Advances in Business & Industrial Marketing Research
OPEN ACCESS
Volume 4, Issue 2 (2026). 152-166
e-ISSN: 2985-7589
DOI: https://doi.org/10.60079/abim.v4i2.794

Enhanching Gamer Loyalty: Role of Immersiveness and Parasocial Relationship with NPC Characters in Narrative Games

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ARTICLE HISTORY

Submitted	:	April 24, 2026
Reviewed	:	May 01, 2026
Revised	:	May 18, 2026
Accepted	:	May 29, 2026
Published	:	May 31, 2026

Conflict of Interest Statement:
The author(s) declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

ABSTRACT

Purpose: This study aims to examine how game experience influences player loyalty through immersiveness and parasocial relationships in digital games. Grounded in parasocial interaction theory, this study proposes that game experience enhances immersion and parasocial relationships, which in turn strengthen game loyalty.

Research Method: This study employed a quantitative research design using a structured questionnaire distributed through Google Forms and the Kudata platform. The sample consisted of 285 active players of Genshin Impact, Wuthering Waves, and Honkai: Star Rail. The variables examined include game experience, immersiveness, parasocial relationships, and game loyalty. Data were analyzed using Structural Equation Modeling (SEM) with AMOS 31 to test the proposed relationships among variables.

Results and Discussion: The findings indicate that game experience does not have a significant direct effect on game loyalty. However, game experience significantly influences immersiveness and parasocial relationships. Immersiveness significantly affects both parasocial relationships and game loyalty, while parasocial relationships have a strong positive effect on game loyalty. These results suggest that player loyalty is shaped indirectly through immersiveness and parasocial relationships, indicating a full mediation mechanism.

Implications: Game developers should enhance immersive, character-driven experiences to foster emotional attachment and long-term player loyalty.

Originality: This study extends parasocial interaction theory by integrating immersiveness and parasocial relationships as mediating mechanisms in explaining digital game loyalty.

Keywords: game experience; immersiveness; parasocial relationship; game loyalty; digital game.

1. Introduction

The global gaming industry has experienced rapid growth over the past decade. Compared to other entertainment industries such as music and film, the gaming industry exhibits several distinctive characteristics. Digital games are inherently interactive, allowing players to shape their own experiences rather than passively consuming content. Recent industry reports indicate that the gaming industry's

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economic value has surpassed that of traditional entertainment sectors, including film and music, underscoring its dominant position in the global entertainment landscape (Investopedia, 2025).

Within this rapidly evolving landscape, the freemium business model has emerged as a key driver of growth in modern digital games. This model allows players to access games for free while generating revenue through in-app purchases. The freemium approach is a hybrid strategy that combines free access with premium offerings, allowing users to enjoy core gameplay features at no upfront cost while offering optional paid content such as virtual items, characters, or additional features (Nguyen *et al.,* 2025). As the freemium model continues to evolve, developers increasingly integrate gacha-based systems as a core mechanism to drive monetization and player engagement.

Gacha has emerged as a dominant phenomenon in the mobile gaming industry, combining engaging gameplay elements with a monetization model based on the acquisition of randomized virtual items. Originating from Japan, the term gacha refers to capsule toy machines, with the name derived from the sound of the machine's lever, which creates a sense of anticipation and uncertainty for users (Shibuya *et al.,* 2016). Over time, many gacha-based games have adopted a free-to-play model, positioning gacha mechanics as a primary revenue stream, in which players spend virtual currency or real money to obtain randomized rewards within the game (Nguyen *et al.,* 2025). Through this mechanism, game developers can generate substantial revenue by leveraging player engagement and repeat participation.

Despite the rapid expansion of the gaming industry and the effectiveness of the freemium model in attracting users, maintaining player loyalty remains a significant challenge. Player behavior in digital games is highly volatile, with a strong tendency toward switching and discontinuation. Empirical data from Business of Apps (2025) indicate that Android games experience a churn rate of approximately 72.4% on the first day, which escalates to as high as 97.3% within a short period. These figures highlight the critical issue of player retention, suggesting that attracting users is insufficient without understanding the underlying mechanisms that sustain long-term engagement and loyalty.

Loyalty is defined as a deeply held commitment to repurchase or continue using a preferred product or service in the future, despite situational influences and marketing efforts that may encourage switching behavior (Kotler *et al.,* 2021). In the context of brand–consumer relationships, loyalty represents the highest level of consumer attachment (Balakrishnan & Griffiths, 2018). However, achieving player loyalty in the mobile gaming industry remains a significant challenge, as player behavior is marked by high churn rates, particularly during the early stages of gameplay. This condition highlights the importance of understanding the key factors that drive sustained engagement and long-term commitment among players.

