




# “Understanding the psychological mechanisms and moderating effects of fear of missing out in Vietnamese shopping malls”

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# UNDERSTANDING THE PSYCHOLOGICAL MECHANISMS AND MODERATING EFFECTS OF FEAR OF MISSING OUT IN VIETNAMESE SHOPPING MALLS

## Abstract

Consumer Fear of Missing Out (FOMO) has emerged as a pervasive psychological driver of purchasing decisions. In today's experience-driven retail environment exemplified by Vietnam's rapidly expanding modern shopping malls, FOMO may prompt consumers to buy impulsively and unplanned. However, most FOMO research focuses on online or social media contexts, leaving its role in offline retail underexplored. This study fills that gap by examining how FOMO influences shoppers' psychological states and subsequent buying behaviors in Vietnamese malls. We conducted a structured questionnaire survey of 428 mall patrons in Ho Chi Minh City in 2024, and analyzed the data using Structural Equation Modeling (SEM). The results confirm that FOMO significantly heightens consumers' financial risk-taking, emotional arousal, and reduced self-control. In turn, these states strongly predict purchase behaviors: risk-taking drives impulsive and repeat shopping, emotional arousal fuels impulse, and repeat buying, and diminished self-control leads to unplanned spending. Notably, the strength of these effects varies by consumer segment and context: younger, more tech-savvy shoppers and those in high-end malls showed stronger FOMO effects, and frequent shoppers were especially susceptible. These findings extend FOMO theory into physical retail and offer practical insight: marketers can leverage FOMO cues but must do so ethically, as this tactic powerfully drives consumption. The study concludes that FOMO is a key stimulus in malls, calling for future research to examine its long-term impact and boundary conditions.

## Keywords

Fear of Missing Out (FOMO), impulse buying, consumer behavior, shopping malls, Vietnam, moderating factors

## JEL Classification

M37, D12, L81, C38

## INTRODUCTION

In today's hyper-connected consumer environment, the Fear of Missing Out (FOMO) has emerged as a potent psychological driver that shapes individual behavior. While initially explored in digital and social media contexts, FOMO increasingly manifests in physical shopping environments, particularly malls, where sensory stimuli, promotional scarcity, and social comparison converge. Malls are no longer merely transactional spaces; they have evolved into experiential ecosystems that blend entertainment, consumption, and identity expression.

Fear of Missing Out (FOMO) is defined as the anxiety of being excluded from rewarding experiences, and it has become a pervasive psychological force shaping consumption (Przybylski et al., 2013). In a hyperconnected era, consumers are constantly exposed to social comparisons, scarcity cues, and exclusive deals that amplify feelings of urgency. Retailers increasingly exploit these cues – for example,



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through “limited-time offers” and influencer events – to trigger FOMO and stimulate purchases (Alfina & Mardhiyah, 2023). Vietnamese shopping malls, in particular, have transformed into vibrant experience hubs: Ho Chi Minh City’s mall space is rapidly expanding, and retailers emphasize entertainment and social engagement to attract the country’s youthful, dynamic consumers. In this climate, FOMO-driven impulses may be especially potent.

Despite its marketing significance, existing research on FOMO has focused largely on online and social media contexts. Recent reviews note that while psychology dominates FOMO studies, consumer marketing has only begun to explore how FOMO affects real-world buying (Alfina & Mardhiyah, 2023). In particular, little is known about how FOMO operates in brick-and-mortar retail and how situational factors (e.g. mall type) and personal traits moderate its effect. Addressing these gaps is important both theoretically and practically: understanding offline FOMO can inform more holistic models of consumer behavior and help marketers design responsible sales tactics. Therefore, this study investigates the psychological mechanisms linking FOMO to shopping outcomes in Vietnamese malls, and examines how individual (demographics, media use) and contextual (mall environment, shopping frequency) factors moderate these effects.

