspective (FPP) games, it's hard to tell if players are controlling a male or female character. Some FPP games will hide the identity of the controllable characters on purpose and make it a tale of mystery and suspense. We can hardly tell that gender is one of the primary reasons for selecting the controlled characters in such games because players would not expect that they would see the image of the characters in games again except on the log-in screen.

Additionally, there are some limitations in our empirical research that we cannot ignore. For example, in scenario questions, some characters were selected only 10 times, which means that the analysis among all ranks will have a large margin of error, which undercut its scientific significance. The mean rank of this character can be highly impacted by some extremely personal preferences. Although we considered participants' preferences when picking characters to be selected, the character group with the lowest selection chance in some scenarios may have a negative impact on the overall results.

C. Future Research

Non-binary genders are an inescapable component that we have to take into consideration when it comes to discussions around humanlike topics. But in most video games which have a reference to the human world, the number of characters with a non-binary gender is still much less than that with a binary gender. Some players may also have a special fetish or fantasy for untraditional humanoid characters, for example, a human body but with obvious animal features. All the above reasons will make the research incredibly difficult if we want to include all non-traditional gender options and find a proper character in video games. In this research, we excluded the non-binary genders and non-humanoid characters on purpose and focus on binary gender only. However, in future research, it is unavoidable to take Orcish and other non-human characters into consideration since more games are using visual elements of non-human creatures in the design of gendered characters. But the measurement of relations between the player gender and diverse character “gender” would be unpredictably complicated if we want to understand how much players relate themselves with the character.

How the socialization process was influenced by games is also an interesting topic to add. When games are becoming a "teacher" to help you understand the world and a "guide" to perceive the outside world, like how books and movies ever did, more concepts merely in games would probably be used in reality by players to better communicate with each other. Video games will introduce new phenomena, recontextualize the way players perceived the changes in the socialization around people and assign new meanings to familiar words such as place names (Dunham et al., 2022). I am looking forward to a real worldwide game that will emerge to change the way we perceive the world.

VII. Acknowledgement

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X. APPENDIX

Appendix A: Questionnaire Template

Universiteit Leiden
The Netherlands

English

Game Expeirences

About Our Project

Games are playing an interesting role. You may see the growing correspondences between game content and our social life. This research investigates how game character identities are being displayed and how these influence our own social lives and identities. We want to hear from you and are grateful if you are willing to participate in this questionnaire.

Procedures and Informed Consent

If you agree to participate, you will answer several groups of questions including general demographic information (age, gender etc.), gaming experience, preferences of game characters and their attributes/features, and various questions about your own identity. You can send an email to kensongpeng@gmail.com or contact the researcher for additional clarifications and you can ask to withdraw your participation at any phase. The collected data will only be used for academic reasearch and be kept until 6 months at longest after the end the reasearch.

The whole questionnaire will take only around 10 minutes.

How much time do you invest in playing games per week? [Unit: hour(s)]

○ 0 ○ 0 - 2 ○ 2 - 5 ○ 5 - 10 ○ 10+

On which devices do you play games more often?

○ Console (Play Station/Xbox/Nintendo Switch etc.)
○ Mobile Devices (mobile phones/iPad etc.)
○ _____ PC/Other

Group 1: Choose from the following list the games either that you are playing or that you have ever played (Mobile Games)

☐ Genshin Impact
☐ Fate / Grand Order
☐ Clash Royale
☐ Dragon Ball Z Dokkan Battle

- [ ] Arknights
- [ ] Marvel Contest of Champions
- [ ] League of Legends: Wild Rift
- [ ] AFK Arena
- [ ] None of the above

Group 2: Choose from the following list the games either that you are playing or that you have ever played (Casual/PVP Games)

- [ ] PUBG (Mobile)
- [ ] Roblox
- [ ] Pokémon GO
- [ ] Call of Duty (Mobile)
- [ ] Candy Crush Saga
- [ ] Coin Master
- [ ] Subway Surfers
- [ ] Monster Strike
- [ ] None of the above

Group 3: Choose from the following list the games either that you are playing or that you have ever played (Console Games)

- [ ] Devil Cry
- [ ] Tomb Raider
- [ ] Final Fantasy
- [ ] Evil Resident
- [ ] Fire Emblem
- [ ] Xenoblade Chronicles
- [ ] The Legend of Zelda: Breath of the Wild
- [ ] The Last of Us
- [ ] None of the above

Game Choices

Imagine that you are in a game.

This game has a fantasy world in which you can light a fire, construct a house and even join a community with other game characters or players. You may meet some familiar images (from other games). Please make your choices and show your preferences under different scenarios.

Scenario 1: When you first enter the game world, you wake up on a beach. You feel a bit dizzy, but soon you stand up and approach the sea at a slow pace. You see yourself from the reflection of the water. Now choose your character.
[Please sort the characters with your favourite as number 1, second favourite as 2, etc. Choose at least one character and assign no number to characters that you would never pick at all.]

	1	2	3	4	5	6
	○	○	○	○	○	○
	○	○	○	○	○	○
	○	○	○	○	○	○
	○	○	○	○	○	○
	○	○	○	○	○	○
	○	○	○	○	○	○

Select the statements that best described the reason behind your choices (at most 3):

- [ ] I see the character as my avatar.
- [ ] The character has the same gender as mine.
- [ ] The character has an appealing appearance.
- [ ] The character has nice decorations/clothes.
- [ ] The character looks more powerful.
- [ ] I am more familiar with this character.
- [ ] Other: _____

Scenario 2: When you are about to move, you fall down to the ground unconsciously. After you wake up again, you find yourself being locked inside an unknown house. When you are looking for something to open the door, you are hearing the roar of a beast from outdoors. Immediately after you broke the door and then get out of the house, the beast is standing in front of you. Now choose your character to **fight against the beast**.
[Please sort the characters with your favourite as number 1, second favourite as 2, etc. Choose at least one character and assign no number to characters that you would never pick at all.]

