

To in-game and beyond:

A Genshin Impact case study on the role of parasocial relationships on the success of transmedia characters

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ABSTRACT

With the recent successes in transmedia expansions of different games such as The Last of Us and Fallout, more companies are looking to implement transmedia strategies to maximize profits gained from their franchises. Additionally, as the current era of popular culture has become increasingly more character-driven, the use of characters has also become an essential strategic tool in these transmedia strategies. This is illustrated by the financially successful 2020 gacha game Genshin Impact developed by the Chinese company HoYoverse. HoYoverse continues to utilize their in-game characters and the parasocial relationships the players build with these characters to attach them to the game and entice them to invest in the franchise over different media. Therefore, it has become important to understand the role that these transmedia characters play in the success of transmedia strategies and understand how the parasocial relationships with them attach audiences to franchises and motivate them to invest into the franchise. Thus, this study set out to fill this gap in knowledge by answering the following research question: To what extent does the player's parasocial relationship with Genshin Impact game characters affect the success of Genshin Impact's transmedia practices by engaging players in more transmedia behaviors? Based on existing literature and the transmedia engagement model, nine hypotheses were developed regarding the relationships between the constructs recognizability, parasocial relationships, character enjoyment and the newly defined transmedia behaviors, which was operationalized into the in-game purchase intention, outside game purchase intention, community engagement and co-production. It was mainly hypothesized that parasocial relationships would have a positive influence on the transmedia behaviors and that this relationship would be mediated by character enjoyment. To test these hypotheses, an online quantitative survey was conducted and was distributed to Genshin Impact players through Reddit. A sample of 210 respondents was collected and the data was analyzed with different multiple and hierarchical linear regression analyses as well as several mediation analyses. The results found that parasocial relationships with Genshin Impact characters had both a direct and indirect effect through cognitive character enjoyment on the different transmedia behaviors. While most of the dimensions of recognizability were found to not have significant relationships with parasocial relationships and character enjoyment, attitudinal recognizability was found to have a positive influence on both parasocial relationships and cognitive character enjoyment. Furthermore, none of the constructs were found to have a significant relationship with the transmedia behavior in-game purchase intention. Both of which prompted avenues for future research. In conclusion, based on these findings it could be concluded that strong parasocial relationships with Genshin Impact characters does affect the success of Genshin Impacts transmedia practices as it both directly and indirectly, through the cognitive enjoyment of the character, influences the players engagement in transmedia behaviors.

KEYWORDS: *Transmedia character, Parasocial relationship, Transmedia behaviors, Character enjoyment, Recognizability, Genshin Impact*

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1. Introduction

In recent years, the expansion endeavors of gaming franchises into the field of TV series or movies have seen more success compared to earlier attempts (Brangham et al., 2023, para. 1). This “Renaissance of video game adaptations” includes series like *The Last of Us* and *Arcane*, which both received significant positive praise from critics and audiences during their release (Brangham et al., 2023, para. 2, 9; Tassi, 2022, para. 1-3). According to Jenkins (2011, para. 6), transmedia is defined as “across media”, meaning the process of dispersing content of the same franchise over multiple media platforms. The goal for most companies when implementing transmedia strategies is to maximize profits gained from the franchise (Blom, 2023, p. 44; Jenkins, 2006, p. 104). This is no different for game franchises as illustrated by the recent release of the *Fall Out* series, which led to the game *Fall Out 4* being the best-selling game in Europe during the show’s runtime despite being almost a decade old (Kennedy, 2024, para. 2, 3, 7). Additionally, with the current era of popular culture being character-driven, the use of characters has also become an essential strategic tool to attach audiences to products and entice them to consume content across media (Blom, 2023, pp. 10, 44; Välisalo, 2023, pp. 21-23). An example of this character-driven transmedia approach is the financially successful game *Genshin Impact*. *Genshin Impact* is an open-world action role-playing game developed by the Chinese company HoYoverse that generated over three billion dollars in 2022 from the mobile market alone (Shaukat, 2023, para. 1, 3). HoYoverse has been utilizing its in-game characters as focal points for different transmedia expansions. For example, by offering merchandise, hosting live concerts that garnered high interest from the community, or by having collaboration events such as the one with the Skytree in Japan where fans could take pictures with standees of the characters amongst other character themed activities (Liu, 2024, para. 1-4; Tan, 2023, para. 1-2, 13-15). According to Woods (2022, pp. 10-13), a reason for players to invest in a game like *Genshin Impact* is due to the parasocial relationships (PSR) the game allows them to build with its characters. In other words, players can develop a strong sense of relationality and friendship with the character in the game that affectively motivates them to invest time and money in the franchise for that character (Woods, 2022, pp. 10-13). Thus, the characters in *Genshin Impact* are one of HoYoverse’s main ways of attaching audiences to the game and enticing them to invest into the franchise.

This field of transmedia characters is relatively new and with the growing potential for increased revenue made by implementing transmedia strategies as well as the use of characters as tools in these strategies, it has become important to understand the significance of these transmedia characters and their role in making transmedia approaches successful by enticing consumption of content from across mediums (Blom, 2023, p. 44; Jenkins, 2006, p. 104; Välisalo, 2023, pp. 13-14). More specifically, it has become important to understand how the PSR with these transmedia characters attach audiences to franchises and motivate them to invest into the franchise. Therefore, this study filled in this gap in research by conducting a quantitative survey on the game *Genshin*

Impact to answer the following research question: *To what extent does the player's parasocial relationship with Genshin Impact game characters affect the success of Genshin Impact's transmedia practices by engaging players in more transmedia behaviors?*

1.1. Academic relevance

As stated above, the field of transmedia character research is in its infancy despite the character-driven nature of popular culture and the crucial role they play in media (Blom, 2023, pp. 12-13; Välisalo, 2023, pp. 13-14). Most studies relating to transmedia characters have primarily focused on the identity of the character, the cohesion of these identities, and how these characters relate to the overarching story or world (Blom, 2023, pp. 12-13; Thon, 2022, pp. 140-141). Additionally, transmedia studies were primarily dominated by one transmedia approach, transmedia storytelling, which underemphasized the role of characters (Blom, 2023, pp. 16-17; Evans, 2019, p. 8). Furthermore, games were considered a secondary media in transmedia strategies prior to their growth in the creative industry (Barrett, 2020, p. 133; Blom, 2023, p. 19 and p. 23; Veugen, 2016, pp. 1-2). Thus, transmedia studies that mainly focused on games were also uncommon until recently. While transmedia studies have expanded to include serious games, the application of transmedia strategies in game franchises and their position in other transmedia strategies, the field is still limited (Barrett, 2020, pp. 130-131; Ecenbarger, 2016, pp. 34-35; Raybourn, 2014, pp. 471-472; Veugen, 2016, pp. 1-2). Therefore, this study expands upon academic transmedia literature in different ways. Firstly, it expands literature regarding transmedia characters by looking at their roles and impact on transmedia approaches. Secondly, this study also takes a counter-perspective to the commonly used transmedia storytelling lens by primarily focusing on the characters as focal points rather than the story or world (Blom, 2023, pp. 12-13; Evans, 2019, p. 8). Lastly, it also further expands transmedia game literature by focusing on the game Genshin Impact and its character-driven transmedia approach.

Games such as Genshin Impact, which are categorized as gacha games have also been dominating the game market in the last few years (GameRefinery, 2022, para. 1; Kesuma & Princes, 2024, pp. 1-2). Gacha games are games that include some form of the gacha system mechanic, where players would invest virtual currency or real money for a chance to obtain rare in-game rewards including characters (Kesuma & Princes, 2024, pp. 1-2; Lakić et al., 2023, pp. 1-2). This mechanic has been one of the main monetization methods in a large percentage of the recent games on the market because of its ability to both entertain and hook players in (GameRefinery, 2022, para. 1-2; Kesuma & Princes, 2024, pp. 1-2; Lakić et al., 2023, pp. 1-2). Therefore, academic literature has begun to focus on this growing category of games, but have mostly explored the negative consequences of the gacha system and its potential for developing addictive gambling behaviors (Lakić et al., 2023, pp. 2-6). Some have also explored the motivations behind spending in these gacha games, but this field of research is still limited (Woods, 2022, pp. 2-3; Kesuma & Princes,

2024, pp. 1-2). Similarly, research into the success of these gacha games is also limited. Therefore, this study also adds to this gap by focusing on the character-driven transmedia strategy of Genshin Impact. In other words, it adds to the knowledge regarding the role of PSR between player and characters found by Woods (2022, pp. 10-13) in enticing transmedia behaviors and if these transmedia characters are one of the key factors in the success of these games.

1.2. Societal relevance

Next to academic relevance, this study can also be relevant from a business perspective. As mentioned before, the implementation of transmedia strategies in game franchises such as Fall Out and The Last of Us has seen great success with the community and with sales of the games (Brangham et al., 2023, para. 2, 9; Kennedy, 2024, para. 2, 3, 7). Pokemon, which is one of the world's highest grossing media franchises, gained this position by cleverly utilizing its characters in different transmedia expansions (Pearson, 2021, para. 10-11). Therefore, with the increasing importance of characters in popular culture, it has become important for marketers and game developers to understand how they can utilize their characters to entice more engagement with their games or franchises and increase the potential revenue gain (Blom, 2023, pp. 10, 44; Välisalo, 2023, pp. 21-23). This study provides information regarding the role of transmedia characters in the success of transmedia practices and the extent to which PSR with these characters entices players to engage more with the franchise across mediums. Thus, it can be leveraged by marketers and game developers in their transmedia expansion endeavors. Additionally, it can also illustrate the importance of characters and motivate businesses to consider characters in their future strategies.

1.3. Chapter outline

Firstly, this chapter has provided the starting point of this study by introducing the research problem and corresponding research question relating to the increase interest and importance of transmedia characters in game franchise expansions. It also provided both the academic and societal relevance of the study, which mainly included the addition of knowledge to the fields of transmedia literature and gacha games studies for academic research, and a better understanding of the role of transmedia characters and PSR in the success of transmedia strategies for businesses.

The following chapter introduces the theoretical framework, which discusses theories and previous literature surrounding the main concepts of the study. These concepts are recognizability, PSR, character enjoyment and transmedia behaviors. Chapter two also discusses the hypotheses and conceptual framework designed for this study. The third chapter covers the methodology of the study, which includes the research design, data collection, sampling strategy, measurements, data collection procedure, and data analysis methods. Afterwards, chapter four illustrates the findings of the research and the resulting hypotheses evaluations in an organized manner. Lastly, the final chapter discusses these findings and their potential implications as well as the limitations of the study

and avenues for future research. The chapter concludes with an answer to the research question and a conclusion that summarizes the key insights of the paper.

2. Theoretical framework

As this paper aims to study the impact that PSR with transmedia characters have on the transmedia success of a franchise by looking at the case of Genshin Impact, it is important to first look at Genshin Impact as a game and at previous literature relating to the concepts of the study. Thus, the following chapter discusses these subjects from a critical and utility perspective. Firstly, the chapter starts with an overview of the game Genshin Impact and the reasoning for choosing it as the case. This is followed by a section covering transmedia, including discussions regarding the era of transmedia, transmedia approaches and the chosen transmedia lens used in the study. The third section explores the concept of transmedia behaviors and the model used to operationalize it as well as guide the research design for the study. This is followed by sections about the concepts of PSR, character enjoyment and recognizability. Lastly, the final section covers the conceptual framework developed for this study and explains the hypothesis development based on the relationships between all the concepts.

2.1. The case: Genshin Impact

Genshin Impact is a gacha game developed by the Chinese company HoYoverse that has seen financial success since its release in 2020 and has since been dispersing its content to different mediums including merchandise and collaborations (e.g., concerts and cafe collaborations) (HoYoverse, n.d.; Liu, 2024, para. 1-2; Shaukat, 2023, para. 1, 3; Tan, 2023, para. 1-2). As mentioned before, gacha games are games that include the gacha system mechanic, where players would invest virtual currency or real money for a chance to obtain rare in-game rewards, which is also the primary revenue source for Genshin Impact (Kesuma & Princes, 2024, pp. 1-2; Lakić et al., 2023, pp. 1-2; Shaukat, 2023, para. 3). Gacha games were introduced in the Japanese gaming market in 2011 and have since become a worldwide recognizable phenomenon as well as an important part of the industry (Kesuma & Princes, 2024, pp. 1-2; Lakić et al., 2023, pp. 1-2). Like most other gacha games, Genshin Impact utilizes character drawing in their gacha systems, which can explain why characters are chosen as the most liked aspects of gacha games and the main reason for investing in these games (Lakić et al., 2023, pp. 9-11, 13). While studies on gacha games commonly focus on its addictive gambling behaviors caused by the gacha system, some have also focused on other motivations, such as the sentiment and relationality players build with the characters (Lakić et al., 2023, pp. 2-6; Woods, 2022, pp. 2-3, 11). In other words, PSR with the characters play a role in the motivations for players to invest into gacha games. Therefore, Genshin Impact is a financially successful game, that is mainly character-driven, potentially growing through the PSR players have with their characters and is successfully expanding to other media platforms, which makes it a game with all the required elements to be a suitable case for this research (Lakić et al., 2023, pp. 9-11, 13; Liu, 2024, para. 1-2; Tan, 2023, para. 1-2; Shaukat, 2023, para. 1, 3; Woods, 2022, p. 11).

2.2. The era of convergence and transmedia practices

The changes and introduction of new media technologies such as mobile devices have set up the conditions for what different researchers now consider the era of media convergence or the age of transmedia (Blom, 2023, p. 15; Evans, 2019, p. 8; Jenkins, 2006, p. 11; Välisalo, 2023, pp. 12-13). According to Jenkins (2006), media convergence is “the flow of content across multiple media platforms, the cooperation between multiple media industries, and the migratory behavior of media audiences who will go almost anywhere in search of the kinds of entertainment experiences they want” (p. 2). In other words, an era where media is everywhere and narratives are built over multiple platforms through the use of transmedia practices, which have become increasingly more prominent in media routines (Blom, 2023, p. 15; Jenkins, 2006, p. 16; Jenkins, 2010, p. 944; Välisalo, 2023, p. 13; Veugen, 2016, p. 1). As illustrated in the introduction, these transmedia practices are often employed by media companies because of their potential economic gains such as opening more revenue streams by reaching broader audiences, increasing customer loyalty or attachment and promoting more sales (Barrett, 2020, p. 132; Blom, 2023, p. 44; Jenkins, 2006, pp. 18, 96, 104). Therefore, it has become a norm for any franchise to expand into different mediums in order to increase its potential profitability (Blom, 2023, p. 15).

As mentioned above, one transmedia approach that has become a foundational lens in transmedia literature is transmedia storytelling (Blom, 2023, p. 15; Evans, 2019, p. 8). Transmedia storytelling is an approach where the focal points of the story are dispersed across multiple platforms in a systematic manner (Jenkins, 2006, pp. 95-96; Jenkins, 2010, p. 944). Additionally, each text is self-contained, functions as a point of entry into the franchise, and makes a unique contribution to the overarching narrative to ensure a cohesive experience for consumers. Thus, the main expansion point is the synergistic story and the world (Blom, 2023, p. 15, Jenkins, 2006, p. 101).

However, there have been debates surrounding the idealistic nature of transmedia storytelling as most franchises are incapable of successfully implementing the full approach (Blom, 2023, pp. 16, 46-47; Välisalo, 2023, p. 22). This is due to the problem of narrative continuity, where in the ideal implementation, every text throughout the mediums would need to weigh equally without a clearly identifiable core from which the franchise originates. But, in practice, unbalanced transmedia franchises with identifiable cores and side extensions are both more common and sometimes preferred by media corporations (Blom, 2023, pp. 16, 46-47; Välisalo, 2023, p. 22). Additionally, it also undermines the role of characters in transmedia practices, affects character identities and the overemphasis on this approach has led to the dismissal of other transmedia strategies (Blom, 2023, pp. 16-17; Evans, 2019, p. 8). According to Jenkins (2011, para. 6), transmedia storytelling is one way of approaching the dispersion of content across different media, but there are different strategies that companies can take to reach this expansion. Approaches such as franchising or cross-media storytelling also disperse content over different media platforms (Jenkins, 2011, para. 8, 14; Veugen, 2016, p. 4). However, they differ from transmedia storytelling

because they use different means of expansion (e.g., merchandising or multimodal media adaptations) and each iteration does not always expand upon the world or story.

Considering the aim of this study, a more character centric approach would be more suitable as the characters would play significant roles in the transmedia processes compared to approaches where characters are underemphasized (Blom, 2023, pp. 16-17). Therefore, this paper looks at transmedia from the lens of the Japanese convergence approach, anime media mix, which is a strategy that was enabled by the rise of characters as they became the focal point for cross-media expansion and the glue that holds the strategy together (Blom, 2023, p. 12; Steinberg, 2012, pp. viii, xi-xii).

2.2.1. Japanese media mix

Media mix is considered the Japanese term for media convergence as it has commonly been used to describe transmedia practices (Blom, 2023, p. 49; Steinberg, 2012, p. 135). Therefore, there are different goals and multiple ways to implement media mix practices (Denison, 2019, pp. 158-159; Steinberg, 2012, pp. 138-140). An anime media mix has the overarching goal to promote the general consumption of any product in the franchise through the dispersion of a character or work to multiple media platforms including non-narrative, information and gossip media (Steinberg, 2012, pp. 142, 148, 160). It mainly utilizes the character to connect these different manifestations of the franchise together and depends on each manifestation to motivate consumption of others in the same franchise. While another defining point of anime media mix was the centrality of anime in popularizing a franchise, according to Denison (2019, pp. 147, 158-159), the role of anime is not necessarily the most pivotal element in the strategy as was asserted by previous research (Steinberg, 2012, p. 148). Which makes this lens still fitting for Genshin Impact, as the game does not utilize anime as a medium in its transmedia strategy yet.

This paper chose to specifically utilize the Kadowa family Tsuguhiko anime media mix as the transmedia lens in the study (Steinberg, 2012, p. 174). The Tsuguhiko anime media mix differs from other anime media mixes as it focuses on more specific target audience segments and it disperses content over significantly more media such as video games and manga (Steinberg, 2012, pp. 174-175). Furthermore, these character-centric media mixes have also seen success outside of Japan with franchises such as Star Wars, which utilized different characters (e.g., Boba Fett) to expand upon the franchise and guide fans to other important texts in the transmedia world (Geraghty, 2017, pp. 119-128).

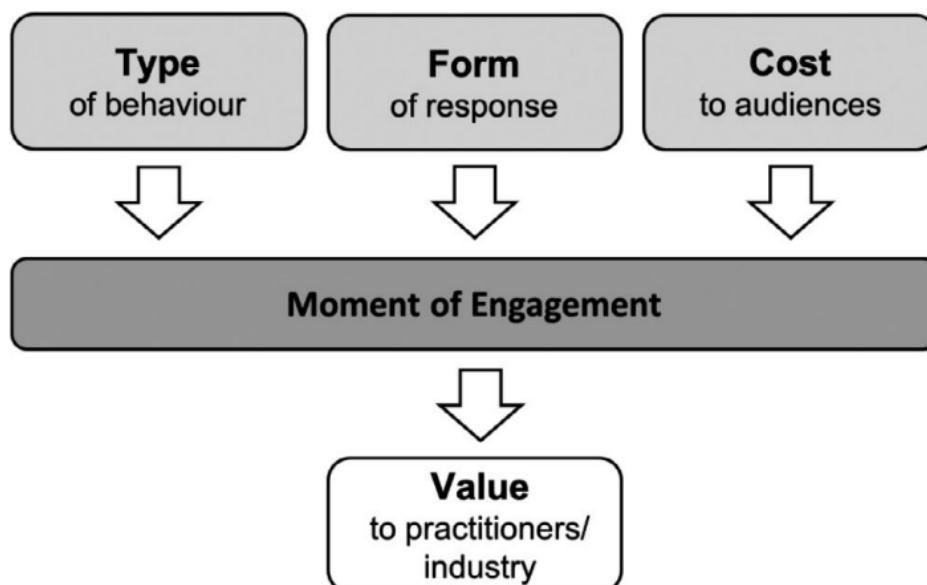
Therefore, the Tsuguhiko anime media mix is a suitable transmedia lens to approach the role of the characters in the success of transmedia practices of Genshin Impact as they play a pivotal role in the expansion process of the franchise. Furthermore, it incorporates a wider variety of media in the dispersion process including games, which is the core text of Genshin Impact. This is important as games were a medium that was often underemphasized when discussing transmedia expansions, but

have currently risen to become successful entry points (e.g., Batman) or core text for more franchises (e.g., Assassin's Creed) due to their dominant, mainstream position in the creative industry (Barrett, 2020, pp. 133, 143-144; Blom, 2023, pp. 19-23; Veugen, 2016, pp. 1-2).

2.3. Engaging with transmedia content: a theoretical framework

As mentioned in the previous chapter, the goal of media corporations for the implementation of transmedia strategies is to maximize profits by increasing the number of revenue streams (Barrett, 2020, p. 132; Blom, 2023, p. 44; Jenkins, 2006, pp. 18, 96, 104). Thus, transmedia strategies are focused on increasing engagement with the franchise and the goal of transmedia characters is to entice consumers into engaging more with the franchise regardless of the medium (Blom, 2023, pp. 10, 44; Välisalo, 2023, pp. 21-23). Engagement is a broad term that includes many different meanings that try to capture how people experience media and the resulting behaviors that come with that experience (Evans, 2019, pp. 3-4; Välisalo, 2023, p. 33). Therefore, different models of audience engagement also revolve around what the audience is doing or feeling during engagement (Evans, 2019, pp. 4-6). However, the form and intensity of engagement is also affected by contextual elements surrounding the experience (Evans, 2019, p. 199; Välisalo, 2023, p. 19). In other words, engagement is context dependent. Furthermore, with the growth of transmedia practices, engagement with franchises has also become transmedia in nature (Evans, 2019, pp. 33-35). Thus, to reach the goal of this study, there is a need for a framework that considers the different elements that make up engagement as well as its transmedia nature. Therefore, the transmedia engagement model developed by Evans (2019, p. 37), which illustrates how transmedia engagement functions, was used to guide the research.

Figure 2.1. Transmedia Engagement model (Evans, 2019, p. 37)



The transmedia engagement model illustrated in Figure 2.1 consists of four components that are always present in any moment of engagement (Evans, 2019, pp. 35-37). These components impact each other and combine to capture how transmedia engagement is experienced (Evans, 2019, pp. 35-37, 50-51). The first component is the type of behavior, which are the actions that audiences are doing when engaging with a franchise. This not only includes behaviors directly related to the content but also those with indirect relations such as discussions (Evans, 2019, pp. 52-55). The second component is the form of the response, which includes how audiences emotionally respond to the content when engaged (Evans, 2019, pp. 35-37). According to Evans (2019, pp. 54-55), one form of emotional engagement is the development of PSR and is an integral part for creating engaging experiences. The third component is the cost, which is the resources the audience needs to invest in order to engage with the content. This component includes the different textual and contextual factors such as environmental or social dynamics that would impact the engagement experience as they are weighed against the expected enjoyment of the experience (Evans, 2019, pp. 112-119, 125). Lastly, the final component is the value gained by the industry from the engaging transmedia experiences and how the former three components become valuable for the industry in economical and reputational terms (Evans, 2019, pp. 126, 148). In short, content needs to emotionally engage audiences by connecting them to it and sequentially motivating them to take behavioral engagement actions that can indicate the success and value of the transmedia practice (Evans, 2019, p. 176).

