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Click, Scroll, and Buy: Fear of Missing Out (FOMO) as a Mediation Between Social Media Interaction and Impulsive Buying Among Indonesian Female Mobile Game Users

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ABSTRACT

The increasing integration of social media into digital gaming environments has altered how players interact, communicate, and respond to various forms of content exposure. Such interaction may create psychological responses that influence consumer decision-making processes, particularly in encouraging unplanned purchasing behavior within gaming ecosystems. Therefore, understanding the psychological mechanisms underlying impulsive buying behavior among female players has become increasingly relevant. The purpose of the research is to analyze Fear of Missing Out (FOMO) as a mediating variable in the relationship between social media interaction and impulsive buying behavior among active female players of the L&D mobile game. The method used is quantitative, involving surveys and online questionnaires distributed through various social media platforms. The data are analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). A total of 354 respondents who meet the predetermined criteria are included in the study sample. The findings indicate significant direct and indirect relationships among the three variables examined. A substantial proportion of the impulsive buying behavior exhibited by active female players of the L&D game who participate on social media can be explained by FOMO as an intervening psychological factor. Furthermore, the research contributes theoretically by identifying FOMO as a mediating psychological mechanism that clarifies impulsive buying behavior among Indonesian female mobile gaming players. Practically, the findings offer valuable insights for marketers, game developers, and digital communication strategists in formulating social media engagement strategies.

Keywords: social media interaction, Fear of Missing Out (FOMO), impulsive buying behavior, Indonesian female mobile game users

INTRODUCTION

The online gaming industry is considered one of the sectors experiencing rapid growth. One of the currently popular game genres is *otome* games. According to Lover's Lens (2025), the *otome* games market grew to $5.26 billion in 2024. It is expected to continue to increase until 2031. The growth is driven by several factors, including the growing interest in mobile games, which makes it easier to access *otome* games, the increasing number of female players, and the rising demand for games that emphasize interactive narratives (He, 2024; Lyu, 2024).

The word *otome* game (乙女ゲーム) comes from Japanese and means "maiden game" or game for girls. *Otome* games are an interactive game genre aimed at female players. In the game, the storyline follows a female protagonist and various male characters who become her love interests. Players will be invited to directly participate in the story, such as making decisions that affect its continuation and forming romantic relationships with various male

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characters (Liu & Lai, 2024; Nouvanty et al., 2023).

One *otome* game currently on the rise is the L&D game, released on January 18, 2024, by Papergames, a game developer based in China. The L&D game combines semi-realistic 3D graphics, a *gacha* system for obtaining rare items, and futuristic sci-fi elements that set it apart from traditional otome games, which generally use 2D or semi-3D graphics (Wu, 2024). Within a year of its release, the L&D game has set various records, including active users that reach almost 7,000,000 in just one month after launch, and it has generated more than $400 million over the year (Astle, 2025). Likewise, in Indonesia, the game of L&D has attracted a large number of players. Awigwog, a dedicated game top-up sales site, reveals the top 50 game sales leaderboard, with the L&D game and the monthly pass securing first and third positions, respectively, surpassing other renowned games (Gan, 2024; Hidayat & Tambunan, 2025; Wang, 2024).

The *gacha* system and limited-time events are among the prominent characteristics of the L&D game (Tang, 2024). The *gacha* system is a game mechanic in which players spend in-game currency or real money to obtain random rewards. The fortunate players may receive special prizes. The pity system guarantees these unusual benefits once a specific threshold (Reyes, 2025). In the L&D game, players can perform *gacha* to acquire rare memory cards. The likelihood of acquiring these cards is divided into two categories: standard and limited rare memory cards. Players have 70 chances to get these unique memory cards, which are only available during limited-time events, as their pity increases. Once the event concludes, players are unable to get these rare memory cards through *gacha* again (Chen & Fang, 2023; Hidayat & Tambunan, 2025; Hiramatsu, 2020; Shibuya et al., 2019).

Female gamers can use "Remind Me," a period tracker that works like an in-game calendar. Players can register their menstrual cycle each month so that male players can notify them in-game or via alerts. Players can also utilize the "Remind Me" option to remind themselves of other tasks, such as assignment deadlines, so male characters can keep track of their daily routine and help them to remember it (Hong et al., 2024; Wu et al., 2024).

The various engaging gameplay mechanics in the L&D game not only enhance the player's gaming experience but also create a space for social interaction between players that exists outside the game. This social interaction arises from shared interests among users, in this case, the game, which creates deeper connections and interactions between players (Xi, 2024). Some games provide dedicated forums or communities for players to interact with each other. However, it is not uncommon for groups of players with similar interests to create communities or platforms on social media, where players can discuss lore, share *gacha* results, and provide guides for the game (Al-Nawasreh & Andersson, 2022).