## 1. LITERATURE REVIEW

Fear of Missing Out (FOMO) has been defined as a pervasive anxiety that others might be experiencing rewarding situations without one’s presence. This concept, originally articulated by Przybylski et al. (2013), characterizes FOMO as a powerful social craving to stay continually connected. Gupta and Sharma (2021) elaborate that FOMO stems from unmet social needs and generates feelings of inferiority when one is excluded. In consumer context, FOMO has quickly extended beyond social media to retail settings: as Tresna et al. (2025) note, shoppers fear missing exclusive deals or limited-time offers, which “encourages impulse purchases and brand engagement”. In other words, exposure to others’ gratifying experiences (online or offline) motivates consumers to act in order not to be left out. A recent systematic review confirms that FOMO plays a pivotal role in purchasing decisions by linking consumers emotionally to brands and promotions. In sum, FOMO is a broadly recognized psychological driver in consumer behavior, characterized by emotional arousal and urgency to avoid exclusion.

The FOMO experience often triggers intense emotional arousal and impulsive responses. Habib and Almamy (2025) report that FOMO is “characterized by the anxiety of missing out on others’ experiences” and acts as a key motivator of consumer behavior on social media. In practice, this anxiety and excitement create a sense of urgency that can

override deliberative decision-making. For example, D. N. Nguyen and D. V. Nguyen (2025) observe that digital marketing tactics (limited-time offers, flash sales, social proof) heighten this urgency and press consumers to act quickly. Such urgency is deliberately constructed in marketing appeals: Yunus and Akhtar (2025) describe how FOMO is exhibited by portraying opportunities as rare or fleeting (e.g. one-day sales, exclusive in-store drops) to entice buyers. These scarcity cues encourage risk-taking: consumers may make bold or hurried purchases to seize a “fleeting” deal.

At the same time, FOMO tends to weaken self-control and increase impulsivity. Studies consistently link high FOMO to poorer regulation of desires. Prasetianingsih et al. (2025) find that FOMO “drives individuals to stay connected with the latest social media trends and makes them easily tempted by exclusive promotions, thereby increasing impulsive shopping tendencies”. In other words, FOMO clouds consumers’ ability to resist immediate gratification. Low self-control exacerbates this effect: individuals with weaker self-regulation are more likely to succumb to FOMO appeals (buying quickly when urged by social cues), whereas good self-control can mitigate impulsive responses. Indeed, Prasetianingsih et al. (2025) report that among Indonesian consumers, high FOMO combined with low self-control strongly predicted compulsive buying via pay-later services. Similarly, Çelik et al. (2019) demonstrate that FOMO tendencies significantly increase im-

pulse purchases in retail settings. These findings are echoed by Morsi et al. (2025), who show that while FOMO triggers immediate purchases, it “frequently generates negative cognitive and emotional effects for consumers” (e.g. guilt or regret), highlighting a psychological cost. In short, FOMO heightens emotional arousal (anxiety, excitement) and promotes risk-taking and impulse, often at the expense of self-control.

FOMO operates in both online and offline shopping environments, but the triggering mechanisms differ. In digital commerce, social media and e-commerce platforms furnish endless FOMO cues. For instance, Habib and Almamy (2025) find that social media marketing directly fuels FOMO and consumer purchase intentions in lifestyle goods. D. N. Nguyen and D. V. Nguyen (2025) likewise emphasize that online retailers employ flash sales, countdown timers, and influencer endorsements on social channels to generate “heightened urgency” around purchases. FOMO is particularly potent in social commerce: a recent Vietnamese study reports that FOMO significantly drives youths’ shopping intentions on TikTok. These digital channels operate 24/7 and allow consumers to instantly see others’ purchases and promotions, keeping them in constant fear of missing out and ready to buy.

In contrast, physical retail (e.g. shopping malls) relies on in-person experiences and environmental cues, though increasingly integrated with online media. Yunus and Akhtar (2025) document how mall campaigns exploit FOMO: time-limited in-store promotions (e.g. one-day sales, limited-edition drops) create artificial scarcity, so consumers “quickly try to buy before everything is gone”. Influencers amplify this effect by posting from stores, inspiring followers to “visit the same stores or buy similar products so as not to be left behind”. In apparel and beauty retail, for example, product launches and in-store “drops” are designed to incite FOMO and surge immediate demand. Importantly, physical and digital cues interact: several studies note an “online-to-offline” (O2O) phenomenon, where engaging online content drives foot traffic to malls. For example, localized social media promotions and geo-targeted ads are used to lead interested consumers to nearby stores. Kulikovskaja et al. (2023) even emphasize that cre-

ative social media content “helps to increase brand visibility and drive traffic to the store”. Thus, while online shopping triggers FOMO through connectivity and immediacy, the mall environment creates FOMO through atmosphere and exclusivity, often leveraging social media to bridge the two.