Considering the goal of this study, the focus is on the first two components of the engagement model. The last component of value for the industry is outside the area of interest of the study. While the third component of context is an important element in understanding how engagement happens, adding contextual elements is beyond the scope of this study. However, character enjoyment was added as a variable that can mediate the relationship between the first two components due to the connections found between the elements and is discussed in more detail in later chapters. Thus, this research mainly analyzes the component form of response through the PSR with Genshin Impact characters and how that impacts the type of behaviors that the audience does when engaging with more of the franchise.

2.3.1. Defining transmedia behaviors

Before the research can study the relationship between PSR and the type of behaviors audiences do when they are engaging with the franchise, these transmedia behaviors need to be more clearly defined. In the transmedia engagement model, type of behavior is split by two categories, mainly 1) the level of input of the audience and 2) the proximity of the actions to the core text of the franchise (Evans, 2019, pp. 52-54). The level of input involves the amount of input audiences need to place into the engagement, therefore they can either have receptive behaviors with no need for input (e.g., reading or watching) or interactive behaviors that requires input in order to engage with the content (e.g., discussing, creating or playing). The proximity of the actions categorizes the behaviors

based on how closely related they are to the core text of the franchise (Evans, 2019, pp. 53-54). Hence, the behaviors can be textual, where engagement is experienced directly through the core content of the franchise (e.g., direct film or game) or it can be paratextual, where the engagement is experienced through text beyond the core content produced for the franchise (e.g., fan-fiction or community discussions).

Considering the goal and limitations of this study, the behaviors that are primarily focused are the interactive type of behaviors in both proximity categories. This is because these are the behaviors that practitioners place preference on when measuring the success of a transmedia approach (Evans, 2019, pp. 55-61). Additionally, in a study done by Koistinen and colleagues (2016, pp. 357-359) investigating transmedial user practices, which are actions that audiences can take throughout different mediums, majority of the included behaviors were in the interactive behavior category such as debating about the franchise and purchasing merchandise. Furthermore, in gaming research, a common research variable is the game-related desired audience behaviors, which are named consumption behaviors and include sub-dimension such as purchase intentions, community engagement and co-production (Abbasi et al., 2021, pp. 1195-1196; Badrinarayanan et al., 2015, p. 1047). These sub-dimensions correspond well with the transmedial user practices used by Koistinen and colleagues (2016, p. 357-359). For example, buying and collecting merchandise corresponds with the sub-dimension of purchase intention, which indicates the audience's willingness to invest in game-related products (Abbasi et al., 2021, p. 1196; Badrinarayanan et al., 2015, p. 1047). Therefore, for this study, transmedia behaviors are defined as desirable interactive transmedia user behaviors and will utilize the formerly mentioned sub-dimensions of purchase intention, community behavior and co-production from consumption behaviors to operationalize the construct.

2.4. Parasocial relationships with media characters

The other element of the transmedia engagement model that was used in this study is the form of response, which is how the consumers respond to the content (Evans, 2019, pp. 36, 76). There are three forms of responses to content, mainly cognitive, physical and emotional. Both cognitive and physical responses were deeply intertwined with the emotional responses and were often explained in relation to feelings (Evans, 2019, pp. 77-81). Additionally, emotional responses were also considered the most fundamental response for initiating engagement as it would connect the audience to the content and motivate them to perform different behaviors depending on the intensity of the connection (Evans, 2019, pp. 77-81, 172, 176). Therefore, the model specifically focuses on the emotional responses of audiences and makes a distinction between audiences feeling an affect from the content, which is an emotional reaction to a specific part of the content, and feeling affection for the content, which is the development of PSR between the audience and the content (Evans, 2019, pp. 86-100). For this study, the focus is on the latter form of emotional responses.

The development of PSR can be important for transmedia strategies as these relationships are a motivational factor for audiences to further engage with stories across different mediums and also play a role in maintaining engagement with the franchise for extended durations (Blom, 2023, p. 125; Evans, 2019, p. 172). But there have been debates surrounding the conceptualization of PSR and the empirical measurements used to assess it (Dibble et al., 2016, pp. 22-25, Slater et al., 2018, pp. 331-332, Tukachinsky et al., 2020, p. 869). The definitions of PSR and the closely related construct parasocial interaction (PSI) were commonly combined together and measured as a singular construct due to the ambiguous conceptualizations. However, PSI and PSR were found to be distinct concepts that should be measured with independent scales, which resulted in PSR being defined as “a longer-term association that may begin to develop during viewing, but also extends beyond the media exposure situation” (Dibble et al., 2016, p. 25). In other words, PSR is a long-lasting relationship viewers develop with characters that continues beyond the viewing of the media content (Dibble et al., 2016, pp. 23-25). While PSR was mainly studied in the context of non-fictional characters such as newscasters, it is also possible for audiences to develop PSR with fictional and non-human characters (Giles, 2023, pp. 34-35, 39-40; Liebers & Schramm, 2019, p. 11; Slater et al., 2018, pp. 331-332). Therefore, further operationalization of PSR made a distinction between PSR with performers (PSR-P) and PSR with characters (PSR-C). As this study mainly focuses on the fictional playable characters of Genshin Impact, the focus is on the sub-dimension of PSR-C (Slater et al., 2018, pp. 331-332, 346).

2.5. Character enjoyment

The final component of the transmedia engagement model that was used in this study is the cost of engagement, which entails what the audience needs to sacrifice in order to engage with the content (Evans, 2019, pp. 35-37, 103). According to Evans (2019, pp. 102-103, 105-119), cost is a key factor for engagement as audiences weigh their invested resources against the expected enjoyment that the content will provide them in order to decide whether the engagement is worth the investment. Thus, the way that someone engages with content is impacted by their assessment of the investment against the perceived enjoyment (Evans, 2019, pp. 102-103, 117). This is further supported by other studies that found that enjoyment is a crucial element of engagement as audiences are motivated to engage with the content when the expected enjoyable experience outweighs the costs needed to engage with it (Mekler et al., 2014, pp. 927-928; Nabi & Krcmar, 2004, pp. 299-300). Therefore, as mentioned before, this study is taking enjoyment in consideration as a construct with potential impact on the other two components of PSR (i.e., form of response) and transmedia behaviors (i.e., type of behavior). However, due to limitations, the costs part of the component was not incorporated in the study.

Enjoyment itself is a widely debated term that is primarily used as a general term that captures someone’s positive disposition towards media content (Nabi & Krcmar, 2004, p. 288). This

makes it similar to other constructs such as appreciation, however enjoyment is broader as it can cover both media specific experiences and overarching media experiences (Nabi & Krcmar, 2004, pp. 290-292, 306). Therefore, enjoyment can be defined as the extent to which engaging with an object, media or performing a task is seen as pleasurable for the user (Ghazali et al., 2019, p. 650; Nabi & Krcmar, 2004, pp. 290-292). Nabi and Krcmar (2004, pp. 296-297) also argue that enjoyment should be operationalized as a three-dimensional construct as this can provide a more in depth understanding of the construct. This includes an affective dimension (e.g., the empathy and emotions), a cognitive dimension (e.g., judgements and evaluations) and a behavioral enjoyment dimension (e.g., the actions involved in enjoyment) (Nabi & Krcmar, 2004, pp. 296-297). As this study focuses specifically on transmedia characters in Genshin Impact, it also focusses on the media specific enjoyment of the character rather than the game as a whole. Furthermore, this character enjoyment is measured with the affective and cognitive dimensions of enjoyment. Since the behavioral dimension of enjoyment is connected to the act of engaging with the content such as playing the game, it does not suit the study that looks at audiences that are already engaged with a character in some way (Nabi & Krcmar, 2004, pp. 296-297).

2.6. Recognizability

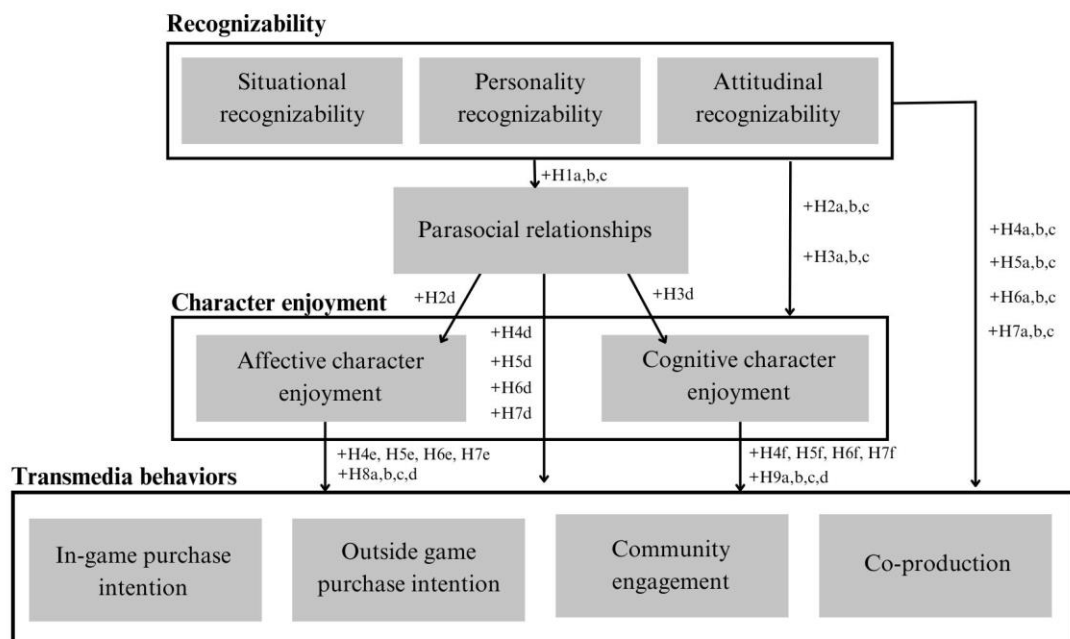
Next to aforementioned components, the last concept included in the study is recognizability (Evans, 2019, pp. 35-37, Źerebecki et al., in press, p. 4). Recognizability is a new three-dimensional construct (i.e., situational, personality and attitudinal recognizability) in media literature and is defined as “a sense of familiarity with a particular aspect of the character’s on-screen portrayal that the viewer experiences” (Źerebecki et al., in press, pp. 4, 15-16). Źerebecki and colleagues (in press, pp. 2-4) developed recognizability as a response to issues relating to another commonly used construct in media effects research, perceived similarity or homophily. Homophily is defined as the extent to which a person is similar, in terms of different features (e.g., attitudes and social status), to others that they are interacting with and is a commonly used antecedent for PSR (Carvalho, 2024, p. 1093; Khan et al., 2024, pp. 315-316; Liebers & Schramm, 2019, pp. 14-15; Shoenberger & Kim, 2023, pp. 369-370; Tukachinsky et al., 2020, pp. 870-872; Walter et al., 2023, pp. 127-136; Źerebecki et al., in press, pp. 2-4). However, the concept has different issues such as the items being difficult to answer for participants, a focus on demographics in conceptualizations and potential risk of participants projecting themselves on the character (Źerebecki et al., in press, pp. 2-4). In contrast, recognizability is a broader concept that includes dimensions beyond demographics related to personality and experiences, has less chance for projection due to the rich conceptualization, and is easier for participants to digest (Źerebecki et al., in press, pp. 2-4, 6). Therefore, this study chose to use recognizability as a potential predictor of the other concepts instead of homophily and expand upon the transmedia engagement model developed by Evans (2019, p. 37). However, as recognizability is a newly developed scale, it does not have any existing research regarding its

relationships with other concepts. Therefore, the decision was made to utilize homophily, identification and wishful identification, which are either similarly rooted constructs or share some similarity with recognizability, to indicate potential directions of its relationships with other constructs during hypothesis development (Żerebecki et al., in press, pp. 7-8).

2.7. Hypothesis development

This study aims to examine the impact of PSR with transmedia Genshin Impact characters on their effectiveness in enticing consumers to engage in more transmedia behaviors with content of the game. Figure 2.2 depicts the conceptual framework developed for this study, which illustrates the relationship between the formerly discussed concepts of recognizability, PSR, enjoyment and transmedia behaviors based on previous literature. This chapter explains each of these relationships in more detail.

Figure 2.2. Conceptual framework



2.7.1. Recognizability, parasocial relationships and character enjoyment

As mentioned before, recognizability is a new construct in media literature. Besides the results found during the validation of the scale, there is no more previous literature regarding the relationship between recognizability and other concepts. Based on these findings, all three dimensions of recognizability were found to have a positive impact on PSR (Żerebecki et al., in press, pp. 7, 16-17). This is similar to the concept homophily as it is also considered an antecedent of PSR by many researchers (Liebers & Schramm, 2019, pp. 14-15; Tukachinsky et al., 2020, pp. 870-872, 881; Walter et al., 2023, pp. 127-136). More specifically, homophily related to attitudes, values, and beliefs was found to be positively associated with PSR (Hall, 2019, p. 96; Munnukka & Reinikainen, 2023, p. 362; Tukachinsky et al., 2020, p. 872). This is because according to the

Panksepp-Jakobson hypothesis of PSR development, PSR can be seen as an extension of the social circle since the human brain uses the same social mechanisms for developing real life relationships to develop PSR with characters (Tukachinsky et al., 2020, pp. 870-872; Walter et al., 2023, pp. 127-136). Therefore, homophily, which is one of these social mechanisms, makes it easier to develop stronger relationships because the process of interaction is smoother between people who share many similarities (Carvalho, 2024, pp. 1093-1094; Tukachinsky et al., 2020, pp. 870-872). Furthermore, high homophily between people also reduces uncertainty in relationships as these smoother interactions allow for more understanding and easier reaction predictability (Fu et al., 2018, pp. 89-90, Tan-Intaraarj, 2024, p. 188; Walter et al., 2023, pp. 130-131). Lastly, another similar concept, wishful identification, was also found to have a positive impact on PSR in the case of streamers due to the viewer's desire to become like the streamer enhancing the relationship between them (Tan-Intaraarj, 2024, pp. 182, 188-189). Therefore, recognizability with Genshin Impact characters could make it easier to develop stronger PSR with them because of the improved interaction processes, reduced uncertainty surrounding the relationship and the overall enhancements to the relationship (Carvalho, 2024, pp. 1093-1094; Tan-Intaraarj, 2024, pp. 182, 188-189; Tukachinsky et al., 2020, pp. 870-872; Walter et al., 2023, pp. 127-136).

Next to PSR, the three dimensions of recognizability were also found to have a positive impact on character enjoyment (Żerebecki et al., in press, pp. 7, 16-17). This is supported by previous literature which found that the similarly rooted concept homophily, especially in terms of values, morals, attitude and opinions, also has a positive effect on enjoyment (Carvalho, 2024, pp. 1094, 1101-1102; Fu et al., 2018, pp. 91, 96). In the case of social shopping, Fu and colleagues (2018, p. 91) found that people who share many similarities engage in more emotional connections and more enjoyable communication processes. This corresponds with other findings regarding homophily improving interaction processes and enhancing relationships, which would result in more enjoyable experiences (Carvalho, 2024, pp. 1093-1094; Tukachinsky et al., 2020, pp. 870-872). Furthermore, gaming studies found that avatar-player similarity can also increase character enjoyment as it strengthens the sense of closeness between players and the character (Carvalho, 2024, p. 1093). Following this logic, recognizability with Genshin Impact characters can increase the enjoyment of the character because of the more pleasurable experiences produced by the enhanced relationships and the sense of closeness with the character (Carvalho, 2024, pp. 1093-1094; Fu et al., 2018, pp. 91, 96; Tukachinsky et al., 2020, pp. 870-872).

Lastly, as stated in previous chapters, based on the transmedia engagement model, there is also a connection between PSR and character enjoyment, because enjoyment plays a role in engagement and its assessment against the audience's investments impacts the other components of the model (Evans, 2019, pp. 102-103, 117; Mekler et al., 2014, pp. 927-928; Nabi & Krcmar, 2004, pp. 299-300). Other studies have also found a positive correlation between PSR and enjoyment, because PSR can strengthen story exposure effects such as enjoyment (Hall, 2019, pp. 88, 91;

Krakowiak, 2023, p. 207; Nabi & Krcmar, 2004, p. 295). Therefore, PSR with Genshin Impact characters can impact how much the audience enjoys engaging with the character. Based on these relationships between the constructs, the following hypotheses were proposed for this study:

Hypothesis 1: Parasocial relationships with Genshin Impact characters increases with a) situational, b) personality and c) attitudinal recognizability with the character.

Hypothesis 2: Affective character enjoyment increases with a) situational, b) personality, and c) attitudinal recognizability with the character as well as d) parasocial relationship with the character.

Hypothesis 3: Cognitive character enjoyment increases with a) situational, b) personality, and c) attitudinal recognizability with the character as well as d) parasocial relationship with the character.

2.7.2. Predictors of transmedia behaviors

Transmedia behaviors were operationalized into four behaviors, mainly in-game and outside game purchase intention, community participation and co-production behaviors. Therefore, the development of hypotheses was based on previous literature surrounding the relationships between the previous three constructs and these four behaviors.

While recognizability has no previous literature on its relationship with any transmedia behavior, the similar concept homophily was found to have a positive effect on purchase intention (Carvalho, 2024, pp. 1093-1094; Fu et al., 2018, pp. 89-90; Shoenberger & Kim, 2023, pp. 369-370). In influencer marketing, higher homophily between the influencer and the consumer has an impact on purchase intentions because the content from these influencers was more persuasive and have decreased uncertainty (Carvalho, 2024, p. 1094; Shoenberger & Kim, 2023, pp. 369-370). Moreover, according to Carvalho (2024, p. 1094), influencers that consumers perceive as similar to themselves can also shape the consumer's likely intentions. Additionally, the similar concept of wishful identification was also found to have a positive impact on behavioral loyalty, including purchase intention, as the consumers desire to emulate the influencer included emulating the products they used as well (Shoenberger & Kim, 2019, p. 62; Tan-Intaraarj, 2024, p. 189). Therefore, high recognizability with Genshin Impact characters can lead to higher purchase intention both inside and outside the game because of the increased persuasiveness, decreased uncertainty of the character products and desire to emulate the character (Carvalho, 2024, p. 1094; Shoenberger & Kim, 2019, p. 62; Shoenberger & Kim, 2023, pp. 369-370; Tan-Intaraarj, 2024, p. 189).

Besides purchase intentions, homophily also has an impact on community participation and co-production behaviors as high homophily between members allows for more trust and easier socialization (Nohutlu et al., 2022, pp. 634-635). While this is not directly related to homophily with the character itself, another study did find that avatar identification has a positive relationship with

participation (Teng, 2017, pp. 603, 607). This is because players want to identify with a group as the avatar they identify with in order to hold true to their social identity. Thus, it can be assumed that high recognizability with a Genshin Impact character can motivate users to participate more in the community and co-production behaviors.

As stated in the previous chapters, PSR can be an important element for transmedia strategies as they are considered a key reason for audiences to engage with a franchise across mediums (Blom, 2023, p. 125). According to the transmedia engagement model, each of the components have an effect on each other, which indicates that there is a relationship between PSR and transmedia behaviors (Evans, 2019, pp. 35-37, 50-51). Besides the model, other studies also found a strong correlation between PSR and the consumers behaviors, intended behaviors and behavioral loyalty (Johnson & Patnoe-Woodley, 2016, pp. 44-45; Tan-Intaraarj, 2024, pp. 188-189; Tukachinsky et al, 2020, p. 887). This is because PSR can reduce the consumers resistance to persuasion by lowering the user's sense of uncertainty, decreasing counter-arguing and building a sense of trust, loyalty or friendship (Liebers & Schramm, 2019, p. 15; Munnukka & Reinikainen, 2023, pp. 360-364; Tukachinsky et al, 2020, pp. 876, 887). In the case of radio experiences, PSR has been shown to improve the perception and recall of products or brands being recommended, which increases the consumers likelihood of purchase (Johnson & Patnoe-Woodley, 2016, pp. 44-45). In addition, PSR with characters in gacha games also encourages investments in the gacha system as it reduces the barrier of spending because the value becomes more emotionally satisfying (Woods, 2022, pp. 10-13). Therefore, based on previous research, PSR can influence the consumers intention to invest in Genshin Impact, either in the game or outside the game.

Some researchers have also found that PSR has an impact on participation behaviors and online communities (Dekoninck & Schmuck, 2023, pp. 14-15; Liu, 2023, p. 14). PSR was found to have a positive effect on political participation of green influencer communities due to its effect on persuasion (Dekoninck & Schmuck, 2023, pp. 6, 14-15). Furthermore, according to Walter and colleagues (2023, pp. 136-137), there are different behaviors that can manifest with higher levels of PSR, including participation in community engagement and co-production behaviors. This is further supported by the research of Liu (2023, p. 14), where PSR was found to have a strong effect on fan community behavior including discussions and producing fan-made recreation because of the affection they share for the idol. Therefore, PSR can also have an impact on the consumers involvement with both the community and the production of content for a franchise, which includes Genshin impact as it also has dedicated forums and events for community engagement and co-production of content (HoYoLab, n.d.).

Similarly to PSR, based on the transmedia engagement model, enjoyment should also have a relationship with transmedia behaviors (Evans, 2019, pp. 102-103). According to Nabi and Krcmar (2004, pp. 300-307), adding enjoyment to different behavioral effects models improves their prediction effect of behavioral outcomes. This is supported by other studies that also found that

enjoyment has an effect on behavior intentions (Chiu et al., 2009, p. 767; Ghazali et al., 2019, pp. 650-651). Studies on online shopping found that purchasing items have both utilitarian and hedonic aspects, thus resulting in perceived enjoyment becoming a significant determinant of purchase intention as consumers are likely to purchase and repurchase items because of the pleasurable experiences (Chiu et al., 2009, pp. 767, 774; Raman, 2021, pp. 391-392; Wu & Santana, 2022, pp. 5, 9). However, free-to-play business model games are an exception as perceived enjoyment has been found to negatively affect in-game purchase intention (Hamari, 2015, p. 300). According to Hamari (2025, p. 306), a potential reason for this negative relationship is because free-to-play games need to motivate the purchase of virtual items in order to make profit and a fully enjoyable game would not create a need for these virtual items. In other words, the quality of the game is purposively reduced through the use of artificial obstacles to motivate purchasing of in-game virtual items that would allow players to overcome these obstacles more efficiently (Hamari, 2015, p. 300). Genshin Impact mainly uses a free-to-play business model that relies on investments in the gacha-system for revenue. So, while Genshin Impact character enjoyment can result in more outside game purchase intention because of the pleasurable experiences, as a free-to-play game, it would have a negative impact on in-game purchase intention.

While not specifically the direct positive impact of character enjoyment, hedonic experiences and intrinsic motivations, which includes enjoyment, was often found to have a positive impact on community engagement and co-production (Afi & Ouiddad, 2021, pp. 374, 379; Fernandes & Remelhe, 2016, p. 317; Nohutlu et al., 2021, p. 635). Participation is primarily motivated by self-interest as audiences seek more fun experiences with intentions of gaining a sense of enjoyment and of social or cognitive satisfaction (Afi & Ouiddad, 2021, pp. 379-380; Bilro & Loureiro, 2023, p. 71; Fernandes & Remelhe, 2016, p. 317). In other words, if it is perceived as enjoyable by audiences, they are more likely to participate in both the community and co-production behaviors (Afi & Ouiddad, 2021, pp. 379-380). Based on these findings, it can be assumed that Genshin Impact character enjoyment can motivate players to participate more in the community and in co-production opportunities offered by the game.