In the initial survey conducted in the research, most players have joined the L&D game community and actively interacted with other players on social media. Based on respondents' answers, some follow only the official account of the L&D game, while others also follow unofficial accounts for the latest information that the official account has not yet provided. Players also actively interact with other players to share the latest information or discuss the story in the L&D game. This social interaction can create psychological pressure. Players who have not achieved what they desire feel pressured or left behind by other players. This psychological pressure is known as Fear of Missing Out (FOMO). It is a condition in which individuals fear being left behind or missing out on moments others are experiencing without them. It ultimately drives them to constantly stay updated on current events to feel relevant (Alfasi, 2021; Barry & Wong, 2020; Dinçer et al., 2022).

Social interaction can cause people to subconsciously compare themselves to others whom they only see on social media. As a result, feelings of anxiety and restlessness arise when they fail to keep up with trends they see on social media and fear missing out, leading to the development of FOMO (Widiayanti et al., 2023). This phenomenon is supported by Herawati et al. (2022), explaining that intense social media use and interaction can lead individuals to experience psychological stress, specifically FOMO, due to the fear of missing important information or feeling irrelevant in their social circles. This situation necessitates constant monitoring of social media activity to stay up to date with their social life (Ajewumi et al., 2024; Barry & Wong, 2020).

Social media interactions are a major social-driven trigger of FOMO (Tandon et al., 2022). When individuals experience feelings of fear or anxiety about missing important moments while interacting with other users on social media, they allocate more mental capacity to overcome these feelings of anxiety. It causes individuals to focus more on and devote more time to social media as a coping mechanism to overcome anxiety about missing out on information (Alutaybi et al., 2020; Gokul & C., 2023).

Under the influence of FOMO, individuals abandon logic and increasingly depend on emotional responses to alleviate uneasiness and apprehension, which can trigger impulse buying (Ghaniyah & Rufaidah, 2024). It is defined by spontaneous, unpremeditated buying behavior driven by an intense want to acquire things or services, disregarding the immediate or future ramifications of the purchase (Harahap & Amanah, 2022). There are two fundamental components of impulse buying: the cognitive aspect, characterized by a lack of thorough planning and contemplation prior to a purchase, and the affective aspect, which relates to the emotional responses linked to the purchase, occurring before, during, or after the transaction, encompassing feelings of regret, happiness, anger, sadness, or disappointment (Qureshi et al., 2025).

Meanwhile, research on e-commerce emphasizes how FOMO influences impulse buying

(Djamhari et al., 2024). People who are active online, especially Generation Z and millennials, are more likely to experience FOMO pressure. Indonesia's collectivist culture plays a significant role in amplifying FOMO's influence on impulse buying. Collectivist culture, which emphasizes group interests above individual interests, causes individuals to be heavily influenced by family and friends. This social pressure ultimately leads individuals to develop FOMO and to engage in impulsive buying, driven by the desire to feel connected and not left behind (Ali & Sudan, 2018; Çelik et al., 2019).

The initial survey has found that most L&D game players have FOMO for many reasons. First, FOMO hits people when they miss an L&D event or update that other players widely discuss, especially if it features a male character they like. Second, when other players get rare cards or unique goods that they do not have. If they are tied to their favorite male characters, they will feel nervous. Third, most players have paid for L&D things without planning, and some do so regularly. Reward items for favorite male characters are a motivator for several responders to buy. Most impulsive buyers do not regret their purchases.

As more women get involved in digital games, especially the *otome* genre, the problem of social connections on social media that cause FOMO and lead to impulsive purchase behavior is becoming more and more important (Gong & Huang, 2023). This tendency is developing in Indonesia as more people have access to *gacha* systems, limited-time events, and social aspects that make players feel stressed (Dharma, 2025; Utama & Utami, 2025). Despite its ubiquity, there is a scarcity of research on the psychological aspects that contribute to impulsive purchasing decisions in emotionally engaging games, such as L&D games. The phenomena of social media interaction that triggers FOMO and results in impulsive purchasing can also manifest among active female participants of the L&D game.

Active female players of the games L&D game regularly use social media to share their gaming experiences, strategies, and achievements (Gan, 2024; He, 2024; Wang, 2024). When individuals see fellow players sharing interesting content, such as new in-game items, participation in certain events, or new rare memory cards, they often feel compelled to participate. It is where FOMO arises, a feeling of worry about being left out of the exciting experiences others are having (Littman-Ovadia & Russo-Netzer, 2024). This feeling can arise subconsciously and drive individuals to make impulse purchases to maintain social engagement or feel less different from their peers and to increase opportunities for interaction (Dharma, 2025; Dinçer et al., 2022). Understanding the psychological mechanisms behind social media interactions, FOMO, and the urge to buy impulsively can reveal many new insights, particularly into how social pressure and the fear of missing out influence today's digital consumer behavior (Neha & Walia, 2025).