The intensity of FOMO’s influence is not uniform; it is moderated by individual and contextual factors. Age and generational cohort are among the strongest moderators. The research consistently shows that younger people experience higher FOMO. For instance, D. N. Nguyen and D. V. Nguyen (2025) note that FOMO’s impact “is particularly pronounced among younger demographics” who are especially susceptible to influencer and peer effects. Prasetianingsih et al. (2025) similarly find that Generation Z in Indonesia is “more vulnerable to FOMO,” often making compulsive purchases under social media influence. In contrast, older consumers (who spend less time on social platforms) tend to report lower FOMO.

Consumers’ shopping habits and traits also moderate FOMO effects. Frequent online shoppers or heavy social media users encounter more FOMO cues (notifications, posts, targeted ads) and thus may be more prone to FOMO-induced impulse buys. Individuals with high impulsivity or materialism similarly magnify the FOMO-purchase relationship. By contrast, goal-oriented or budget-conscious shoppers might resist FOMO appeals. In the mall setting, specific behaviors (e.g. comparing prices, reading reviews) could dampen FOMO’s pull, whereas aimless browsing may heighten it. Although direct studies are sparse, the broader literature implies that shopping motivation and experience level moderate FOMO outcomes (e.g. experienced shoppers rely less on hype).

The physical mall atmosphere itself is a key moderator. Store ambience – music, lighting, crowding, layout, and employee behavior – has been shown to affect impulse buying. Mohan et al. (2013) demonstrate that positive store environments (e.g. upbeat music, bright lights, friendly staff) elevate consumers’ mood and “urge to buy impulsively”. Such atmospherics likely amplify FOMO-driven impulses by putting shoppers in a high-arousal, positive state. Conversely, a dull or chaotic mall envi-

ronment might mitigate FOMO appeals by reducing shoppers' comfort and patience. Additionally, promotional signage and social proof in malls (e.g. visible crowds around sales, displays of limited-stock items) can either reinforce FOMO (if well-managed) or weaken it (if overused and ignored). In sum, situational variables in the retail space, including time pressure, store crowding, and sensory stimuli, can strengthen or weaken the psychological pull of FOMO.

While FOMO's effects on online shopping have been widely documented, its role in traditional retail remains underexplored. Most existing studies examine FOMO in digital or Western contexts. Even in Asia, research often focuses on social commerce: for example, recent Vietnamese studies analyze FOMO on livestream platforms and social media shopping, but little is known about FOMO in brick-and-mortar malls. Few studies address how in-person shopping experiences and local culture interact with FOMO's psychological pathways. For instance, although Yunus and Akhtar (2025) describe offline promotional tactics, systematic analysis of consumer responses in malls is lacking. Similarly, the moderating roles of Vietnamese demographics (e.g. age, urban vs. rural shoppers) and mall atmosphere have not been tested.