Prior studies suggest that game experience is a critical starting point for shaping player loyalty (Cui *et al.,* 2022; Ma & He, 2024). In addition, immersiveness has been identified as an important factor influencing player behavior, referring to a state of deep mental involvement characterized by focused attention and reduced awareness of the physical environment (Agrawal *et al.,* 2020). Another key factor is the parasocial relationship (PSR), defined as a one-sided social bond in which individuals develop emotional attachment and a perceived connection with media figures, including virtual characters in digital games (Bérail *et al.,* 2019). Together, these factors provide a comprehensive framework for understanding how experiential, psychological, and relational mechanisms contribute to the formation of player loyalty.

In particular, narrative-driven games have the potential to foster deeper emotional engagement, in which players develop attachments to in-game characters and form parasocial

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relationships (Gong & Huang, 2023). These one-sided emotional bonds, traditionally studied in media contexts, are increasingly relevant in interactive environments such as digital games (Liebers & Straub, 2020; Milman & Mills, 2023). In this context, parasocial relationships are shaped not only by repeated exposure but also by the quality of the game experience and the level of immersion players experience. A rich and engaging game experience enhances cognitive and emotional involvement, while immersion enables players to feel present within the game world, thereby intensifying their emotional connection with characters. However, while previous research has acknowledged the importance of parasocial relationships and immersive experiences, limited studies have systematically examined how these constructs interact within a unified framework to explain player loyalty.

To address this gap, this study integrates parasocial theory (Stever, 2017) and presence theory (Lombard & Ditton, 1997) to examine how immersive experiences facilitate the formation of parasocial relationships, which subsequently influence player loyalty. By positioning these constructs within a single model, this study aims to provide a more comprehensive understanding of the psychological processes underlying sustained engagement in modern digital games.

This study offers both theoretical and practical contributions. From a theoretical perspective, it extends the application of parasocial theory to the context of interactive digital games by emphasizing the roles of in-game experience and immersion as antecedents to parasocial relationships. From a practical perspective, the findings provide insights for game developers, particularly in designing narrative-driven game elements that foster emotional attachment and long-term loyalty. Furthermore, this study offers new perspectives for researchers by emphasizing that parasocial relationships in games are not solely driven by exposure duration but are also shaped by the quality of in-game experiences and immersive engagement.

This article is organized into several sections. The first section provides the introduction and background of the research. The second section discusses the literature review and hypothesis development. The third section explains the research methods used. The fourth section presents the research results and discussion, while the final section contains conclusions, implications, and suggestions for further research.

2. Literature Review and Hypothesis Development

2.1 Parasocial Theory

Parasocial theory provides a conceptual foundation for understanding one-sided social interactions that individuals form with media figures. Initially introduced by Horton & Wohl (1956), this theory explains how audiences develop perceived interpersonal connections with media characters despite the absence of real reciprocal interaction. These relationships resemble face-to-face social interactions, as individuals form emotional responses, perceptions, and psychological involvement as if they were engaging with real others. Subsequent developments in the literature distinguish between parasocial interaction (PSI) and parasocial relationship (PSR). PSI refers to the immediate, one-way interaction that occurs during media consumption. In contrast, PSR represents a more enduring and stable bond that persists beyond the moment of exposure and involves sustained affective and cognitive engagement (Hartmann & Goldhoorn, 2011). Contemporary research suggests that such parasocial processes are a normal and adaptive aspect of media consumption, extending beyond traditional media contexts into interactive

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environments such as digital games, where users can develop meaningful attachments to virtual characters.

In early literature, parasocial processes are understood to develop through repeated exposure to media figures, with each interaction contributing to the formation of impressions, emotional responses, and perceived familiarity. Over time, these repeated encounters increase attributional confidence and create a sense of intimacy, leading individuals to perceive media figures as socially meaningful others (Auter, 1992; Perse & Rubin, 1989). As these perceived relationships strengthen, individuals become more emotionally invested and are motivated to maintain the connection, often by increasing media consumption or engaging in ritualistic behaviors. This mechanism explains how parasocial relationships can extend beyond momentary interactions and influence behavioral outcomes, including continued engagement, content consumption, and expressions of loyalty, such as repeated use, recommendations, and support for the associated media or platform. In contemporary contexts, particularly in interactive environments such as digital games, these processes are further intensified as users actively engage with virtual characters, facilitating deeper emotional attachment and strengthening the link between parasocial relationships and sustained behavioral loyalty.