While numerous studies have analyzed the relationship between social media interactions and impulse buying tendencies, as well as the FOMO phenomenon, to date, no research has specifically examined the role of FOMO as a mediator between social media interactions and impulse buying, particularly in *otome* games. It is interesting from the perspective of active female players of the L&D game, given that players' greater emotional involvement in the gaming community can influence their purchasing decisions. This research gap suggests there is still considerable room for further exploration in online gaming for female players. Based on the literature review and conceptual framework, the following hypotheses are proposed to investigate the relationships among social media interaction, FOMO, and impulsive buying behavior among active female players of the L&D game:

H1: Social media interaction positively influences FOMO among active female players of the L&D game,

H2: FOMO positively influences impulsive buying behavior among active female players of the L&D game,

H3: FOMO mediates the relationship between social media interaction and impulsive buying behavior among active female players of the L&D game,

H4: Social media interaction positively influences impulsive buying behavior among active female players of the L&D game

The research offers a novel contribution by incorporating FOMO as a mediating variable in the relationship between social media interactions and impulse buying. The research is conducted in a setting that has not been studied much before: active female *otome* game players in Indonesia. Previous studies have primarily addressed FOMO in e-commerce or in social media more broadly, without accounting for the emotional and social dynamics unique to female gamer communities in narrative games. Therefore, the research contributes to literature by addressing a deficiency in understanding digital consumer behavior in the intimate, community-based realm of gaming.

METHODS

The research design includes a detailed strategy for systematically gathering, assessing, and evaluating data to address the research objectives. The research employs a quantitative approach via an online survey form through Google Forms. The questionnaire is distributed through Instagram by making announcements via stories, as well as X, Facebook, and TikTok. Data are gathered throughout a defined timeframe (cross-sectional) within one month (mid-May to June 2025). The research employs a multivariate methodology based on Structural Equation Modeling

(SEM) with Partial Least Squares (PLS). SmartPLS 4 software is used to test the hypotheses and determine whether they are true.

The questionnaire comprises 8 items on social media interaction, 5 on FOMO, and 4 on impulsive buying. A Likert scale is used to assess how people respond to the questions after the surveys are collected. Since the research population is unknown, the sampling approach employed is non-probability, specifically purposive sampling. It delineates certain criteria or qualities for respondents, as follows: women who play the L&D game and have made transactions in the game in the previous 6 months, are between 17 and 35 years old, and are active on social media sites like Instagram, X, Facebook, and TikTok that let players interact with each other.

The questionnaire does not explicitly include a gender identification item, since the research targets active female player communities, emphasizing respondent criteria before participation and verifying respondent suitability using supporting indicators such as Indonesian female naming conventions. Moreover, this part does not include inquiries about the duration of community members' gameplay, as the game was launched exclusively on Android and iOS in early January 2024. However, it is built and promoted for female players, making the selected respondent characteristics more suitable for the research population.

The sample size is determined using the formula proposed by Hair et al. (2021), which suggests multiplying the number of indicators by 5−10. Since the research consists of 17 indicators, the minimum required sample size is 170 respondents (17 × 10). A total of 377 questionnaires have been successfully collected through online distribution. However, after the screening process based on the predetermined research criteria and data eligibility requirements, only 354 questionnaires are considered valid and suitable for further analysis. Therefore, the final sample size exceeds the minimum requirement and is considered adequate for conducting PLS-SEM analysis.

Data analysis organizes and analyzes previously collected data to make it useful for research (Sugiyono, 2022). The research uses multivariate Partial Least Squares Structural Equation Modeling (PLS-SEM) to examine relationships among constructs that cannot be measured directly and to build and estimate structural equation models (Hair et al., 2021). The research employs PLS-SEM data analysis due to its merits. It is suitable for researching complex interactions, such as mediating variables. PLS-SEM may examine validity, reliability, and construct connections simultaneously. SEM-compatible statistics application SmartPLS is utilized for analysis.

Validity tests verify study constructs. Using convergent and discriminant validity, PLS-SEM analyzes concept validity. Positive correlation and construct identification indicate convergent validity. Strong indicators explain almost 50% of their volatility, with loadings exceeding 0.708. An indication between 0.40 and 0.708 is acceptable for Composite Reliability (CR) and Average Variance Extracted (AVE). When AVE is greater than 0.50, a concept accounts for over half of the indicator variance (Hair et al., 2021).

Discriminant validity proves the model of idea experimental distinction. Validity is needed to ensure that each construct analyzes a distinct issue without overlapping. PLS-SEM-recommended cross-loading analysis and HTMT testing are employed in the research. The cross-loading technique requires each indicator to have the highest loading value in its original design relative to others. Discriminant validity occurs when an indicator correlates more strongly with the intended construct than with other constructs (Hair et al., 2021).

Additionally, the research employs Heterotrait-Monotrait Ratio (HTMT), the most reliable approach for measuring discriminant validity in PLS-SEM models. The HTMT compares the average correlation of indicators from heterotraits to those within 39 constructs. In interpreting HTMT results, it is suggested that values be < 0.90 for comparable structures and < 0.85 for unique builds (Sarstedt et al., 2017). Above this level, HTMT scores across constructs indicate concerns about discriminant validity. The research uses these two ways to distinguish each construct. Internal consistency is assessed for each construct's indicators. The research examines Cronbach's alpha and CR. Signal internal consistency is measured by Cronbach's Alpha.