Lastly, as stated in previous sections, based on the relationship between the transmedia engagement components, enjoyment can have a mediating effect on the relationship between PSR and transmedia behaviors (Evans, 2019, pp. 102-103, 199, 125). This is because the cost of engagement, which includes enjoyment, is associated with both the form of response (i.e., PSR) and the type of behavior (i.e., transmedia behaviors) (Evans, 2019, pp. 116-117). This mediating capability of enjoyment on behavior intentions has also been found in other studies regarding continued play or purchase behaviors (Ghazali et al., 2019, p. 661; Raman, 2021, p. 404; Wu & Santana, 2022, p. 9). Therefore, based on the relationships found between the three constructs described earlier and the history of enjoyment as a mediator for behavior found in previous literature, there is a potential for enjoyment with Genshin Impact characters to mediate the impact that PSR

with the characters have on enticing more engagement in transmedia behaviors.

Thus, the following hypotheses were developed regarding the effects of recognizability, PSR and character enjoyment on transmedia behaviors:

Hypothesis 4: In-game purchase intention increases with a) situational, b) personality, c) attitudinal recognizability and d) parasocial relationship with the character as well as decreases with e) affective and f) cognitive character enjoyment.

Hypothesis 5: Outside game purchase intention increases with a) situational, b) personality, c) attitudinal recognizability and d) parasocial relationship with the character as well as e) affective and f) cognitive character enjoyment.

Hypothesis 6: Community engagement increases with a) situational, b) personality, c) attitudinal recognizability and d) parasocial relationship with the character as well as e) affective and f) cognitive character enjoyment.

Hypothesis 7: Co-production increases with a) situational, b) personality, c) attitudinal recognizability and d) parasocial relationship with the character as well as e) affective and f) cognitive character enjoyment.

Hypothesis 8: Affective character enjoyment mediates the relationship between parasocial relationships and a) in-game purchase intentions, b) outside game purchase intention, c) community engagement and d) co-production.

Hypothesis 9: Cognitive character enjoyment mediates the relationship between parasocial relationships and a) in-game purchase intentions, b) outside game purchase intention, c) community engagement and d) co-production.

In short, based on existing literature, this study investigates the role of PSR with transmedia characters in the transmedia success of the game Genshin Impact through the lens of the Tsuguhiko anime media mix, which placed characters at the forefront of transmedia expansions (Steinberg, 2012, pp. 142, 148, 160, 174). In order to properly study how transmedia characters entice engagement from audiences throughout mediums, the transmedia engagement model was used to guide the study as it illustrated how transmedia engagement functions and the components that play a role in that engagement (Evans, 2019, pp. 33-37). Thus, the study mainly focuses on the components of PSR (i.e., the form of engagement) and transmedia behaviors (i.e., the type of behaviors), which were operationalized with the sub-dimensions of purchase intention, community behavior and co-

production (Abbasi et al., 2021, p. 1196; Badrinarayanan et al., 2015, p. 1047; Evans, 2019, pp. 52-55). In addition to these two core components, character enjoyment, which is a part of the cost component, and recognizability were also taken into consideration (Evans, 2019, pp. 54-55; Żerebecki et al., in press, p. 4). To answer the research question, the formerly described hypotheses were developed based on previous research, that mainly assumed a positive relationship between the core constructs PSR and transmedia behaviors with a potential mediating role of character enjoyment and positive influences from recognizability.

3. Methodology

3.1. Justification

Based on the research question, the goal of the paper is to study the relationship between PSR with characters in Genshin Impact and the now defined transmedia behaviors. As this research is trying to uncover a relationship and the potential effects surrounding these constructs with expectations on the results based on previous literature, it is most suitable for quantitative research (Baarda, 2014, pp. 22-23). There were different choices for quantitative research designs, one of which was quantitative surveys (Baarda, 2014, p. 46). Surveys are suitable for collecting large sets of data regarding participants' attitudes, opinions and characteristics for the purpose of comparing or for looking at the underlying relationships between the different constructs (Baarda, 2014, pp. 46-47; Babbie, 2017, pp. 256, 286; Matthews & Ross, 2010, pp. 201-204). Additionally, surveys are the most beneficial method for studies with large populations and diverse types of people that would otherwise be too big to observe (Babbie, 2017, pp. 256, 286). With proper sampling the results from the collected sample from the survey can be more generalizable towards these larger populations. Furthermore, surveys also allow for consistent and reliable measuring of multiple different constructs (Babbie, 2017, pp. 286). This is because it always asks the same questions in the same manner to every participant with the same intent, thus increasing reliability. Lastly, quantitative surveys were also found to be the most commonly used method in PSR research (Liebers & Schramm, 2019, p. 11-12). Therefore, as this study targeted the large player base of Genshin Impact as the chosen population and aimed to study a collection of concepts related to different characteristics and attitudes of the participants including their PSR with Genshin Impact characters, a quantitative survey was chosen as the most suitable research design approach.

In terms of validity of the study, surveys are generally considered weak due to their artificiality (Babbie, 2017, pp. 286). However, this was managed by utilizing existing scales and operationalizations that were used by other researchers in the field. Most of the scales were used multiple times in other situations or labelled reliable by other researchers such as the PSR-C scale (Dibble et al., 2023, pp. 96-97). The only exception was the Minority Character Recognizability Scale (MRS) developed by Żerebecki and colleagues (2023, pp. 15, 28-29), which was used for measuring recognizability. The scale was only recently developed and, therefore, had not been rigorously tested in many different situations like the other scales. Furthermore, some of the Likert-scale sizes were adapted, which could also impact their overall validity. Despite this, all the scales were also tested for reliability, which is discussed later in the chapter, and were found to be within acceptable levels of reliability.

Lastly, as surveys tend to ask participants for information about themselves that are not easily available or sometimes not easily shared, it increases the need for different ethical considerations during the study (Babbie, 2017, pp. 291). According to Babbie (2017, pp. 62-67), some of the most important ethical agreements include voluntary participation, not harming

participants in any manner, anonymity and confidentiality. The first two agreements were kept by including an informed consent form that informed participants in advanced regarding the type of concepts being studied, what was expected from them in terms of requested information and notified them about their rights to voluntary participation in the study (Babbie, 2017, p. 65). Thus, it was their choice to participate with full knowledge regarding the study and the risks involved. As for anonymity and confidentiality, the survey did not request identity information such as names or addresses that could lead towards easy identification of the participant (Babbie, 2017, pp. 67-68). Furthermore, another technique used to ensure confidentiality was to remove or adjusting data that could increase the likelihood of identification, which for this study was removing the I.P address locations of the participants that were automatically gathered by Qualtrics.

3.2. Data collection and sampling

Data collection lasted a bit over a month as it began on the 18 of March 2024 and ended on the 22 of April 2024. To answer the research questions and test the corresponding hypotheses, a number of 150 to 250 participants were required for this research. The target population was players of the game Genshin Impact who were at age (i.e., 18 or older). They were recruited primarily through non-probability sampling as there is no distinct list of Genshin Impact players available and not every participant had an equal chance to participate with players of the game having more opportunities to participate (Babbie, 2017, pp. 195-199). The primary sampling strategy used was purposive sampling and was executed through the social network site Reddit. Two subreddit pages related to Genshin Impact were used to distribute the online survey link, mainly the r/KaeyaMains subreddit and the main subreddit for the game r/Genshin_Impact. A secondary sampling strategy used during data collection was snowball sampling, which was executed by sharing the online survey link with 3 different student gaming associations in the Netherlands. These were Erasmus Esports Association in Rotterdam, Glitch Gaming Association in Groningen and Tilburg Student E-Sports Association (TSEA) Link. The survey link was provided to their members either through their existing Whatsapp groups or Discord channels.

3.3. Sample description

A total number of 308 responses were gathered from the survey. However, 84 respondents (27.3%) did not complete the survey. Additionally, 2 respondents did not give consent and were sent to the end of the survey. Furthermore, 6 respondents did not provide an age or provided ages below 18, thus not meeting the population filter criterion of being 18 or older. Therefore, these 8 respondents were not included in the final data. Lastly, 6 respondents (2.0%) did not meet the population filter criterion of playing the game Genshin Impact and were also removed from the final data. Therefore, after cleaning a total of 210 valid responses were kept.

In the final sample, the percentage of males was 27.6%, the percentage of females was

51.0% and 17.2% identified as non-binary, a third gender or other. The remaining 4.3% ($n = 9$) preferred not to disclose their gender. The observed age range of the final sample was 18 to 50 years old with an average age of 24.92 ($SD = 6.62$). This falls in line with other data regarding the age range of Genshin Impact players as an article by Hammas and Bielawski (2023, para. 1-3) found that the average age of Genshin Impact players actively on the platform Reddit is around 25 years old. Participants in the final sample also had a diverse set of cultural backgrounds with a total of 44 different countries of origin. The most common countries were The United States of America (24.0%), followed by Germany (11.1%), The Netherlands (7.7%) and Canada (6.3%). As Reddit and gaming associations in the Netherlands were used as the main channels for dispersing the survey, it was expected that the main countries would be from the North American and European regions as the Eastern regions tend to use other forum channels, making them more difficult to access (Hammas & Bielawski, 2023, para. 2,3, 7). Lastly, most participants had finished secondary education (41.6%), followed by a completed Bachelor's level (38.8%) or Masters level (15.3%) education.

As for gaming habits, the final sample spent on average 17.52 ($SD = 12.09$) hours playing games per week with the highest number being 63 hours a week. Additionally, participants also preferred a variety of game genres with the most preferred genres being Action/ Adventure games (72.4%) and Role-playing games (85.2%). Which also aligns with the genres of the case study game Genshin Impact.

In terms of Genshin Impact specific gaming habits, the final sample has been playing the game for 2.50 ($SD = 0.74$) years on average with the longest time being 3.50 years, which is since the games release in 2020. Lastly, 71.9% of the final sample had a character-oriented playstyle and 28.1% had a competitive-oriented playstyle.

3.3. Measurements

The following variables were measured using reliable and valid existing scales that have been rigorously tested or used by multiple researchers.

Recognizability. The scale chosen to measure recognizability is the Minority Character Recognizability Scale (MRS) developed by Żerebecki and colleagues (2023, pp. 15, 28-29) that measures the extent to which the participants recognize themselves in personality, situations and attitudes of their favorite character. This scale was adapted to fit Genshin impact characters and was measured through 20 items on a 7-point Likert-Scale (1 = Strongly disagree, 7 = Strongly agree). An example item is 'I recognize the situations that my favorite Genshin Impact character encounters as situations that can happen to me'. A Varimax rotation Factor analysis indicated 3 factors ($KMO = .93$, $p = .000$) that were also reliable and can be seen in Table 3.1. Most notably about the results is the dimension placement of several items that were different from the initial set-up of the scale by Żerebecki and colleagues (2023, pp. 15, 28-29). A potential reason for this change could be the

novelty of the scale as it was only recently developed and not tested in a multitude of situations such as with game characters.

Table 3.1. Factor loadings, KMO, reliability, scale score Mean and standard deviation of the two factors found for the scale ‘Recognizability’

	Attitudinal recognizability	Personality recognizability	Situational recognizability
(AR1) I recognize my favorite Genshin Impact character’s approach to life as an approach to life that I have.	.44	.53	-
(AR2) I recognize my favorite Genshin Impact character’s opinions about what is good and bad as opinions I have.	.79	-	-
(AR3) I recognize the solutions to problems of my favorite Genshin Impact character as solutions I could follow.	.73	-	.36
(AR4) I recognize my favorite Genshin Impact character’s opinions about other people as opinions I have.	.75	-	-
(AR5) I recognize the thought processes before decisions of my favorite Genshin Impact character as thought processes I have.	.52*	.51	-
(AR6) I recognize my favorite Genshin Impact character’s opinions about social problems as opinions I have.	.66	.38	-
(AR7) I recognize the decisions of my favorite Genshin Impact character as decisions that I could make.	.72	-	-
(AR8) I recognize the reactions to stressful situations of my favorite Genshin Impact character as reactions that I could have.	.37*	.37	.37
(PR1) I recognize the personality traits of my favorite Genshin Impact character as traits that I have.	-	.82	-
(PR2) I recognize the weaknesses of my favorite Genshin Impact character as weaknesses that I have.	-	.62	.37
(PR3) I recognize myself in my favorite Genshin Impact character.	-	.76	.45
(PR4) I recognize the strengths of my	-	.58	.40

favorite Genshin Impact character as strengths that I have.			
(PR5) I recognize the behaviors of my favorite Genshin Impact character as behaviors that I could show.	.34	.63	-
(SR1) I recognize the situations that my favorite Genshin Impact character encounters as situations that could also happen to me.	-	-	.70
(SR2) I recognize the past experiences of my favorite Genshin Impact character as similar to my past experiences.	-	-	.75
(SR3) I recognize the problems that my favorite Genshin Impact character has as the problems that I could have.	-	-	.75
(SR4) I recognize the places, in which I see my favorite Genshin Impact character as the places I could be in.	.33	-	.55
(SR5) I recognize my life in the life of my favorite Genshin Impact character.	-	.48	.63
(SR6) I recognize the topics that my favorite Genshin Impact character discusses with others as the topics I could discuss with other people in my life.	.41	.32	-
(SR7) I recognize the life changes my favorite Genshin Impact character experiences as life changes that could happen to me.	.31	.34	.54
<i>Cronbach's α</i>	.87	.87	.85
<i>Mean</i>	4.47	4.19	3.44
<i>SD</i>	1.14	1.32	1.30

Note. * AR5 and AR8 were placed in the factors that were initially given to them by the scale as the loadings were very close to each other.

Parasocial relationships. The sub-dimension PSR-C of the parasocial relationship scale created by Slater and colleagues (2018, pp. 336, 338, 339) was used to measure the participants' experience of the character through interactions or as a subject of discussions. According to Slater and colleagues (2018, pp. 332, 346), this scale was also considered to be the best suited for measuring parasocial relationships with fictional characters. The scale was adapted to fit Genshin Impact characters and was measured through six items on a 9-point Likert-Scale (1 = Very strongly

disagree, 9 = Very strongly agree). An example item is ‘I like to imagine my favorite Genshin Impact character as people I know personally.’. A Varimax rotation Factor analysis indicated that all six items pertained to the same PSR-C dimension ($KMO = .82, p > .001$), and this result can be found in Table 3.2.

Table 3.2. Factor loadings, KMO, reliability, scale score Mean and standard deviation of the two factors found for the scale ‘Parasocial relationships’

	Parasocial relationships- Characters
(PSR1) I like to imagine my favorite Genshin Impact character as someone I know personally.	.77
(PSR2) I often feel like my favorite Genshin Impact character is someone I know and care about.	.85
(PSR3) I like to talk to others about what my favorite Genshin Impact character is like as a person.	.77
(PSR4) Seeing my favorite Genshin Impact character is like seeing a good friend.	.86
(PSR5) I like to talk to others about what we would have done if we were my favorite Genshin Impact character.	.62
(PSR6) I’m often fascinated by my favorite Genshin Impact character as a person.	.71
<i>Cronbach’s α</i>	.86
<i>Mean</i>	5.57
<i>SD</i>	1.78

Character enjoyment. The scale for enjoyment created by Krakowiak and Tsay (2011, pp. 95-96) was used, which measures the affective and cognitive components of enjoyment experienced by players. This scale was chosen because according to Nabi and Kremer (2004, pp. 296-297), enjoyment is a multi-dimensional construct and should be measured as one. This scale was adapted to fit Genshin Impact characters and changed to a 5-point Likert-Scale (1 = Strongly disagree, 5 = Strongly agree) that measures enjoyment through 15 items. An example item includes ‘I enjoyed playing as my favorite Genshin Impact character’. The fifth item ‘I would not recommend playing Genshin Impact as my favorite Genshin Impact character to others’ was reverse coded so that the higher values reflect more positive results similar to the other items. A Varimax rotation Factor analysis identified two subscales ($KMO = .89, p = .000$), which can be found in Table 3.3.

Table 3.3. Factor loadings, KMO, reliability, scale score Mean and standard deviation of the two factors found for the scale ‘Character enjoyment’

	Affective character enjoyment	Cognitive character enjoyment
(AE1) I enjoyed playing Genshin Impact as my favorite Genshin Impact character.	.91	-
(AE2) I liked playing Genshin Impact as my favorite Genshin Impact character.	.88	-
(AE3) I had a good time playing Genshin Impact as my favorite Genshin Impact character.	.92	-
(AE4) It made me happy to play Genshin Impact as my favorite Genshin Impact character.	.77	-
*(AE5) I would not recommend playing Genshin Impact as my favorite Genshin Impact character. (R)	-	-
(AE6) I felt good playing Genshin Impact as my favorite Genshin Impact character.	.77	-
(AE7) Playing Genshin Impact as my favorite Genshin Impact character is entertaining.	.78	-
*(AE8) I would like to play Genshin Impact as other characters that are similar to my favorite Genshin Impact character.	-	-
(AE9) Playing Genshin Impact as my favorite Genshin Impact character is exciting.	.68	-
(CE1) I would like to analyze my favorite Genshin Impact character as a character.	-	.87
(CE2) I would like to talk about my favorite Genshin Impact character with other people.	-	.74
(CE3) I really thought about my favorite Genshin Impact character when playing Genshin Impact.	-	.80
(CE4) I would like to seek out additional information about my favorite Genshin Impact character.	-	.83
(CE5) I would replay Genshin Impact as my favorite Genshin Impact character.	-	.59
(CE6) My favorite Genshin Impact character made me think.	-	.83
<i>Cronbach's α</i>	.90	.87

<i>Mean</i>	4.69	4.17
<i>SD</i>	.48	.84

Note. * AE5 and AE8 were removed from the scales as they did not have any factor loadings for either dimension.

As stated in the theoretical framework, transmedia behaviors were defined as desirable interactive transmedia user behaviors and operationalized using three out of the five video game consumption behaviors determined by Badrinarayanan and colleagues (2015, pp. 1048-1049). Therefore, the following scales for purchase intention, community engagement and co-production were used for transmedia behaviors.

Purchase intention. Purchase intention was measured based on the scale adapted from Badrinarayanan and colleagues (2015, pp. 1048-1049), which measures participants' likelihood, willingness and their intention to buy products related to the game. However, as this research is looking at different types of textual behaviors for transmedia behaviors, this scale was adapted by having the questions for both in-game virtual item purchases and outside game purchases. The outside game purchase questions used similar phrasing to the adapted version of this scale used by Abbasi and colleagues (2021, pp. 1199, 1210), who also used this scale for Esports research. Therefore, purchase intention will be measured through 6 items and an adapted 5-point Likert-Scale (1 = Strongly disagree, 5 = Strongly agree). An example item is 'I intend to purchase Genshin Impact-associated items such as merchandise'. A Varimax rotation Factor analysis identified 2 dimensions (KMO = .77, $p > .001$), which can be seen in Table 3.4.

Table 3.4. Factor loadings, KMO, reliability, scale score Mean and standard deviation of the two factors found for the scale 'Purchase intention'

	Outside game purchase intention	In-game purchase intention
(IPB1) I intend to purchase in-game virtual items in Genshin Impact.	-	.92
(IPB2) My willingness to buy in-game virtual items in Genshin Impact is high.	-	.93
(IPB3) The likelihood that I would purchase in-game virtual items in Genshin Impact is high.	-	.94
(OPB1) I intend to purchase out of game Genshin Impact associated items such as merchandise.	.94	-
(OPB2) My willingness to buy out of game Genshin Impact associated items such as merchandise is high.	.95	-

(OPB3) The likelihood of me purchasing out of game Genshin Impact associated items such as merchandise is high.	.94	-
<i>Cronbach's α</i>	.95	.93
<i>Mean</i>	3.41	2.97
<i>SD</i>	1.35	1.33

Community engagement. Community engagement was measured by an adapted version of the scale used by Badrinarayanan and colleagues (2015, pp. 1048-1049) and measured the participation of the player in the Genshin Impact community. The items were adapted to fit the Genshin Impact community and were measured through three items on a changed to 5-point Likert-Scale (1 = Strongly disagree, 5 = Strongly agree). An example item is 'I am an actively participating member of the Genshin Impact community'. A Varimax rotation Factor analysis indicates that all three items pertain to one dimension (KMO = .71, $p > .001$), mainly community engagement as seen in Table 3.5.

Table 3.5. Factor loadings, KMO, reliability, scale score Mean and standard deviation of the two factors found for the scale 'Community engagement'

	Community engagement
(CB1) Exchanging opinions with members of the Genshin impact community is important to me.	.85
(CB2) I expect that I will continuously participate in Genshin Impact community activities.	.93
(CB3) I am an actively participating member of the Genshin Impact community.	.92
<i>Cronbach's α</i>	.88
<i>Mean</i>	3.18
<i>SD</i>	1.16

Co-production. Co-production was measured with the scale used by Badrinarayanan and colleagues (2015, pp. 1048-1049) which was adapted for Genshin Impact using similar wording as the adaptations done by Abbasi and colleagues (2021, pp. 1199, 1210). It measured the extent to which players would participate in the development of Genshin Impact or the creation of material for the game. Co-production was measured through four items on a changed to 5-point Likert-Scale (1 = Strongly disagree, 5 = Strongly agree). An example item is 'I like offering my opinion on Genshin Impact game or product related development'. A Varimax rotation Factor analysis indicates that all

four items pertain to one dimension ($KMO = .75, p > .001$), mainly Co-production as illustrated in Table 3.6.

Table 3.6. Factor loadings, KMO, reliability, scale score Mean and standard deviation of the two factors found for the scale ‘Co-production’

	Co-production
(CPB1) I enjoy suggesting new ideas for the Genshin Impact game, products and service designs.	.84
(CPB2) I like suggesting my opinions on the Genshin Impact game and product development.	.90
(CPB3) I enjoy participating in customer research for the Genshin Impact game improvements.	.80
(CPB4) I like providing my opinion on problems and improvements for Genshin Impact.	.87
<i>Cronbach's α</i>	.87
<i>Mean</i>	3.28
<i>SD</i>	1.02

3.4. Data collection procedure

Before starting the survey, participants were informed regarding the nature of the survey. This information included that the research was about parasocial relationships with their favorite Genshin Impact characters and transmedia behaviors, the duration of the survey and that participation is completely voluntary. Additionally, participants were also informed about the confidentiality and security of their data as it would be gathered anonymously and solely used for academic purposes. Furthermore, participants were asked if they were 18 years or older, if they agreed to the terms mentioned prior and would want to continue. If they did not agree with the terms or were not at age, they were sent immediately to the end of the survey.

Participants that agreed first filled in questions regarding Genshin Impact, which included if they played the game, how long they have been playing the game, their playstyle and favorite character in the game. If they did not remember all the characters in the game, they were provided the option to look through a character roster. Additionally, if participants responded that they do not play Genshin Impact, they were sent immediately to the end of the survey. The questions that followed were regarding their recognizability with their favorite character, the parasocial relationship with their favorite character, the enjoyment of their favorite character and about their transmedia behaviors. Lastly, they were asked demographical and gaming habits questions, which included questions regarding gender, age, country of origin, education, average play time per week and preferred game genre. In total the survey took approximately 10 to 15 minutes to complete.