	1	2	3	4	5	6
	○	○	○	○	○	○
	○	○	○	○	○	○
	○	○	○	○	○	○
	○	○	○	○	○	○

	1	2	3	4	5	6
	○	○	○	○	○	○
	○	○	○	○	○	○

Select the statements that best described the reason behind your choices (at most 3):

- ☐ I see the character as my avatar.
- ☐ The character has the same gender as mine.
- ☐ The character has an appealing appearance.
- ☐ The character has nice decorations/clothes.
- ☐ The character looks more powerful.
- ☐ I'm more familiar with this character.
- ☐ _____ Other

Scenario 3: You expelled the beast. There is a truck next to the house. Luckily, you are able to drive, and the truck is working well! You drive into a village. You want to get some information about this world from another character who looks like an experienced adventurer. Now choose the character that you want to **speak with**. [Again, please choose at least one character and assign no number to characters that you would never pick at all.]

	1	2	3	4	5	6
	○	○	○	○	○	○

	1	2	3	4	5	6
	○	○	○	○	○	○
	○	○	○	○	○	○
	○	○	○	○	○	○
	○	○	○	○	○	○
	○	○	○	○	○	○

Select the statements that best described the reason behind your choices (at most 3):

- ☐ I see the character as my avatar.
- ☐ The character has the same gender as mine.
- ☐ The character has an appealing appearance.
- ☐ The character has nice decorations/clothes.
- ☐ The character looks more powerful.
- ☐ I'm more familiar with this character.
- ☐ [ ] Other

Scenario 4: This village welcomes your arrival and invite you to have a dinner with all the villagers. You experienced a wonderful night. In the morning, you are lying beside the fountain on the grass in the center of the village. You are enjoying the beautiful scenery. Gentle breeze blew across your face. You have an opportunity to **make a photo** of yourself. Now you get another chance to choose your character. [Again, Please sort the characters with your favourite as number 1, second favourite as 2, etc. And assign no number to characters that you would never pick at all.]

	1	2	3	4	5	6
	○	○	○	○	○	○
	○	○	○	○	○	○
	○	○	○	○	○	○
	○	○	○	○	○	○
	○	○	○	○	○	○
	○	○	○	○	○	○

Select the statements that best described the reason behind your choices (at most 3):

- [ ] I see the character as my avatar.
- [ ] The character has the same gender as mine.
- [ ] The character has an appealing appearance.
- [ ] The character has nice decorations/clothes.
- [ ] The character looks more powerful.
- [ ] I'm more familiar with this character.
- [ ] Other

Scenario 5: You are organzing a team to go on an adventure. You get along well with the villagers. Many people are willing to join your team. You can freely switch controls between the characters that you have invited to your team in the following adventure. Now choose the character(s) that you **DO NOT** want to have in your team.

[Please sort the characters with your **LEAST** favourite as number 1, second least favourite as 2, etc. Again, choose at least one character and assign no number to other characters.]

	1	2	3	4	5	6
	○	○	○	○	○	○
	○	○	○	○	○	○
	○	○	○	○	○	○

	1	2	3	4	5	6
	○	○	○	○	○	○
	○	○	○	○	○	○
	○	○	○	○	○	○

Select the statements that best described the reason behind your choices (at most 3):

- ☐ I can't see the character as my avatar.
- ☐ The character has a different gender as mine.
- ☐ The character doesn't have an appealing appearance.
- ☐ The character has bad decorations/clothes.
- ☐ The character looks weak.
- ☐ I'm not familiar with this character.
- ☐ [ ] Other

About the Player

About the Player

The next part of questions may contain some sensitive queries about your sexual identification and orientation and other personal background.

The information you provide will only be used for research purposes and is stored anonymously in a secure place. If you feel uncomfortable at any time, you may choose to skip questions, or you may ask to be withdrawn by sending a message to kensongpeng@gmail.com.

Your Gender

- ○ Male
- ○ Female
- ○ Intersex
- ○ Transgender
- ○ Non-conforming
- ○ Personal
- ○ Other
- ○ Prefer not to say

Your Age

0-18 ○ 18-25 ○ 25-30 ○ 30+ ○

How much do you feel you know your gender identity?

I didn't know it at all — I knew it very well

0○ 1○ 2○ 3○ 4○ 5○ 6○ 7○ 8○ 9○ 10○

Did you feel you use your gender identity knowledge to answer previous questions?

No, I didn't use it at all — Yes, I answered based on my gender identiy

0○ 1○ 2○ 3○ 4○ 5○ 6○ 7○ 8○ 9○ 10○

What is your sexual orientation?

- ○ Heterosexual
- ○ Homosexual
- ○ Bisexual
- ○ Other
- ○ Prefer not to say

What's your area of birth?

- ○ Africa
- ○ Asia
- ○ Europe

- ○ North America
- ○ Oceania
- ○ South America
- ○ Other

Would you like to receive the final results?

If you're interested, please send an email to kensongpeng@gmail.com and mentioned "Character Preferences" in your email title. We will send you a report of our research at the end phase. Your participation would be appreciated and contribute to future game character development!

