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I Like, I Attach, I Spend: Psychological Mechanisms Behind In-Game Currency Purchases

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Abstract

The global video game market has seen rapid growth, particularly in Asia, where Gen Z and Millennial players increasingly engage in microtransactions within free-to-play games. Among monetization mechanisms, gacha systems have gained prominence, combining chance-based rewards with in-game item purchases. While structural mechanics partly explain spending, psychological factors such as self-congruence, parasocial interaction, character liking, character attachment, and game commitment play critical roles in driving purchase behavior. This study investigates how these relational and affective mechanisms influence in-game currency purchases in the context of Zenless Zone Zero among Indonesian players. Using a convenience sample of 207 active players, data were collected via online questionnaires and analyzed with Partial Least Squares Structural Equation Modeling (PLS-SEM). Results indicate that other-congruence positively affects character liking, which in turn enhances character attachment and purchase intention, whereas self-congruence fosters parasocial interaction and game commitment, but the indirect path to purchase intention was not statistically significant. Character attachment emerged as the strongest predictor of purchase intention, highlighting the primacy of emotionally meaningful bonds over general game commitment. These findings underscore the importance of relational and affective processes in digital game monetization and provide insights for developers seeking to optimize engagement and spending behavior.

INTRODUCTION

The video game market in Asia is distinguished by its scale and growth, reflecting global revenues of approximately more than 100 billion USD in market value and a strong concentration of Gen Z and Millennial users who consume game content daily and engage in micro-spending (Business Research Insight, 2025) (Smith & Yamakawa, 2020). Indonesia's mobile gaming segment ranks among the world's largest, with a rising trend in aggregate player expenditures despite lower average spending than top global markets (Byshonkov, 2023). These dynamics make the region a prime target for developers seeking sustainable monetization.

A prominent monetization design in today's titles is gacha, widely popularized by cross-platform franchises and increasingly adopted by newer games. Originally, Gacha designs came from the traditional vending machine that gave out children's toy in exchange for money, but over the years, marketeers found out that adults also love collecting the toys from the vending machine, thus popularizing the Gacha design system that we usually see in many

arcade centers that are catered to both children's and adults (Example: Claw machines, Slot Machines, other types of machines with gambling or probabilities as their core mechanics) and utilizes this system into the digital realm such as Online Video Games where players are enticed or encouraged to spend real life currency in order to have a better chances of getting a powerful in-game item or character for ease of game progression (Lakic et al., 2023). Gacha systems combine variable-ratio reinforcement and pity mechanics, which translate repeated attempts into perceived progress and partially mitigate outcome uncertainty, when paired with limited-time availability, these features maintain engagement and encourage spending even under low base probabilities (Thavamuni et al., 2025; Xiao et al., 2022). However, mechanical design alone cannot fully explain players' willingness to repeatedly invest in gacha pulls. While these systems shape the structural environment of spending, they interact with deeper psychological motivations that influence how players perceive characters, evaluate value, and justify purchases.

As a result, understanding player spending behavior requires shifting attention from purely structural mechanics to the relational and emotional dynamics players form within the game world. Things such as Structural features alone do not fully account for why players spend their money for In-game currency. Past researches results indicates that variables like Interactivity and narrative world-building foster identification with characters and intensify parasocial bonding are a major reason for players spending their money for In-game currency (Elvery, 2024; Ferchaud, 2024). This occurs to players in the video game by creating one-sided but emotionally meaningful relationships that resemble real social ties. When a character's perceived attributes align with a player's self-concept, especially the ideal self, character liking and character attachment tend to deepen, supporting long-term engagement and a higher propensity to spend on character-related content (Wang et al., 2024).

Despite increasing recognition of these psychological and relational drivers, existing studies often examine these factors in isolation rather than in an integrated framework. Even then, despite the rapid growth of the global Video Game market, there is limited empirical clarity on the joint operation of self-congruence, parasocial interaction, character-based affect (liking and attachment), and game commitment in predicting in-game purchase intention within contemporary gacha ecosystems. This gap complicates decisions about character experience design, narrative strategy, and monetization. In which this current study goals are to contribute for the research in the field of Video Game marketing & Consumer Behavior.