According to Hair et al. (2019), Cronbach's alpha values of ≥ 0.70 indicate reliability, but the value of 0.60−0.70 is still acceptable. The CR weights indicate construct dependability. The recommended CR is 0.70–0.90. CR scores of 0.90 are acceptable, while scores of 0.95 or higher may indicate overlap. Structure or inner model explains latent construct relationships. The inner model assesses the strength and quality of structural links using collinearity tests, path coefficients, coefficient of determination (R^2), effect size (f^2), and predictive relevance (Q^2).

The structural model is tested for collinearity to ensure no strong or overlapping relationships between variables. Variance Inflation Factor (VIF) tests construct collinearity, thus the VIF is calculated by regressing the dependent construct against all model predictors (Cheng et al., 2022). According to Hair et al. (2021), collinearity-free constructs have VIF scores less than 5. Between 3.3 and 5, substantial collinearity is possible but within bearable bounds, whereas over 5 is severe and should be avoided.

The coefficient of determination (R^2) measures how much the independent variables explain the dependent variable. Higher R^2 values indicate better predictive performance of the structural model (Gao, 2024). According to Sarstedt et al. (2017), the R^2 value interpretation is 0.75 for substantial, 0.50 for moderate, and 0.25 for weak. The effect size (f^2) assesses the contribution of each construct to the endogenous construct. Based on Hair et al. (2019), an f^2 value is > 0.02 for minor, ≥ 0.15 for moderate, and ≥

0.35 for significant. A near-zero f^2 score implies that a construct does not significantly contribute to the target construct.

Meanwhile, the predictive relevance (Q^2) value evaluates the model's ability to forecast the endogenous construct. If the Q^2 value is bigger than 0, the model has predictive significance. Conversely, a Q^2 of ≤ 0 indicates that the model is unable to effectively predict (Hair et al., 2019).

Hypothesis testing is used to evaluate if model variables are significantly related. Bootstrapping in SmartPLS is used for testing. The hypothesis is decided using the bootstrapping t-statistic and p-value. Based on the criteria of Hair et al. (2021), a hypothesis is considered significant when the t-statistic exceeds the recommended threshold values. Specifically, a t-value greater than 1.96 indicates significance at the 5% level ($p < 0.05$). A t-value above 2.58 indicates significance at the 1% level ($p < 0.01$), and a t-value higher than 3.29 indicates significance at the 0.1% level ($p < 0.001$).

A mediation test is conducted to assess whether the impact of one construct operates through another (Hair et al., 2021). If the indirect path is important, mediation occurs. The mediation is determined by the combination of the significance of the direct and indirect paths. When both variables are significant, it signifies partial mediation. If just the indirect pathway is important, the connection indicates complete mediation. If just the direct path is substantial or if neither path is important, mediation is deemed missing.

RESULTS AND DISCUSSION

The evaluation process is conducted involving validity testing, consisting of convergent validity and discriminant validity and construct reliability testing. All testing aims to confirm that the utilized indicators employed consistently and properly represent the constructs being assessed, as seen in Figure 1. Figure 1 illustrates the outer loading values of each indicator and the path coefficients among social media interaction, FOMO, and impulsive buying. The model indicates that the social media interaction positively influences both FOMO and impulsive buying. Similarly, FOMO also exhibits a positive correlation with impulsive buying.

The convergent validity assessment is conducted by examining the outer loading and AVE values of each construct. During the initial measurement model evaluation, one indicator under the social media interaction does not meet the recommended validity threshold, resulting in an AVE value below 0.50. Following Hair et al. (2021), the indicator is removed to improve the construct's convergent validity. After the refinement process, all constructs achieve values above 0.50, and outer loading values exceed 0.60, indicating that the measurement model meets the recommended validity criteria.

Table 1 presents the Heterotrait-Monotrait Ratio (HTMT) values used to evaluate discriminant validity among the constructs in the research model. The HTMT results for the relationships between