Appendix B: Full Multiple Comparisons. Using Bonferroni Correction

S1female

Multiple Comparisons

Dependent Variable: Rank_I

Bonferroni

(I) S1female	(J) S1female	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
S1_Female_Ada_Wong_ER_1	S1_Female_Lighting_FF_1	1.183*	.2882	<.001	.327	2.039
	S1_Female_Traveller_Female_GI_1	2.429*	.2882	<.001	1.573	3.285
	S1_Male_Cloud_FF_1	1.523*	.2882	<.001	.667	2.379
	S1_Male_Leon_ER_1	.843	.2882	.058	-.013	1.699
	S1_Male_Traveller_Male_GI_1	2.060*	.2882	<.001	1.204	2.916
S1_Female_Lighting_FF_1	S1_Female_Ada_Wong_ER_1	-1.183*	.2882	<.001	-2.039	-.327
	S1_Female_Traveller_Female_GI_1	1.246*	.2882	<.001	.390	2.102
	S1_Male_Cloud_FF_1	.340	.2882	1.000	-.516	1.196
	S1_Male_Leon_ER_1	-.340	.2882	1.000	-1.196	.516
	S1_Male_Traveller_Male_GI_1	.877*	.2882	.040	.021	1.733
S1_Female_Traveller_Female_GI_1	S1_Female_Ada_Wong_ER_1	-2.429*	.2882	<.001	-3.285	-1.573
	S1_Female_Lighting_FF_1	-1.246*	.2882	<.001	-2.102	-.390
	S1_Male_Cloud_FF_1	-.906*	.2882	.029	-1.762	-.050
	S1_Male_Leon_ER_1	-1.586*	.2882	<.001	-2.442	-.730
	S1_Male_Traveller_Male_GI_1	-.369	.2882	1.000	-1.225	.487
S1_Male_Cloud_FF_1	S1_Female_Ada_Wong_ER_1	-1.523*	.2882	<.001	-2.379	-.667
	S1_Female_Lighting_FF_1	-.340	.2882	1.000	-1.196	.516
	S1_Female_Traveller_Female_GI_1	.906*	.2882	.029	.050	1.762
	S1_Male_Leon_ER_1	-.680	.2882	.289	-1.536	.176
	S1_Male_Traveller_Male_GI_1	.537	.2882	.957	-.319	1.393
S1_Male_Leon_ER_1	S1_Female_Ada_Wong_ER_1	-.843	.2882	.058	-1.699	.013
	S1_Female_Lighting_FF_1	.340	.2882	1.000	-.516	1.196
	S1_Female_Traveller_Female_GI_1	1.586*	.2882	<.001	.730	2.442
	S1_Male_Cloud_FF_1	.680	.2882	.289	-.176	1.536
	S1_Male_Traveller_Male_GI_1	1.217*	.2882	<.001	.361	2.073
S1_Male_Traveller_Male_GI_1	S1_Female_Ada_Wong_ER_1	-2.060*	.2882	<.001	-2.916	-1.204
	S1_Female_Lighting_FF_1	-.877*	.2882	.040	-1.733	-.021
	S1_Female_Traveller_Female_GI_1	.369	.2882	1.000	-.487	1.225
	S1_Male_Cloud_FF_1	-.537	.2882	.957	-1.393	.319
	S1_Male_Leon_ER_1	-1.217*	.2882	<.001	-2.073	-.361

Based on observed means.
The error term is Mean Square(Error) = 1.453.

*. The mean difference is significant at the 0.05 level.

S2female

Multiple Comparisons

Dependent Variable: Rank_H

Bonferroni

(I) S2female	(J) S2female	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
S2_Female_Lara_TR_1	S2_Female_Lucina_FE_1	-.143	.3300	1.000	-1.123	.837
	S2_Female_Mio_XC_1	-.143	.3300	1.000	-1.123	.837
	S2_Male_Dante_DMC_1	.329	.3300	1.000	-.652	1.309
	S2_Male_Marth_FE_1	-.854	.3300	.155	-1.834	.126
	S2_Male_Noah_XC_1	-.566	.3300	1.000	-1.546	.414
S2_Female_Lucina_FE_1	S2_Female_Lara_TR_1	.143	.3300	1.000	-.837	1.123
	S2_Female_Mio_XC_1	.000	.3300	1.000	-.980	.980
	S2_Male_Dante_DMC_1	.471	.3300	1.000	-.509	1.452
	S2_Male_Marth_FE_1	-.711	.3300	.484	-1.692	.269
	S2_Male_Noah_XC_1	-.423	.3300	1.000	-1.403	.557
S2_Female_Mio_XC_1	S2_Female_Lara_TR_1	.143	.3300	1.000	-.837	1.123
	S2_Female_Lucina_FE_1	.000	.3300	1.000	-.980	.980
	S2_Male_Dante_DMC_1	.471	.3300	1.000	-.509	1.452
	S2_Male_Marth_FE_1	-.711	.3300	.484	-1.692	.269
	S2_Male_Noah_XC_1	-.423	.3300	1.000	-1.403	.557
S2_Male_Dante_DMC_1	S2_Female_Lara_TR_1	-.329	.3300	1.000	-1.309	.652
	S2_Female_Lucina_FE_1	-.471	.3300	1.000	-1.452	.509
	S2_Female_Mio_XC_1	-.471	.3300	1.000	-1.452	.509
	S2_Male_Marth_FE_1	-1.183*	.3300	.006	-2.163	-.203
	S2_Male_Noah_XC_1	-.894	.3300	.110	-1.874	.086
S2_Male_Marth_FE_1	S2_Female_Lara_TR_1	.854	.3300	.155	-.126	1.834
	S2_Female_Lucina_FE_1	.711	.3300	.484	-.269	1.692
	S2_Female_Mio_XC_1	.711	.3300	.484	-.269	1.692
	S2_Male_Dante_DMC_1	1.183*	.3300	.006	.203	2.163
	S2_Male_Noah_XC_1	.289	.3300	1.000	-.692	1.269
S2_Male_Noah_XC_1	S2_Female_Lara_TR_1	.566	.3300	1.000	-.414	1.546
	S2_Female_Lucina_FE_1	.423	.3300	1.000	-.557	1.403
	S2_Female_Mio_XC_1	.423	.3300	1.000	-.557	1.403
	S2_Male_Dante_DMC_1	.894	.3300	.110	-.086	1.874
	S2_Male_Marth_FE_1	-.289	.3300	1.000	-1.269	.692