Other-image congruence refers to the perceived similarity between an individual's mental representation of significant others (e.g., friends, romantic partners, or companions) and a fictional character or media figure, in contrast to self-image congruence, which reflects similarity with one's own self-concept (Wang et al., 2024). This concept is theoretically grounded in the player–avatar relationship framework proposed by Banks and Bowman (2016, 2021), which categorizes avatar perceptions based on degrees of sociality: avatar as object, avatar as me, avatar as symbiote, and avatar as other. Of particular relevance, the "avatar as other" configuration conceptualizes the avatar as a distinct social entity, toward which individuals may experience substantial emotional intimacy. Empirical studies support this view, demonstrating that players can perceive their avatars as important social partners, including friends or romantic companions (Banks & Bowman, 2021; Green et al., 2021). Building on this perspective, Wang et al. (2024) extend other-image congruence to explain how

alignment with socially meaningful others—rather than the self—can shape emotional bonds with fictional characters in digital gaming environments.

Self-Image Congruence (Self-Congruence) is the perceived alignment between an individual's self-concept (actual and ideal selves) and a target's image (brand, product, or character). In a marketing perspective, such alignment predicts favorable attitudes, attachment, and purchase intentions. In interactive entertainment such as video games, congruence with fictional characters can heighten psychological closeness, emotional engagement, and willingness to support the character via in-game spending (Ko & Park, 2020). While both actual and ideal-self congruence matter, evidence often highlights stronger effects for ideal-self in aspirational, character-centric settings; Nevertheless, actual-self alignment can be potent, especially when communications are concrete rather than abstract (Wang et al., 2024).

Self-Discrepancy Theory posits that gaps between the actual and ideal/ought selves elicit emotional discomfort and motivate compensatory responses. In Video game perspective, players may cope by realizing aspects of their ideal selves through avatars or characters, such discomfort can sustain play and relate to impulse buying in consumption settings (Mandel et al., 2017) (Green et al., 2020). In the present framework, self-discrepancy complements self-congruence by explaining why some players form deeper bonds and show stronger purchasing tendencies when characters help bridge identity gaps (Pupelis & Šeinauskienė, 2023).

Parasocial Interaction describes one-sided, illusionary interpersonal exchanges with media figures that feel socially meaningful (Liebers & Schramm, 2017). As media have evolved toward richer cues and interactivity, PSI has gained salience in video games in ways where players can experience intimacy, familiarity, responsiveness, and simulated reciprocity with characters, which reinforces engagement and purchase propensity (An et al., 2024). Parasocial Interaction has also been linked to satisfaction, investment, and commitment, and can co-occur with affective states (Example: jealousy) in romance-coded contexts, highlighting its role in sustained play and spending (Hua & Xiao, 2022). In which previous researchers have found that the higher the emotional commitment and loyalty of players towards the game itself, the higher their intention to spend for in-game currency as well as the amount spent for it (Balakrishnan & Griffiths, 2018; Jang et al., 2019).

The theory of Attachment towards a character explains how early relational experiences shape expectations, emotional regulation, and interpersonal behavior. Extending attachment theory to digital media such as video game, Character Attachment denotes a stable, enduring bond with a character that goes beyond transient liking. When individuals perceive characters as emotionally significant others, they exhibit empathy, concern, and reflective engagement (Bowman et al., 2016) (Bopp et al., 2019). Empirical work associates stronger character attachment with elevated willingness to pay and impulsive purchasing for character-related content, positioning attachment as a proximal driver of spending (Xu & Chen, 2024).

Character Liking reflects positive affective evaluation grounded in Affective Disposition Theory, where perceptions of a character's moral intent shape enjoyment and narrative responses. In interactive narratives on video games perspective, moral appraisal predicts both enjoyment and meaningfulness even when players exert agency, underlining the importance of narrative design and moral framing in cultivating appeal and, indirectly, spending (Shafer et al., 2016) (Ahn & Noh, 2024).

Game Commitment captures enduring psychological attachment and willingness to remain involved, often underpinned by accumulated investments, time, money, identity, skills that raise switching costs (Bergstrom et al., 2024). Commitment manifests via retention and persistence and can be socially sustained through in-game networks. In such cases, spending becomes a rational and emotional extension of long-term involvement rather than a one-off transaction (Prochnow & Patterson, 2024).

In a traditional marketing definition, purchase intention is a consumer's conscious plan or willingness to purchase a specific product or service in the future. Which are shaped by product attributes, price perceptions, brand image and promotional activities. Purchase Intention in the video game perspective denotes a conscious plan to spend on game-related content. In free-to-play online video game ecosystems, intention arises from perceived functional, emotional, and social value and may be amplified by immersive flow states that increase impulse buying tendencies. Sustained microtransactions thus reflect motivation, commitment, and perceived value, especially when purchases enhance or support favored characters (Rita et al., 2024).