3.5. Data analysis

With consideration towards the goal of the study (i.e., to investigate the relationships between multiple constructs and the mechanisms behind them) and the level of measurement of the chosen scales being continuous due to the use of Likert-scales, the most suitable methods of data analysis for the hypotheses was multiple or hierarchical linear regression analysis and mediation analysis.

Starting with regressions, they are considered suitable analysis methods for the exploration of the interrelationships between different constructs and for investigating different potential explanations for these relationships (Hayes, 2022, p. 49; Pallant, 2016, pp. 108, 149-150). Additionally, they were also found to be fitting for complex real-life scenarios and allow for the investigation of overall model predictive power as well as the contribution of specific variables to this predictive power (Pallant, 2016, pp. 108, 149-150). Therefore, this data analysis method allowed the study to explore if there was an underlying relationship between the constructs as found in previous literature, the strength of these relationships, and the contribution of each construct in the full conceptual model. Furthermore, utilizing multiple linear regression analysis can also be a contingency approach for reducing alternative possibilities such as spurious associations between variables in non-experimental or cross-sectional research designs such as the one used in this study (Hayes, 2022, pp. 46-49).

As for the other analysis method, mediation analysis was most suitable for the remaining hypotheses of this study which focused on the potential mechanisms behind the relationships. This is because mediation analysis is mainly utilized to explore the workings behind the relationship between constructs by looking at potential other intervening variables, thus understanding how a relationship takes place (Hayes, 2022, pp. 7, 79-80). Therefore, these two analysis methods would allow for a comprehensive understanding of the relationship between PSR with transmedia characters and transmedia behaviors.

In short, in order for this study to investigate the relationship between PSR and transmedia behaviors, a total of 210 responses were collected through a cross-sectional quantitative survey, which was created with reliable existing scales for each construct. This data was analyzed and later interpreted by utilizing both multiple or hierarchical linear regression analyses and mediation analyses, which were both best suited for understanding the workings behind relationships between constructs and providing a clear answer to the research question.

4. Results

4.1. Recognizability and parasocial relationships

In order to test hypothesis 1, a multiple linear regression analysis was conducted with the level of PSR as the dependent variable. Predictors were situational, personality and attitudinal recognizability. Analysis results (e.g., beta weights and values for explained variables) can be found in Table 4.1.

Table 4.1. Predictors of PSR

	Predictors	<i>b</i> *
Parasocial relationships	Attitudinal recognizability	.31***
	Personality recognizability	-.13
	Situational recognizability	.18
		$F(3, 205) = 9.81$
		$R^2 = .13$
		$p < .001$

Note. Significance levels: * $p < .05$, ** $p < .01$, *** $p < .001$.

The results illustrated that attitudinal recognizability was found to be a significant, moderately strong, positive predictor of PSR, thereby supporting H1c. However, both personality recognizability and situational recognizability were found to not have a significant effect on PSR, thus rejecting H1a and H1b.

4.2. Predictors of character enjoyment

For hypotheses 2 and 3, two hierarchical regression analyses were conducted. Beginning with hypothesis 2, a hierarchical regression analysis was conducted with the participants' average scores for affective character enjoyment as the dependent variable. Situational, personality and attitudinal recognizability were included in the first block, while the level of PSR was added in the second block (see Table 4.2 for beta weights and values for explained variance).

For hypothesis 3, another hierarchical regression analysis was conducted with the participants' average scores for cognitive character enjoyment as the dependent variable. Situational, personality and attitudinal recognizability were again included in the first block, while the level of PSR was added in the second block (also see Table 4.2 for beta weights and values for explained variance).

Table 4.2. Predictors of affective and cognitive character enjoyment

Predictors		Model 1 <i>b</i> *	Model 2 <i>b</i> *
Affective character enjoyment	Attitudinal recognizability	.06	-.03
	Personality recognizability	.08	.12
	Situational recognizability	.07	.01
	Parasocial relationships	-	.31***
		$F(3, 204) = 2.40$	$\Delta F(1, 203) = 19.24$
		$R^2 = .03$	$\Delta R^2 = .08$
		$p = .069$	$p < .001$
Cognitive character enjoyment	Attitudinal recognizability	.39***	.21**
	Personality recognizability	-.01	.07
	Situational recognizability	.10	-.00
	Parasocial relationships	-	.59***
		$F(3, 204) = 18.11$	$\Delta F(1, 203) = 124.71$
		$R^2 = .21$	$\Delta R^2 = .30$
		$p < .001$	$p < .001$

Note. Significance levels: * $p < .05$, ** $p < .01$, *** $p < .001$.

For affective character enjoyment, when situational, personality and attitudinal recognizability were used as the predictors, the model was not significant. Thus, higher recognizability was not a significant predictor of affective enjoyment of a character. However, when PSR was entered in the model in the second block, the resulting model was significantly improved and accounted for 11.8% of the variance in affective character enjoyment. PSR was found to be a significant, moderately strong, positive predictor of affective character enjoyment. Thus, higher PSR was associated with more affective character enjoyment, thereby accepting H2d. However, situational, personality, and attitudinal recognizability were again found to not be significant predictors of affective character enjoyment. Therefore, H2a, H2b and H2c were rejected.

For cognitive character enjoyment, when situational, personality and attitudinal recognizability were used as the predictors, the model reached significance. Higher attitudinal recognizability with a character was found to be a significant, positive and moderately strong predictor of cognitive enjoyment of a character. However, personality recognizability and situational recognizability were found to not be significant predictors of cognitive character enjoyment. When

PSR was entered in the model in the second block, the resulting model was significantly improved and accounted for 51.1% of the variance in cognitive character enjoyment. The level of PSR was found to be a significant, moderately strong, positive predictor of cognitive character enjoyment. Additionally, attitudinal recognizability was still a significant and positive, but weak predictor of cognitive character enjoyment. Therefore, higher levels of PSR and attitudinal recognizability were associated with more cognitive character enjoyment, thereby accepting H3c and H3d. However, personality recognizability and situational recognizability were again found to not be significant predictors of cognitive character enjoyment. Thus, rejecting H3a and H3b.

4.3. Predictors of transmedia behaviors- Purchase intention

Similar to the previous section, for hypotheses 4 and 5 two more hierarchical regression analyses were conducted. For hypothesis 4, a hierarchical regression analysis was conducted with the participants' average scores for in-game purchase intention as the dependent variable. Situational, personality and attitudinal recognizability were included in the first block, the level of PSR was added in the second block and affective as well as cognitive character enjoyment were added in the third block. The analysis results (e.g., beta weights and values for explained variance) can be seen in Table 4.3.

Correspondently, for hypothesis 5, another hierarchical regression analysis was conducted with the participants' average scores for outside of game purchase intention as the dependent variable. Situational, personality and attitudinal recognizability were again included in the first block, the level of PSR that was added in the second block and affective as well as cognitive character enjoyment were once more added in the third block (also see Table 4.3 for beta weights and values for explained variance).

Table 4.3. Predictors of in-game and outside game purchase intention

	Predictors	Model 1 <i>b</i> *	Model 2 <i>b</i> *	Model 3 <i>b</i> *
In-game purchase intention	Attitudinal recognizability	.00	-.00	.03
	Personality recognizability	.08	.08	.07
	Situational recognizability	.01	.01	.01
	Parasocial relationships	-	.03	.08

	Affective character enjoyment	-	-	.13
	Cognitive character enjoyment	-	-	-.15
		$F(3, 204) = .50$	$\Delta F(1, 203) = .12$	$\Delta F(2, 201) = 2.35$
		$R^2 = .01$	$\Delta R^2 = .00$	$\Delta R^2 = .02$
		$p = .680$	$p = .735$	$p = .098$
Outside game purchase intention	Attitudinal recognizability	.08	-.01	-.05
	Personality recognizability	.07	.11	.10
	Situational recognizability	.08	.03	.03
	Parasocial relationships	-	.28***	.19*
	Affective character enjoyment	-	-	-.09
	Cognitive character enjoyment	-	-	.20*
		$F(3, 204) = 3.02$	$\Delta F(1, 203) = 16.14$	$\Delta F(2, 201) = 2.84$
		$R^2 = .04$	$\Delta R^2 = .07$	$\Delta R^2 = .02$
		$p = .031$	$p < .001$	$p = .061$

Note. Significance levels: * $p < .05$, ** $p < .01$, *** $p < .001$.

For in-game purchase intention, when situational, personality and attitudinal recognizability were used as the predictors, the model was not significant. Thus, higher recognizability was not significantly associated with more in-game purchase intentions. Similarly, when PSR was entered in the model in the second block, the resulting model did not significantly improve. Furthermore, when affective and cognitive character enjoyment were entered in the third block, the resulting model still did not significantly improve. Therefore, a players recognizability with a character, PSR with a character as well as their affective and cognitive enjoyment of the character were not significant predictors of their in-game purchase intentions. Thus, H4a, H4b, H4c, H4d, H4e and H4f were all rejected.

As for outside game purchase intention, when situational, personality and attitudinal

recognizability were used as the predictors, the model reached significance. However, neither situational, personality or attitudinal recognizability were found to be significant predictors of outside game purchase intention. When PSR was entered in the model in the second block, the resulting model was significantly improved and accounted for 11.3% of the variance in outside game purchase intention. PSR was also found to be a significant and positive, but weak predictor of outside game purchase intention. So, stronger PSR with a character was associated with more outside game purchase intention, thus accepting H5d. However, situational, personality and attitudinal recognizability were still found to not be significant predictors of outside game purchase intention, hence the rejection of H5a, H5b and H5c. Additionally, when affective and cognitive character enjoyment were entered in the model in the third block, the model did not significantly improve, thus also rejecting H5e and H5f.

4.4. Predictors of transmedia behaviors- Community engagement and co-production

For hypotheses 6 and 7, the last two hierarchical regression analyses were conducted. For hypothesis 6, a hierarchical regression analysis was conducted with community engagement as the dependent variable. Situational, personality and attitudinal recognizability were included in the first block, the level of PSR was added in the second block and affective as well as cognitive character enjoyment were added in the third block. Table 4.4 depicts the results of this analysis (e.g., beta weights and values for explained variance).

For hypothesis 7, the final hierarchical regression analysis was conducted with the participants' average scores of co-production as the dependent variable. Situational, personality and attitudinal recognizability were again included in the first block, followed by the level of PSR, which was added in the second block and lastly, affective as well as cognitive character enjoyment were added in the third block. The results of this final hierarchical regression analysis (e.g., beta weights and values for explained variance) can also be found in Table 4.4.

Table 4.4. Predictors of community engagement and co-production

	Predictors	Model 1 <i>b</i> *	Model 2 <i>b</i> *	Model 3 <i>b</i> *
Community engagement	Attitudinal recognizability	.07	.01	-.07
	Personality recognizability	.21	.24*	.21
	Situational recognizability	-.07	-.11	-.11

	Parasocial relationships	-	.22**	.02
	Affective character enjoyment	-	-	.02
	Cognitive character enjoyment	-	-	.34***
		$F(3, 204) = 3.27$	$\Delta F(1, 203) = 9.53$	$\Delta F(2, 201) = 6.72$
		$R^2 = .05$	$\Delta R^2 = .04$	$\Delta R^2 = .06$
		$p = .022$	$p = .002$	$p = .001$
Co-production	Attitudinal recognizability	.06	.02	-.02
	Personality recognizability	.05	.06	.04
	Situational recognizability	.27*	.24*	.24*
	Parasocial relationships	-	.14	-.01
	Affective character enjoyment	-	-	.12
	Cognitive character enjoyment	-	-	.19*
		$F(3, 204) = 9.25$	$\Delta F(1, 203) = 3.78$	$\Delta F(2, 201) = 3.78$
		$R^2 = .12$	$\Delta R^2 = .02$	$\Delta R^2 = .03$
		$p < .001$	$p = .053$	$p = .025$

Note. Significance levels: * $p < .05$, ** $p < .01$, *** $p < .001$.

Beginning with community engagement, when situational, personality and attitudinal recognizability were used as the predictors, the model reached significance. However, none of these recognizability dimensions were found to be significant predictors of the participants' community engagement. However, when PSR was entered in the model in the second block, the resulting model was significantly improved, but only accounted for 8.9% of the variance in community engagement. Personality recognizability was found to be a significant and positive, but weak predictor of community engagement. Additionally, PSR was also found to be a significant and positive, but weak predictor of community engagement. However, situational and attitudinal recognizability were still

found to not be significant predictors of community engagement. When affective and cognitive character enjoyment were entered in the model in the third block, the model was again significantly improved and now accounted for 14.6% of the variance in community engagement. However, only cognitive character enjoyment was a significant and moderately strong positive predictor of community engagement. So, participants with high cognitive enjoyment of a character were associated with more community participation. Thus, accepting H6f. As situational, personality and attitudinal recognizability as well as PSR and affective character enjoyment were found to not be significant predictors of community engagement, H6a, H6b, H6c, H6d and H6e were all rejected.

As for co-production, when situational, personality and attitudinal recognizability were used as the predictors, the model reached significance. While situational recognizability was found to be a significant, positive, but weak predictor of co-production, personality and attitudinal recognizability were found to not be significant predictors of co-production. However, when PSR was entered in the model in the second block, the resulting model was not significantly improved. When affective and cognitive enjoyment were entered in the model in the third block, the model did significantly improve and accounted for 16.7% of the variance in co-production. Situational recognizability was still a significant, positive, but weak predictor of coproduction. Additionally, cognitive character engagement was also found to be significant, positive but weak predictor of co-production. Therefore, higher situational recognizability and cognitive enjoyment of a character were associated with higher participation in co-production behaviors. Thus, H7a and H7f were accepted. On the other hand, personality recognizability, attitudinal recognizability, PSR and affective character enjoyment were not significant predictors of co-production, thereby rejecting H7b, H7c, H7d and H7e.

4.5. Enjoyment as mediator

Lastly, in order to test H8 and H9 regarding the mediation role of enjoyment, a collection of mediation analyses was conducted with PSR as the independent variable, cognitive or affective enjoyment as potential mediators and each dimension of transmedia behaviors (i.e., in-game purchase intention, outside game purchase intention, community engagement and co-production) as the dependent variables.

Table 4.5. PSR as predictor of transmedia behaviors

	Predictor	<i>b</i> *
In-game purchase intention	Parasocial relationships	.05
		$F(1, 208) = .60$
		$R^2 = .00$
		$p = .439$

Outside game purchase intention	Parasocial relationships	.32***
		$F(1, 208) = 23.26$
		$R^2 = .10$
		$p < .001$
Community engagement	Parasocial relationships	.23***
		$F(1, 208) = 11.92$
		$R^2 = .05$
		$p < .001$
Co-production	Parasocial relationships	.22**
		$F(1, 208) = 10.16$
		$R^2 = .05$
		$p = .002$

Note. Significance levels: * $p < .05$, ** $p < .01$, *** $p < .001$.

In step 1 of the mediation model, four simple linear regressions analyses were conducted, ignoring the mediator, with PSR as the independent variable and transmedia behaviors (i.e., in-game purchase intention, outside game purchase intention, community engagement and co-production) as the respective dependent variables. The result of these analyses (e.g., beta weights and values for explained variance) can be found in Table 4.5.

PSR was found to be a significant predictor of outside game purchase intention, community engagement and co-production, thus supporting that there is direct effect of the independent variable on the different dependent variables. However, PSR was not a significant predictor of in-game purchase intention. Therefore, there is no mediation effect on the relationship between PSR and in-game purchase intention, which rejects H8a and H9a as well as omitting in-game purchase intention from the remaining steps of the mediation analysis.

Table 4.6. PSR as predictor of character enjoyment

	Predictor	b^*
Affective character enjoyment	Parasocial relationships	.33***
		$F(1, 207) = 24.56$
		$R^2 = .12$

		<i>p</i> < .001
Cognitive character enjoyment	Parasocial relationships	.67**
		<i>F</i> (1, 207) = 170.82
		<i>R</i> ² = .45
		<i>p</i> < .001

Note. Significance levels: * *p* < .05, ** *p* < .01, *** *p* < .001.

For step 2 of the mediation model, two more simple linear regressions analyses were conducted with PSR as the independent variable and affective or cognitive character enjoyment as the respective dependent variables. Table 4.6 illustrates the result of these analyses (e.g., beta weights and values for explained variance).

Based on these results, the regression of PSR on both potential mediators, mainly affective and cognitive character enjoyment, were also significant.

Table 4.7. PSR and affective character enjoyment as predictors of transmedia behaviors

	Predictors	<i>b</i> *
Outside game purchase intentions	Parasocial relationships	.34***
	Affective character enjoyment	-.06
		<i>F</i> (2, 206) = 11.86
		<i>R</i> ² = .10
		<i>p</i> < .001
Community engagement	Parasocial relationships	.21**
	Affective character enjoyment	.07
		<i>F</i> (2, 206) = 6.42
		<i>R</i> ² = .06
		<i>p</i> = .002
Co-production	Parasocial relationships	.17*
	Affective character enjoyment	.15*

$$F(2, 206) = 7.43$$

$$R^2 = .07$$

$$p < .001$$

Note. Significance levels: * $p < .05$, ** $p < .01$, *** $p < .001$

For the last 2 steps of the mediation model with affective character engagement as the potential mediator, three multiple regression analyses were conducted with each respective transmedia behavior (i.e., outside game purchase intention, community engagement and co-production) as the dependent variable. The predictors for every analysis were PSR and affective character enjoyment (see Table 4.7 for beta weights and values for explained variance).

While controlling for PSR, the mediator (affective character enjoyment) was found to not have a significant influence on outside game purchase intention and community engagement. Therefore, affective character enjoyment does not mediate the relationship between PSR and outside game purchase intentions or between PSR and community engagement, which rejects H8b and H8c.

However, the mediator (affective character enjoyment), controlling for PSR, did have a significant influence on co-production. Additionally, while controlling for affective character enjoyment, PSR was also found to be a significant, positive but weak predictor of co-production. Hence, affective character enjoyment partially mediates the relationship between PSR and co-production, thus accepting H8d.

Table 4.8. PSR and cognitive character enjoyment as predictors of transmedia behaviors

	Predictors	b^*
Outside game purchase intentions	Parasocial relationships	.18*
	Cognitive character enjoyment	.21*
		$F(2, 206) = 14.69$
		$R^2 = .13$
		$p < .001$
Community engagement	Parasocial relationships	-.01
	Cognitive character enjoyment	.36***
		$F(2, 206) = 14.40$
		$R^2 = .12$

		<i>p</i> < .001
Co-production	Parasocial relationships	.02
	Cognitive character enjoyment	.29**
		<i>F</i> (2, 206) = 10.36
		<i>R</i> ² = .09
		<i>p</i> < .001

Note. Significance levels: * *p* < .05, ** *p* < .01, *** *p* < .001.

Lastly, for the final 2 steps of the mediation model with cognitive character engagement as the potential mediator, three more multiple regression analyses were conducted with each respective transmedia behavior (i.e., outside game purchase intention, community engagement and co-production) as the dependent variables again. The predictors for every analysis were PSR and cognitive character enjoyment. Table 4.8 depicts the results of these analyses (e.g., beta weights and values for explained variance).

While controlling for PSR, the mediator (cognitive character enjoyment) was found to have a significant influence on all the transmedia behavior dependent variables (outside game purchase intention, community engagement and co-production). Additionally, while controlling cognitive character enjoyment, PSR was found to be a significant, positive, but weak predictor of outside game purchase intention. Hence, cognitive character enjoyment partially mediates the relationship between PSR and outside game purchase intention.

Furthermore, while controlling cognitive character enjoyment, PSR was also found to not be a significant predictor of community engagement or co-production. Therefore, cognitive character enjoyment fully mediates the relationship between PSR and community engagement as well as the relationship between PSR and co-production. Based on these results, H9b, H9c and H9d were all accepted. An overview of the results for all the hypotheses evaluations discussed in this chapter can be found in Table 4.9.

Table 4.9. Overview hypotheses evaluations

Hypothesis	Accepted or rejected
H1 Parasocial relationships with Genshin Impact characters increases with a) situational, b) personality and c) attitudinal recognizability with the character.	a) Rejected b) Rejected c) Accepted

H2	Affective character enjoyment increases with a) situational, b) personality, and c) attitudinal recognizability with the character as well as d) parasocial relationship with the character.	a) Rejected b) Rejected c) Rejected d) Accepted
H3	Cognitive character enjoyment increases with a) situational, b) personality, and c) attitudinal recognizability with the character as well as d) parasocial relationship with the character.	a) Rejected b) Rejected c) Accepted d) Accepted
H4	In-game purchase intention increases with a) situational, b) personality, c) attitudinal recognizability and d) parasocial relationship with the character as well as decreases with e) affective and f) cognitive character enjoyment.	a) Rejected b) Rejected c) Rejected d) Rejected e) Rejected f) Rejected
H5	Outside game purchase intention increases with a) situational, b) personality, c) attitudinal recognizability and d) parasocial relationship with the character as well as e) affective and f) cognitive character enjoyment.	a) Rejected b) Rejected c) Rejected d) Accepted e) Rejected f) Rejected
H6	Community engagement increases with a) situational, b) personality, c) attitudinal recognizability and d) parasocial relationship with the character as well as e) affective and f) cognitive character enjoyment.	a) Rejected b) Rejected c) Rejected d) Rejected e) Rejected f) Accepted
H7	Co-production increases with a) situational, b) personality, c) attitudinal recognizability and d) parasocial relationship with the character as well as e) affective and f) cognitive character enjoyment.	a) Accepted b) Rejected c) Rejected d) Rejected e) Rejected f) Accepted

H8	Affective character enjoyment mediates the relationship between parasocial relationships and a) in-game purchase intentions, b) outside game purchase intention, c) community engagement and d) co-production.	a) Rejected b) Rejected c) Rejected d) Accepted
H9	Cognitive character enjoyment mediates the relationship between parasocial relationships and a) in-game purchase intentions, b) outside game purchase intention, c) community engagement and d) co-production.	a) Rejected b) Accepted c) Accepted d) Accepted

5. Discussion and conclusion

The aim of this study was to investigate the impact that PSR with transmedia characters has on the transmedia success of a franchise by enticing the players to engage in more transmedia behaviors. Therefore, it researched the intensity of the PSR between players of the successful game Genshin Impact and their favorite Genshin Impact character, how much this relationship directly and indirectly impacted players' transmedia behaviors as well as the role that recognizability and character enjoyment played in this relationship. Thus, this final chapter starts by discussing the main findings found during this research, followed by a section regarding the implications of these findings, the limitations of the study and areas for future research. Finally, the chapter concludes by answering the research question and a conclusion that summarizes the key take aways from the study.

5.1. Discussion of general findings

This study tested nine different hypotheses surrounding the relationships between the constructs recognizability, PSR, character enjoyment and transmedia behaviors (i.e., in-game purchase intention, outside game purchase intention, community engagement and co-production). The first hypothesis (H1a, H1b and H1c) investigated the relationship between the three dimensions of recognizability (i.e., situational, personality and attitudinal recognizability) and PSR with Genshin Impact characters. Both situational and personality recognizability were found to not have a significant influence on PSR, which were against the expectations of H1a and H1b. According to Giles (2023, pp. 40-42), the new digital era has brought distinct media affordances which can shape the development of different types of PSR. Therefore, games can bring their own affordances as well as other character appeal aspects, such as their gameplay elements (e.g., playstyle and immersion), that could impact the development of PSR (Nguyen et al., 2023, section 3; Välisalo, 2023, p. 71). Thus, it could be that situational and personality recognizability do not play as significant a role in the development of this type of PSR compared to other factors shaped by the affordances of Genshin Impact.