Based on observed means.
The error term is Mean Square(Error) = 1.906.

*. The mean difference is significant at the 0.05 level.

S3female

Multiple Comparisons

Dependent Variable: Rank_G

Bonferroni

(I) S3female	(J) S3female	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
S3_Female_Ada_Wong_ER_1	S3_Female_Ayaka_GI_1	2.034*	.2770	<.001	1.211	2.857
	S3_Female_Lighting_FF_1	1.523*	.2770	<.001	.700	2.346
	S3_Male_Cloud_FF_1	1.611*	.2770	<.001	.789	2.434
	S3_Male_Leon_ER_1	.811	.2770	.057	-.011	1.634
	S3_Male_Tartaglia_GI_1	2.400*	.2770	<.001	1.577	3.223
S3_Female_Ayaka_GI_1	S3_Female_Ada_Wong_ER_1	-2.034*	.2770	<.001	-2.857	-1.211
	S3_Female_Lighting_FF_1	-.511	.2770	.995	-1.334	.311
	S3_Male_Cloud_FF_1	-.423	.2770	1.000	-1.246	.400
	S3_Male_Leon_ER_1	-1.223*	.2770	<.001	-2.046	-.400
	S3_Male_Tartaglia_GI_1	.366	.2770	1.000	-.457	1.189
S3_Female_Lighting_FF_1	S3_Female_Ada_Wong_ER_1	-1.523*	.2770	<.001	-2.346	-.700
	S3_Female_Ayaka_GI_1	.511	.2770	.995	-.311	1.334
	S3_Male_Cloud_FF_1	.089	.2770	1.000	-.734	.911
	S3_Male_Leon_ER_1	-.711	.2770	.164	-1.534	.111
	S3_Male_Tartaglia_GI_1	.877*	.2770	.027	.054	1.700
S3_Male_Cloud_FF_1	S3_Female_Ada_Wong_ER_1	-1.611*	.2770	<.001	-2.434	-.789
	S3_Female_Ayaka_GI_1	.423	.2770	1.000	-.400	1.246
	S3_Female_Lighting_FF_1	-.089	.2770	1.000	-.911	.734
	S3_Male_Leon_ER_1	-.800	.2770	.064	-1.623	.023
	S3_Male_Tartaglia_GI_1	.789	.2770	.073	-.034	1.611
S3_Male_Leon_ER_1	S3_Female_Ada_Wong_ER_1	-.811	.2770	.057	-1.634	.011
	S3_Female_Ayaka_GI_1	1.223*	.2770	<.001	.400	2.046
	S3_Female_Lighting_FF_1	.711	.2770	.164	-.111	1.534
	S3_Male_Cloud_FF_1	.800	.2770	.064	-.023	1.623
	S3_Male_Tartaglia_GI_1	1.589*	.2770	<.001	.766	2.411
S3_Male_Tartaglia_GI_1	S3_Female_Ada_Wong_ER_1	-2.400*	.2770	<.001	-3.223	-1.577
	S3_Female_Ayaka_GI_1	-.366	.2770	1.000	-1.189	.457
	S3_Female_Lighting_FF_1	-.877*	.2770	.027	-1.700	-.054
	S3_Male_Cloud_FF_1	-.789	.2770	.073	-1.611	.034
	S3_Male_Leon_ER_1	-1.589*	.2770	<.001	-2.411	-.766

Based on observed means.
The error term is Mean Square(Error) = 1.343.

*. The mean difference is significant at the 0.05 level.