Character liking reflects players' positive evaluations of a character's appeal and desirability, while character attachment represents deeper psychological merging and emotional connection, it plays a critical role in the development of deeper psychological bonds with media figures. According to affective disposition theory, individuals form emotional responses toward characters based on their evaluations, and these responses guide subsequent attitudes and behaviors. In media psychology and consumer behavior literature, character attachment is conceptualized as a stronger and more enduring emotional bond that extends beyond momentary liking. Attachment involves feelings of emotional connection, affection, and psychological closeness, which develop over time through repeated exposure and positive affective experiences (Bowman et al., 2016; Bopp et al., 2019). Thus, liking is often considered a precursor to attachment, representing the initial stage in the formation of a relational bond. Prior evidence demonstrates that liking often precedes attachment and that attached players exhibit stronger behavioral intentions, including spending money to support or enhance their favored characters (Omeish et al., 2025) (Wang et al., 2024) (Ahn & Noh, 2024).

Attachment theory suggests that emotional bonds motivate individuals to invest resources to maintain and strengthen the relationship. Attached players perceive in-game purchases as a means of supporting, enhancing, or preserving their relationship with favored characters. According to attachment theory, individuals are naturally motivated to invest resources in relationships that are emotionally meaningful to them. When extended to digital environments, fictional characters can function as symbolic attachment figures, eliciting emotional responses similar to those found in real interpersonal relationships. As a result, individuals who develop strong attachment toward a character may engage in behaviors aimed at supporting, preserving, or enhancing that relationship (Bowman et al., 2016). In the context of video games, particularly gacha-based systems, character attachment plays a critical role in driving spending behavior. Players who feel emotionally connected to a character are more likely to perceive in-game purchases as meaningful actions, such as obtaining, strengthening, or expressing support for the character. This shifts purchase behavior from purely utilitarian decision-making to emotionally driven consumption. Empirical studies demonstrate that character attachment significantly increases willingness to pay and purchase intention for

character-related content. Therefore, character attachment is expected to positively influence purchase intention (Wang et al., 2024; Ko & Park, 2020).

The global video game industry has experienced exponential growth, reaching revenues exceeding 100 billion USD, with Asia representing a particularly dynamic market characterized by a high concentration of Gen Z and Millennial players who engage in frequent microtransactions (Business Research Insight, 2025; Smith & Yamakawa, 2020). Indonesia, as one of the largest mobile gaming markets, demonstrates an increasing aggregate player expenditure trend despite comparatively lower individual spending levels (Byshonkov, 2023). These patterns highlight the region as a focal point for developers aiming to optimize monetization strategies while maintaining user engagement.

A dominant monetization approach in contemporary digital games is the gacha system, which encourages players to spend real-world currency to acquire desirable in-game items or characters. Gacha mechanics combine elements of chance, limited-time availability, and pity systems, effectively converting repeated attempts into perceived progress while mitigating outcome uncertainty (Lakic et al., 2023; Thavamuni et al., 2025; Xiao et al., 2022). While structural design encourages spending, these mechanics alone cannot fully explain why players repeatedly invest in in-game purchases, indicating the presence of deeper psychological motivations.

Psychological factors such as self-congruence, parasocial interaction, character liking, and character attachment have been identified as critical drivers of in-game spending behavior (Elvery, 2024; Ferchaud, 2024; Wang et al., 2024). Self-congruence theory suggests that when players perceive alignment between their actual or ideal selves and in-game characters, they experience enhanced identification and engagement, which fosters spending tendencies (Ko & Park, 2020). Parasocial interactions further deepen these bonds, creating one-sided yet emotionally meaningful relationships with characters, thereby sustaining both engagement and economic investment.

Character attachment and liking play complementary roles in driving purchase intention. Character liking reflects initial positive affective evaluations, whereas character attachment denotes a more enduring emotional bond, influencing willingness to invest in character-related content (Bowman et al., 2016; Xu & Chen, 2024). Empirical studies indicate that players with stronger character attachment exhibit higher purchase intentions, emphasizing that emotional engagement with specific characters is more decisive than general game commitment in predicting spending behavior.

Despite substantial research on individual constructs, existing studies often examine self-congruence, parasocial interaction, and attachment in isolation. There remains limited empirical clarity on how these psychological mechanisms interact within a unified framework to influence in-game purchase intentions, particularly in gacha ecosystems characterized by both structural and relational incentives. This gap hinders developers from designing optimized character experiences and monetization strategies that align with player psychology (Wang et al., 2024).

Addressing this research gap is urgent due to the rapid expansion of the global gaming market and the increasing prevalence of microtransaction-driven revenue models. Understanding the interplay between self-congruence, parasocial interactions, and character attachment provides critical insights for responsible game design, balancing monetization with

ethical engagement and reducing potential risks of compulsive spending (Balakrishnan & Griffiths, 2018; Jang et al., 2019).