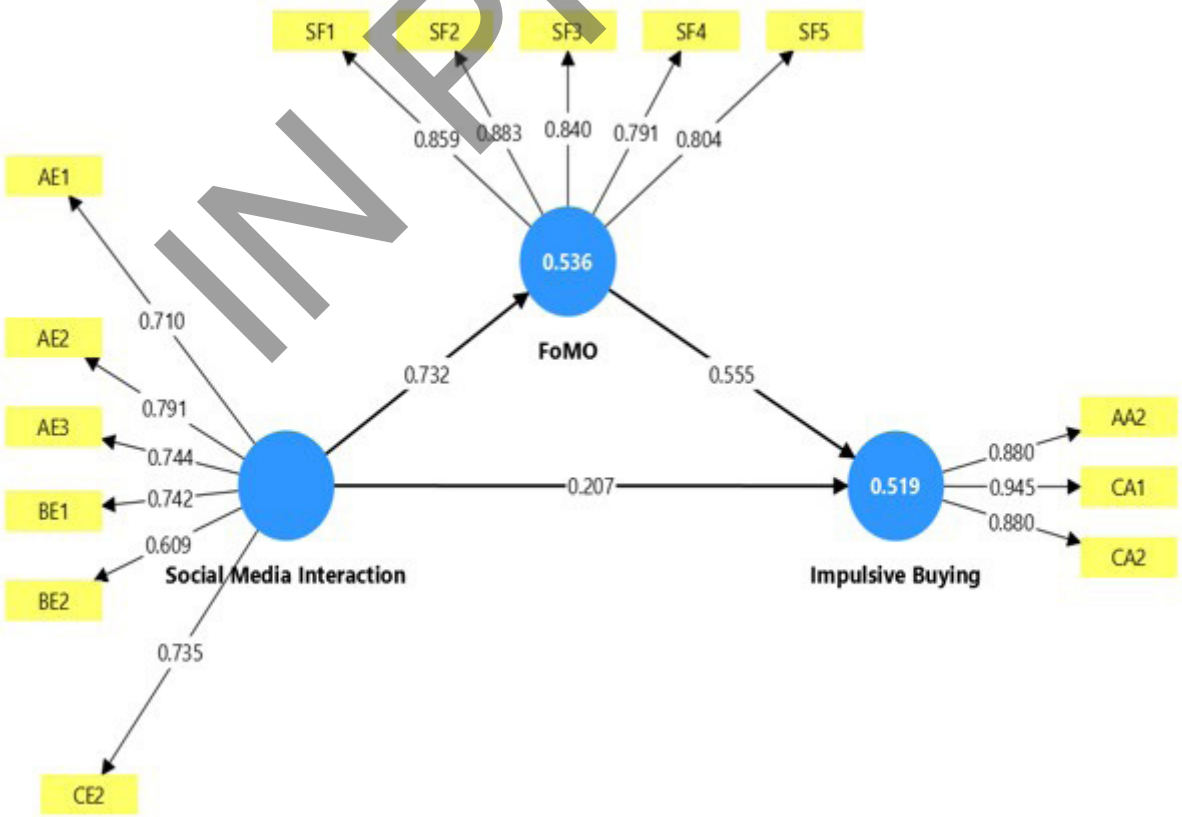

Figure 1 Results of Outer Model

impulsive buying and FOMO (0.796), social media interaction and FOMO (0.822), and social media interaction and impulsive buying (0.706) are all below the recommended threshold of 0.90. These findings indicate that each construct is empirically distinct and measures different conceptual phenomena. Therefore, the discriminant validity of the measurement model can be deemed satisfactory.

Table 2 summarizes the reliability test results for all constructs used in this study, including social media interaction, FOMO, and impulsive buying. The results show that all variables achieve Cronbach's alpha and CR values above the recommended threshold of 0.70, indicating satisfactory internal consistency reliability. Specifically, the Cronbach's alpha values range from 0.819 to 0.892, while the CR values range from 0.868 to 0.929. These findings suggest that all measurement items consistently represent their respective construct, and the research instrument is reliable for further analysis.

Furthermore, the structural model delineates the links among latent constructs inside the model. Figure 2 presents the results of the inner model analysis generated using SmartPLS4. It illustrates the structural relationships among social media interaction, FOMO, and impulsive buying, including the path coefficients and their corresponding significance values. The results show that social media interaction has a positive and significant effect on FOMO (β = 0.732; p = 0.000) and impulsive buying (β = 0.207; p = 0.000). In addition, FOMO has positive and significant effects on impulsive buying (β = 0.555; p = 0.000).

Table 1 Heterotrait-Monotrait Ratio (HTMT) Result of Each Item

	Heterotrait-Monotrait Ratio (HTMT)
Impulsive Buying <–> FOMO	0.796
Social Media Interaction <–> FOMO	0.822
Social Media Interaction <–> Impulsive Buying	0.706

Table 2 Reliability Test Result

	Cronbach's Alpha	Composite Reliability (rho_c)	Description
Fear of Missing Out (FOMO)	0.892	0.921	Reliable
Impulsive Buying	0.885	0.929	Reliable
Social Media Interaction	0.819	0.868	Reliable