2.2 Game Loyalty

Loyalty is defined as a deeply held commitment to repurchase or continue using a preferred product or service in the future, despite situational influences and marketing efforts that may encourage switching behavior (Kotler *et al.,* 2021). In digital contexts such as e-commerce, loyalty is commonly conceptualized as a combination of repurchase intention and recommendation intention, reflecting consumers' attachment to a particular platform or service (Homburg & Giering, 2001; Huang *et al.,* 2017). Extending this perspective to digital games, player loyalty is often operationalized as continuance intention and the intention to make in-game purchases, indicating a sustained behavioral and psychological commitment to the game (Huang *et al.,* 2017; Teng, 2018)

Player loyalty plays a strategic role in online games, particularly within freemium business models where revenue depends heavily on users. Loyal players are more likely to engage in repeated gameplay and purchase virtual items, thereby contributing directly to the game's monetization and long-term sustainability (Hamari *et al.,* 2020). Beyond in-game behavior, loyalty also extends to ecosystem engagement, where players consume related content such as game streaming and creator-based media, further reinforcing emotional attachment and generating additional revenue streams (Sharma *et al.,* 2021). Thus, player loyalty can be viewed as a key driver of both sustained user engagement and the broader economic performance of digital game ecosystems.

2.3 Game Experience

Game experience is defined as the subjective quality of players' experiences when interacting with a video game, reflecting how they evaluate various aspects of gameplay such as usability or playability, narrative strength, play engrossment, enjoyment, creative freedom, audiovisual quality, personal gratification, and social connectivity (Phan *et al.,* 2016). These indicators collectively capture how players perceive games not merely as technical systems but as holistic entertainment experiences involving cognitive, emotional, and motivational engagement. Functional aspects such as usability and play engrossment ensure smooth interaction and sustained attention, while narrative, enjoyment, and

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audiovisual elements contribute to affective and immersive experiences. Additionally, creative freedom, personal gratification, and social connectivity reinforce the experience by enabling self-expression, achievement, and social interaction during gameplay.

Game experience plays a central role in shaping players' behavioral responses in digital games. When players obtain positive gameplay experiences across sensory, emotional, and cognitive aspects, they tend to develop more favorable evaluations of the game and exhibit stronger intentions to continue playing, ultimately contributing to long-term loyalty (Cui *et al.,* 2022; Ma & He, 2024; Molinillo *et al.,* 2020; Pham *et al.,* 2021). Positive experiences encourage players to revisit the game and maintain engagement over time. As a result, game experience can be considered an important initial factor in influencing player loyalty. Moreover, players who consistently experience enjoyment and satisfaction are more likely to form habitual playing behavior, reinforcing their continued involvement with the game. This repeated engagement gradually strengthens their psychological commitment, increasing the likelihood of sustained loyalty.

In addition, prior research indicates that game experience contributes significantly to immersiveness. Elements such as emotional consistency, character expression, and narrative resonance enhance players' ability to become mentally and emotionally absorbed in the game environment. This immersive state strengthens situational involvement and allows players to focus more intensely on the virtual world. Empirical findings further support this relationship, showing that enjoyable and meaningful gameplay experiences significantly increase immersion in free-to-play game contexts (Ma & He, 2024).

In narrative-driven games such as Genshin Impact, Wuthering Waves, and Honkai: Star Rail, the game experience is closely tied to structured story progression, in which players engage in repeated interactions with non-playable characters (NPCs). These interactions, which include dialogue, decision-making, and narrative participation, create continuous exposure that fosters familiarity and emotional closeness with characters, despite the absence of reciprocal interaction (Daviault, 2012; Milman & Mills, 2023; Song & Fox, 2016). Through this process, players begin to perceive their interactions with characters as socially meaningful encounters. Therefore, game experience can be understood as a key antecedent that facilitates the formation of parasocial relationships in digital games.

H1: *Game experience positively affects game loyalty.*
H2: *Game experience positively affects immersion.*
H3: *Game experience positively affects parasocial relationships.*

2.4 Immersiveness

Immersiveness refers to a state of deep mental involvement that occurs when individuals interact with digital environments, characterized by focused attention and a reduced awareness of the physical surroundings due to a shift in cognitive focus (Agrawal *et al.,* 2020). In this state, users experience varying levels of cognitive and emotional engagement, ranging from partial involvement to full absorption, which significantly enhances the overall quality of the digital experience. A key mechanism underlying immersiveness is the emergence of spatial presence, in which individuals perceive themselves as physically located within the mediated environment rather than merely observing it (Huang *et al.,* 2020; Lombard & Ditton, 1997). In interactive media such as digital games, this process is strengthened through continuous player interaction, including actions, decisions, and responses that reinforce the illusion of being "inside" the virtual world. As immersiveness intensifies, it fosters stronger emotional

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engagement, motivation, and attachment to the game environment and its characters, thereby shaping how players interpret their experiences and engage with the game over time (Guerra-Tamez, 2023; Nah *et al.,* 2022).