This study introduces a novel dual-pathway model that distinguishes between identity-based engagement (self-congruence → parasocial interaction → game commitment) and socially-oriented affective engagement (other-congruence → character liking → character attachment) in predicting purchase intentions. By integrating self-congruence theory with parasocial interaction and attachment frameworks, the research offers a more nuanced understanding of how cognitive and affective mechanisms jointly shape economic behavior in digital gaming contexts (Banks & Bowman, 2021; Wang et al., 2024).

The primary objective of this research is to empirically examine the direct and indirect effects of self-congruence, other-congruence, parasocial interaction, character liking, and attachment on in-game purchase intention in gacha-based mobile games. Specifically, the study seeks to test sequential mediation pathways that explain how identity alignment and relational bonds translate into monetary decisions, thereby extending prior literature in interactive media consumer behavior (Gong et al., 2024; Koay et al., 2023).

The anticipated contributions of this study are twofold. Theoretically, it refines existing models by distinguishing character-specific attachment from general game commitment, demonstrating their differential influence on spending behavior. Practically, the findings can inform game developers and marketers on designing characters, narratives, and engagement systems that effectively foster player investment while promoting sustainable and responsible consumption patterns (Wang et al., 2024).

Ultimately, this research benefits both academia and industry by providing empirical evidence on the mechanisms driving in-game spending. Understanding these pathways not only advances consumer behavior theory in digital environments but also equips practitioners with actionable insights to enhance engagement, optimize monetization strategies, and ensure ethical practices in the burgeoning gacha game ecosystem (Rita et al., 2024).

METHOD

Participants

In this study, convenience sampling employed to collect primary data. The questionnaire will be distributed online via Google Forms to members of the Zenless Zone Zero Indonesian player community across several social media platforms, including Instagram, Twitter, Reddit, and Discord, to effectively reach active players. Data collection is planned to take place from late March to the end of April. To uphold research ethics, the questionnaire will include an informed consent section, alongside screening questions to ensure that all responses meet the predefined criteria of the study (i.e., respondents must be active Indonesian Zenless Zone Zero players).

A total of 258 responses were collected from the participants filling in the questionnaire. A total of 18 responses were excluded due to giving answers that are not in line with the instructions given. Another total of 33 responses are also excluded due to them failing the attention check question designed in order to weed out participants not paying attention to the questions and fill in the questionnaires without fully comprehending the questions or

instructions given. This leaves us with a total 207 valid responses. The information pertaining their demographic information is presented in the table below.

Table 1. Demographic Profile of Respondents (n = 207)

Category	Type	Frequency (n)	Percentage (%)
Gender	Female	13	6.3%
	Male	194	93.7%
Age	18 - 23	147	71.0%
	24 - 27	45	21.7%
	28 - 37	12	5.9%
	38 - 45	3	1.4%
Religion	Islam	160	77.2%
	Protestant	17	8.2%
	Catholic	12	5.8%
	Buddha	7	3.4%
	Hindu	2	1.0%
	Others	9	4.4%
Income (Monthly)	< 5.000.000	163	78.9%
	5.000.000 - 10.000.000	30	14.4%
	10.000.000 - 20.000.000	12	5.8%
	20.000.000 - 30.000.000	2	1.0%
Occupation	Student	116	56.2%
	Full-time job	51	24.5%
	Part-time job	24	11.5%
	Unemployed	16	7.7%
Highest level of Education	Highschool	120	58.2%
	Diploma	5	2.4%
	Bachelor	78	37.5%
	Masters	4	1.9%

Source: Primary data collected via online questionnaire from active Zenless Zone Zero Indonesian players (March–April 2026).

The sample is predominantly male (93.7%) and primarily composed of young adults aged 18–23 (71.0%), followed by those aged 24–27 (21.7%). Most respondents identify as Muslim (77.2%), reflecting the general population distribution. In terms of socioeconomic characteristics, the majority report a monthly income below Rp 5,000,000 (78.9%) and are mainly students (56.2%), followed by full-time employees (24.5%). Consistent with this profile, most respondents have completed high school (58.2%) or hold a bachelor's degree (37.5%). Overall, the sample is largely characterized by young, student-dominated individuals with relatively low to moderate income levels.