On the other hand, attitudinal recognizability was found to have a significant, positive and moderately strong influence on the participants' PSR with their favorite Genshin Impact character, which confirmed H1c and is in accordance with previous literature. Attitudinal recognizability can be defined as a sense of familiarity with the opinions, thought processes, decisions and morals of the character on the screen (Żerebecki et al., in press, p. 15). This matches well with elements of the similar concept attitudinal homophily, which includes similarities in attitudes, values and beliefs (Hall, 2019, p. 96; Munnukka & Reinikainen, 2023, p. 362; Tukachinsky et al., 2020, p. 872). Therefore, this finding falls in line with previous research where homophily, especially attitudinal homophily, was found to be a strong antecedent of PSR (Liebers & Schramm, 2019, pp. 14-15; Tukachinsky et al., 2020, pp. 870-872, 881; Walter et al., 2023, pp. 127-136).

The second (H2a- H2d) and third hypothesis (H3a- H3d) investigated the relationship between recognizability, PSR and two dimensions of character enjoyment, mainly affective and cognitive character enjoyment. The relationship of situational and personality recognizability with affective and cognitive character enjoyment were all found to be insignificant, thus rejecting H2a, H2b, H3a and H3b. These findings contradict previous literature of homophily having a positive association with enjoyment because it made the interaction processes smoother and more pleasurable (Carvalho, 2024, pp. 1093-1094; Tukachinsky et al., 2020, pp. 870-872). Additionally, the relationship between attitudinal recognizability and affective character enjoyment was also found to be insignificant and against expectations of H2c. However, it was found to have a positive, but weak influence on cognitive character enjoyment, thus accepted H3c and corresponds with previous literature where homophily in terms of values, morals, attitude and opinions, was found to have a positive effect on enjoyment (Carvalho, 2024, pp. 1094, 1101-1102; Fu et al., 2018, pp. 91, 96). According to Nabi and Krcmar (2004, p. 297), each dimension of enjoyment is influenced by different factors and are impacted by these factors in separate manners. Therefore, while attitudinal recognizability with the character had a significant relationship with the cognitive enjoyment of the character, this factor was not as impactful on the affective enjoyment of the character. Furthermore, other variables such as player motivation and player type were also found to have significant impact on game enjoyment (Kneer et al., 2022, pp. 429, 437; Mekler et al., 2014, p. 930). Thus, considering the final significant model for affective character enjoyment only accounted for 11.8% of the variance in the variable, it could be that other variables that were not included in this study could have more significant impact on affective character enjoyment and cognitive character enjoyment than the dimensions of recognizability.

Additionally, in line with previous research, PSR was also found to have a positive and moderately strong impact on both affective and cognitive character enjoyment potentially due to PSR' ability to strengthen these exposure effects, thus meeting the expectations of H2d and H3d. (Hall, 2019, pp. 88, 91; Krakowiak, 2023, p. 207; Nabi & Krcmar, 2004, p. 295). In other words, a strong PSR with a Genshin Impact character is an important factor for increasing the enjoyment of that Genshin Impact character.

One of the more unexpected findings in the study was that the fourth hypothesis (H4a- H4f) regarding the relationship between recognizability, PSR, character enjoyment and in-game purchase intention was completely rejected. In other words, none of the former three concepts had any significant impact on in-game purchase intention. One potential theoretical reason for this could be that other variables such as attitude and subjective norms could play bigger roles in in-game purchase intentions as these have been shown to strongly impact this behavior (Hamari, 2015, pp. 301, 305-306). According to Hamari (2015, p. 301), attitudes towards free-to-play game business models are primarily negative as it breaks the immersion of the game, leads to unequal player standings or the purposeful degradation of the game. This includes attitudes towards Genshin Impact as investing in

the free-to-play game has been stigmatized by the community to the extent of players being scorned or bullied for their spending behaviors, especially in English speaking regions where most of the sample is from (Jiang, 2022, para. 2, 36-41). Therefore, it could be that the overarching negative attitude towards spending money in the gacha system and the negative subjective norms of the community related to spending in the game could have a stronger influence on in-game purchasing than character enjoyment, PSR or recognizability with the character. In other words, the costs for engaging in in-game purchase behaviors are significantly higher than the gains of engaging in this behavior. Furthermore, transmedia engagement is not a static phenomenon and can change over time (Evans, 2019, pp. 153, 172). While the form of response (i.e., PSR) can remain the same and maintain the engagement with the franchise beyond its official conclusion, the types of behaviors that participants engage with do change over time as they move from one category to the another depending on the circumstances. Therefore, it could also be possible that while participants still have strong PSR with their favorite Genshin Impact characters after playing the game for a long duration, they could have moved away from in-game purchase behaviors to other types of behaviors.

The remaining transmedia behaviors (i.e., outside game purchase intention, community engagement and co-production) were also investigated with the fifth (H5a- H5f), sixth (H6a- H6f) and seventh hypothesis (H7a- H7f) regarding their relationship with recognizability, PSR and character enjoyment. Similarly to the previous hypotheses, most of the recognizability dimensions did not have a significant relationship with any of the remaining transmedia behaviors. The relationship between situational recognizability and outside game purchase intention as well as community engagement were found to be insignificant, which were against expectations of H5a and H6a. However, its relationship with co-production was positive and weak, which accepts H7a. Furthermore, both personality recognizability and attitudinal recognizability were found to have insignificant associations with outside game purchase intention, community engagement and co-production, which reject H5b, H5c, H6b, H6c, H7b and H7c.

As previously discussed, players can have multiple reasons to like a game character beyond recognizability (Välisalo, 2023, p. 71). Thus, they can also engage with the character or the franchise for different reasons beyond the sense of familiarity with their favorite character or have multiple favorites depending on the main aspect being requested (e.g., favorite gameplay or favorite lore character). Moreover, all the final significant models for the transmedia behaviors accounted for less than 20.0% of the variance in the variables. Therefore, it could be that recognizability was not one of the determining factors for participants to invest in outside game purchases or participating in the community relating to their favorite Genshin Impact character.

Moreover, according to previous literature surrounding communities, homophily was found to be a positive influence on community engagement and co-production because high similarity between the members increased trust and ease of socializing (Nohutlu et al., 2022, pp. 634-635). However, as mentioned before, this is perceived similarity between members rather than between

player and character. Furthermore, while avatar identification can have a positive relationship with participation, an avatar and a playable character are two distinct elements in games that can result in different experiences (Blom, 2023, pp. 43-44; Teng, 2017, pp. 603, 607). An avatar is a full extension of the player in the game. In contrast, a playable character can be controlled by the player, but has its own independent personality, goals and intentions (Blom, 2023, pp. 43-44). Therefore, it could be that the impact of identification with avatars to fit in a social group is different from the impact of identification with a playable character.

The most important and interesting finding in this study was the relationship between PSR and the transmedia behaviors (i.e., outside game purchase intention, community engagement and co-production) as well as the mediating role of character enjoyment, which was investigated with the final two hypotheses of this study (H8a- H8d and H9a- H9d). With the hierarchical regression analyses, PSR was only found to have a positive and weak influence on outside game purchase intention, thus falling in line with H5d and previous research where PSR positively impacted purchase intention by reducing resistance to persuasion (Liebers & Schramm, 2019, p. 15; Munnukka & Reinikainen, 2023, pp. 360-364; Tukachinsky et al, 2020, pp. 876, 887). Additionally, this relationship was found to be partially mediated by cognitive character enjoyment, thus accepting H9b and corresponding with the relationship of PSR and enjoyment described in the transmedia engagement model (Evans, 2019, pp. 102-103, 199, 125). However, based on the other findings from the hierarchical regression analyses, PSR did not have a significant direct relationship with either community engagement or co-production, thus rejecting H6d and H7d. But, an indirect effect of PSR with the character on both community engagement and co-production was found through the mediation analyses. Cognitive character enjoyment was found to fully mediate the relationship between PSR and community engagement, thus accepting H9c. Similarly, cognitive character enjoyment was also found to fully mediate the relationship between PSR and co-production, confirming H9d. Furthermore, this was also the only relationship that was partially mediated by affective character enjoyment as there was no mediation found for the other transmedia behaviors, thus meeting the expectations of H8d and rejecting H8a, H8b and H8c. In other words, PSR does have an effect on all the remaining transmedia behaviors (i.e., outside game purchase intention, community engagement and co-production), either directly or indirectly through cognitive character enjoyment and in the case of co-production both cognitive and affective character enjoyment. Which again falls in line with the relationships found between these three components of the transmedia engagement model (Evans, 2019, pp. 35-37, 50-51).

As for the findings regarding the relationship of enjoyment and the transmedia behaviors found through the hierarchical regressions analyses, both affective and cognitive character enjoyment were found to not have significant impact on outside game purchase intention, which contradicts the expectations of H5e and H5f. Moreover, affective character enjoyment also had no significant influence on community engagement or co-production, thus also rejecting H6e and H7e. As

previously stated, there are different factors that can impact purchase intention such as attitude and trust (Hamari, 2015, pp. 301, 305-306; Chiu et al., 2009, p. 766). Additionally, studies have also found that regular participation in the community also has an impact on other behaviors such as co-production because these active members are already aware of the potential benefits of participation and that it enhances the experience, thus leading to more active participation (Fernandes & Remelhe, 2016, p. 322; Ghazali et al., 2019, pp. 653, 661). Therefore, there are also relationships between the different transmedia behaviors that were not explored in this study that could potentially have an influence on the resulting findings.

In contrast to affective character enjoyment, the results illustrated that cognitive character enjoyment did have a positive and moderately strong effect on community engagement and a positive and weak effect on co-production. Thus, corresponding to the expectations of H6f and H7f and previous literature regarding participation in communities being primarily motivated by the search for fun experiences with social or cognitive satisfaction (Afi & Ouiddad, 2021, pp. 379-380; Bilro & Loureiro, 2023, p. 71; Fernandes & Remelhe, 2016, p. 317). This primary motivation for participation can also explain the difference in impact of affective and cognitive character enjoyment. According to Afi and Ouiddad (2021, pp. 374, 379-380), hedonic motivations are comprised of enjoyment through helping others or altruism and through the process of solving challenges, which relate more with the cognitive dimension of enjoyment that involve judgements and personal evaluations than the affective dimension involving emotions (Nabi & Krcmar, 2004, pp. 292-297).

In short, the most important finding in this study was that PSR with Genshin Impact characters was found to have a direct or indirect effect on most of the studied transmedia behaviors, thus making PSR an important factor for transmedia characters to meet their goal of enticing consumers to engage in more transmedia behaviors. Additionally, depending on the behavior, this relationship can be influenced by the level of character enjoyment, especially cognitive character enjoyment as the findings illustrated that enjoyment was a mediator for the relationship between PSR and most of the studied transmedia behaviors. Therefore, a transmedia character should also be cognitively enjoyable in order to reach its goal in the transmedia approach. Another key finding was that none of the investigated concepts (i.e., recognizability, PSR and character enjoyment) had a significant impact on in-game purchase intention for the gacha game Genshin Impact. This contradicts previous literature from Woods (2022, pp. 10-13) regarding the role of PSR in player motivation to invest in the gacha system and depicts the complexities behind player intentions for investing in gacha games with other factors such as attitude and subjective norm potentially playing a more important role in in-game purchase intentions (Hamari, 2015, pp. 301, 305-306). Lastly, the final key finding of this study illustrates that recognizability with game characters may be more complex than with movie or show characters because of the additional affordances such as playstyle (Nguyen et al., 2023, section 3; Välisalo, 2023, p. 71). However, they also illustrate that attitudinal

recognizability, which has a positive relationship with both PSR and cognitive character enjoyment, may have further implications on the relationship between PSR, character enjoyment and by extension the transmedia behaviors.

5.2. Academic and practical implications

As the field of transmedia characters is still relatively new to academia, the findings of this study provided significant value to the field (Blom, 2023, p.12-13). This study has demonstrated that a character-driven approach to transmedia studies, through strategies such as the Tsuguhiko anime media mix, is a significant lens for the field. The findings illustrate that transmedia characters can play a key role in the success of transmedia strategies by increasing engagement with the different manifestations of the franchise such as merchandise and community participation (Steinberg, 2012, pp. 142, 148, 160). Additionally, the findings provide better insights into the mechanisms used by these characters, mainly the extent to which PSR with the character and cognitive enjoyment of the character shape their success in enticing more transmedia engagement in gacha games.

The findings also provide further support for the transmedia engagement model developed by Evans (2019, pp. 34-37). This model was developed to enable researchers to understand how transmedia engagement functioned as well as identify the elements of this engagement experience more precisely with four components. Based on this model, the three components of form, type and cost all have an impact on each other and together shape engagement experiences (Evans, 2019, pp. 34-37). Thus, PSR (i.e., the form of response), transmedia behaviors (i.e., the type of behavior) and character enjoyment (i.e., a portion of the cost) should share significant relationships with one another while character enjoyment also plays the role of a mediator. This was mostly reflected in the findings as PSR was found to have both a direct and indirect effect through primarily cognitive character enjoyment on the different transmedia behaviors.

Another implication for academia is in the field of game studies, specifically for gacha games. According to Woods (2022, pp. 10-13), because of strong relationships and affection players have for a character, they are more willing to invest into the gacha system for that character. However, the findings of this study illustrated that these investments may also happen beyond the gacha system in the form of merchandise and participation in the community related to the character or franchise. While the results of the study also contradicted the findings made by Woods (2022, p. 10-13) regarding the role of PSR as a motivator for investment in the gacha system, they did provide further insight into a potential reason behind the widespread success of gacha games such as Genshin Impact in the gaming market (GameRefinery, 2022, para. 1, 2; Lakić et al., 2023, pp. 1-2). Mainly, PSR with the game characters may motivate investment in the franchise as a whole.

Lastly for academic implications, it further expands the knowledge regarding the new construct recognizability. As a recently developed scale, recognizability required further exploration in terms of its relationship with other variables in different contexts (Żerebecki et al., in press, p. 19).

Therefore, this study provides insights into the impact of recognizability in the context of gacha game characters, which illustrated that developing a bond with game characters can be more complex potentially due to their additional affordances such as playstyle (Nguyen et al., 2023, section 3; Välisalo, 2023, p. 71). However, it also illustrated that attitudinal recognizability may play an integral role in the relationship between PSR, character enjoyment and by extension transmedia behaviors.

The study also provides value for the business perspective as the findings illustrated that characters are capable of driving transmedia strategies if done correctly. Strong relationships with characters can motivate players to invest into the franchise in the form of outside game purchase intention and participation in the community through enjoyment. While merchandise sales can directly increase revenue, community participation is also a valuable tool for companies as they provide different benefits including strengthening consumer relationships and gaining useful insight directly from consumers (Fernandes & Remelhe, 2016, p. 314; Nohutlu et al., 2022, pp. 632-633). Therefore, this study can be leveraged as an argument for utilizing characters in future transmedia strategies. Moreover, the findings also provide game developers with some guidance in terms of the elements that they would need to focus on in order for the transmedia character to succeed in enticing audiences. Based on the findings, if game developers want to utilize characters for transmedia strategies, they would need to place more attention and importance on the development of PSR with their game characters as well as developing characters that are enjoyable for the audience because it makes them think about and evaluate them based on their behaviors, decisions and morals throughout the game.

5.3. Strengths, limitations and future research

As with any research, this study had its share of limitations that need to be discussed. While the study did have a total of 210 participants from the Genshin Impact community from varying countries, these were mainly from the Western region of players. As mentioned in the sample description, this was expected as Reddit was used as the main channel for distribution, which is not the channel that the players of the Eastern region tend to use (Hammas & Bielawski, 2023, para. 2, 3, 7). A large portion of the Genshin Impact player base is from the Eastern region, which were not represented in this sample due to their use of other channels. Furthermore, while it was not the most important element for this study, the dispersion method of the survey (e.g., through a character specific Reddit channel) also skewed the data as that specific character from the Reddit was chosen more often than the rest. Therefore, these limitations make the findings less generalizable to the full Genshin Impact community, but also introduces and avenue for future research. Mainly, conducting this study again with the Eastern region player base or a more complete representation of the full player base.

Another limitation for this study was the exclusion of specific variables or relationships between variables that were found in previous research because of scope. As this study had limited time and resources, some elements needed to be cut in order to keep it within the realm of feasibility. This included cutting the contextual elements related to the cost component of the transmedia engagement model and excluding the receptive transmedia behaviors that audiences can engage in (Evans, 2019, pp. 52-52, 112-119, 125). As illustrated in the findings, every element used from the transmedia engagement model had a significant association with one another. Therefore, there is a possibility that contextual factors such as social and environmental dynamics also had significant relationships with the different behaviors or together with enjoyment, mediated the relationship between PSR and transmedia behaviors. Thus, including these contextual elements in future studies could provide more insight into the mechanisms behind engagement and their role in the success of transmedia characters.

Similarly, this study mainly focused on interactive behaviors due to scope and because these behaviors are preferred by transmedia practitioners as measurements for the success of a transmedia approach (Evans, 2019, p. 55-61). However, audiences can also engage in receptive behaviors (e.g., watching or reading reviews) and also tend to understand engagement with content as receptive behaviors (Evans, 2019, p. 74). Therefore, it could be that stronger PSR with a character does lead to more transmedia behaviors, but more in the receptive category. Therefore, future research can also include or focus on receptive behaviors in order to get a more complete picture of the impact of PSR with a character on transmedia engagement.

Lastly, as mentioned in the methodological section, there are also some research design limitations. The first limitation is that some of the scales were slightly adapted for this study by adjusting their Likert-scale sizes, which could impact the validity of the results. The second was the choice to focus solely on the Genshin Impact community, which can make the results not as generalizable to other games or other game genres besides gacha games.

Next to limitations, the research also introduced different directions for future research relating to transmedia characters, PSR with transmedia game characters and gacha game in-game purchase intention. Firstly, findings depicted a potential relationship between attitudinal recognizability, PSR and cognitive character enjoyment as attitudinal recognizability had a positive influence on both these variables. Therefore, future research can further investigate the impact of attitudinal recognizability on PSR and cognitive character enjoyment as well as potential implications for transmedia behaviors. This may provide more insight into the mechanisms behind a successful transmedia character.

Secondly, the findings of the fourth hypothesis contradict existing qualitative literature regarding relationships with characters being a motivator for spending in gacha games and opens an avenue for further research into the complexity of players spending behaviors in gacha games (Woods, 2022, pp. 10-13). According to Hamari (2015, pp.301, 305-306), attitude and subjective

norms play crucial roles in the virtual in-game purchase intention of players, especially in free-to-play game business models. Therefore, future research can expand on literature regarding the antecedents of in-game gacha purchase intentions by looking at variables such as attitude and subjective norm on top of other potential motivators used in this study such as PSR.

Lastly, previous literature also pointed at potential relationships between the different transmedia behaviors, especially between community engagement and co-production as well as the changing nature of the engagement behaviors (Evans, 2019, pp. 153, 172; Fernandes & Remelhe, 2016, p. 322; Ghazali et al., 2019, pp. 653, 661). Both theories can play a role in how PSR with a character impacts transmedia behaviors as both provide more insight into the different variables that make up the ability of transmedia characters to entice their audiences. Thus, further research could investigate these relationships by including the relationships between transmedia behaviors or by conducting a longitudinal survey on the impact of PSR on transmedia behaviors over a chosen period of time.

5.4. Answer to the research question

In a character-driven transmedia era, it has become important to understand the role of transmedia characters in the success of different transmedia strategies implemented by companies in order to increase revenue by enticing consumers to engage more with the franchise regardless of medium. Therefore, this study set out to answer the research question: *To what extent does the player's parasocial relationship with Genshin Impact game characters affect the success of Genshin Impact's transmedia practices by engaging players in more transmedia behaviors?*

The key findings of the study found that PSR had both a significant positive direct effect as well as a partially mediated positive indirect effect through cognitive character enjoyment on outside purchase intention. Additionally, PSR was also found to have fully mediated indirect effect through cognitive character enjoyment on both community engagement and co-production. Therefore, to answer the research question, a player's PSR with Genshin Impact characters has a direct and indirect effect through cognitive character enjoyment on their transmedia behaviors. In other words, strong relationships between the player and in-game transmedia characters in Genshin Impact can entice these players to engage in more transmedia behaviors, which includes investing in merchandise, participating in the Genshin Impact community and producing content in relation to the game. Thus, transmedia characters can positively affect the success of these transmedia strategies and therefore, should also be considered as a potential approach for companies in future transmedia endeavors as well as a more prominent field of interest in transmedia literature.

5.5. Conclusion

Through the lens of the Tsuguhiko anime media mix, where characters are the focal point of transmedia expansions, the research began with extensive literature review on the different concepts

of recognizability, PSR, character enjoyment and transmedia behaviors which led to the development of a conceptual framework with nine hypotheses. This framework utilized the transmedia engagement model as the foundation for understanding the different concepts involved in engagement and expanded upon it with recognizability as a potential antecedent. Afterwards, data was collected through a quantitative survey and later analyzed with various multiple and hierarchical linear regression analyses as well as mediation analyses, which allowed the study to thoroughly investigate the relationships between the chosen constructs.

All in all, based on the literature review and findings of the research, this study firstly illustrated that transmedia characters can entice players to engage more with the franchise through their PSR and enjoyment of the character in the case of Genshin Impact. Thus, these characters can play an important role in the success of transmedia practices and should be taken into consideration when studying transmedia or planning a transmedia business strategy. Secondly, the study also illustrated that transmedia characters may be playing a role in the success of gacha games such as Genshin Impact as they entice players to engage with the franchise beyond only in-game investments, which also needs further research in regards to the motivations behind them beyond PSR. Finally, the study also showed that games bring many affordances and complexities that can impact different concepts such as recognizability and PSR. Therefore, there is still research to be done in the field of games, transmedia characters and transmedia practices in order to get a clearer understanding of how these concepts work and relate to one another in game franchises.

6. References

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Appendix A: Survey

Master thesis- Genshin Impact survey

Start of Block: Consent

Introduction Hello and welcome to my survey!

I am a Master's student in the program Media & Business at Erasmus University and I am currently writing my Master's thesis, which is a case study on the game Genshin Impact. It is about how a player's favorite Genshin Impact character effects their transmedial (outside of the game) behaviors towards the game.

During the survey you will be asked to answer questions about your relationship with the game, your favorite character and relationship with that character, and your behaviors both in and outside of the game. The survey will end with some final questions about yourself. There are no right or wrong answers and your responses are highly appreciated.

The research form is completely anonymous and all data will remain confidential. The data collected is intended solely for research purposes related to my Master thesis, will be stored safely and will not be shared with third parties.

To finish this survey, you need approximately **10 minutes**. Note that participation is completely voluntary and you can, at any moment in time and for any reason, decide to withdraw your participation. In order to participate in the survey, you need to be **at least 18 years** old. If you have any questions, feel free to email me at FavCharacterImpact@gmail.com.

Consent By clicking the "I consent" button, you acknowledge that you understand the information above, that you are at least 18 years old and that you consent to willingly participating in this study.

- I consent (1)
- I do not consent (2)

Skip To: End of Survey If Consent = I do not consent

End of Block: Consent

Start of Block: Plays the game

Play.Genshin Do you play the game Genshin Impact?

- Yes, I actively play the game (1)
- Yes, but on-and-off (2)
- No, I do not play the game (3)

Skip To: End of Survey If Play.Genshin = No, I do not play the game

End of Block: Plays the game

Start of Block: Genshin Impact information

Playstyle.Genshin Which of the following playstyle resonates most with the way you like to play Genshin Impact?