S4female

Multiple Comparisons

Dependent Variable: Rank_F

Bonferroni

(I) S4female	(J) S4female	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
S4_Female_Lara_TR_1	S4_Female_Lucina_FE_1	.700	.2759	.179	-.119	1.519
	S4_Female_Traveller_Female_GI_1	1.931*	.2759	<.001	1.112	2.751
	S4_Male_Dante_DMC5_1	.011	.2759	1.000	-.808	.831
	S4_Male_Marth_FE_1	-.571	.2759	.594	-1.391	.248
	S4_Male_Traveller_Male_GI_1	1.123*	.2759	.001	.303	1.942
S4_Female_Lucina_FE_1	S4_Female_Lara_TR_1	-.700	.2759	.179	-1.519	.119
	S4_Female_Traveller_Female_GI_1	1.231*	.2759	<.001	.412	2.051
	S4_Male_Dante_DMC5_1	-.689	.2759	.200	-1.508	.131
	S4_Male_Marth_FE_1	-1.271*	.2759	<.001	-2.091	-.452
	S4_Male_Traveller_Male_GI_1	.423	.2759	1.000	-.397	1.242
S4_Female_Traveller_Female_GI_1	S4_Female_Lara_TR_1	-1.931*	.2759	<.001	-2.751	-1.112
	S4_Female_Lucina_FE_1	-1.231*	.2759	<.001	-2.051	-.412
	S4_Male_Dante_DMC5_1	-1.920*	.2759	<.001	-2.739	-1.101
	S4_Male_Marth_FE_1	-2.503*	.2759	<.001	-3.322	-1.683
	S4_Male_Traveller_Male_GI_1	-.809	.2759	.057	-1.628	.011
S4_Male_Dante_DMC5_1	S4_Female_Lara_TR_1	-.011	.2759	1.000	-.831	.808
	S4_Female_Lucina_FE_1	.689	.2759	.200	-.131	1.508
	S4_Female_Traveller_Female_GI_1	1.920*	.2759	<.001	1.101	2.739
	S4_Male_Marth_FE_1	-.583	.2759	.538	-1.402	.237
	S4_Male_Traveller_Male_GI_1	1.111*	.2759	.001	.292	1.931
S4_Male_Marth_FE_1	S4_Female_Lara_TR_1	.571	.2759	.594	-.248	1.391
	S4_Female_Lucina_FE_1	1.271*	.2759	<.001	.452	2.091
	S4_Female_Traveller_Female_GI_1	2.503*	.2759	<.001	1.683	3.322
	S4_Male_Dante_DMC5_1	.583	.2759	.538	-.237	1.402
	S4_Male_Traveller_Male_GI_1	1.694*	.2759	<.001	.875	2.514
S4_Male_Traveller_Male_GI_1	S4_Female_Lara_TR_1	-1.123*	.2759	.001	-1.942	-.303
	S4_Female_Lucina_FE_1	-.423	.2759	1.000	-1.242	.397
	S4_Female_Traveller_Female_GI_1	.809	.2759	.057	-.011	1.628
	S4_Male_Dante_DMC5_1	-1.111*	.2759	.001	-1.931	-.292
	S4_Male_Marth_FE_1	-1.694*	.2759	<.001	-2.514	-.875

Based on observed means.
The error term is Mean Square(Error) = 1.332.

*. The mean difference is significant at the 0.05 level.

S5female

Multiple Comparisons

Dependent Variable: Rank_E

Bonferroni

(I) S5female	(J) S5female	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
S5_Female_Beidou_GI_1	S5_Female_Eunie_XC_1	.971*	.2446	.001	.245	1.698
	S5_Female_Lara_TR_1	.617	.2446	.186	-.110	1.344
	S5_Male_Dante_DMC_1	.463	.2446	.899	-.264	1.190
	S5_Male_Diluc_GI_1	-.811*	.2446	.016	-1.538	-.085
	S5_Male_Lanz_XC_1	1.771*	.2446	<.001	1.045	2.498
S5_Female_Eunie_XC_1	S5_Female_Beidou_GI_1	-.971*	.2446	.001	-1.698	-.245
	S5_Female_Lara_TR_1	-.354	.2446	1.000	-1.081	.372
	S5_Male_Dante_DMC_1	-.509	.2446	.583	-1.235	.218
	S5_Male_Diluc_GI_1	-1.783*	.2446	<.001	-2.510	-1.056
	S5_Male_Lanz_XC_1	.800*	.2446	.019	.073	1.527
S5_Female_Lara_TR_1	S5_Female_Beidou_GI_1	-.617	.2446	.186	-1.344	.110
	S5_Female_Eunie_XC_1	.354	.2446	1.000	-.372	1.081
	S5_Male_Dante_DMC_1	-.154	.2446	1.000	-.881	.572
	S5_Male_Diluc_GI_1	-1.429*	.2446	<.001	-2.155	-.702
	S5_Male_Lanz_XC_1	1.154*	.2446	<.001	.428	1.881
S5_Male_Dante_DMC_1	S5_Female_Beidou_GI_1	-.463	.2446	.899	-1.190	.264
	S5_Female_Eunie_XC_1	.509	.2446	.583	-.218	1.235
	S5_Female_Lara_TR_1	.154	.2446	1.000	-.572	.881
	S5_Male_Diluc_GI_1	-1.274*	.2446	<.001	-2.001	-.548
	S5_Male_Lanz_XC_1	1.309*	.2446	<.001	.582	2.035
S5_Male_Diluc_GI_1	S5_Female_Beidou_GI_1	.811*	.2446	.016	.085	1.538
	S5_Female_Eunie_XC_1	1.783*	.2446	<.001	1.056	2.510
	S5_Female_Lara_TR_1	1.429*	.2446	<.001	.702	2.155
	S5_Male_Dante_DMC_1	1.274*	.2446	<.001	.548	2.001
	S5_Male_Lanz_XC_1	2.583*	.2446	<.001	1.856	3.310
S5_Male_Lanz_XC_1	S5_Female_Beidou_GI_1	-1.771*	.2446	<.001	-2.498	-1.045
	S5_Female_Eunie_XC_1	-.800*	.2446	.019	-1.527	-.073
	S5_Female_Lara_TR_1	-1.154*	.2446	<.001	-1.881	-.428
	S5_Male_Dante_DMC_1	-1.309*	.2446	<.001	-2.035	-.582
	S5_Male_Diluc_GI_1	-2.583*	.2446	<.001	-3.310	-1.856

Based on observed means.
The error term is Mean Square(Error) = 1.047.