Table 2. In-Game Spending Behavior of Respondents (Monthly Expenditure and Product Preferences, n = 207)

Category	Type	Frequency (n)	Percentage (%)
In-Game Spending (monthly)	15.000 - 75.000	104	50.1%
	75.000 - 250.000	77	37.0%
	250.000 - 750.000	19	9.2%
	750.000 - 1.500.000	6	3.2%
	1.500.000 – 5.000.000	1	0,5%
Biggest In-Game Spending	≤ 100.000	80	38.6%
	100.000–500.000	104	50.2%
	500.000–1.000.000	14	6.8%
	> 1.000.000	9	4.3%
Type of In-Game Product Purchased often	Inter-Knot Membership (Monthly Pass)	162	78.0%
	Monochrome	30	14.5%
	New Eridu City Fund Plans (Battle Pass)	9	4.3%
	Limited Bundle Gift (Bundle Shop)	6	2.9%
Reason to purchase In-game digital products	To obtain favorite characters	114	55.1%
	To obtain favorite character costumes/skins	37	17.8%
	To support progress in the game	25	12.1%
	To support the game developers and the continuity of the game	18	8.7%
	Other Reasons	13	6.3%
Frequency of Purchase (per Game Patch)	1 - 2 times in 1 patch	192	92.8%
	3 - 5 times in 1 patch	15	7.2%
Playing Duration	< 6 bulan	14	6.7%
	6–12 bulan	77	37%
	> 12 bulan	116	56.3%
Frequency of Playing the Game	Everyday	125	60.6%
	4–6 times/week	32	15.4%
	2–4 times/week	35	16.8%
	1 time/week	7	3.4%
	2–3 times/month	6	2.9%
	1 time/month	2	1.0%

Source: Primary data collected via online questionnaire from active Zenless Zone Zero Indonesian players (March–April 2026).

Most respondents report relatively low monthly in-game spending, with 50.1% spending Rp 15,000–75,000 and 37.0% spending Rp 75,000–250,000. A similar pattern is observed in their highest spending, where the majority (50.2%) report a maximum purchase of Rp 100,000 - 500,000. In terms of purchase behavior, the most commonly purchased product is the Inter-Knot Membership (78.0%), followed by Monochrome (14.5%), while other items such as battle passes and bundle packages are less frequently purchased. The primary motivation for purchases is to obtain favorite characters (55.1%) and their associated cosmetics

(17.8%). Regarding purchase frequency, most respondents buy in-game items 1–2 times per patch (92.8%). The majority have been playing the game for more than 12 months (56.3%) and engage with the game frequently, with 60.6% playing every day. Overall, the findings indicate that respondents are highly engaged players with consistent but relatively moderate spending behavior, primarily driven by character-related motivations.

Measures

Other-Congruence

Measurement of Self-congruence in this study follows the previous research of Wang et al. (2024), with with four items spanning actual and ideal-other alignment with the focal character (Example: "Reflects people who are important to me", Matches the kind of person others expect me to be," and "reflects the image I want others to see"). The research participant will rate the question items on a 7-point Likert scale ranging from 1 – 7. In this research, the Cronbach Alpha for Other-Congruence is 0.794.

Self-Congruence

Measurement of Self-congruence in this study follows prior work of Wang et al. (2024), with four items spanning actual and ideal-self alignment with the focal character (Example: "matches my own," "reflects my true self," "matches the self I desire," "reflects the self I want to be"). The research participant will rate the question items on a 7-point likert scale ranging from 1 – 7. In this research, the Cronbach Alpha for Self-Congruence is 0.898.

Parasocial Interaction

Measurement of Parasocial Interaction in this study uses ten items from previous research of Dibble & Rosaen (2011), in capturing comfort "as with a friend," down-to-earth perception, anticipation of future appearances, willingness to consume off-game media, perceived understanding, media reading, missing the character during absence, desire to meet, sympathy when the character made a mistake, and perceived attractiveness. The research participant will rate the question items on a 7-point Likert scale ranging from 1 – 7. In this research, the Cronbach Alpha for Parasocial Interaction is 0.841.

Character Liking

Measurement of Character Liking in this study uses four items: perceived goodness, appeal, likability, and physical attractiveness of the favorite character (Hanus & Dickinson, 2018). The research participant will rate the question items on a 7-point Likert scale ranging from 1 – 7. In this research, the Cronbach Alpha for Character Liking is 0.578, although it is below the adequate threshold, the values of its composite reliability remained satisfactory at above 0.70, which indicates an adequate convergent validity to continue with the research (Hair et al., 2022).

Character Attachment

Measurement of Character Attachment in this study uses four items (emotional bond, emotional attachment, affection, passion) to capture attachment strength (Ko & Park, 2020). The research participant will rate the question items on a 7-point Likert scale ranging from 1 – 7. In this research, the Cronbach Alpha for Character Attachment is 0.891.