- Competitive-oriented playstyle:** Mainly focusses on progressing the game and building the most suitable teams to progress in the game (including spiral abyss). (1)
- Character-oriented playstyle:** Mainly playing for the characters and engaging with the game for specific characters. (2)

TimePlaying.Genshin How long have you been playing Genshin Impact (in years)?

End of Block: Genshin Impact information

Start of Block: Favorite character

Intro.roster.view Genshin Impact currently (March 2024) has 81 playable characters available. In the following section you will be asked to perform the most difficult task in this survey:

Picking your favorite playable character from this roster.

But first, would you like to brush up on all the playable characters available?

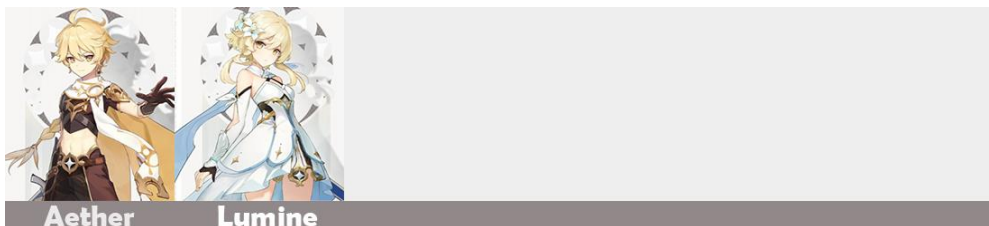
- Yes, I would like to look at the character roster (1)
- No, I already know who my favorite character is (2)

Skip To: Favoritecharacter If Intro.roster.view = No, I already know who my favorite character is

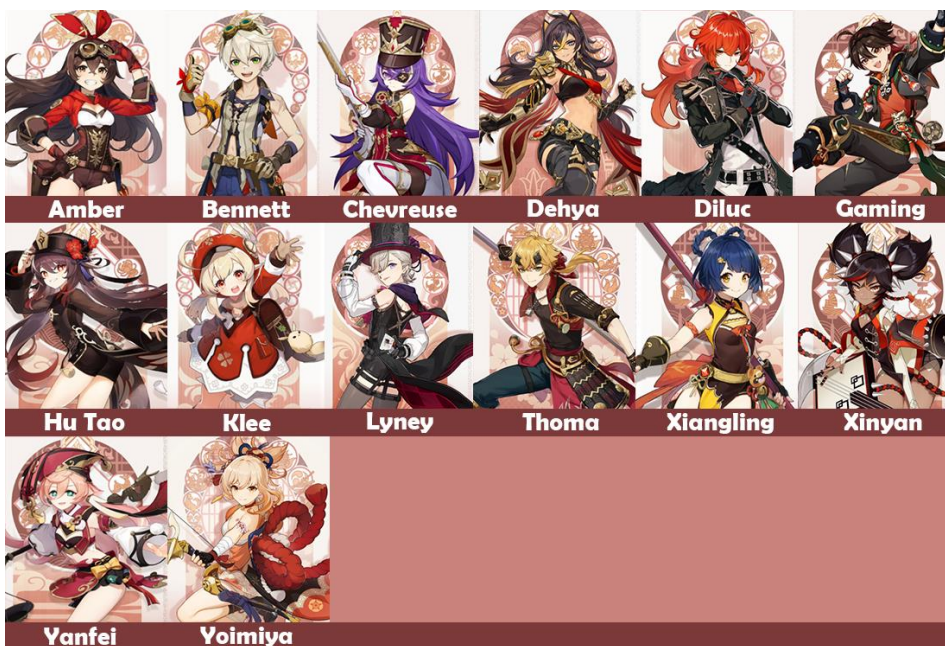
Preview intro The following page will show every playable Genshin Impact currently available (March 2024) organized as following: Travelers, Pyro, Hydro, Anemo, Electro, Dendro, Cryo, and Geo.

Once you are done going through the roster, click the next (right arrow) button to take on the challenge of choosing your favorite character from this roster.

character overview 1 Travelers



character overview 2 Pyro characters



character overview 3 Hydro characters



character overview 4 Anemo characters



character overview 5 Electro characters



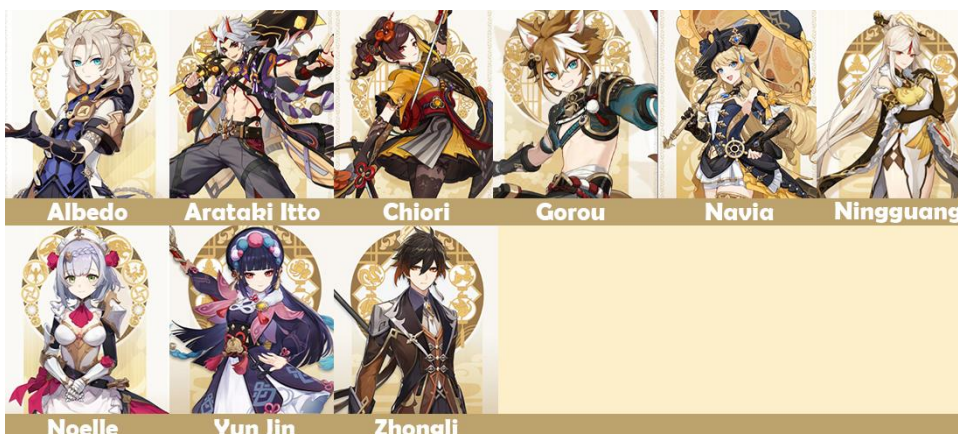
character overview 6 Dendro characters



character overview 7 Cryo characters



character overview 8 Geo characters



Favoritecharacter Who is your favorite Genshin Impact character?

▼ Aether (Male traveler) (1) ... Zhongli (81)

End of Block: Favorite character

Start of Block: Recognizability

Personality.recog The following statements are about your sense of familiarity with $\{Favoritecharacter/ChoiceGroup/SelectedChoices\}$.

Please indicate to what degree you agree with the following statements.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I recognize the personality traits of $\{Favoritecharacter/ChoiceGroup/SelectedChoices\}$ as traits that I have. (1)	1	2	3	4	5	6	7
I recognize the weaknesses of $\{Favoritecharacter/ChoiceGroup/SelectedChoices\}$ as weaknesses that I have. (2)	1	2	3	4	5	6	7
I recognize myself in $\{Favoritecharacter/ChoiceGroup/SelectedChoices\}$. (3)	1	2	3	4	5	6	7
I recognize the strengths of $\{Favoritecharacter/ChoiceGroup/SelectedChoices\}$ as strengths that I have. (4)	1	2	3	4	5	6	7
I recognize the behaviors of $\{Favoritecharacter/ChoiceGroup/SelectedChoices\}$ as behaviors that I could show. (5)	1	2	3	4	5	6	7

Situation.recog Please indicate to what degree you agree with the following statements

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I recognize the situations that $\{\text{Favoritecharacter/ChoiceGroup/SelectedChoices}\}$ encounters as situations that could also happen to me. (1)	1	2	3	4	5	6	7
I recognize the past experiences of $\{\text{Favoritecharacter/ChoiceGroup/SelectedChoices}\}$ as similar to my past experiences. (2)	1	2	3	4	5	6	7
I recognize the problems that $\{\text{Favoritecharacter/ChoiceGroup/SelectedChoices}\}$ has as the problems that I could have. (3)	1	2	3	4	5	6	7
I recognize the places, in which I see $\{\text{Favoritecharacter/ChoiceGroup/SelectedChoices}\}$ as the places I could be in. (4)	1	2	3	4	5	6	7
I recognize my life in the life of $\{\text{Favoritecharacter/ChoiceGroup/SelectedChoices}\}$. (5)	1	2	3	4	5	6	7
I recognize the topics that $\{\text{Favoritecharacter/ChoiceGroup/SelectedChoices}\}$ discusses with others as the topics I could discuss with other people in my life. (6)	1	2	3	4	5	6	7
I recognize the life changes $\{\text{Favoritecharacter/ChoiceGroup/SelectedChoices}\}$ experiences as life changes that could happen to me. (7)	1	2	3	4	5	6	7

Attitude.recog Please indicate to what degree you agree with the following statements.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I recognize \${Favoritecharacter/ChoiceGroup/SelectedChoices} 's approach to life as an approach to life that I have. (1)	1	2	3	4	5	6	7
I recognize \${Favoritecharacter/ChoiceGroup/SelectedChoices} 's opinions about what is good and bad as opinions I have. (2)	1	2	3	4	5	6	7
I recognize the solutions to problems of \${Favoritecharacter/ChoiceGroup/SelectedChoices} as solutions I could follow. (3)	1	2	3	4	5	6	7
I recognize \${Favoritecharacter/ChoiceGroup/SelectedChoices} 's opinions about other people as opinions I have. (4)	1	2	3	4	5	6	7
I recognize the thought processes before decisions of \${Favoritecharacter/ChoiceGroup/SelectedChoices} as thought processes I have. (5)	1	2	3	4	5	6	7
I recognize \${Favoritecharacter/ChoiceGroup/SelectedChoices} 's opinions about social problems as opinions I have. (6)	1	2	3	4	5	6	7
I recognize the decisions of \${Favoritecharacter/ChoiceGroup/SelectedChoices} as decisions that I could make. (7)	1	2	3	4	5	6	7
I recognize the reactions to stressful situations of \${Favoritecharacter/ChoiceGroup/SelectedChoices} as reactions that I could	1	2	3	4	5	6	7

have. (8)							
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End of Block: Recognizability

Start of Block: Parasocial relationship

ParasocialRelations The following statements are about the relationship you have with $\{Favoritecharacter/ChoiceGroup/SelectedChoices\}$.

Please state to what degree you agree with the following statements

	Very strongly disagree	Strongly Disagree	Disagree	Some what disagree	Neither agree nor disagree	Some what agree	Agree	Strongly agree	Very strongly agree
I like to imagine $\{Favoritecharacter/ChoiceGroup/SelectedChoices\}$ as someone I know personally. (1)	1	2	3	4	5	6	7	8	9
I often feel like $\{Favoritecharacter/ChoiceGroup/SelectedChoices\}$ is someone I know and care about. (2)	1	2	3	4	5	6	7	8	9
I like to talk to others about what $\{Favoritecharacter/ChoiceGroup/SelectedChoices\}$ is like as a person. (3)	1	2	3	4	5	6	7	8	9
Seeing $\{Favoritecharacter/ChoiceGroup/SelectedChoices\}$ is like seeing a good friend. (4)	1	2	3	4	5	6	7	8	9
I like to talk to talk to others about what we would have done if we were $\{Favoritecharacter/ChoiceGroup/SelectedChoices\}$. (5)	1	2	3	4	5	6	7	8	9
I'm often fascinated by $\{Favoritecharacter/ChoiceGroup/SelectedChoices\}$ as a person. (6)	1	2	3	4	5	6	7	8	9

End of Block: Parasocial relationship

Start of Block: Enjoyment

Affective.enjoy The following statements are about your enjoyment of playing the game as $\${Favoritecharacter/ChoiceGroup/SelectedChoices}$.

Please state to what degree you agree with the following statements

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
I enjoyed playing Genshin Impact as $\${Favoritecharacter/ChoiceGroup/SelectedChoices}$. (1)	1	2	3	4	5
I liked playing Genshin Impact as $\${Favoritecharacter/ChoiceGroup/SelectedChoices}$. (2)	1	2	3	4	5
I had a good time playing Genshin Impact as $\${Favoritecharacter/ChoiceGroup/SelectedChoices}$. (3)	1	2	3	4	5
It made me happy to play Genshin Impact as $\${Favoritecharacter/ChoiceGroup/SelectedChoices}$. (4)	1	2	3	4	5
I would not recommend playing Genshin Impact as $\${Favoritecharacter/ChoiceGroup/SelectedChoices}$ to others. (5)	1	2	3	4	5
I felt good playing Genshin Impact as $\${Favoritecharacter/ChoiceGroup/SelectedChoices}$. (6)	1	2	3	4	5
Playing Genshin Impact as $\${Favoritecharacter/ChoiceGroup/SelectedChoices}$ is entertaining. (7)	1	2	3	4	5

I would like to play Genshin Impact as other characters that are similar to $\S\{\text{Favoritecharacter/ChoiceGroup/SelectedChoices}\}$. (8)	1	2	3	4	5
Playing Genshin Impact as $\S\{\text{Favoritecharacter/ChoiceGroup/SelectedChoices}\}$ is exciting. (9)	1	2	3	4	5

Cognitive.enjoy Please state to what degree you agree with the following statements.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
I would like to analyze $\S\{\text{Favoritecharacter/ChoiceGroup/SelectedChoices}\}$ as a character. (1)	1	2	3	4	5
I would like to talk about $\S\{\text{Favoritecharacter/ChoiceGroup/SelectedChoices}\}$ with other people. (2)	1	2	3	4	5
I really thought about $\S\{\text{Favoritecharacter/ChoiceGroup/SelectedChoices}\}$ when playing Genshin Impact. (3)	1	2	3	4	5
I would like to seek out additional information about $\S\{\text{Favoritecharacter/ChoiceGroup/SelectedChoices}\}$. (4)	1	2	3	4	5
I would replay Genshin Impact as $\S\{\text{Favoritecharacter/ChoiceGroup/SelectedChoices}\}$. (5)	1	2	3	4	5
$\S\{\text{Favoritecharacter/ChoiceGroup/SelectedChoices}\}$ made me think. (6)	1	2	3	4	5

End of Block: Enjoyment

Start of Block: Transmedia behaviors

Inpurchint.behavior The following statements are about your purchasing behaviors related to Genshin Impacts.

Please state to what degree you agree with the following statements.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
I intend to purchase in-game virtual items in Genshin Impact. (1)	1	2	3	4	5
My willingness to buy in-game virtual items in Genshin Impact is high. (2)	1	2	3	4	5
The likelihood that I would purchase in-game virtual items in Genshin Impact is high. (3)	1	2	3	4	5

outpurchint.behavior Please state to what degree you agree with the following statements.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
I intend to purchase out of game Genshin Impact associated items such as merchandise. (1)	1	2	3	4	5
My willingness to buy out of game Genshin Impact associated items such as merchandise is high. (2)	1	2	3	4	5
The likelihood of me purchasing out of game Genshin Impact associated items such as merchandise is high. (3)	1	2	3	4	5

community.behavior The following statements are about your community engagement behaviors related to Genshin Impacts.

Please state to what degree you agree with the following statements.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
Exchanging opinions with members of the Genshin impact community is important to me. (1)	1	2	3	4	5
I expect that I will continuously participate in Genshin Impact community activities. (2)	1	2	3	4	5
I am an actively participating member of the Genshin Impact community. (3)	1	2	3	4	5

Page Break

coproduce.behavior The following statements are about your content co-production behaviors related to Genshin Impacts.

Please state to what degree you agree with the following statements.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
I enjoy suggesting new ideas for the Genshin Impact game, products and service designs. (1)	1	2	3	4	5
I like suggesting my opinions on the Genshin Impact game and product development. (2)	1	2	3	4	5
I enjoy participating in customer research for the Genshin Impact game improvements. (3)	1	2	3	4	5

I like providing my opinion on problems and improvements for Genshin Impact. (4)	1	2	3	4	5
--	---	---	---	---	---

End of Block: Transmedia behaviors

Start of Block: Demographics

Gender What gender do you identify as?

- Male (1)
- Female (2)
- Non-binary / Third gender (3)
- Other (4)
- Prefer not to say (5)

Age What is your age in years?

country What is your country of origin?

▼ Afghanistan (1) ... Zimbabwe (1357)

education What is the highest level of education that you have completed?

- Primary education (1)
 - Secondary education (2)
 - Bachelor's or equivalent level (3)
 - Master's or equivalent level (4)
 - Doctoral or equivalent level (5)
 - Other (6) _____
-

HoursPlayed How many hours do you spent playing games a week?

PreferredGenre What is you preferred type of games to play? (multiple answers possible)

- Action/ Adventure games (1)
- Sports games (2)
- Role-playing games (3)
- Strategy games (4)
- Simulation games (5)
- Puzzle games (6)
- Shooter games (7)
- Racing games (8)
- Fighting games (9)

Appendix B: SPSS outputs
B.1. Filtering/ cleaning outputs

Finished

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	False	84	27.3	27.3	27.3
	True	224	72.7	72.7	100.0
	Total	308	100.0	100.0	

By clicking the "I consent" button, you acknowledge that you understand the information above, that you are at least 18 years old and that you consent to willingly participating in this study.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I consent	306	99.4	99.4	99.4
	I do not consent	2	.6	.6	100.0
	Total	308	100.0	100.0	

Do you play the game Genshin Impact?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes, I actively play the game	232	75.3	76.8	76.8
	Yes, but on-and-off	64	20.8	21.2	98.0
	No, I do not play the game	6	1.9	2.0	100.0
	Total	302	98.1	100.0	
Missing	System	6	1.9		
Total		308	100.0		

Statistics

What is your age in years?

N	Valid	212
	Missing	4
Mean		24.83
Median		23.00
Std. Deviation		6.656

What is your age in years?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	13	1	.3	.5	.5
	17	1	.3	.5	.9
	18	26	8.4	12.3	13.2
	19	20	6.5	9.4	22.6
	20	20	6.5	9.4	32.1
	21	14	4.5	6.6	38.7
	22	12	3.9	5.7	44.3
	23	19	6.2	9.0	53.3
	24	12	3.9	5.7	59.0
	25	13	4.2	6.1	65.1
	26	14	4.5	6.6	71.7
	27	5	1.6	2.4	74.1
	28	6	1.9	2.8	76.9
	29	6	1.9	2.8	79.7
	30	6	1.9	2.8	82.5
	31	3	1.0	1.4	84.0
	32	3	1.0	1.4	85.4
	33	7	2.3	3.3	88.7
	34	1	.3	.5	89.2
	35	3	1.0	1.4	90.6
	36	5	1.6	2.4	92.9
	37	5	1.6	2.4	95.3
	39	1	.3	.5	95.8
	40	1	.3	.5	96.2
41	3	1.0	1.4	97.6	
42	1	.3	.5	98.1	
44	1	.3	.5	98.6	
45	1	.3	.5	99.1	
50	2	.6	.9	100.0	
	Total	212	68.8	100.0	
Missing	System	96	31.2		
Total		308	100.0		

B.2. Sample description and data statistics

What gender do you identify as?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	58	27.6	27.6	27.6
	Female	107	51.0	51.0	78.6
	Non-binary / Third gender	35	16.7	16.7	95.2
	Other	1	.5	.5	95.7
	Prefer not to say	9	4.3	4.3	100.0
	Total	210	100.0	100.0	

Statistics

What is your age in years?

N	Valid	210
	Missing	0
Mean		24.92
Std. Deviation		6.615
Minimum		18
Maximum		50

What is the highest level of education that you have completed? - Selected Choice

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Primary education	4	1.9	1.9	1.9
	Secondary education	87	41.4	41.6	43.5
	Bachelor's or equivalent level	81	38.6	38.8	82.3
	Master's or equivalent level	32	15.2	15.3	97.6
	Doctoral or equivalent level	3	1.4	1.4	99.0
	Other	2	1.0	1.0	100.0
	Total	209	99.5	100.0	
Missing	System	1	.5		
Total		210	100.0		

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
How many hours do you spent playing games a week?	194	1	63	17.52	12.090
Valid N (listwise)	194				

List of Countries

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Albania	1	.5	.5	.5
	Argentina	2	1.0	1.0	1.4
	Australia	3	1.4	1.4	2.9
	Belgium	1	.5	.5	3.4
	Brazil	2	1.0	1.0	4.3
	Bulgaria	1	.5	.5	4.8
	Canada	13	6.2	6.3	11.1
	Chile	1	.5	.5	11.5
	China	2	1.0	1.0	12.5
	Costa Rica	1	.5	.5	13.0
	Croatia	1	.5	.5	13.5
	Czech Republic	2	1.0	1.0	14.4
	Denmark	2	1.0	1.0	15.4
	Finland	2	1.0	1.0	16.3
	France	3	1.4	1.4	17.8
	Germany	23	11.0	11.1	28.8
	Greece	2	1.0	1.0	29.8
	Hungary	1	.5	.5	30.3
	India	4	1.9	1.9	32.2
	Indonesia	5	2.4	2.4	34.6
	Iran	1	.5	.5	35.1
	Italy	11	5.2	5.3	40.4
	Kyrgyzstan	1	.5	.5	40.9
	Libyan Arab Jamahiriya	1	.5	.5	41.3
	Malaysia	3	1.4	1.4	42.8
	Mexico	3	1.4	1.4	44.2
	Netherlands	16	7.6	7.7	51.9
	New Zealand	1	.5	.5	52.4
	Norway	1	.5	.5	52.9
	Philippines	9	4.3	4.3	57.2
	Poland	8	3.8	3.8	61.1
	Portugal	1	.5	.5	61.5
	Romania	3	1.4	1.4	63.0
Russian Federation	3	1.4	1.4	64.4	
Singapore	4	1.9	1.9	66.3	
South Africa	1	.5	.5	66.8	
Spain	1	.5	.5	67.3	
Sweden	2	1.0	1.0	68.3	
Switzerland	2	1.0	1.0	69.2	
Turkey	1	.5	.5	69.7	
United Kingdom of Great Britain and Northern Ireland	4	1.9	1.9	71.6	
United States of America	50	23.8	24.0	95.7	
Viet Nam	2	1.0	1.0	96.6	
1358	7	3.3	3.4	100.0	
Total		208	99.0	100.0	
Missing	System	2	1.0		
Total		210	100.0		

What is you preferred type of games to play? (multiple answers possible)
Action/ Adventure games

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Action/ Adventure games	152	72.4	100.0	100.0
Missing	System	58	27.6		
Total		210	100.0		

What is you preferred type of games to play? (multiple answers possible) Sports games

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Sports games	4	1.9	100.0	100.0
Missing	System	206	98.1		
Total		210	100.0		

What is you preferred type of games to play? (multiple answers possible) Role-playing games

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Role-playing games	179	85.2	100.0	100.0
Missing	System	31	14.8		
Total		210	100.0		

What is you preferred type of games to play? (multiple answers possible) Strategy games

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strategy games	78	37.1	100.0	100.0
Missing	System	132	62.9		
Total		210	100.0		

What is you preferred type of games to play? (multiple answers possible) Simulation games

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Simulation games	91	43.3	100.0	100.0
Missing	System	119	56.7		
Total		210	100.0		

What is you preferred type of games to play? (multiple answers possible) Puzzle games

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Puzzle games	83	39.5	100.0	100.0
Missing	System	127	60.5		
Total		210	100.0		

What is your preferred type of games to play? (multiple answers possible) Shooter games

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Shooter games	38	18.1	100.0	100.0
Missing	System	172	81.9		
Total		210	100.0		

What is your preferred type of games to play? (multiple answers possible) Racing games

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Racing games	11	5.2	100.0	100.0
Missing	System	199	94.8		
Total		210	100.0		

What is your preferred type of games to play? (multiple answers possible) Fighting games

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fighting games	47	22.4	100.0	100.0
Missing	System	163	77.6		
Total		210	100.0		

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
How long have you been playing Genshin Impact (in years)?	133	1	3	2.50	.735
Valid N (listwise)	133				