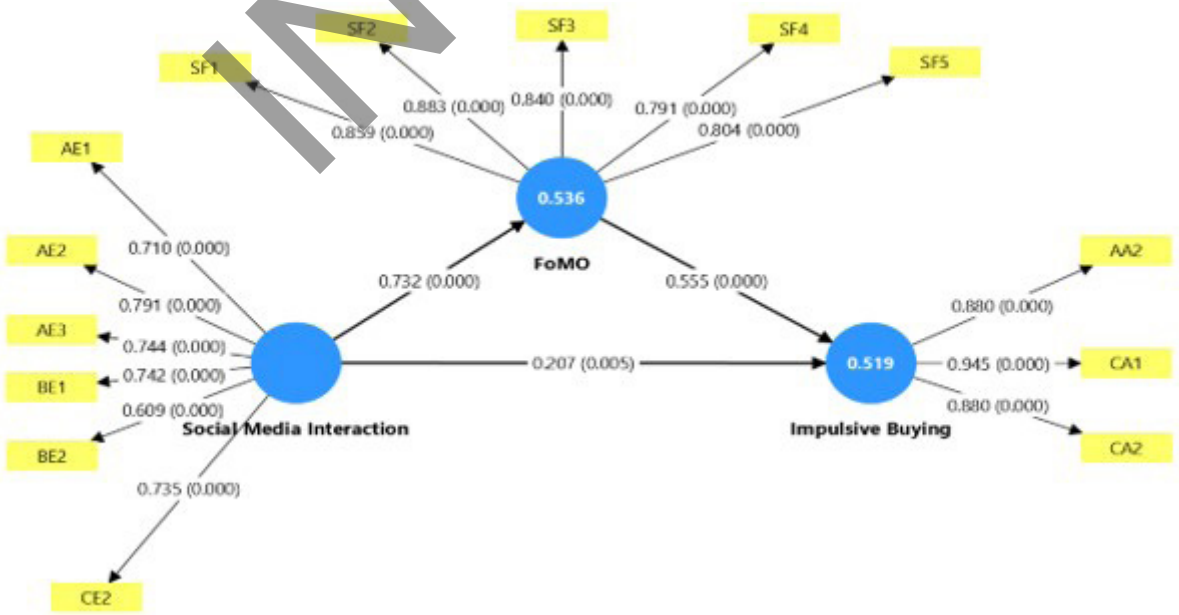

Figure 2 Results of Inner Model

The collinearity test results, used to assess potential multicollinearity in the structural model, are presented in Table 3. The assessment is conducted using VIF values for each relationship among the constructs. The results indicate that all VIF values range from 1.000 to 2.153, well below the recommended threshold of 5.00. Therefore, it can be concluded that there are no collinearity problems among the predictor constructs. The structural model is free from multicollinearity issues and suitable for further hypothesis testing.

R^2 value indicates the extent to which the independent variable explains the dependent variable, as shown in Table 4. The R^2 value of 0.536 indicates that social media interaction explains 53.6% of the variance in FOMO. Meanwhile, the R^2 value of 0.519 shows that social media interaction and FOMO together explain 51.9% of the variance in impulsive buying. Based on these results, both endogenous constructs demonstrate explanatory and predictive capability within the proposed research model.

The f^2 test is used to determine the contribution of each construct to the endogenous construct. Table 5 shows that the contribution of social media interaction to FOMO falls into the large category, with an f^2 value of 1.153. Meanwhile, the contribution of FOMO to impulsive buying is moderate with an f^2 value of 0.297. The direct contribution of social media interaction to impulsive buying is small, at 0.042. Therefore, it can be concluded that FOMO has an important role in connecting the influence of social media interaction to impulsive buying behavior.

The Q^2 value measures the model's predictive ability regarding endogenous constructs. Based on Table 6, the Q^2 value for FOMO is 0.527. The value of impulsive buying is 0.364. These values indicate that the model has good predictive ability for endogenous variables. It can be concluded that the model used has good predictive relevance.

Hypothesis testing is conducted to determine whether the relationship between variables in the model is truly significant. The t-statistic and p-value from the bootstrapping process serve as the basis for decision-making regarding the proposed hypothesis. Based on Table 7, there are three relationships between the variables tested in the structural model (FOMO on impulsive buying, social media interaction on FOMO, and social media interaction on impulsive buying). The relationship between FOMO and impulsive buying shows a path coefficient of 0.555. FOMO influences

Table 3 Collinearity Test Results

Relationship	Variance Inflation Factor (VIF)
Fear of Missing Out (FOMO) → Impulsive Buying	2.153
Social Media Interaction → Fear of Missing Out (FOMO)	1.000
Social Media Interaction → Impulsive Buying	2.153

Table 4 Results of Coefficient of Determination (R^2)

Variable	R^2
Fear of Missing Out (FOMO)	0.536
Impulsive Buying	0.519

Table 5 Effect Size Results

	Fear of Missing Out (FOMO)	Impulsive Buying
FOMO		0.297
Impulsive Buying		
Social Media Interaction	1.153	0.042

Table 6 Predictive Relevance Results

Variable	Q^2 Predict
Fear of Missing Out (FOMO)	0.527
Impulsive Buying	0.364

Table 7 Hypothesis Testing Results

Hypothesis	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T-Statistic	P-Value
Fear of Missing Out (FOMO) → Impulsive Buying	0.555	0.552	0.067	8.302	0.000
Social Media Interaction → Fear of Missing Out (FOMO)	0.732	0.735	0.027	27.432	0.000
Social Media Interaction → Impulsive Buying	0.207	0.211	0.074	2.792	0.005

Table 8 Mediation Result

Hypothesis	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T-Statistic (|O/STDEV|)	P-Values
Social Media Interaction → Fear of Missing Out (FOMO) → Impulsive Buying	0.406	0.406	0.049	8.236	0.000

impulsive buying behavior. The t-statistic of 8.302 and p-value of 0.000 indicate that this relationship is statistically significant.