Game Commitment

Measurement of Game Commitment in this study comprises of five items: intentions to keep playing long-term, maintain involvement, feel attached/connected to the world, wish the game "could last forever," and orient to the game's long-term future (Uysal, 2016). The

research participant will rate the question items on a 7-point Likert scale ranging from 1 – 7. In this research, the Cronbach Alpha for Game Commitment is 0.865.

Purchase Intention

Measurement of Purchase Intention in this study uses five items tailored to *ZZZ*'s premium currency (Polychrome): intention to continue purchasing, recommendation, perceived worthwhileness, likelihood of frequent purchases, and plans to spend more (Wang et al., 2018). The research participant will rate the question items on a 7-point Likert scale ranging from 1 – 7. In this research, the Cronbach Alpha for Purchase Intention is 0.907.

Data Analysis

Data Analysis of this research will be conducted using PLS-SEM on Smart PLS 4 after sufficient amount of data from the questionnaire is collected. Before proceeding to the main analysis, the author will conduct a pre-test involving approximately 50 respondents to evaluate the reliability and validity of the measurement items and constructs. This preliminary step ensures that the instrument meets acceptable psychometric standards prior to main collection. Once the pre-test results confirm that the items are reliable and valid, the main data collection phase will continue. After the required sample size is obtained and analyzed using PLS-SEM, the study will advance to the presentation of results and formulation of conclusions. After the data is analyzed, we can continue further to the results & conclusion section.

RESULTS AND DISCUSSION

Measurement Model

The measurement model demonstrated acceptable reliability and validity. Most indicator loadings exceeded the recommended threshold of 0.70, while composite reliability values for all constructs were above 0.70, indicating satisfactory internal consistency. Although the Average Variance Extracted (AVE) for Character Liking (0.451) and Parasocial Interaction (0.490) fell slightly below the recommended threshold of 0.50, their composite reliability values remained above 0.70, suggesting adequate convergent validity (Hair et al., 2022). Discriminant validity was confirmed through cross-loading analysis, Fornell–Larcker criterion, and HTMT ratios, with all HTMT values below 0.90.

Structural Model

The structural model results indicate modest explanatory power. The R^2 value for purchase intention was 0.170, suggesting that the model explains 17.0% of the variance in purchase intention. Other endogenous constructs also showed relatively low R^2 values, indicating that additional variables may further explain the phenomenon. Meanwhile, all Q^2 values were above zero, confirming predictive relevance.

Hypothesis Results

Other Congruence positively predicts Character Liking (H1)

PLS-SEM was used to examine the correlation of how Other Congruence positively predicts Character Liking. It is assumed that Other Congruence such as Ideal-Others & Actual Others would positively predict Character Liking. Other Congruence itself is a new variable hypothesized and proved by Wang et al. (2024) in his previous research with a positive result.

As a result, Other-Congruence positively predicts Character Liking. The results of the structural model analysis indicate that Other Congruence has a positive and statistically significant effect on Character Liking ($\beta = 0.287$, $p < 0.05$). Therefore, H1 is supported.

Self-Congruence positively predicts Parasocial Interaction (H2)

It is assumed that Self-Congruence such as Ideal-Self & Actual-Self would positively predict Parasocial Interaction. Based on multiple previous research on their relationships outside of the gaming context (Wang et al., 2021; Koay et al., 2023; Wasike, 2025) in which predicts that the correlation of both of these variable to be positive.

As a result, Self-Congruence positively predicts Parasocial Interaction. The results of the structural model analysis indicate that Self Congruence has a strong positive and statistically significant effect on Parasocial Interaction ($\beta = 0.525$, $p < 0.05$). Therefore, H2 is supported.

Character Liking positively predicts Character Attachment (H3)

It is assumed that Character Liking positively predicts Character Attachment, both are very closely linked due to Character attachment being a result of character liking. This can be reference back to the previous research of Wang et al. (2024) where it is found that they are positively correlated.

As a result, the structural model results show that Character Liking exerts a positive and significant influence on Character Attachment ($\beta = 0.360$, $p < 0.05$). Thus, H3 is supported.

Parasocial Interaction positively predicts Game Commitment (H4)

It is assumed that Parasocial Interaction positively predicts Game Commitment. Commitment oftentimes is treated in the same context with loyalty, although loyalty itself is commonly treated as the end result of commitment building mechanism (Labrecque, 2014). From previous research with context of both gaming and non-gaming context by referencing the commitment aspect of the variable previously researched by Gong et al. (2024) which predicted a positive correlation.