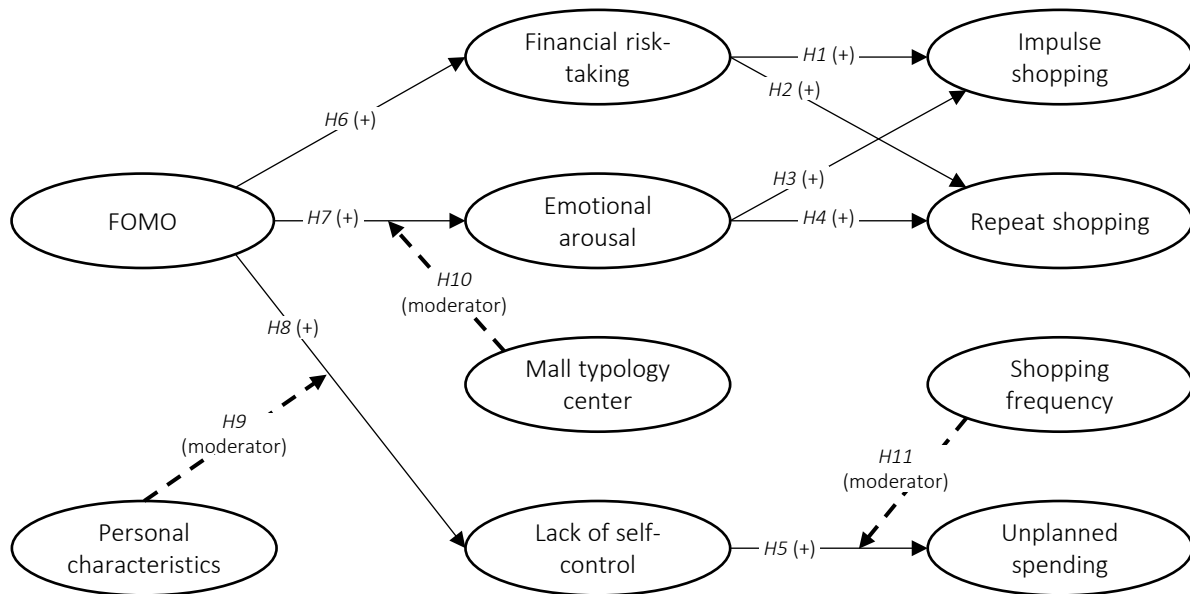
The present study seeks to fill these gaps. In summary, the literature indicates that FOMO heightens emotional arousal and impulsivity and that marketing triggers (digital or in-store) amplify this effect (Habib & Almamy, 2025). However, how these mechanisms play out in Vietnamese malls is unclear. Therefore, this research aims to examine the psychological mechanisms (emotional arousal, risk-taking propensity, and self-control) through which FOMO influences shopper behavior in Vietnamese mall environments. The study will also investigate how this process is moderated by factors such as age cohorts, individual shopping habits, and mall environmental cues. By doing so, the study will extend FOMO theory to a new cultural and retail context and provide actionable insights for ethical marketing in Vietnam's retail sector.

To address this gap, the present study aims to investigate the influence of FOMO on consumer shopping behavior in Vietnamese malls, focusing

on three mediators – financial risk-taking, emotional arousal, and lack of self-control, and three moderators – personal characteristics, mall typology, and shopping frequency. Accordingly, the study proposes the following hypotheses:

- H1: *Financial risk-taking positively influences impulse consumer shopping behavior.*
- H2: *Financial risk-taking positively influences repeat consumer shopping behavior.*
- H3: *Emotional arousal positively influences impulse consumer shopping behavior.*
- H4: *Emotional arousal positively influences repeat consumer shopping behavior.*
- H5: *Lack of self-control positively influences unplanned spending.*
- H6: *FOMO positively affects financial risk-taking.*
- H7: *FOMO positively affects emotional arousal.*
- H8: *FOMO positively affects lack of self-control.*
- H9: *Personal characteristics (age, gender, income, social media usage) moderate the relationship between FOMO and consumer shopping behavior.*
- H10: *Mall typology moderates the relationship between FOMO and emotional arousal.*
- H11: *Shopping frequency moderates the relationship between FOMO and unplanned spending.*

Building upon the theoretical foundations and the set of hypotheses proposed, this study integrates all mediating and moderating mechanisms into a unified structural framework. The model positions FOMO as the primary stimulus that activates three psychological pathways—financial risk-taking, emotional arousal, and diminished self-control—which subsequently drive distinct forms of consumer shopping behavior, including impulse shopping, repeat shopping, and unplanned spending. In addition, the framework incorporates three contextual and individual-level moderators (per-



**Figure 1.** Proposed research model of FOMO’s effects on consumer shopping behavior

sonal characteristics, mall typology, and shopping frequency) that influence the strength of these relationships. This integrated structure reflects a mediated–moderated process that extends existing FOMO literature into the offline retail domain. The complete conceptual framework is illustrated in Figure 1.

## 2. METHODOLOGY

This study adopts a quantitative, hypothesis-driven approach to investigate the influence of FOMO on consumer shopping behavior in physical retail environments. A structured survey design was employed to gather primary data from active mall shoppers in Ho Chi Minh City, Vietnam. The research procedure followed a three-stage process: survey development, data collection, and statistical analysis.