Immersiveness is positively associated with both parasocial relationships and game loyalty, as high levels of cognitive and emotional involvement enable players to form deeper psychological connections with virtual characters. In interactive digital games, immersiveness is facilitated through continuous player engagement in actions, decisions, and narrative progression, which shifts attention away from the physical environment and fosters a sense of spatial presence, where players feel as if they are part of the game world rather than external observers (Agrawal *et al.,* 2020; Huang *et al.,* 2020; Jennett *et al.,* 2008).

This immersive state allows players to experience the emotions and perspectives of in-game characters more intensely, strengthening affective resonance and facilitating the development of parasocial relationships (Milman & Mills, 2023; Song & Fox, 2016). Through this process, players become more emotionally connected to characters, perceiving interactions as more meaningful despite their one-sided nature. As immersion deepens, players are more likely to internalize character experiences and develop stronger psychological bonds. This highlights the role of immersion as a key mechanism in fostering parasocial relationships in digital games.

Immersion also enhances the overall quality and meaningfulness of the gameplay experience, which in turn increases players' commitment, continued intention to play, and long-term engagement. Prior studies also indicate that immersive digital experiences contribute to more positive attitudes and behavioral intentions, suggesting that higher levels of immersion can foster stronger player loyalty through sustained emotional and experiential involvement (Harz *et al.,* 2022; Nah *et al.,* 2011). As players become more deeply engaged, their likelihood of maintaining long-term interaction with the game increases.

H4: Immersiveness positively affects game loyalty.
H5: Immersiveness positively affects parasocial relationships.

2.5 Parasocial Relationship

Parasocial relationships in digital game contexts are strengthened by the interactive, participatory nature of gameplay, in which players are not merely passive audiences but active agents within the narrative. Through continuous engagement with characters via quests, decision-making, and evolving storylines, players experience repeated and meaningful encounters that resemble ongoing social interactions. These interactions foster a sense of familiarity and emotional closeness, enabling players to perceive characters as socially meaningful entities despite the absence of real reciprocity. As a result, digital games provide a unique environment in which parasocial relationships can develop more intensively due to the combined effects of interactivity, immersion, and narrative depth.

Parasocial relationship (PSR) refers to a one-sided social bond in which individuals develop a sense of connection and emotional attachment toward media figures despite the absence of reciprocal interaction (Milman & Mills, 2023). This relationship often involves imaginative processes in which individuals mentally simulate how interactions with media figures would occur in real-life contexts (Slater *et al.,* 2018). In digital games, such relationships extend beyond traditional media figures to include interactive fictional characters, particularly non-playable characters (NPCs), who are encountered repeatedly throughout gameplay. Compared with conventional media, the immersive and

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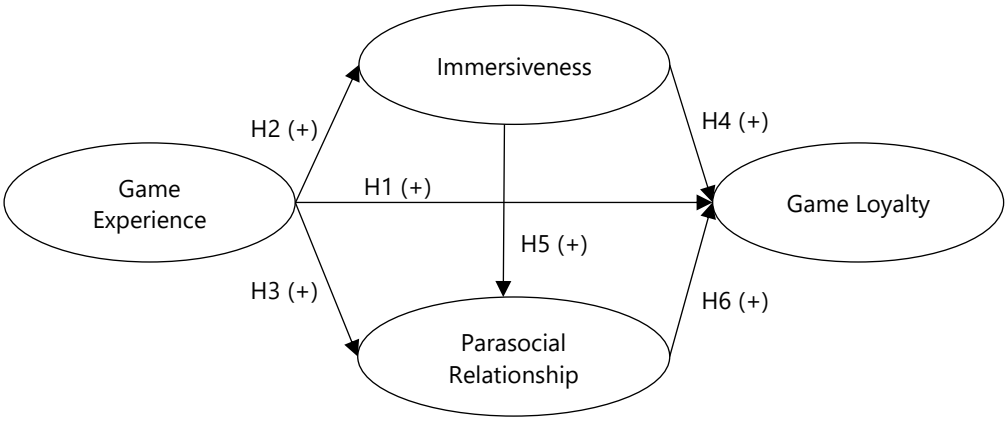
interactive nature of game environments allows these relationships to develop more deeply, as players continuously engage with characters in dynamic, evolving experiences (Milman & Mills, 2023).