As a result, the analysis reveals that Parasocial Interaction has a positive and statistically significant effect on Game Commitment ($\beta = 0.456$, $p < 0.05$). Accordingly, H4 is supported.

Character Attachment positively predicts Purchase Intention (H5)

It is assumed that Character Attachment positively predicts Purchase Intention. Character attachment connection to purchase intention can be summarized as an end result of psychological alignment between the player and the video game character that will lead to purchase intention with previous research cases supporting the positive outcome of the correlation (Park et al., 2010).

The results indicate that Character Attachment positively and significantly influences Purchase Intention ($\beta = 0.394$, $p < 0.05$). Therefore, H5 is supported.

Game Commitment positively predicts Purchase Intention (H6)

It is assumed that Game Commitment positively predicts Purchase Intention. Game commitment reflects players psychological attachment and willingness to maintain their relationship with the game, capturing their motivation to continue engagement over time. As evidenced by Gong et al. (2024) in his previous research on this topic.

The findings show that the effect is relatively weak, Game Commitment has a positive influence on Purchase Intention ($\beta = 0.077$, $p < 0.05$). But statistically the effect is not significant ($t = 1.126$, $p > 0.05$). Although the relationship is theoretically meaningful, the empirical evidence does not provide sufficient statistical support. Hence, H6 is not supported.

Mediating Roles of Character Liking, Character Attachment, between Other Congruence and Purchase Intention (H7)

The results indicate that the indirect effect of Other-Congruence on Purchase Intention through Character Liking and Character Attachment is positive and statistically significant, supporting H7 ($\beta = 0.039$, $p = 0.005$). This suggests that Other-Congruence influences purchase intention through a sequential emotional process rather than as a direct driver. Specifically, when players perceive a character as aligned with socially desirable or idealized others, this alignment enhances initial affective evaluation in the form of character liking, which subsequently develops into stronger emotional attachment. This attachment then serves as the key mechanism translating affective responses into purchase intention. The result supports the perspective of self-congruence theory and character-based consumption, where symbolic alignment first generates positive evaluation before evolving into deeper emotional bonding that drives behavior. In the context of gacha games, this implies that socially meaningful character perception becomes economically relevant only after it is internalized as an emotional connection.

Mediating Roles of Parasocial Interaction and Game commitment between Self Congruence and Purchase Intention (H8)

In contrast, the indirect effect of Self-Congruence on Purchase Intention through Parasocial Interaction and Game Commitment is not statistically significant, leading to the rejection of H8 ($\beta = 0.020$, $p = 0.054$). Although Self-Congruence significantly enhances Parasocial Interaction and Parasocial Interaction significantly influences Game Commitment, the combined pathway does not sufficiently explain purchase intention. This suggests that relational engagement, while important for strengthening player involvement with the game, does not necessarily translate into spending behavior. One possible explanation is that parasocial interaction primarily functions as an engagement and retention mechanism rather than a direct monetization driver. Unlike emotional attachment, which creates a stronger sense of psychological ownership toward characters, parasocial interaction may generate perceived closeness without triggering a strong enough motivation to spend. Therefore, the findings indicate that identity alignment through self-congruence contributes more to sustained engagement than to purchase intention, highlighting the distinction between relational involvement and economic behavior in gacha-based gaming environments.

Research Hypothesis Testing (n=208)

Table 3. Results of Hypothesis Testing for Relationships Between Psychological Constructs and Purchase Intention (n = 208)

Hypothesis Relationship	Coefficient	C.R	P-Value	Supported
H1: Other Congruence → Character Liking	0.326	5.287	0.000	Yes
H2: Self Congruence → Parasocial Interaction	0.413	7.240	0.000	Yes
H3: Character Liking → Character Attachment	0.398	6.829	0.000	Yes
H4: Parasocial Interaction → Game Commitment	0.211	2.527	0.012	Yes
H5: Character Attachment → Purchase Intention	0.300	4.082	0.000	Yes
H6: Game Commitment → Purchase Intention	0.233	3.284	0.001	Yes
H7: Other-Congruence → Character Liking → Character Attachment → Purchase Intention	0.039	2.792	0.005	Yes
H8: Self-Congruence → Parasocial Interaction → Game Commitment → Purchase Intention	0.054	1.934	0.054	No

Source: Primary data collected via online questionnaire from active Zenless Zone Zero Indonesian players (March–April 2026) and analyzed using PLS-SEM.