*. The mean difference is significant at the 0.05 level.

S1male

Multiple Comparisons

Dependent Variable: Rank_D

Bonferroni

(I) S1male	(J) S1male	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
S1_Female_Ada_Wong_ER_1	S1_Female_Lighting_FF_1	.868*	.2609	.015	.096	1.640
	S1_Female_Traveller_Female_GI_1	1.356*	.2609	<.001	.584	2.128
	S1_Male_Cloud_FF_1	1.506*	.2609	<.001	.734	2.278
	S1_Male_Leon_ER_1	.974*	.2609	.003	.202	1.746
	S1_Male_Traveller_Male_GI_1	1.520*	.2609	<.001	.748	2.292
S1_Female_Lighting_FF_1	S1_Famale_Ada_Wong_ER_1	-.868*	.2609	.015	-1.640	-.096
	S1_Female_Traveller_Female_GI_1	.488	.2609	.937	-.284	1.260
	S1_Male_Cloud_FF_1	.638	.2609	.226	-.134	1.410
	S1_Male_Leon_ER_1	.106	.2609	1.000	-.666	.878
	S1_Male_Traveller_Male_GI_1	.652	.2609	.195	-.120	1.424
S1_Female_Traveller_Female_GI_1	S1_Famale_Ada_Wong_ER_1	-1.356*	.2609	<.001	-2.128	-.584
	S1_Female_Lighting_FF_1	-.488	.2609	.937	-1.260	.284
	S1_Male_Cloud_FF_1	.150	.2609	1.000	-.622	.922
	S1_Male_Leon_ER_1	-.382	.2609	1.000	-1.154	.390
	S1_Male_Traveller_Male_GI_1	.164	.2609	1.000	-.608	.936
S1_Male_Cloud_FF_1	S1_Famale_Ada_Wong_ER_1	-1.506*	.2609	<.001	-2.278	-.734
	S1_Female_Lighting_FF_1	-.638	.2609	.226	-1.410	.134
	S1_Female_Traveller_Female_GI_1	-.150	.2609	1.000	-.922	.622
	S1_Male_Leon_ER_1	-.532	.2609	.636	-1.304	.240
	S1_Male_Traveller_Male_GI_1	.014	.2609	1.000	-.758	.786
S1_Male_Leon_ER_1	S1_Famale_Ada_Wong_ER_1	-.974*	.2609	.003	-1.746	-.202
	S1_Female_Lighting_FF_1	-.106	.2609	1.000	-.878	.666
	S1_Female_Traveller_Female_GI_1	.382	.2609	1.000	-.390	1.154
	S1_Male_Cloud_FF_1	.532	.2609	.636	-.240	1.304
	S1_Male_Traveller_Male_GI_1	.546	.2609	.559	-.226	1.318
S1_Male_Traveller_Male_GI_1	S1_Famale_Ada_Wong_ER_1	-1.520*	.2609	<.001	-2.292	-.748
	S1_Female_Lighting_FF_1	-.652	.2609	.195	-1.424	.120
	S1_Female_Traveller_Female_GI_1	-.164	.2609	1.000	-.936	.608
	S1_Male_Cloud_FF_1	-.014	.2609	1.000	-.786	.758
	S1_Male_Leon_ER_1	-.546	.2609	.559	-1.318	.226

Based on observed means.
The error term is Mean Square(Error) = 1.702.

*. The mean difference is significant at the 0.05 level.

S2male

Multiple Comparisons

Dependent Variable: Rank_C

Bonferroni

(I) S2male	(J) S2male	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
S2_Female_Lara_TR_1	S2_Female_Lucina_FE_1	-.620	.2510	.211	-1.363	.123
	S2_Female_Mio_XC_1	-1.192*	.2510	<.001	-1.935	-.449
	S2_Male_Dante_DMC_1	.368	.2510	1.000	-.375	1.111
	S2_Male_Marth_FE_1	-.272	.2510	1.000	-1.015	.471
	S2_Male_Noah_XC_1	-.720	.2510	.066	-1.463	.023
S2_Female_Lucina_FE_1	S2_Female_Lara_TR_1	.620	.2510	.211	-.123	1.363
	S2_Female_Mio_XC_1	-.572	.2510	.351	-1.315	.171
	S2_Male_Dante_DMC_1	.988*	.2510	.002	.245	1.731
	S2_Male_Marth_FE_1	.348	.2510	1.000	-.395	1.091
	S2_Male_Noah_XC_1	-.100	.2510	1.000	-.843	.643
S2_Female_Mio_XC_1	S2_Female_Lara_TR_1	1.192*	.2510	<.001	.449	1.935
	S2_Female_Lucina_FE_1	.572	.2510	.351	-.171	1.315
	S2_Male_Dante_DMC_1	1.560*	.2510	<.001	.817	2.303
	S2_Male_Marth_FE_1	.920*	.2510	.004	.177	1.663
	S2_Male_Noah_XC_1	.472	.2510	.916	-.271	1.215
S2_Male_Dante_DMC_1	S2_Female_Lara_TR_1	-.368	.2510	1.000	-1.111	.375
	S2_Female_Lucina_FE_1	-.988*	.2510	.002	-1.731	-.245
	S2_Female_Mio_XC_1	-1.560*	.2510	<.001	-2.303	-.817
	S2_Male_Marth_FE_1	-.640	.2510	.169	-1.383	.103
	S2_Male_Noah_XC_1	-1.088*	.2510	<.001	-1.831	-.345
S2_Male_Marth_FE_1	S2_Female_Lara_TR_1	.272	.2510	1.000	-.471	1.015
	S2_Female_Lucina_FE_1	-.348	.2510	1.000	-1.091	.395
	S2_Female_Mio_XC_1	-.920*	.2510	.004	-1.663	-.177
	S2_Male_Dante_DMC_1	.640	.2510	.169	-.103	1.383
	S2_Male_Noah_XC_1	-.448	.2510	1.000	-1.191	.295
S2_Male_Noah_XC_1	S2_Female_Lara_TR_1	.720	.2510	.066	-.023	1.463
	S2_Female_Lucina_FE_1	.100	.2510	1.000	-.643	.843
	S2_Female_Mio_XC_1	-.472	.2510	.916	-1.215	.271
	S2_Male_Dante_DMC_1	1.088*	.2510	<.001	.345	1.831
	S2_Male_Marth_FE_1	.448	.2510	1.000	-.295	1.191