The development of parasocial relationships has important implications for player behavior, particularly in fostering loyalty. Repeated interactions with media figures are often perceived as social encounters that, over time, can generate feelings of intimacy and attachment (Ballantine & Martin, 2005). This process encourages individuals to increase their media consumption to maintain the perceived relationship, leading to habitual and sustained engagement (Ballantine & Martin, 2005). In digital games, similar mechanisms occur as players continuously interact with in-game characters, reinforcing emotional bonds and motivating continued play. Empirical evidence suggests that stronger parasocial relationships are associated with higher levels of continued playing intention and engagement, which may subsequently translate into behavioral loyalty, including prolonged gameplay and in-game purchasing behavior (Gong & Huang, 2023).

H6: *Parasocial relationship positively affects game loyalty.*



Source: *Author's own work*

Figure 1. Conceptual Framework

3. Research Method

This study adopts a quantitative approach using a structured questionnaire to collect data from digital game players. A minimum sample size of 100 respondents is generally acceptable for structural equation modeling (SEM), although a larger sample is generally recommended for covariance-based SEM (CB-SEM). A total of 285 valid responses were obtained for this study. All constructs were measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Measurement items were adapted from established studies, including game experience from Phan *et al.,* (2019), immersiveness from Yoo *et al.,* (2018), parasocial relationship from Slater *et al.,* (2018), and game loyalty from Hsiao and Chen (2016), thereby ensuring the instrument's validity and reliability.

The sampling technique employed in this study is non-probability purposive sampling, where respondents are selected based on criteria relevant to the research objectives to ensure sufficient familiarity with the phenomenon. Data were collected using an online questionnaire distributed on the Kudata platform. Specifically, participants were required to have experience playing narrative-driven games such as Genshin Impact, Wuthering Waves, and Honkai: Star Rail, and to have made in-game purchases. They were also expected to have actively interacted with in-game characters, as this is

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essential for evaluating constructs such as game experience, immersiveness, and parasocial relationships. To ensure this, the questionnaire included a screening question asking respondents to identify their favorite in-game character.

Table 1. Sample Criteria

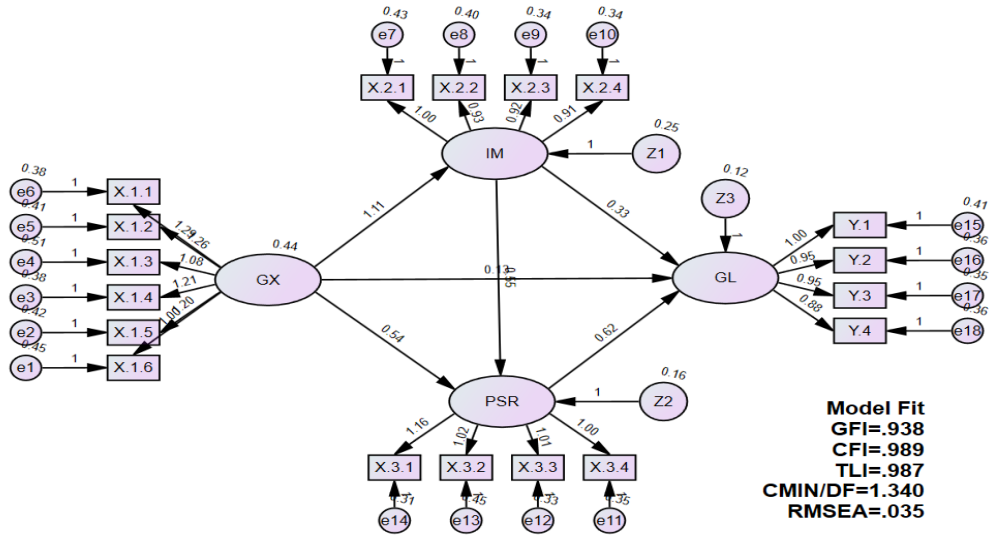
Criteria	N	%
Gender		
Man	162	56.9%
Female	123	43.1%
Age (years old)		
17 – 21	149	11.7
22 – 26	107	43.8
27 - 31	26	
> 32	3	23.8
Education Level		
Bachelor	267	93.6%
Magister	17	5.9%
Doctoral	1	0.5%

Source: *Processed primary data, 2026*

4. Results and Discussion

4.1 Analysis Results

This study aims to investigate the causal relationships among the observed variables and examine how these variables collectively contribute to the formation of game loyalty (GL). As illustrated in Figure 2, the proposed structural model captures the relationships between game experience (GX), immersiveness (IM), parasocial relationship (PSR), and game loyalty. This structure enables a comprehensive examination of the psychological mechanisms underlying player engagement and loyalty in digital game environments.