Theoretical Implication

The purpose of this study was to investigate how two congruence effects (Self-image & Other-image congruence) and relational constructs (Character Liking, Parasocial Interaction, Character Attachment, Game Commitment) influence character-related responses and purchase intention. Overall, the empirical results analyzed using PLS-SEM support majority of the proposed hypotheses with the exception of H6 (Game Commitment positively predicts Purchase intention). The findings range from partial to strong support, highlighting the differential roles of psychological attachment and game-related commitment in shaping purchase intention. From a theoretical perspective, one of the key theoretical contributions of this study lies in distinguishing character-level relational attachment from game-level commitment as fundamentally different psychological mechanisms with distinct behavioral consequences. While prior research often assumes that stronger commitment or loyalty toward a game directly translates into increased purchase intention (Balakrishnan & Griffiths, 2018), the findings of this study challenge this assumption.

Firstly, the results demonstrate that character attachment has a strong and direct influence on purchase intention, whereas game commitment does not exert a statistically significant effect, despite being positively associated. This suggests that in gacha games, spending behavior is not primarily driven by dedication to the game as a platform, but rather by emotionally charged, character-specific bonds (Wang et al., 2024; Cai et al., 2022). Theoretically, this finding supports the view that attachment-based consumption is relational and object-specific, aligning with attachment theory and emotional bonding perspectives, rather than generalized loyalty models. This distinction contributes to the literature by clarifying that commitment and attachment should not be treated interchangeably in interactive entertainment contexts.

Secondly, this study extends self-congruence theory by empirically demonstrating that self-congruence and other- congruence operate through distinct psychological pathways rather than a single unified mechanism. This dual-pathway structure enriches prior self-congruence

frameworks by showing that congruence effects are relationally contextualized. Alignment with socially meaningful others facilitates affective bonds toward specific characters (Wang et al., 2024; Banks & Bowman, 2021), whereas alignment with the self-fosters immersive and identity-driven engagement with the broader game experience (Ko & Park, 2020; Banks & Bowman, 2016; Elvery, 2024). This contributes to research by integrating self-congruence theory with parasocial interaction theory, demonstrating that identity alignment does not uniformly translate into economic behavior, but instead depends on the relational target of the congruence.

Thirdly, the findings further nuance the role of parasocial interaction in digital media economics. While parasocial interaction significantly increases game commitment, its indirect path to purchase intention is interrupted at the commitment stage. This suggests that parasocial interaction functions primarily as an engagement-deepening mechanism, which implies that parasocial interaction fosters psychological immersion, emotional comfort, and long-term involvement, but these states alone are insufficient to trigger monetary expenditures unless they are coupled with attachment to monetizable focal objects, such as characters.

Furthermore, Character Attachment and Game Commitment are identified as the most important predictors of purchase intention. Character Attachment reflects emotional bonding with characters, while Game Commitment reflects long-term involvement with the game. Together, these constructs represent two complementary mechanisms driving spending behavior: emotional motivation and behavioral persistence. However, the sequential mediation from Self-Congruence to Purchase Intention through Parasocial Interaction and Game Commitment is not statistically significant. This suggests that although self-congruence enhances engagement and commitment, it does not necessarily translate into spending behavior. One possible explanation is that relational engagement alone is insufficient to drive purchase intention without stronger emotional triggers such as attachment. This finding supports prior studies indicating that engagement mechanisms primarily function as retention drivers rather than direct monetization drivers.

Overall, the results suggest that purchase intention in gacha games is formed through a sequential psychological process. Emotional attachment plays a more direct role in monetization, while relational engagement contributes to sustained participation. This distinction highlights the complexity of player behavior and underscores the importance of integrating both emotional and behavioral perspectives. On the other side, the study contributes to both consumer behavior and media psychology literature by demonstrating that monetization in interactive entertainment contexts is relational, object-specific, and emotionally driven rather than purely engagement-based.

CONCLUSION

This study concludes that in gacha-based video games, in-game purchase intention is primarily driven by emotional attachment to characters rather than general game commitment. Other-congruence positively influences character liking and subsequently character attachment, which significantly predicts players' spending behavior. Self-congruence enhances parasocial interaction and game commitment; however, the pathway from self-congruence through parasocial interaction to purchase intention was not statistically significant. These findings highlight the importance of relational and affective mechanisms in shaping economic

behavior, demonstrating that monetization is object-specific and emotionally mediated rather than purely engagement-driven. For future research, it is recommended to explore additional psychological and contextual factors that may influence spending, such as cultural differences, game narrative complexity, or social influence within player communities. Longitudinal studies could provide deeper insights into the evolution of character attachment and its impact on repeated purchases over time. Additionally, expanding the sample to include more balanced gender representation and diverse gaming populations would enhance the generalizability of the findings and provide further guidance for developers designing ethically engaging and monetizable game experiences.

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