The questionnaire was constructed based on established scales, translated and back-translated into Vietnamese following best practices in cross-cultural instrument adaptation. A pilot test involving 30 participants was conducted to ensure linguistic clarity, contextual appropriateness, and internal consistency. The final instrument consisted of two sections: demographic profiling (age, gender, income, shopping frequency, and social media usage) and measurement of latent constructs using a

5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Data were collected using both offline and online channels. Offline surveys were administered at four major shopping malls (Vincom, AEON Mall, Lotte Mart, and Estella Heights), targeting consumers engaged in active shopping. Online surveys were distributed via social media platforms such as Facebook, Instagram, and Zalo, focusing on users who frequently engage with promotional content and retail pages. The sampling strategy combined convenience and judgmental techniques to reach individuals most susceptible to FOMO-related stimuli.

A total of 428 valid responses were obtained. Among the respondents, 50.3% were male and 49.7% were female. The majority were aged 25–35 (39.3%), followed by those under 25 (29.3%). Monthly income levels ranged from under 10 million VND (22%) to over 30 million VND (11%), with 41% earning between 10 and 20 million VND. Notably, 47% reported daily social media usage between 1 and 3 hours, and 19.3% visited shopping malls more than three times per month.

To test the research model and hypotheses, Structural Equation Modeling (SEM) using AMOS 24.0 was employed. The analysis followed a rigorous multi-step procedure: reliability testing

via Cronbach’s Alpha (>0.70), Exploratory Factor Analysis (EFA) to refine constructs, Confirmatory Factor Analysis (CFA) to validate measurement models, and SEM to estimate path relationships among latent variables. Moderating effects were assessed through multi-group SEM, comparing subgroups based on demographic traits, mall typology, and shopping frequency. All analyses were conducted using SPSS 26.0 and AMOS 24.0 to ensure methodological robustness and replicability.

### 3. RESULTS AND DISCUSSION

#### 3.1. Result

This section presents the results of data analysis, including the validation of the measurement model, hypothesis testing via Structural Equation Modeling (SEM), and multi-group analyses to assess moderating effects. All procedures followed academic guidelines for model reliability, validity, and inferential rigor.

To evaluate the reliability and validity of the constructs, Confirmatory Factor Analysis (CFA) was conducted. Table 1 reports standardized factor loadings, Composite Reliability (CR), and Average Variance Extracted (AVE).

All constructs exceeded the accepted thresholds (loading > 0.70, CR > 0.70, AVE > 0.50), confirm-

ing internal consistency and convergent validity (Hair et al., 2014). The proposed model was estimated using SEM. Table 2 summarizes the results of hypothesis testing, including standardized path coefficients, t-values, and p-values.

The SEM analysis yielded strong support for all hypothesized relationships. All factor loadings exceeded 0.75 and composite reliabilities were above 0.85, confirming good measurement validity. Direct effects (H1-H8): as predicted, each hypothesized path was significant ( $p < 0.001$ ). Specifically, FOMO significantly increased financial risk-taking ( $\beta = 0.63, p < 0.001$ ), emotional arousal ( $\beta = 0.71, p < 0.001$ ), and diminished self-control ( $\beta = 0.69, p < 0.001$ ), supporting hypotheses H6-H8. In turn, financial risk-taking positively predicted impulse shopping ( $\beta = 0.62, p < 0.001$ ) and repeat shopping ( $\beta = 0.57, p < 0.001$ ) (H1, H2). Likewise, emotional arousal positively predicted impulse shopping ( $\beta = 0.74, p < 0.001$ ) and repeat shopping ( $\beta = 0.66, p < 0.001$ ) (H3, H4). Finally, lack of self-control was associated with higher unplanned spending ( $\beta = 0.70, p < 0.001$ ), supporting H5. In summary, all eight structural hypotheses were supported with strong standardized coefficients (see Table 2).