Source: *Data processing with AMOS, 2026*

Figure 2. Output Using AMOS 31

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Based on Figure 2, the overall model fit is satisfactory. Following the recommendation of Hair *et al.*, (2019, p. 641), this study reports multiple fit indices, including both incremental and absolute measures. Specifically, the incremental fit indices include the Goodness-of-Fit Index (GFI = 0.938), Comparative Fit Index (CFI = 0.989), and Tucker-Lewis Index (TLI = 0.987), all of which exceed the recommended threshold of 0.90, indicating a good model fit. In addition, the absolute fit indices, including the chi-square/degrees of freedom ratio (CMIN/DF = 1.340) and the Root Mean Square Error of Approximation (RMSEA = 0.035), fall within acceptable ranges, with CMIN/DF below 3 and RMSEA below 0.08. These results suggest that the proposed model demonstrates a strong fit to the data and is appropriate for further analysis.

Table 2 presents the results of the validity and reliability assessment for all constructs used in this study. Validity is evaluated using factor loadings (λ) and Average Variance Extracted (AVE), while construct reliability is assessed using Construct Reliability (CR). All indicator loadings exceed the recommended threshold of 0.70, indicating that each item adequately represents its corresponding latent construct. In addition, all AVE values are above the minimum threshold of 0.50, thereby confirming adequate validity. All CR values across constructs exceed the recommended threshold of 0.70, indicating good consistency in the measurement model. These results indicate that all constructs meet the criteria for validity and reliability, suggesting that the measurement model is well-established and suitable for further structural analysis.

Table 2. Validity and Reliability Test

Variable	Items	λ	AVE	CR
Game Experience	GX1	0.812	0.586	0.894
	GX2	0.795		
	GX3	0.707		
	GX4	0.795		
	GX5	0.774		
	GX6	0.702		
Immersiveness	IM1	0.807	0.653	0.883
	IM2	0.798		
	IM3	0.816		
	IM4	0.812		
Parasocial Relationship	PSR1	0.838	0.712	0.908
	PSR2	0.845		
	PSR3	0.808		
	PSR4	0.882		
Game Loyalty	GL1	0.833	0.692	0.900
	GL2	0.836		
	GL3	0.839		
	GL	0.820		

Source: *Processed Primary Data, 2026*

The results of hypothesis testing presented in Table 2 indicate that H1, which examines the effect of game experience on game loyalty, is not supported (β = 0.087, C.R. = 1.081, p = 0.280), suggesting that game experience does not have a significant direct influence on player loyalty. In contrast, H2 and H3 are supported, showing that game experience has a strong and significant effect on immersiveness (β = 0.826, C.R. = 10.993, p < 0.001) and a positive effect on parasocial relationship (β = 0.392, C.R. = 4.615, p < 0.001). Furthermore, H4 and H5 are supported, indicating that immersiveness significantly influences both game loyalty (β = 0.305, C.R. = 3.226, p = 0.001) and

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parasocial relationship (β = 0.580, C.R. = 6.300, p < 0.001). Finally, H6 is supported, demonstrating that parasocial relationship has a strong and significant effect on game loyalty (β = 0.545, C.R. = 5.725, p < 0.001).

Table 3. Hypotheses Testing

Path Influence	β	C.R.	P-value	Description
Game experience → game loyalty	0.087	1.081	0.280	Not Supported
Game experience → immersiveness	0.826	10.993	<0.001	Supported
Game experience → parasocial relationship	0.392	4.615	<0.001	Supported
Immersiveness → game loyalty	0.305	3.226	0.001	Supported
Immersiveness → parasocial relationship	0.580	6.300	<0.001	Supported
Parasocial relationship → game loyalty	0.545	5.725	<0.001	Supported

Source: *Processed Primary Data, 2026*

4.2 Discussion

4.2.1 Game Experience on Game Loyalty

The results indicate that game experience does not have a significant direct effect on game loyalty (β = 0.087, C.R. = 1.081, p = 0.280). This finding is not consistent with the results of Cui *et al.,* (2022), who reported a significant positive relationship between game experience and player loyalty. This finding indicates that positive gameplay experiences alone are insufficient to drive long-term player commitment directly. Although players may evaluate the game positively, such evaluations do not automatically translate into sustained loyalty. This highlights that loyalty in digital games is not solely driven by experiential satisfaction.