Which of the following playstyle resonates most with the way you like to play Genshin Impact?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Competitive-oriented playstyle: Mainly focusses on progressing the game and building the most suitable teams to progress in the game (including spiral abyss).	55	26.2	28.1	28.1
	Character-oriented playstyle: Mainly playing for the characters and engaging with the game for specific characters.	141	67.1	71.9	100.0
	Total	196	93.3	100.0	
Missing	System	14	6.7		
Total		210	100.0		

B.3. Factor analysis Recognizability

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.927
Bartlett's Test of Sphericity	Approx. Chi-Square	2269.354
	df	190
	Sig.	.000

Rotated Component Matrix^a

	Component		
	1	2	3
(AR2) Please indicate to what degree you agree with the following statements. - I recognize [QID12-ChoiceGroup-SelectedChoices]'s opinions about what is good and bad as opinions I have.	.786		
(AR4) Please indicate to what degree you agree with the following statements. - I recognize [QID12-ChoiceGroup-SelectedChoices]'s opinions about other people as opinions I have.	.754		
(AR3) Please indicate to what degree you agree with the following statements. - I recognize the solutions to problems of [QID12-ChoiceGroup-SelectedChoices] as solutions I could follow.	.734		.360

(AR7) Please indicate to what degree you agree with the following statements. - I recognize the decisions of [QID12-ChoiceGroup-SelectedChoices] as decisions that I could make.	.717		
(AR6) Please indicate to what degree you agree with the following statements. - I recognize [QID12-ChoiceGroup-SelectedChoices]'s opinions about social problems as opinions I have.	.662	.378	
(AR5) Please indicate to what degree you agree with the following statements. - I recognize the thought processes before decisions of [QID12-ChoiceGroup-SelectedChoices] as thought processes I have.	.519	.508	
(SR6) Please indicate to what degree you agree with the following statements. - I recognize the topics that [QID12-ChoiceGroup-SelectedChoices] discusses with others as the topics I could discuss with other people in my life.	.409	.324	

(PR1) The following statements are about your sense of familiarity with [QID12-ChoiceGroup-SelectedChoices]. Please indicate to what degree you agree with the following statements. - I recognize the personality traits of [QID12-ChoiceGroup-SelectedChoices]		.815	
(PR3) The following statements are about your sense of familiarity with [QID12-ChoiceGroup-SelectedChoices]. Please indicate to what degree you agree with the following statements. - I recognize myself in [QID12-ChoiceGroup-SelectedChoices].		.761	.452
(PR5) The following statements are about your sense of familiarity with [QID12-ChoiceGroup-SelectedChoices]. Please indicate to what degree you agree with the following statements. - I recognize the behaviors of [QID12-ChoiceGroup-SelectedChoices] as beha	.339	.631	

(PR2) The following statements are about your sense of familiarity with [QID12-ChoiceGroup-SelectedChoices]. Please indicate to what degree you agree with the following statements. - I recognize the weaknesses of [QID12-ChoiceGroup-SelectedChoices] as wea		.621	.373
(PR4) The following statements are about your sense of familiarity with [QID12-ChoiceGroup-SelectedChoices]. Please indicate to what degree you agree with the following statements. - I recognize the strengths of [QID12-ChoiceGroup-SelectedChoices] as stre		.581	.399
(AR1) Please indicate to what degree you agree with the following statements. - I recognize [QID12-ChoiceGroup-SelectedChoices]'s approach to life as an approach to life that I have.	.437	.532	
(SR2) Please indicate to what degree you agree with the following statements. - I recognize the past experiences of [QID12-ChoiceGroup-SelectedChoices] as similar to my past experiences.			.754

(SR3) Please indicate to what degree you agree with the following statements. - I recognize the problems that [QID12-ChoiceGroup-SelectedChoices] has as the problems that I could have.			.747
(SR1) Please indicate to what degree you agree with the following statements. - I recognize the situations that [QID12-ChoiceGroup-SelectedChoices] encounters as situations that could also happen to me.			.703
(SR5) Please indicate to what degree you agree with the following statements. - I recognize my life in the life of [QID12-ChoiceGroup-SelectedChoices].		.476	.625
(SR4) Please indicate to what degree you agree with the following statements. - I recognize the places, in which I see [QID12-ChoiceGroup-SelectedChoices] as the places I could be in.	.330		.548
(SR7) Please indicate to what degree you agree with the following statements. - I recognize the life changes [QID12-ChoiceGroup-SelectedChoices] experiences as life changes that could happen to me.	.307	.338	.539

(AR8) Please indicate to what degree you agree with the following statements. - I recognize the reactions to stressful situations of [QID12-ChoiceGroup-SelectedChoices] as reactions that I could have.	.370	.371	.372
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Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

B.4. Reliability analysis- Attitudinal recognizability

Reliability Statistics

Cronbach's Alpha	N of Items
.869	8

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
(SR6) Please indicate to what degree you agree with the following statements. - I recognize the topics that [QID12-ChoiceGroup-SelectedChoices] discusses with others as the topics I could discuss with other people in my life.	31.57	67.638	.487	.869
(AR2) Please indicate to what degree you agree with the following statements. - I recognize [QID12-ChoiceGroup-SelectedChoices]'s opinions about what is good and bad as opinions I have.	31.07	67.387	.586	.857
(AR3) Please indicate to what degree you agree with the following statements. - I recognize the solutions to problems of [QID12-ChoiceGroup-SelectedChoices] as solutions I could follow.	31.60	63.845	.692	.845
(AR4) Please indicate to what degree you agree with the following statements. - I recognize [QID12-ChoiceGroup-SelectedChoices]'s opinions about other people as opinions I have.	31.09	67.059	.628	.853
(AR5) Please indicate to what degree you agree with the following statements. - I recognize the thought processes before decisions of [QID12-ChoiceGroup-SelectedChoices] as thought processes I have.	31.46	65.023	.648	.850
(AR6) Please indicate to what degree you agree with the following statements. - I recognize [QID12-ChoiceGroup-SelectedChoices]'s opinions about social problems as opinions I have.	31.29	64.293	.698	.845
(AR7) Please indicate to what degree you agree with the following statements. - I recognize the decisions of [QID12-ChoiceGroup-SelectedChoices] as decisions that I could make.	31.32	63.157	.749	.839
(AR8) Please indicate to what degree you agree with the following statements. - I recognize the reactions to stressful situations of [QID12-ChoiceGroup-SelectedChoices] as reactions that I could have.	31.36	65.003	.533	.865

B.5. Reliability analysis- Personality recognizability

Reliability Statistics

Cronbach's Alpha	N of Items
.866	6

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
(PR1) The following statements are about your sense of familiarity with [QID12-ChoiceGroup-SelectedChoices]. Please indicate to what degree you agree with the following statements. - I recognize the personality traits of [QID12-ChoiceGroup-SelectedChoices]	20.94	44.170	.740	.830
(PR2) The following statements are about your sense of familiarity with [QID12-ChoiceGroup-SelectedChoices]. Please indicate to what degree you agree with the following statements. - I recognize the weaknesses of [QID12-ChoiceGroup-SelectedChoices] as wea	20.81	45.681	.615	.852
(PR3) The following statements are about your sense of familiarity with [QID12-ChoiceGroup-SelectedChoices]. Please indicate to what degree you agree with the following statements. - I recognize myself in [QID12-ChoiceGroup-SelectedChoices].	21.14	42.139	.770	.823
(PR4) The following statements are about your sense of familiarity with [QID12-ChoiceGroup-SelectedChoices]. Please indicate to what degree you agree with the following statements. - I recognize the strengths of [QID12-ChoiceGroup-SelectedChoices] as stre	21.50	47.520	.623	.850
(PR5) The following statements are about your sense of familiarity with [QID12-ChoiceGroup-SelectedChoices]. Please indicate to what degree you agree with the following statements. - I recognize the behaviors of [QID12-ChoiceGroup-SelectedChoices] as beha	20.82	45.137	.633	.849
(AR1) Please indicate to what degree you agree with the following statements. - I recognize [QID12-ChoiceGroup-SelectedChoices]'s approach to life as an approach to life that I have.	20.74	46.320	.599	.855

B.6. Reliability analysis- Situational recognizability

Reliability Statistics

Cronbach's Alpha	N of Items
.848	6

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
(SR1) Please indicate to what degree you agree with the following statements. - I recognize the situations that [QID12-ChoiceGroup-SelectedChoices] encounters as situations that could also happen to me.	17.62	41.967	.699	.810
(SR2) Please indicate to what degree you agree with the following statements. - I recognize the past experiences of [QID12-ChoiceGroup-SelectedChoices] as similar to my past experiences.	17.67	43.438	.627	.824
(SR3) Please indicate to what degree you agree with the following statements. - I recognize the problems that [QID12-ChoiceGroup-SelectedChoices] has as the problems that I could have.	16.52	42.483	.677	.814
(SR4) Please indicate to what degree you agree with the following statements. - I recognize the places, in which I see [QID12-ChoiceGroup-SelectedChoices] as the places I could be in.	17.18	46.768	.498	.848
(SR5) Please indicate to what degree you agree with the following statements. - I recognize my life in the life of [QID12-ChoiceGroup-SelectedChoices].	17.64	43.285	.706	.810
(SR7) Please indicate to what degree you agree with the following statements. - I recognize the life changes [QID12-ChoiceGroup-SelectedChoices] experiences as life changes that could happen to me.	16.83	44.788	.584	.832

B.7. Factor analysis- Parasocial relationships

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.819
Bartlett's Test of Sphericity	Approx. Chi-Square	603.793
	df	15
	Sig.	<.,001

Component Matrix^a

	Component 1
(PSR4) The following statements are about the relationship you have with [QID12-ChoiceGroup-SelectedChoices]. Please state to what degree you agree with the following statements. - Seeing [QID12-ChoiceGroup-SelectedChoices] is like seeing a good friend.	.863
(PSR2) The following statements are about the relationship you have with [QID12-ChoiceGroup-SelectedChoices]. Please state to what degree you agree with the following statements. - I often feel like [QID12-ChoiceGroup-SelectedChoices] is someone I know an	.850
(PSR3) The following statements are about the relationship you have with [QID12-ChoiceGroup-SelectedChoices]. Please state to what degree you agree with the following statements. - I like to talk to others about what [QID12-ChoiceGroup-SelectedChoices] is	.774

<p>(PSR1) The following statements are about the relationship you have with [QID12-ChoiceGroup-SelectedChoices]. Please state to what degree you agree with the following statements. - I like to imagine [QID12-ChoiceGroup-SelectedChoices] as someone I know pe</p>	<p>.774</p>
<p>(PSR6) The following statements are about the relationship you have with [QID12-ChoiceGroup-SelectedChoices]. Please state to what degree you agree with the following statements. - I'm often fascinated by [QID12-ChoiceGroup-SelectedChoices] as a person.</p>	<p>.713</p>
<p>(PSR5) The following statements are about the relationship you have with [QID12-ChoiceGroup-SelectedChoices]. Please state to what degree you agree with the following statements. - I like to talk to talk to others about what we would have done if we were</p>	<p>.619</p>

Extraction Method: Principal Component Analysis.
a. 1 components extracted.

B.8. Reliability analysis- Parasocial relationships

Reliability Statistics

Cronbach's Alpha	N of Items
.860	6

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
(PSR1) The following statements are about the relationship you have with [QID12-ChoiceGroup-SelectedChoices]. Please state to what degree you agree with the following statements. - I like to imagine [QID12-ChoiceGroup-SelectedChoices] as someone I know pe	28.07	78.273	.652	.837
(PSR2) The following statements are about the relationship you have with [QID12-ChoiceGroup-SelectedChoices]. Please state to what degree you agree with the following statements. - I often feel like [QID12-ChoiceGroup-SelectedChoices] is someone I know an	27.86	76.525	.753	.816
(PSR3) The following statements are about the relationship you have with [QID12-ChoiceGroup-SelectedChoices]. Please state to what degree you agree with the following statements. - I like to talk to others about what [QID12-ChoiceGroup-SelectedChoices] is	27.96	78.204	.657	.836
(PSR4) The following statements are about the relationship you have with [QID12-ChoiceGroup-SelectedChoices]. Please state to what degree you agree with the following statements. - Seeing [QID12-ChoiceGroup-SelectedChoices] is like seeing a good friend.	27.25	77.479	.770	.814
(PSR5) The following statements are about the relationship you have with [QID12-ChoiceGroup-SelectedChoices]. Please state to what degree you agree with the following statements. - I like to talk to talk to others about what we would have done if we were	29.80	90.072	.499	.861
(PSR6) The following statements are about the relationship you have with [QID12-ChoiceGroup-SelectedChoices]. Please state to what degree you agree with the following statements. - I'm often fascinated by [QID12-ChoiceGroup-SelectedChoices] as a person.	26.21	89.516	.589	.848

B.9. Factor analysis- Character enjoyment

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.886
Bartlett's Test of Sphericity	Approx. Chi-Square	1845.476
	df	105
	Sig.	.000

Rotated Component Matrix^a

	Component	
	1	2
(AE3) The following statements are about your enjoyment of playing the game as [QID12-ChoiceGroup-SelectedChoices]. Please state to what degree you agree with the following statements. - I had a good time playing Genshin Impact as [QID12-ChoiceGroup-Selec	.923	
(AE1) The following statements are about your enjoyment of playing the game as [QID12-ChoiceGroup-SelectedChoices]. Please state to what degree you agree with the following statements. - I enjoyed playing Genshin Impact as [QID12-ChoiceGroup-SelectedChoic	.912	
(AE2) The following statements are about your enjoyment of playing the game as [QID12-ChoiceGroup-SelectedChoices]. Please state to what degree you agree with the following statements. - I liked playing Genshin Impact as [QID12-ChoiceGroup-SelectedChoices	.879	
(AE7) The following statements are about your enjoyment of playing the game as [QID12-ChoiceGroup-SelectedChoices]. Please state to what degree you agree with the following statements. - Playing Genshin Impact as [QID12-ChoiceGroup-SelectedChoices] is ent	.784	

(AE6) The following statements are about your enjoyment of playing the game as [QID12-ChoiceGroup-SelectedChoices]. Please state to what degree you agree with the following statements. - I felt good playing Genshin Impact as [QID12-ChoiceGroup-SelectedCho	.768	
(AE4) The following statements are about your enjoyment of playing the game as [QID12-ChoiceGroup-SelectedChoices]. Please state to what degree you agree with the following statements. - It made me happy to play Genshin Impact as [QID12-ChoiceGroup-Select	.766	
(AE9) The following statements are about your enjoyment of playing the game as [QID12-ChoiceGroup-SelectedChoices]. Please state to what degree you agree with the following statements. - Playing Genshin Impact as [QID12-ChoiceGroup-SelectedChoices] is exc	.675	
Affective.enjoy_5R		
(AE8) The following statements are about your enjoyment of playing the game as [QID12-ChoiceGroup-SelectedChoices]. Please state to what degree you agree with the following statements. - I would like to play Genshin Impact as other characters that are sim		
(CE1) Please state to what degree you agree with the following statements. - I would like to analyze [QID12-ChoiceGroup-SelectedChoices] as a character.		.871

(CE4) Please state to what degree you agree with the following statements. - I would like to seek out additional information about [QID12-ChoiceGroup-SelectedChoices].		.833
(CE6) Please state to what degree you agree with the following statements. - [QID12-ChoiceGroup-SelectedChoices] made me think.		.831
(CE3) Please state to what degree you agree with the following statements. - I really thought about [QID12-ChoiceGroup-SelectedChoices] when playing Genshin Impact.		.800
(CE2) Please state to what degree you agree with the following statements. - I would like to talk about [QID12-ChoiceGroup-SelectedChoices] with other people.		.739
(CE5) Please state to what degree you agree with the following statements. - I would replay Genshin Impact as [QID12-ChoiceGroup-SelectedChoices].		.586

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

B.10. Reliability analysis- Affective character enjoyment

Reliability Statistics

Cronbach's Alpha	N of Items
.902	7

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
(AE1) The following statements are about your enjoyment of playing the game as [QID12-ChoiceGroup-SelectedChoices]. Please state to what degree you agree with the following statements. - I enjoyed playing Genshin Impact as [QID12-ChoiceGroup-SelectedChoic	27.96	8.836	.845	.879
(AE2) The following statements are about your enjoyment of playing the game as [QID12-ChoiceGroup-SelectedChoices]. Please state to what degree you agree with the following statements. - I liked playing Genshin Impact as [QID12-ChoiceGroup-SelectedChoices	27.97	8.871	.781	.883
(AE3) The following statements are about your enjoyment of playing the game as [QID12-ChoiceGroup-SelectedChoices]. Please state to what degree you agree with the following statements. - I had a good time playing Genshin Impact as [QID12-ChoiceGroup-Sele	27.96	8.840	.851	.879
(AE4) The following statements are about your enjoyment of playing the game as [QID12-ChoiceGroup-SelectedChoices]. Please state to what degree you agree with the following statements. - It made me happy to play Genshin Impact as [QID12-ChoiceGroup-Select	28.02	8.684	.725	.886
(AE6) The following statements are about your enjoyment of playing the game as [QID12-ChoiceGroup-SelectedChoices]. Please state to what degree you agree with the following statements. - I felt good playing Genshin Impact as [QID12-ChoiceGroup-SelectedCho	28.12	8.315	.732	.885
(AE7) The following statements are about your enjoyment of playing the game as [QID12-ChoiceGroup-SelectedChoices]. Please state to what degree you agree with the following statements. - Playing Genshin Impact as [QID12-ChoiceGroup-SelectedChoices] is ent	28.09	8.371	.725	.886
(AE9) The following statements are about your enjoyment of playing the game as [QID12-ChoiceGroup-SelectedChoices]. Please state to what degree you agree with the following statements. - Playing Genshin Impact as [QID12-ChoiceGroup-SelectedChoices] is exc	28.47	7.324	.627	.919

B.11. Reliability analysis- Cognitive character enjoyment

Reliability Statistics

Cronbach's Alpha	N of Items
.870	6

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
(CE1) Please state to what degree you agree with the following statements. - I would like to analyze [QID12-ChoiceGroup-SelectedChoices] as a character.	20.65	17.600	.784	.828
(CE2) Please state to what degree you agree with the following statements. - I would like to talk about [QID12-ChoiceGroup-SelectedChoices] with other people.	21.10	17.255	.646	.855
(CE3) Please state to what degree you agree with the following statements. - I really thought about [QID12-ChoiceGroup-SelectedChoices] when playing Genshin Impact.	20.86	18.001	.711	.840
(CE4) Please state to what degree you agree with the following statements. - I would like to seek out additional information about [QID12-ChoiceGroup-SelectedChoices].	20.52	18.712	.741	.838
(CE5) Please state to what degree you agree with the following statements. - I would replay Genshin Impact as [QID12-ChoiceGroup-SelectedChoices].	20.68	19.698	.482	.880
(CE6) Please state to what degree you agree with the following statements. - [QID12-ChoiceGroup-SelectedChoices] made me think.	20.81	18.544	.699	.843

B.12. Factor analysis- Purchase intention

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.773
Bartlett's Test of Sphericity	Approx. Chi-Square	1143.810
	df	15
	Sig.	<.001

Rotated Component Matrix^a

	Component	
	1	2
(OPB2) Please state to what degree you agree with the following statements. - My willingness to buy out of game Genshin Impact associated items such as merchandise is high.	.946	
(OPB3) Please state to what degree you agree with the following statements. - The likelihood of me purchasing out of game Genshin Impact associated items such as merchandise is high.	.941	
(OPB1) Please state to what degree you agree with the following statements. - I intend to purchase out of game Genshin Impact associated items such as merchandise.	.935	
(IPB3) The following statements are about your purchasing behaviors related to Genshin Impacts. Please state to what degree you agree with the following statements. - The likelihood that I would purchase in-game virtual items in Genshin Impact is high.		.941
(IPB2) The following statements are about your purchasing behaviors related to Genshin Impacts. Please state to what degree you agree with the following statements. - My willingness to buy in-game virtual items in Genshin Impact is high.		.927
(IPB1) The following statements are about your purchasing behaviors related to Genshin Impacts. Please state to what degree you agree with the following statements. - I intend to purchase in-game virtual items in Genshin Impact.		.920

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

B.13. Reliability analysis- In-game purchase intention

Reliability Statistics

Cronbach's Alpha	N of Items
.934	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
(IPB1) The following statements are about your purchasing behaviors related to Genshin Impacts. Please state to what degree you agree with the following statements. - I intend to purchase in-game virtual items in Genshin Impact.	5.63	7.403	.840	.922
(IPB2) The following statements are about your purchasing behaviors related to Genshin Impacts. Please state to what degree you agree with the following statements. - My willingness to buy in-game virtual items in Genshin Impact is high.	6.23	7.531	.856	.911
(IPB3) The following statements are about your purchasing behaviors related to Genshin Impacts. Please state to what degree you agree with the following statements. - The likelihood that I would purchase in-game virtual items in Genshin Impact is high.	6.01	6.932	.897	.877

B.14. Reliability analysis- Outside game purchase intention

Reliability Statistics

Cronbach's Alpha	N of Items
.946	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
(OPB1) Please state to what degree you agree with the following statements. - I intend to purchase out of game Genshin Impact associated items such as merchandise.	6.70	7.644	.867	.936
(OPB2) Please state to what degree you agree with the following statements. - My willingness to buy out of game Genshin Impact associated items such as merchandise is high.	6.88	7.302	.897	.913
(OPB3) Please state to what degree you agree with the following statements. - The likelihood of me purchasing out of game Genshin Impact associated items such as merchandise is high.	6.96	7.287	.896	.914

B.15. Factor analysis- Community engagement

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.713
Bartlett's Test of Sphericity	Approx. Chi-Square	366.689
	df	3
	Sig.	<.001

Component Matrix^a

	Component 1
(CB2) The following statements are about your community engagement behaviors related to Genshin Impacts. Please state to what degree you agree with the following statements. - I expect that I will continuously participate in Genshin Impact community activ	.925
(CB3) The following statements are about your community engagement behaviors related to Genshin Impacts. Please state to what degree you agree with the following statements. - I am an actively participating member of the Genshin Impact community.	.922
(CB1) The following statements are about your community engagement behaviors related to Genshin Impacts. Please state to what degree you agree with the following statements. - Exchanging opinions with members of the Genshin impact community is important t	.851

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

B.16. Reliability analysis- Community engagement

Reliability Statistics

Cronbach's Alpha	N of Items
.882	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
(CB1) The following statements are about your community engagement behaviors related to Genshin Impacts. Please state to what degree you agree with the following statements. - Exchanging opinions with members of the Genshin impact community is important t	6.29	6.698	.691	.903
(CB2) The following statements are about your community engagement behaviors related to Genshin Impacts. Please state to what degree you agree with the following statements. - I expect that I will continuously participate in Genshin Impact community activ	6.28	5.269	.823	.787
(CB3) The following statements are about your community engagement behaviors related to Genshin Impacts. Please state to what degree you agree with the following statements. - I am an actively participating member of the Genshin Impact community.	6.51	5.299	.817	.792

B.17. Factor analysis- Co-production

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.752
Bartlett's Test of Sphericity	Approx. Chi-Square	472.187
	df	6
	Sig.	<.001