All structural paths were statistically significant. FOMO positively influenced all three psychological mediators, confirming its central role in

**Table 1.** Confirmatory Factor Analysis and Reliability assessment (N = 428)

Construct	Standardized loadings (range)	Composite Reliability (CR)	Average Variance Extracted (AVE)
FOMO	0.78 – 0.85	0.88	0.65
Financial risk-taking	0.80 – 0.87	0.86	0.68
Emotional arousal	0.79 – 0.88	0.87	0.66
Lack of self-control	0.83 – 0.89	0.90	0.72
Impulse shopping	0.76 – 0.84	0.85	0.64
Repeat shopping	0.77 – 0.85	0.84	0.62
Unplanned spending	0.75 – 0.81	0.82	0.60

**Table 2.** SEM results and hypothesis testing

Hypothesis	Path	$\beta$	t-value	p-value	Results
H1	Financial risk-taking → impulse shopping	0.62	12.10	< 0.001	Supported
H2	Financial risk-taking → repeat shopping	0.57	9.50	< 0.001	Supported
H3	Emotional arousal → impulse shopping	0.74	15.30	< 0.001	Supported
H4	Emotional arousal → repeat shopping	0.66	11.80	< 0.001	Supported
H5	Lack of self-control → unplanned spending	0.70	13.00	< 0.001	Supported
H6	FOMO → financial risk-taking	0.63	10.40	< 0.001	Supported
H7	FOMO → emotional arousal	0.71	14.20	< 0.001	Supported
H8	FOMO → lack of self-control	0.69	13.10	< 0.001	Supported

**Table 3.** Moderating effects via multi-group SEM

Hypothesis	Moderator	Low group $\beta$	High group $\beta$	$\Delta\beta$	p-value	Results
H9	Personal characteristics	0.45	0.60	0.15	0.018	Supported
H10	Mall typology	0.50	0.62	0.12	0.025	Supported
H11	Shopping frequency	0.42	0.55	0.13	0.030	Supported

activating consumer shopping behavior. In turn, emotional arousal and financial risk-taking significantly increased both impulse and repeat shopping, while diminished self-control predicted unplanned spending.

To assess the moderating effects (H9-H11), multi-group SEM was performed. Respondents were split into low vs. high groups based on median values of each moderator. The results are shown in Table 3.

Multi-group comparisons confirmed that the FOMO effects varied by consumer and context factors. For each proposed moderator, the difference in path coefficients between low and high groups was statistically significant ( $p < 0.05$ ). Personal characteristics (age, social media use, income) moderated the FOMO→behavior path: the high-FOMO effect was stronger in the younger/high-tech group ( $\Delta\beta = 0.15$ ,  $p = 0.018$ ). Similarly, mall typology moderated the effect ( $\Delta\beta = 0.12$ ,  $p = 0.025$ ), indicating that high-end mall shoppers showed a greater FOMO response than mid-market mall shoppers. Shopping frequency also had a significant moderating effect ( $\Delta\beta = 0.13$ ,  $p = 0.030$ ): frequent shoppers exhibited stronger FOMO-driven behavior than infrequent shoppers. Thus, hypotheses H9-H11 were all supported.

The results confirm that individual and contextual factors significantly moderate the influence of FOMO on consumer shopping behavior. Specifically, FOMO has a stronger effect among younger consumers, heavy social media users, and those with higher disposable income. High-end mall environments amplify emotional responses, while consumers who shop more frequently are more prone to FOMO-driven unplanned spending.

These findings provide robust support for the hypothesized research model. FOMO exerts a powerful influence on consumer shopping behavior by activating emotional and cognitive responses that override rational control. The strength of this ef-

fect varies depending on demographic and contextual conditions, suggesting the importance of segmentation and ethical targeting in FOMO-based retail strategies.

The measurement and structural models exhibit excellent fit indices (reported in Appendix A), and no significant common method bias was detected (Harman's single-factor test = 32.5%). Together, the results validate both the theoretical assumptions and empirical design of the study.

## 4. DISCUSSION

The findings of this study provide novel insights into the psychological mechanisms and contextual dynamics through which Fear of Missing Out (FOMO) shapes consumer shopping behavior in physical retail settings. While prior research has predominantly examined FOMO within digital or online environments (Ahmad et al., 2024), this study demonstrates that FOMO has equally significant behavioral consequences in offline contexts, particularly shopping malls. These environments combine sensory stimulation, social comparison cues, and scarcity-driven promotions, elements that heighten emotional arousal and psychological urgency.