However, the non-significant direct relationship may indicate an indirect effect mediated by other variables. Empirical results show that game experience has a strong and significant effect on immersiveness (β = 0.826, p < 0.001) and a significant effect on parasocial relationship (β = 0.392, p < 0.001). At the same time, immersiveness also significantly influences both parasocial relationship (β = 0.580, p < 0.001) and game loyalty (β = 0.305, p = 0.001). In addition, parasocial relationships have a strong effect on game loyalty (β = 0.545, p < 0.001), indicating that emotional attachment plays a central role in sustaining engagement. These findings provide strong evidence of a mediation mechanism whereby game experience influences loyalty indirectly through immersiveness and parasocial relationships, suggesting a full mediation structure within the proposed model.

This finding can also be explained by the characteristics of freemium and narrative-driven games, in which player commitment is shaped more by ongoing engagement than by the initial experience alone. In such contexts, players may enjoy the gameplay without necessarily developing a strong intention to remain loyal unless they become emotionally involved in the game world. Immersive experiences and repeated interactions with characters serve as key triggers that deepen this involvement, transforming momentary enjoyment into sustained engagement. Thus, the absence of a direct effect reinforces the argument that loyalty emerges from a gradual psychological process rather than an immediate response to game experience.

4.2.2 Game Experience on Immersiveness

The findings show that game experience has a strong and significant positive effect on immersiveness (β = 0.826, C.R. = 10.993, p < 0.001). This result is consistent with previous studies that have identified

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a significant influence of game experience on immersiveness (Ma & He, 2024). This indicates that richer and more engaging gameplay enhances players' ability to become mentally and emotionally absorbed in the game environment.

Elements such as narrative, audiovisual quality, and gameplay design contribute to this immersive experience. As a result, players are more likely to shift their attention fully into the virtual world. When players perceive the game as enjoyable and meaningful, they are more likely to experience deeper immersion. This immersive state reflects a condition where attention is highly focused and external distractions are minimized. Consequently, game experience plays a critical role in facilitating deeper engagement within digital games.

4.2.3 Game Experience on Parasocial Relationship

The analysis reveals that game experience significantly influences parasocial relationship ($\beta = 0.392$, C.R. = 4.615, $p < 0.001$). This finding is consistent with prior research suggesting that gameplay experiences contribute to the formation of parasocial relationships with in-game characters (Daviault, 2012; Milman & Mills, 2023). Repeated and structured interactions within the game environment provide opportunities for players to develop a sense of familiarity and emotional attachment to characters. Despite the absence of reciprocal interaction, these engagements enable players to perceive characters as socially meaningful entities, thereby fostering psychological closeness (Auter, 1992; Giles, 2002; Song & Fox, 2016). This suggests that positive gameplay experiences contribute to the formation of psychological bonds between players and in-game characters. Through repeated interaction and narrative exposure, players begin to perceive characters as socially meaningful entities. This process allows players to develop emotional attachment despite the absence of reciprocal interaction.

This finding reinforces the idea that parasocial relationships in games are actively shaped by gameplay experience. Narrative depth, character development, and interactive storytelling enhance players' emotional involvement. As players become more engaged, they are more likely to internalize their interactions with characters. Therefore, game experience plays an important role in facilitating the emergence of parasocial relationships.

4.2.4 Immersiveness on Loyalty

The results indicate that immersiveness has a significant positive effect on game loyalty ($\beta = 0.305$, C.R. = 3.226, $p = 0.001$). This finding is consistent with prior studies showing that immersiveness in digital environments enhances positive attitudes and behavioral intentions toward a brand or platform (Harz *et al.,* 2022; Nah *et al.,* 2011). This suggests that players who experience greater immersion are more likely to remain committed to the game. Immersion enhances the perceived meaningfulness and enjoyment of the gameplay experience. As a result, players are more inclined to continue engaging with the game over time.

From a psychological perspective, immersion strengthens players' involvement beyond surface-level interaction. When players are deeply absorbed in the game world, their engagement becomes more personal and emotionally driven. This leads to a stronger tendency to maintain long-term interaction with the game. Thus, immersion serves as an important driver of player loyalty.