Furthermore, the relationship between social media interaction and FOMO has a path coefficient of 0.732. The intensity of social media interaction strongly influences the emergence of FOMO. The t-statistic is 27.432, and the p-value is 0.000, indicating a significant effect. The direct relationship between social media interaction and impulsive buying yields a path coefficient of 0.207. It is lower than the previous two paths. However, the t-statistic of 2.792 and p-value of 0.005 still indicate that the relationship is significant at the 1% level.

A mediation test assesses whether the influence of one construct on another is conveyed through an intermediary construct (Hair et al., 2021). Table 8 shows that the indirect effect of social media interaction on impulsive buying through FOMO has a path coefficient value of 0.406, with a t-statistic of 8.236 and a p-value of 0.000. Based on the results of the previous hypothesis test, the direct path between social media interaction and impulsive buying is also significant, with a t-statistic of 2.792 and a p-value of 0.005. Because both paths, direct and indirect, are equally significant, it can be concluded that partial mediation occurs in this model.

The results support all proposed hypotheses (H1, H2, H3, and H4). Social media interaction significantly increases FOMO among active female players of the L&D mobile game, while FOMO, in turn, significantly enhances impulsive buying behavior. The findings further reveal that social media interaction not only exerts a direct positive effect on impulsive buying behavior but also has indirect effect through FOMO, indicating a partial mediation effect (Al-Abyadh, 2025; Hidayat & Tambunan, 2025; Ayu et al., 2025; Tresna et al., 2025; Ghinarahima & Idulfilastri, 2024; Demir & Çetin, 2021; Habib & Almamy, 2025). In the Stimulus-Organism-Response (S-O-R) framework, social media interaction serves as the stimulus. FOMO refers to the internal psychological response, and impulsive purchase is the resultant behavioral response. This comprehensive finding verifies that emotional and social signals within online communities significantly influence impulsive buying behavior.

The findings also align with the research by Tandon et al. (2022) and An and Ahn (2025). They have identified that aspects of social media marketing, such as restricted promotions and community engagement, may induce psychological pressure known as FOMO. FOMO has been demonstrated to influence impulsive consumer buying behavior. It affirms that the impulsive purchasing process is not initiated solely by spontaneous desires but also by social cues that evoke specific emotional states (Sen, 2024; Ye, 2025).

Consequently, the research findings underscore that, in the digital age, social stimuli, including social media interaction and persistent exposure to digital content, can exert psychological pressure on an individual's cognitive processes, thereby prompting the individual to react in accordance with that cognitive framework. The research reveals a link within the S-O-R paradigm. It demonstrates a consistent pattern between social media interactions, FOMO, and impulsive buying as theorized.

Social media interaction has been shown to significantly influence impulsive buying among active female players of the L&D game. This result is supported by research by (Gong et al., 2023; Neha & Walia, 2025; Singh et al., 2023). They have found that social media acts as a powerful stimulus, which can influence consumers' impulsive purchasing decisions. The research reveals that users who frequently use social media are more likely to be "induced" to make spontaneous purchases.

This implication provides new insight that for digital consumers, stimuli can sometimes directly drive behavioral responses, bypassing the organismic

stage, which in some conditions is weak or non-dominant. Thus, there are cases in which individuals encounter stimuli and immediately respond to them, without going through the individual processing stage. This is reinforced by research by Korkmaz and Seyhan (2021), which suggests that social media significantly influences impulsive buying tendencies. The research explains that social media users are more frequently exposed to various stimuli such as product reviews, suggestions from fellow users, and persuasive promotional content, which ultimately encourage spontaneous purchase intentions. Furthermore, engagement with social platforms and the intensity of social connections within them also strengthen the effect of social media in triggering unplanned purchasing decisions. This explanation also aligns with Moghddam et al. (2024).

FOMO partially mediates the relationship between social media interaction and impulsive buying behavior. The results suggest that, while FOMO is a significant psychological process, social media interaction can also directly affect impulsive purchasing behavior. In mobile gaming communities, visual marketing, peer interaction, and time-sensitive in-game offers can stimulate prompt purchasing behavior without necessitating a significant emotional building of FOMO. This disclosure enhances the S-O-R framework by indicating that specific digital stimuli can provoke both direct behavioral responses and indirect, emotion-driven processes.

The results have several implications that can be directly applied by companies, particularly in digital marketing and e-commerce. The influence of social media interaction on impulsive buying can be direct and indirect, through FOMO. Hence, communication and promotional strategies on social media play a crucial role in influencing consumer purchasing decisions (Aditi & Saini, 2024; Antczak, 2024).

First, the findings indicate that social media engagement can evoke sentiments of FOMO. Corporations may leverage the results to develop strategies for crafting digital content that promotes active customer participation and deeper brand involvement. Engaging in active interaction, conducting regular community discussions, implementing live chat functionality, and aggregating posts with favorable consumer reviews can cultivate a profound sense of connection with consumers and motivate individuals to consistently engage with digital social media to prevent feelings of exclusion.