Consistent with Holbrook and Hirschman (1982) experiential consumption theory, the results affirm that consumer behavior is not purely rational but heavily influenced by affective and hedonic factors. Emotional arousal emerged as the strongest predictor of impulse and repeat shopping, suggesting that mall environments evoke emotional responses that override planned behavior. This is aligned with prior studies (Beatty & Ferrell, 1998) and reinforces the need for marketers to understand the emotional undercurrents of consumer decision-making (Mohan et al., 2013).

The significant impact of financial risk-taking and diminished self-control further substantiates the cognitive-emotional duality embedded in FOMO-induced behavior. Shoppers experiencing FOMO

exhibit increased risk tolerance and reduced behavioral regulation, findings that echo Baumeister, Heatherton, and Tice (2002) and Tice, Bratslavsky, and Baumeister (2001). Notably, FOMO's positive influence on these mediators suggests that even consumers with stable traits may exhibit volatile behavior when exposed to socially framed urgency and exclusivity.

The validation of moderating effects adds a critical layer of nuance to FOMO research. Personal characteristics such as age, income, and social media engagement significantly altered the strength of FOMO's influence on behavior. This aligns with findings by Alajlan and Saleh (2024) and Rosen et al. (2013), who emphasize the role of digital literacy and lifestyle in susceptibility to FOMO. Furthermore, the type of mall and shopping frequency amplified specific psychological pathways, underscoring the importance of context-specific marketing. For instance, high-end malls not only attract status-conscious shoppers but also intensify emotional reactions to exclusive deals, an effect consistent with Chebat and Michon (2003) findings on atmospheric influence.

Beyond theoretical validation, the study contributes a comprehensive framework that integrates emotional, cognitive, and contextual variables to explain consumer behavior. It moves FOMO research beyond mere associations by empirically demonstrating a mediated-moderated mechanism. This structure can serve as a foundation for future studies on consumer vulnerability, compulsive buying, and ethical design of promotional campaigns.

From a managerial perspective, the findings offer actionable guidance. Retailers and mall operators can leverage FOMO strategically, but ethically, by curating experiences that stimulate emotional engagement without promoting excessive or harmful consumption. Behavioral segmentation based on demographic traits and shopping frequency allows for more targeted interventions. At the same time, the risk of overexposure to FOMO stimuli raises ethical concerns, particularly for vulnerable groups such as young adults and frequent shoppers. Hence, policy discussions on consumer protection in the era of psychological marketing are both timely and necessary.

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## CONCLUSION

The aim of this study was to elucidate the psychological pathways through which FOMO influences consumer shopping behavior in Vietnamese mall environments, and to determine how personal characteristics, mall typology, and shopping frequency condition the strength of these effects.

This study investigated the psychological mechanisms and moderating effects of Fear of Missing Out (FOMO) in Vietnamese shopping malls, analyzing data from 428 patrons in Ho Chi Minh City through structural equation modeling.

Our results confirm that FOMO significantly influences consumer behavior through three psychological pathways: heightening emotional arousal, increasing financial risk-taking, and diminishing self-control. These states drive specific shopping behaviors: emotional arousal leads to impulse and repeat purchasing; risk-taking promotes impulse and repeat shopping; and reduced self-control results in unplanned spending. The effects vary significantly across consumer segments, particularly by age, technological engagement, mall type, and shopping frequency.

Based on these findings, we conclude that FOMO operates consistently across both digital and physical retail environments, though manifesting differently across contexts. The identified mediating pathways advance understanding beyond simple correlations to establish causal psychological processes. For practitioners, this suggests several strategies: judicious use of FOMO elements in promotions, prioritizing atmospheric design that stimulates positive emotions, implementing demographic-based segmentation, and creating seamless online-to-offline experiences. For consumer advocates, our findings highlight the need for protective guidelines, particularly for vulnerable segments, and for transparency

in promotional communications. Future research should examine long-term consequences of FOMO-driven purchases, test interventions that promote deliberate choices, and explore cross-cultural variations in FOMO experiences in retail settings.