Component Matrix^a

	Component 1
(CPB2) The following statements are about your content co-production behaviors related to Genshin Impacts. Please state to what degree you agree with the following statements. - I like suggesting my opinions on the Genshin Impact game and product developm	.896
(CPB4) The following statements are about your content co-production behaviors related to Genshin Impacts. Please state to what degree you agree with the following statements. - I like providing my opinion on problems and improvements for Genshin Impact.	.869
(CPB1) The following statements are about your content co-production behaviors related to Genshin Impacts. Please state to what degree you agree with the following statements. - I enjoy suggesting new ideas for the Genshin Impact game, products and servic	.840
(CPB3) The following statements are about your content co-production behaviors related to Genshin Impacts. Please state to what degree you agree with the following statements. - I enjoy participating in customer research for the Genshin Impact game improv	.802

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

B.18. Reliability analysis- Co-production

Reliability Statistics

Cronbach's Alpha	N of Items
.874	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
(CPB1) The following statements are about your content co-production behaviors related to Genshin Impacts. Please state to what degree you agree with the following statements. - I enjoy suggesting new ideas for the Genshin Impact game, products and servic	10.13	9.615	.712	.846
(CPB2) The following statements are about your content co-production behaviors related to Genshin Impacts. Please state to what degree you agree with the following statements. - I like suggesting my opinions on the Genshin Impact game and product developm	9.98	9.244	.801	.809
(CPB3) The following statements are about your content co-production behaviors related to Genshin Impacts. Please state to what degree you agree with the following statements. - I enjoy participating in customer research for the Genshin Impact game improv	9.74	10.692	.658	.866
(CPB4) The following statements are about your content co-production behaviors related to Genshin Impacts. Please state to what degree you agree with the following statements. - I like providing my opinion on problems and improvements for Genshin Impact.	9.57	9.768	.752	.830

B.20. Scale scores

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
PSRMean	210	1.00	9.00	5.5714	1.78270
AffectiveEnjoyMean	209	2.00	5.00	4.6875	.47724
CognitiveEnjoyMean	209	1.00	5.00	4.1668	.84167
AttitudeRecogMean	210	1.00	7.00	4.4678	1.14403
PersonalityRecogMean	210	1.00	7.00	4.1948	1.32439
SituationRecogMean	209	1.00	7.00	3.4447	1.30202
IngamePurchaseMean	210	1.00	5.00	2.9675	1.32919
OutgamePurchaseMean	210	1.00	5.00	3.4111	1.35028
CommunityEngageMean	210	1.00	5.00	3.1794	1.16300
CoproductionMean	210	1.00	5.00	3.2845	1.02379
Valid N (listwise)	208				

B.21. Multiple regression analysis- Hypothesis 1

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean ^b		Enter

a. Dependent Variable: PSRMean

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	.354 ^a	.126	.113	1.67686	.126	9.809	3	205	<.001

a. Predictors: (Constant), SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	82.745	3	27.582	9.809	<.001 ^b
	Residual	576.428	205	2.812		
	Total	659.173	208			

a. Dependent Variable: PSRMean

b. Predictors: (Constant), SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.324	.476		6.987	<,001
	AttitudeRecogMean	.478	.148	.307	3.227	.001
	PersonalityRecogMean	-.170	.145	-.127	-1.174	.242
	SituationRecogMean	.242	.141	.177	1.716	.088

a. Dependent Variable: PSRMean

B.2.2. Hierarchical regression analysis- Hypothesis 2

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean ^b	.	Enter
2	PSRMean ^b	.	Enter

a. Dependent Variable: AffectiveEnjoyMean

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	.185 ^a	.034	.020	.47362	.034	2.398	3	204	.069
2	.343 ^b	.118	.100	.45377	.084	19.237	1	203	<,001

a. Predictors: (Constant), SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean

b. Predictors: (Constant), SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean, PSRMean

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.614	3	.538	2.398	.069 ^b
	Residual	45.760	204	.224		
	Total	47.374	207			
2	Regression	5.575	4	1.394	6.769	<,001 ^c
	Residual	41.799	203	.206		
	Total	47.374	207			

a. Dependent Variable: AffectiveEnjoyMean

b. Predictors: (Constant), SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean

c. Predictors: (Constant), SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean, PSRMean

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.371	.134		32.530	<,.001
	AttitudeRecogMean	.025	.042	.061	.602	.548
	PersonalityRecogMean	.029	.041	.079	.698	.486
	SituationRecogMean	.024	.040	.066	.604	.546
2	(Constant)	4.095	.143		28.582	<,.001
	AttitudeRecogMean	-.014	.041	-.033	-.332	.741
	PersonalityRecogMean	.042	.039	.117	1.076	.283
	SituationRecogMean	.004	.039	.010	.095	.925
	PSRMean	.083	.019	.309	4.386	<,.001

a. Dependent Variable: AffectiveEnjoyMean

B.23. Hierarchical regression analysis- Hypothesis 3

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean ^b	.	Enter
2	PSRMean ^b	.	Enter

a. Dependent Variable: CognitiveEnjoyMean

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	.459 ^a	.210	.199	.75411	.210	18.106	3	204	<,.001
2	.715 ^b	.511	.501	.59499	.301	124.708	1	203	<,.001

a. Predictors: (Constant), SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean

b. Predictors: (Constant), SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean, PSRMean

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	30.890	3	10.297	18.106	<,.001 ^b
	Residual	116.011	204	.569		
	Total	146.901	207			
2	Regression	75.037	4	18.759	52.991	<,.001 ^c
	Residual	71.864	203	.354		
	Total	146.901	207			

a. Dependent Variable: CognitiveEnjoyMean

b. Predictors: (Constant), SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean

c. Predictors: (Constant), SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean, PSRMean

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.680	.214		12.528	<.,001
	AttitudeRecogMean	.286	.067	.389	4.260	<.,001
	PersonalityRecogMean	-.004	.065	-.006	-.063	.950
	SituationRecogMean	.067	.064	.103	1.048	.296
2	(Constant)	1.759	.188		9.365	<.,001
	AttitudeRecogMean	.155	.054	.211	2.867	.005
	PersonalityRecogMean	.042	.052	.066	.811	.418
	SituationRecogMean	-.002	.051	-.003	-.034	.973
	PSRMean	.277	.025	.586	11.167	<.,001

a. Dependent Variable: CognitiveEnjoyMean

B.23. Hierarchical regression analysis- Hypothesis 4

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean ^b	.	Enter
2	PSRMean ^b	.	Enter
3	AffectiveEnjoyMean, CognitiveEnjoyMean ^b	.	Enter

a. Dependent Variable: IngamePurchaseMean

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	.086 ^a	.007	-.007	1.32616	.007	.503	3	204	.680
2	.089 ^b	.008	-.012	1.32905	.001	.115	1	203	.735
3	.175 ^c	.031	.002	1.32030	.023	2.349	2	201	.098

a. Predictors: (Constant), SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean

b. Predictors: (Constant), SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean, PSRMean

c. Predictors: (Constant), SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean, PSRMean, AffectiveEnjoyMean, CognitiveEnjoyMean

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.656	3	.885	.503	.680 ^b
	Residual	358.777	204	1.759		
	Total	361.434	207			
2	Regression	2.859	4	.715	.405	.805 ^c
	Residual	358.575	203	1.766		
	Total	361.434	207			
3	Regression	11.050	6	1.842	1.056	.390 ^d
	Residual	350.384	201	1.743		
	Total	361.434	207			

a. Dependent Variable: IngamePurchaseMean

b. Predictors: (Constant), SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean

c. Predictors: (Constant), SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean, PSRMean

d. Predictors: (Constant), SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean, PSRMean, AffectiveEnjoyMean, CognitiveEnjoyMean

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.619	.376		6.961	<.001
	AttitudeRecogMean	.004	.118	.003	.031	.975
	PersonalityRecogMean	.075	.115	.075	.652	.515
	SituationRecogMean	.011	.112	.011	.098	.922
2	(Constant)	2.557	.420		6.092	<.001
	AttitudeRecogMean	-.005	.121	-.004	-.043	.966
	PersonalityRecogMean	.078	.115	.078	.675	.500
	SituationRecogMean	.006	.113	.006	.056	.955
	PSRMean	.019	.055	.025	.338	.735
3	(Constant)	1.541	.950		1.622	.106
	AttitudeRecogMean	.037	.123	.032	.303	.762
	PersonalityRecogMean	.073	.115	.073	.636	.526
	SituationRecogMean	.005	.112	.005	.042	.967
	PSRMean	.056	.071	.076	.797	.426
	AffectiveEnjoyMean	.352	.206	.127	1.709	.089
	CognitiveEnjoyMean	-.242	.157	-.154	-1.539	.125

a. Dependent Variable: IngamePurchaseMean

B.24. Hierarchical regression analysis- Hypothesis 5

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean ^b	.	Enter
2	PSRMean ^b	.	Enter
3	AffectiveEnjoyMean, CognitiveEnjoyMean ^b	.	Enter

a. Dependent Variable: OutgamePurchaseMean

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	.206 ^a	.042	.028	1.32500	.042	3.015	3	204	.031
2	.336 ^b	.113	.096	1.27841	.071	16.141	1	203	<.001
3	.371 ^c	.137	.112	1.26698	.024	2.839	2	201	.061

a. Predictors: (Constant), SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean

b. Predictors: (Constant), SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean, PSRMean

c. Predictors: (Constant), SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean, PSRMean, AffectiveEnjoyMean, CognitiveEnjoyMean

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15.881	3	5.294	3.015	.031 ^b
	Residual	358.149	204	1.756		
	Total	374.029	207			
2	Regression	42.261	4	10.565	6.465	<.001 ^c
	Residual	331.769	203	1.634		
	Total	374.029	207			
3	Regression	51.377	6	8.563	5.334	<.001 ^d
	Residual	322.653	201	1.605		
	Total	374.029	207			

a. Dependent Variable: OutgamePurchaseMean

b. Predictors: (Constant), SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean

c. Predictors: (Constant), SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean, PSRMean

d. Predictors: (Constant), SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean, PSRMean, AffectiveEnjoyMean, CognitiveEnjoyMean

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.430	.376		6.463	<.001
	AttitudeRecogMean	.091	.118	.078	.773	.440
	PersonalityRecogMean	.071	.115	.070	.623	.534
	SituationRecogMean	.085	.112	.082	.759	.449
2	(Constant)	1.718	.404		4.256	<.001
	AttitudeRecogMean	-.010	.116	-.008	-.083	.934
	PersonalityRecogMean	.107	.111	.106	.964	.336
	SituationRecogMean	.032	.109	.031	.294	.769
	PSRMean	.214	.053	.284	4.018	<.001
3	(Constant)	2.169	.911		2.380	.018
	AttitudeRecogMean	-.064	.118	-.054	-.541	.589
	PersonalityRecogMean	.104	.110	.103	.941	.348
	SituationRecogMean	.033	.108	.032	.310	.757
	PSRMean	.145	.068	.192	2.126	.035
	AffectiveEnjoyMean	-.250	.198	-.089	-1.266	.207
	CognitiveEnjoyMean	.326	.151	.204	2.163	.032

a. Dependent Variable: OutgamePurchaseMean

B.25. Hierarchical regression analysis- Hypothesis 6

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	SituationRecog Mean, AttitudeRecog Mean, PersonalityRecogMean ^b	.	Enter
2	PSRMean ^b	.	Enter
3	AffectiveEnjoyMean, CognitiveEnjoyMean ^b	.	Enter

a. Dependent Variable: CommunityEngageMean

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	.214 ^a	.046	.032	1.13607	.046	3.273	3	204	.022
2	.298 ^b	.089	.071	1.11304	.043	9.528	1	203	.002
3	.382 ^c	.146	.120	1.08294	.057	6.720	2	201	.001

a. Predictors: (Constant), SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean

b. Predictors: (Constant), SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean, PSRMean

c. Predictors: (Constant), SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean, PSRMean, AffectiveEnjoyMean, CognitiveEnjoyMean

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.673	3	4.224	3.273	.022 ^b
	Residual	263.292	204	1.291		
	Total	275.966	207			
2	Regression	24.477	4	6.119	4.939	<.001 ^c
	Residual	251.489	203	1.239		
	Total	275.966	207			
3	Regression	40.239	6	6.707	5.719	<.001 ^d
	Residual	235.726	201	1.173		
	Total	275.966	207			

a. Dependent Variable: CommunityEngageMean

b. Predictors: (Constant), SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean

c. Predictors: (Constant), SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean, PSRMean

d. Predictors: (Constant), SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean, PSRMean, AffectiveEnjoyMean, CognitiveEnjoyMean

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.309	.322		7.165	<.001
	AttitudeRecogMean	.073	.101	.073	.724	.470
	PersonalityRecogMean	.181	.098	.208	1.845	.066
	SituationRecogMean	-.063	.096	-.071	-.658	.511
2	(Constant)	1.833	.351		5.216	<.001
	AttitudeRecogMean	.006	.101	.006	.056	.955
	PersonalityRecogMean	.205	.097	.236	2.124	.035
	SituationRecogMean	-.098	.095	-.111	-1.041	.299
	PSRMean	.143	.046	.221	3.087	.002
3	(Constant)	.807	.779		1.036	.301
	AttitudeRecogMean	-.065	.101	-.065	-.648	.518
	PersonalityRecogMean	.184	.094	.211	1.946	.053
	SituationRecogMean	-.098	.092	-.110	-1.063	.289
	PSRMean	.011	.058	.017	.190	.850
	AffectiveEnjoyMean	.052	.169	.022	.309	.757
	CognitiveEnjoyMean	.462	.129	.337	3.584	<.001

a. Dependent Variable: CommunityEngageMean

B.26. Hierarchical regression analysis- Hypothesis 7

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean ^b	.	Enter
2	PSRMean ^b	.	Enter
3	AffectiveEnjoyMean, CognitiveEnjoyMean ^b	.	Enter

a. Dependent Variable: CoproductionMean

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	.346 ^a	.120	.107	.96607	.120	9.252	3	204	<.001
2	.369 ^b	.136	.119	.95955	.016	3.782	1	203	.053
3	.409 ^c	.167	.142	.94670	.031	3.775	2	201	.025

a. Predictors: (Constant), SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean

b. Predictors: (Constant), SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean, PSRMean

c. Predictors: (Constant), SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean, PSRMean, AffectiveEnjoyMean, CognitiveEnjoyMean

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	25.905	3	8.635	9.252	<.001 ^b
	Residual	190.392	204	.933		
	Total	216.297	207			
2	Regression	29.387	4	7.347	7.979	<.001 ^c
	Residual	186.910	203	.921		
	Total	216.297	207			
3	Regression	36.154	6	6.026	6.723	<.001 ^d
	Residual	180.143	201	.896		
	Total	216.297	207			

a. Dependent Variable: CoproductionMean

b. Predictors: (Constant), SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean

c. Predictors: (Constant), SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean, PSRMean

d. Predictors: (Constant), SituationRecogMean, AttitudeRecogMean, PersonalityRecogMean, PSRMean, AffectiveEnjoyMean, CognitiveEnjoyMean

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.175	.274		7.937	<.001
	AttitudeRecogMean	.053	.086	.059	.613	.541
	PersonalityRecogMean	.036	.084	.047	.429	.668
	SituationRecogMean	.210	.082	.266	2.572	.011
2	(Constant)	1.917	.303		6.326	<.001
	AttitudeRecogMean	.016	.087	.018	.183	.855
	PersonalityRecogMean	.049	.083	.063	.586	.559
	SituationRecogMean	.190	.082	.242	2.334	.021
	PSRMean	.078	.040	.136	1.945	.053
3	(Constant)	.576	.681		.846	.399
	AttitudeRecogMean	-.017	.088	-.019	-.192	.848
	PersonalityRecogMean	.029	.083	.038	.357	.722
	SituationRecogMean	.190	.080	.241	2.361	.019
	PSRMean	-.005	.051	-.009	-.105	.916
	AffectiveEnjoyMean	.228	.148	.107	1.543	.124
	CognitiveEnjoyMean	.232	.113	.191	2.060	.041

a. Dependent Variable: CoproductionMean

B.28. Mediation analysis step 1: PSR and in-game purchase intention

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	.054 ^a	.003	-.002	1.33046	.003	.601	1	208	.439

a. Predictors: (Constant), PSRMean

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.063	1	1.063	.601	.439 ^b
	Residual	368.187	208	1.770		
	Total	369.250	209			

a. Dependent Variable: IngamePurchaseMean

b. Predictors: (Constant), PSRMean

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.745	.302		9.091	<.001
	PSRMean	.040	.052	.054	.775	.439

a. Dependent Variable: IngamePurchaseMean

B.29. Mediation analysis step 1: PSR and outside game purchase intention

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	.317 ^a	.101	.096	1.28365	.101	23.261	1	208	<,001

a. Predictors: (Constant), PSRMean

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	38.328	1	38.328	23.261	<,001 ^b
	Residual	342.735	208	1.648		
	Total	381.063	209			

a. Dependent Variable: OutgamePurchaseMean

b. Predictors: (Constant), PSRMean

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.073	.291		7.116	<,001
	PSRMean	.240	.050	.317	4.823	<,001

a. Dependent Variable: OutgamePurchaseMean

B.30. Mediation analysis step 1: PSR and community engagement

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	.233 ^a	.054	.050	1.13377	.054	11.916	1	208	<,001

a. Predictors: (Constant), PSRMean

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15.317	1	15.317	11.916	<,001 ^b
	Residual	267.371	208	1.285		
	Total	282.688	209			

a. Dependent Variable: CommunityEngageMean

b. Predictors: (Constant), PSRMean

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.333	.257		9.069	<,001
	PSRMean	.152	.044	.233	3.452	<,001

a. Dependent Variable: CommunityEngageMean

B.31. Mediation analysis step 1: PSR and co-production

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	.216 ^a	.047	.042	1.00207	.047	10.159	1	208	.002

a. Predictors: (Constant), PSRMean

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.201	1	10.201	10.159	.002 ^b
	Residual	208.861	208	1.004		
	Total	219.062	209			

a. Dependent Variable: CoproductionMean

b. Predictors: (Constant), PSRMean

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.594	.227		11.408	<.001
	PSRMean	.124	.039	.216	3.187	.002

a. Dependent Variable: CoproductionMean

B.32. Mediation analysis step 2: PSR and affective character enjoyment

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	.326 ^a	.106	.102	.45231	.106	24.564	1	207	<.001

a. Predictors: (Constant), PSRMean

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.025	1	5.025	24.564	<.001 ^b
	Residual	42.349	207	.205		
	Total	47.375	208			

a. Dependent Variable: AffectiveEnjoyMean

b. Predictors: (Constant), PSRMean

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.203	.103		40.907	<.001
	PSRMean	.087	.018	.326	4.956	<.001

a. Dependent Variable: AffectiveEnjoyMean

B.33. Mediation analysis step 2: PSR and cognitive character enjoyment

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	.672 ^a	.452	.449	.62449	.452	170.824	1	207	<,001

a. Predictors: (Constant), PSRMean

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	66.620	1	66.620	170.824	<,001 ^b
	Residual	80.728	207	.390		
	Total	147.348	208			

a. Dependent Variable: CognitiveEnjoyMean

b. Predictors: (Constant), PSRMean

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
		B	Std. Error			
1	(Constant)	2.401	.142		16.928	<,001
	PSRMean	.317	.024	.672	13.070	<,001

a. Dependent Variable: CognitiveEnjoyMean

B.34. Mediation analysis step 3 and 4: PSR, affective character enjoyment and outside game purchase intention

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	.321 ^a	.103	.095	1.27803	.103	11.861	2	206	<,001

a. Predictors: (Constant), AffectiveEnjoyMean, PSRMean

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	38.747	2	19.373	11.861	<,001 ^b
	Residual	336.475	206	1.633		
	Total	375.222	208			

a. Dependent Variable: OutgamePurchaseMean

b. Predictors: (Constant), AffectiveEnjoyMean, PSRMean

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
		B	Std. Error			
1	(Constant)	2.760	.875		3.155	.002
	PSRMean	.252	.052	.335	4.804	<,001
	AffectiveEnjoyMean	-.158	.196	-.056	-.806	.421

a. Dependent Variable: OutgamePurchaseMean

B.35. Mediation analysis step 3 and 4: PSR, affective character enjoyment and community engagement

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	.242 ^a	.059	.050	1.12965	.059	6.420	2	206	.002

a. Predictors: (Constant), AffectiveEnjoyMean, PSRMean

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16.385	2	8.193	6.420	.002 ^b
	Residual	262.879	206	1.276		
	Total	279.264	208			

a. Dependent Variable: CommunityEngageMean

b. Predictors: (Constant), AffectiveEnjoyMean, PSRMean

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.591	.773		2.058	.041
	PSRMean	.135	.046	.208	2.903	.004
	AffectiveEnjoyMean	.181	.174	.074	1.040	.299

a. Dependent Variable: CommunityEngageMean

B.36. Mediation analysis step 3 and 4: PSR, affective character enjoyment and co-production

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	.259 ^a	.067	.058	.99450	.067	7.434	2	206	<.001

a. Predictors: (Constant), AffectiveEnjoyMean, PSRMean

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14.705	2	7.353	7.434	<.001 ^b
	Residual	203.739	206	.989		
	Total	218.444	208			

a. Dependent Variable: CoproductionMean

b. Predictors: (Constant), AffectiveEnjoyMean, PSRMean

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.214	.681		1.784	.076
	PSRMean	.095	.041	.165	2.317	.021
	AffectiveEnjoyMean	.330	.153	.154	2.159	.032

a. Dependent Variable: CoproductionMean

B.37. Mediation analysis step 3 and 4: PSR, cognitive character enjoyment and outside game purchase intention

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	.353 ^a	.125	.116	1.26259	.125	14.688	2	206	<.001

a. Predictors: (Constant), CognitiveEnjoyMean, PSRMean

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	46.829	2	23.414	14.688	<.001 ^b
	Residual	328.393	206	1.594		
	Total	375.222	208			

a. Dependent Variable: OutgamePurchaseMean

b. Predictors: (Constant), CognitiveEnjoyMean, PSRMean

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.287	.443		2.905	.004
	PSRMean	.132	.066	.175	1.988	.048
	CognitiveEnjoyMean	.337	.141	.211	2.395	.018

a. Dependent Variable: OutgamePurchaseMean

B.37. Mediation analysis step 3 and 4: PSR, cognitive character enjoyment and community engagement

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	.350 ^a	.123	.114	1.09058	.123	14.401	2	206	<.001

a. Predictors: (Constant), CognitiveEnjoyMean, PSRMean

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	34.255	2	17.128	14.401	<,001 ^b
	Residual	245.009	206	1.189		
	Total	279.264	208			

a. Dependent Variable: CommunityEngageMean

b. Predictors: (Constant), CognitiveEnjoyMean, PSRMean

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.178	.382		3.079	.002
	PSRMean	-.004	.057	-.007	-.076	.939
	CognitiveEnjoyMean	.488	.121	.355	4.023	<,001

a. Dependent Variable: CommunityEngageMean

B.37. Mediation analysis step 3 and 4: PSR, cognitive character enjoyment and co-production

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	.302 ^a	.091	.083	.98157	.091	10.363	2	206	<,001

a. Predictors: (Constant), CognitiveEnjoyMean, PSRMean

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19.968	2	9.984	10.363	<,001 ^b
	Residual	198.475	206	.963		
	Total	218.444	208			

a. Dependent Variable: CoproductionMean

b. Predictors: (Constant), CognitiveEnjoyMean, PSRMean

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.761	.344		5.116	<,001
	PSRMean	.013	.051	.022	.243	.808
	CognitiveEnjoyMean	.350	.109	.287	3.201	.002

a. Dependent Variable: CoproductionMean