Based on observed means.
The error term is Mean Square(Error) = 1.575.

*. The mean difference is significant at the 0.05 level.

S3male

Multiple Comparisons

Dependent Variable: Rank_B

Bonferroni

(I) S3male	(J) S3male	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
S3_Famale_Ada_Wong_ER_1	S3_Female_Ayaka_GI_1	.768*	.2473	.031	.036	1.500
	S3_Female_Lighting_FF_1	.704	.2473	.071	-.028	1.436
	S3_Male_Cloud_FF_1	.792*	.2473	.023	.060	1.524
	S3_Male_Leon_ER_1	.396	.2473	1.000	-.336	1.128
	S3_Male_Tartaglia_GI_1	.916*	.2473	.004	.184	1.648
S3_Female_Ayaka_GI_1	S3_Famale_Ada_Wong_ER_1	-.768*	.2473	.031	-1.500	-.036
	S3_Female_Lighting_FF_1	-.064	.2473	1.000	-.796	.668
	S3_Male_Cloud_FF_1	.024	.2473	1.000	-.708	.756
	S3_Male_Leon_ER_1	-.372	.2473	1.000	-1.104	.360
	S3_Male_Tartaglia_GI_1	.148	.2473	1.000	-.584	.880
S3_Female_Lighting_FF_1	S3_Famale_Ada_Wong_ER_1	-.704	.2473	.071	-1.436	.028
	S3_Female_Ayaka_GI_1	.064	.2473	1.000	-.668	.796
	S3_Male_Cloud_FF_1	.088	.2473	1.000	-.644	.820
	S3_Male_Leon_ER_1	-.308	.2473	1.000	-1.040	.424
	S3_Male_Tartaglia_GI_1	.212	.2473	1.000	-.520	.944
S3_Male_Cloud_FF_1	S3_Famale_Ada_Wong_ER_1	-.792*	.2473	.023	-1.524	-.060
	S3_Female_Ayaka_GI_1	-.024	.2473	1.000	-.756	.708
	S3_Female_Lighting_FF_1	-.088	.2473	1.000	-.820	.644
	S3_Male_Leon_ER_1	-.396	.2473	1.000	-1.128	.336
	S3_Male_Tartaglia_GI_1	.124	.2473	1.000	-.608	.856
S3_Male_Leon_ER_1	S3_Famale_Ada_Wong_ER_1	-.396	.2473	1.000	-1.128	.336
	S3_Female_Ayaka_GI_1	.372	.2473	1.000	-.360	1.104
	S3_Female_Lighting_FF_1	.308	.2473	1.000	-.424	1.040
	S3_Male_Cloud_FF_1	.396	.2473	1.000	-.336	1.128
	S3_Male_Tartaglia_GI_1	.520	.2473	.545	-.212	1.252
S3_Male_Tartaglia_GI_1	S3_Famale_Ada_Wong_ER_1	-.916*	.2473	.004	-1.648	-.184
	S3_Female_Ayaka_GI_1	-.148	.2473	1.000	-.880	.584
	S3_Female_Lighting_FF_1	-.212	.2473	1.000	-.944	.520
	S3_Male_Cloud_FF_1	-.124	.2473	1.000	-.856	.608
	S3_Male_Leon_ER_1	-.520	.2473	.545	-1.252	.212

Based on observed means.
The error term is Mean Square(Error) = 1.528.

*. The mean difference is significant at the 0.05 level.