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DOI: https://doi.org/10.60079/abim.v4i2.794

4.2.5 Immersiveness in Parasocial Relationships

The findings demonstrate that immersiveness significantly affects parasocial relationship (β = 0.580, C.R. = 6.300, p < 0.001). This result is consistent with prior studies suggesting that higher levels of immersion deepen emotional attachment between players and media characters, thereby facilitating the formation of parasocial relationships (Milman & Mills, 2023; Song & Fox, 2016). Immersive experiences enable players to become more cognitively and emotionally absorbed in the game environment, allowing them to internalize interactions with characters more meaningfully.

As a result, players are more likely to perceive these interactions as socially significant, strengthening their psychological connection with in-game characters. This indicates that higher levels of immersion enable players to form stronger emotional connections with in-game characters. When players feel present within the game world, their interactions become more vivid and meaningful. This enhances the perception of closeness with virtual characters. This result supports the view that immersion facilitates parasocial processes. As players become more absorbed, they experience stronger emotional resonance with characters. This allows players to internalize character experiences more deeply. Consequently, immersion plays a key role in strengthening parasocial relationships.

4.2.6 Parasocial Relationship on Game Loyalty

The results show that parasocial relationship has a strong and significant positive effect on game loyalty (β = 0.545, C.R. = 5.725, p < 0.001). This finding is consistent with prior research by Gong & Huang (2023), which demonstrates that stronger parasocial bonds with in-game characters significantly enhance players' intention to continue playing and maintain long-term engagement. This suggests that players who develop emotional attachment to in-game characters are more likely to remain loyal to the game. Parasocial bonds create a sense of connection that motivates continued engagement. This connection extends beyond gameplay mechanics.

This finding highlights the importance of emotional and relational factors in shaping loyalty. When players perceive characters as meaningful social figures, they are more motivated to maintain the relationship. This is often expressed through continued gameplay and repeated interaction. Therefore, parasocial relationships serve as a key mechanism driving long-term player loyalty.

5. Conclusion

This study examined game loyalty in the context of digital games, focusing on the roles of game experience, immersion, and parasocial relationships. Specifically, this study addressed several research questions: whether game experience directly influences game loyalty, whether game experience affects immersiveness and parasocial relationships, whether immersiveness influences parasocial relationships and game loyalty, and whether parasocial relationships affect game loyalty. Using a quantitative approach with structural model testing, the findings show that game experience does not have a significant direct effect on game loyalty. However, game experience has a strong and significant effect on immersiveness and a significant effect on parasocial relationships. Immersiveness significantly influences both parasocial relationships and game loyalty, while parasocial relationships have a strong and significant effect on game loyalty. These findings indicate that player loyalty is not formed directly

Volume 4, Issue 2 (2026). 152-166 e-ISSN: 2985-7589
DOI: https://doi.org/10.60079/abim.v4i2.794

through game experience alone, but through psychological engagement mechanisms, particularly immersion and emotional attachment to in-game characters.

The value of this study lies in its theoretical, practical, and policy-related implications. Theoretically, this study extends the application of parasocial relationship theory to the context of interactive digital media by showing that parasocial bonds in games are shaped not merely by repeated exposure but by meaningful gameplay experiences and immersive involvement. The study also emphasizes the role of immersiveness as an important psychological bridge between game experience and emotional attachment. In practice, the findings provide useful insights for game developers and digital content designers, particularly for designing gameplay systems that combine engaging mechanics, strong narratives, meaningful character development, and immersive environments. From a policy or managerial perspective, the findings suggest that digital game companies should develop player retention strategies that go beyond technical performance and focus more on emotional, relational, and experiential engagement. The originality of this study lies in its integrated model, which explains game loyalty through the combined roles of game experience, immersiveness, and parasocial relationships, particularly in non-romantic or non-dating game contexts.

This study has several limitations. First, the research focuses only on game experience, immersiveness, parasocial relationships, and game loyalty, while other factors such as player satisfaction, perceived value, community engagement, social interaction, monetization fairness, and game genre may also influence loyalty. Second, the study relies on a quantitative approach, which limits deeper exploration of players' personal meanings, emotional experiences, and interpretations of in-game characters. Third, the findings should be interpreted with caution because player loyalty may vary across game genres, platforms, cultural backgrounds, and levels of gaming involvement. Future research is encouraged to examine additional mediating or moderating variables, apply qualitative or mixed-methods approaches, and compare different types of games, such as role-playing, multiplayer, mobile, and narrative-based games. Further studies may also explore how long-term interaction with characters, live-service updates, social features, and community participation strengthen immersion, parasocial relationships, and sustained game loyalty.

Statement of Use of Generative AI

During the preparation of this work, the author used ChatGPT to assist in improving clarity and readability of the text. The author reviewed and edited the output and takes full responsibility for the content of the publication.

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