Second, the findings reveal that FOMO influences impulsive buying. It indicates that companies can leverage consumers' emotional aspects in their marketing strategies, but within reasonable limits and not excessively. Things like limited-time discounts, visible accumulation of purchase amounts, and out-of-stock notifications can be leveraged to create a sense of urgency that psychologically encourages individuals to make purchases quickly and without careful planning to avoid running out of the product.

Third, the significance of FOMO as a mediator in the impact of social media on impulsive purchase underscores that the psychological processes encountered by customers also influence their shopping actions. Exchanges on social media, both among users and between corporations and consumers, directly elicit impulsive purchasing behavior and induce psychological pressure. It can be used by companies to manage exclusivity and build reward systems based on users' social media activity. Hence, consumers feel a necessity to stay up to date with the latest developments to receive these rewards.

Lastly, research findings show that social media interaction directly influences impulsive buying. It demonstrates the importance of consistency and creativity in conveying messages to users. Engaging and eye-catching visual content, engaging post captions, and using influencers or endorsements with audiences aligned with a company's target market can directly influence consumer purchasing decisions. Social media platforms need to be maximized not only as one-way communication tools, but also as spaces for intense social interactions that can stimulate spontaneous consumer behavior.

CONCLUSION

From the research findings, numerous inferences may be derived. First, social media interaction significantly impacts FOMO among active female participants in the L&D game. The results indicate that tight engagement among players in the L&D gaming community on social media triggers FOMO. Consequently, greater engagement among participants correlates with heightened FOMO. Second, FOMO significantly impacts impulsive purchasing behavior among active female participants in the L&D game. FOMO among active female players in the L&D game may prompt illogical or unplanned decision-making due to anxiety about being left behind. Third, FOMO mediates the impact of social media contact on impulsive purchasing behavior among active female participants in the L&D game. The sensation of FOMO does not occur spontaneously. Instead, it is induced by interactions among gamers on social media. FOMO that individuals experience eventually compels them to engage in impulsive purchasing behavior. Ultimately, social media engagement profoundly impacts impulsive purchasing behavior among active female participants in the L&D game. The results indicate that the inclination towards impulsive purchasing is driven not just by an individual's internal motivations but also by external stimuli, namely interactions with other users on social media.

The research extends S-O-R framework by demonstrating that social media engagement serves as a prominent external stimulus in the realm of L&D, specifically in an otome mobile game favored by Indonesian female gamers. FOMO operates

as a pivotal psychological organismic response. Meanwhile, impulsive buying arises as a behavioral outcome influenced by emotional anxiety and socially motivated interactions within digital gaming communities.

Research indicates that social media interactions may trigger a fear of missing out, leading to impulsive purchases among game developers and companies. Consequently, game creators, such as L&D game, must exercise greater discernment in formulating marketing methods that leverage social media to uphold ethical standards and ensure player comfort. For instance, emphasizing useful material and fostering supportive communities rather than imposing covert social pressure may induce undue anxiety in players and lead to adverse effects. For gamers, people who engage in gameplay and social media interactions must recognize and practice self-regulation concerning the possible psychological effects of the digital information they consume. Restricting one's engagement with social media and acknowledging that not all trends require immediate attention may mitigate the impact of excessive FOMO and avert regrettable, hasty purchases.

Despite its contributions, the research has several limitations. First, the findings are based on active female players of the L&D mobile game, which may limit the generalizability of the results to other gaming communities or demographic groups. Second, the research employs a cross-sectional survey design, meaning that the data reflect respondents' perceptions and behaviors at a single point in time. Third, the model focuses on social media interaction, FOMO, and impulsive buying behavior. However, other potentially relevant factors may also influence purchasing decisions in digital gaming environments.

The research findings yield several recommendations for further investigation, especially regarding consumer behavior in the digital realm, including gaming and social media interactions. For future researchers, they can employ a quantitative methodology using a survey, disseminating questionnaires over a designated timeframe. Consequently, the data acquired just represents information at a certain moment in time. To attain a more profound understanding of psychological phenomena such as FOMO, future researchers can adopt a qualitative or mixed-methods approach, including conducting additional interviews with participants. Moreover, subsequent researchers may incorporate additional variables, such as self-control, brand loyalty, or peer influence, to investigate different dimensions of impulsive buying behavior and assess whether these factors amplify or diminish their impact on gamers' impulsive purchasing tendencies.

AUTHOR CONTRIBUTIONS

Conceived and designed the analysis, T. D. N. and M. C. W.; Collected the data, M. C. W.; Contributed data or analysis tools, T. D. N. and M. C. W.; Performed the analysis, T. D. N. and M. C. W.; and Wrote the paper, T. D. N. and M. C. W..

DATA AVAILABILITY

The data that support the findings of the research are openly available in Zenodo at https://zenodo.org/records/17984101, reference number [17984101].

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