S4male

Multiple Comparisons

Dependent Variable: Rank_A

Bonferroni

(I) S4male	(J) S4male	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
S4_Female_Lara_TR_1	S4_Female_Lucina_FE_1	-.604	.2290	.132	-1.282	.074
	S4_Female_Traveller_Female_GI_1	.806*	.2290	.007	.128	1.484
	S4_Male_Dante_DMC5_1	.094	.2290	1.000	-.584	.772
	S4_Male_Marth_FE_1	.314	.2290	1.000	-.364	.992
	S4_Male_Traveller_Male_GI_1	.988*	.2290	<.001	.310	1.666
S4_Female_Lucina_FE_1	S4_Female_Lara_TR_1	.604	.2290	.132	-.074	1.282
	S4_Female_Traveller_Female_GI_1	1.410*	.2290	<.001	.732	2.088
	S4_Male_Dante_DMC5_1	.698*	.2290	.038	.020	1.376
	S4_Male_Marth_FE_1	.918*	.2290	.001	.240	1.596
	S4_Male_Traveller_Male_GI_1	1.592*	.2290	<.001	.914	2.270
S4_Female_Traveller_Female_GI_1	S4_Female_Lara_TR_1	-.806*	.2290	.007	-1.484	-.128
	S4_Female_Lucina_FE_1	-1.410*	.2290	<.001	-2.088	-.732
	S4_Male_Dante_DMC5_1	-.712*	.2290	.031	-1.390	-.034
	S4_Male_Marth_FE_1	-.492	.2290	.487	-1.170	.186
	S4_Male_Traveller_Male_GI_1	.182	.2290	1.000	-.496	.860
S4_Male_Dante_DMC5_1	S4_Female_Lara_TR_1	-.094	.2290	1.000	-.772	.584
	S4_Female_Lucina_FE_1	-.698*	.2290	.038	-1.376	-.020
	S4_Female_Traveller_Female_GI_1	.712*	.2290	.031	.034	1.390
	S4_Male_Marth_FE_1	.220	.2290	1.000	-.458	.898
	S4_Male_Traveller_Male_GI_1	.894*	.2290	.002	.216	1.572
S4_Male_Marth_FE_1	S4_Female_Lara_TR_1	-.314	.2290	1.000	-.992	.364
	S4_Female_Lucina_FE_1	-.918*	.2290	.001	-1.596	-.240
	S4_Female_Traveller_Female_GI_1	.492	.2290	.487	-.186	1.170
	S4_Male_Dante_DMC5_1	-.220	.2290	1.000	-.898	.458
	S4_Male_Traveller_Male_GI_1	.674	.2290	.053	-.004	1.352
S4_Male_Traveller_Male_GI_1	S4_Female_Lara_TR_1	-.988*	.2290	<.001	-1.666	-.310
	S4_Female_Lucina_FE_1	-1.592*	.2290	<.001	-2.270	-.914
	S4_Female_Traveller_Female_GI_1	-.182	.2290	1.000	-.860	.496
	S4_Male_Dante_DMC5_1	-.894*	.2290	.002	-1.572	-.216
	S4_Male_Marth_FE_1	-.674	.2290	.053	-1.352	.004

Based on observed means.
The error term is Mean Square(Error) = 1.311.

*. The mean difference is significant at the 0.05 level.

S5male

Multiple Comparisons

Dependent Variable: Rank

Bonferroni

(I) S5male	(J) S5male	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
S5_Female_Beidou_GI_1	S5_Female_Eunie_XC_1	.620*	.1977	.028	.035	1.205
	S5_Female_Lara_TR_1	.718*	.1977	.005	.133	1.303
	S5_Male_Dante_DMC_1	.976*	.1977	<.001	.391	1.561
	S5_Male_Diluc_GI_1	.408	.1977	.598	-.177	.993
	S5_Male_Lanz_XC_1	2.176*	.1977	<.001	1.591	2.761
S5_Female_Eunie_XC_1	S5_Female_Beidou_GI_1	-.620*	.1977	.028	-1.205	-.035
	S5_Female_Lara_TR_1	.098	.1977	1.000	-.487	.683
	S5_Male_Dante_DMC_1	.356	.1977	1.000	-.229	.941
	S5_Male_Diluc_GI_1	-.212	.1977	1.000	-.797	.373
	S5_Male_Lanz_XC_1	1.556*	.1977	<.001	.971	2.141
S5_Female_Lara_TR_1	S5_Female_Beidou_GI_1	-.718*	.1977	.005	-1.303	-.133
	S5_Female_Eunie_XC_1	-.098	.1977	1.000	-.683	.487
	S5_Male_Dante_DMC_1	.258	.1977	1.000	-.327	.843
	S5_Male_Diluc_GI_1	-.310	.1977	1.000	-.895	.275
	S5_Male_Lanz_XC_1	1.458*	.1977	<.001	.873	2.043
S5_Male_Dante_DMC_1	S5_Female_Beidou_GI_1	-.976*	.1977	<.001	-1.561	-.391
	S5_Female_Eunie_XC_1	-.356	.1977	1.000	-.941	.229
	S5_Female_Lara_TR_1	-.258	.1977	1.000	-.843	.327
	S5_Male_Diluc_GI_1	-.568	.1977	.065	-1.153	.017
	S5_Male_Lanz_XC_1	1.200*	.1977	<.001	.615	1.785
S5_Male_Diluc_GI_1	S5_Female_Beidou_GI_1	-.408	.1977	.598	-.993	.177
	S5_Female_Eunie_XC_1	.212	.1977	1.000	-.373	.797
	S5_Female_Lara_TR_1	.310	.1977	1.000	-.275	.895
	S5_Male_Dante_DMC_1	.568	.1977	.065	-.017	1.153
	S5_Male_Lanz_XC_1	1.768*	.1977	<.001	1.183	2.353
S5_Male_Lanz_XC_1	S5_Female_Beidou_GI_1	-2.176*	.1977	<.001	-2.761	-1.591
	S5_Female_Eunie_XC_1	-1.556*	.1977	<.001	-2.141	-.971
	S5_Female_Lara_TR_1	-1.458*	.1977	<.001	-2.043	-.873
	S5_Male_Dante_DMC_1	-1.200*	.1977	<.001	-1.785	-.615
	S5_Male_Diluc_GI_1	-1.768*	.1977	<.001	-2.353	-1.183

Based on observed means.
The error term is Mean Square(Error) = .977.

*. The mean difference is significant at the 0.05 level.