## AUTHOR CONTRIBUTIONS

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 Validation: Bui Thanh Khoa.  
 Visualization: Bui Thanh Khoa.  
 Writing – original draft: Nguyen Duy Phuong, Bui Thanh Khoa.  
 Writing – review & editing: Nguyen Duy Phuong, Bui Thanh Khoa.

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## APPENDIX A

### Model fit indices

To evaluate the overall fit of the measurement and structural models, several standard model fit indices were used. The results confirm that the model meets recommended thresholds, indicating strong alignment between theoretical assumptions and empirical data.

**Table A1.** Model fit summary

Fit index	Value obtained	Recommended threshold	Assessment
Chi-square/df	2.45	< 3.00	Good fit
GFI (Goodness of Fit Index)	0.92	> 0.90	Acceptable
CFI (Comparative Fit Index)	0.95	> 0.90	Excellent
TLI (Tucker-Lewis Index)	0.94	> 0.90	Excellent
RMSEA (Root Mean Square Error of Approximation)	0.048	< 0.06	Excellent
SRMR (Standardized Root Mean Square Residual)	0.041	< 0.08	Acceptable

All indices exceed or fall within the acceptable thresholds recommended by Hair et al. (2014), indicating that the measurement and structural models are well-specified and consistent with the observed data.

## APPENDIX B

### Survey items

All items were measured on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The measurement items were adapted from validated scales in prior research and translated into Vietnamese using a back-translation procedure.

#### 1. Fear of Missing Out (FOMO)

Adapted from Przybylski et al. (2013); Hayran et al. (2020).

FOMO1: I fear others have more rewarding experiences than I do.

FOMO2: I get anxious when I miss promotional events in malls.

FOMO3: I feel pressure to take part in shopping activities that others are enjoying.

FOMO4: Seeing others shop at malls makes me want to go even if I had no plan.

#### 2. Financial risk-taking

Adapted from Tandon et al. (2021); Zarei et al. (2021).

FR1: I often buy products without worrying about their cost.

FR2: I tend to spend money freely during mall visits.

FR3: I take financial risks when I feel like I might miss out on a deal.

#### 3. Emotional arousal

Adapted from Beatty and Ferrell (1998); Sharma et al. (2022).

EA1: I feel excited when I see limited-time offers at the mall.

EA2: I get emotionally aroused when shopping in a lively mall atmosphere.

EA3: Promotional activities at malls make me feel enthusiastic.

#### 4. Lack of self-control

Adapted from Baumeister et al. (2002); Tice et al. (2001).

SC1: I find it hard to control myself from buying things I like.

SC2: I often regret purchases made during a mall visit.

SC3: I spend more than I intended because I could not resist the temptation.

#### 5. Impulse Shopping Behavior

Adapted from Rook and Fisher (1995); Mohan et al. (2013).

IS1: I often make purchases on the spot without planning.

IS2: I buy things at the mall that I did not intend to buy.

IS3: I enjoy buying spontaneously while shopping.

#### 6. Repeat shopping behavior

Adapted from Oliver (1980); Hayran et al. (2020).

RS1: I often return to the mall shortly after a recent visit.

RS2: I frequently revisit stores that offer exclusive deals.

RS3: I like to shop repeatedly at the same malls with new promotions.

#### 7. Unplanned spending

Adapted from Verhagen and van Dolen (2011); Tandon et al. (2021).

US1: I often exceed my budget when shopping at the mall.

US2: I tend to spend money on items that are not essential.

US3: I usually buy more than I had planned.

## APPENDIX C

### Demographic profile of respondents

This study collected valid responses from 428 participants in Ho Chi Minh City, Vietnam. The demographic characteristics of the sample are summarized in Table C1.

**Table C1.** Demographic characteristics

Demographic variable	Category	Frequency (n)	Percentage (%)
Gender	Male	215	50.3%
	Female	213	49.7%
Age group	Under 25	125	29.3%
	25-35	168	39.3%
	36-45	85	19.9%
	Over 45	50	11.5%
Monthly income	Under 10 million VND	94	22.0%
	10-20 million VND	175	41.0%
	20-30 million VND	111	26.0%
Shopping mall frequency	Over 30 million VND	48	11.0%
	Less than once/month	92	21.5%
	1-2 times/month	108	25.2%
	3-4 times/month	145	33.9%
Daily social media use	More than 4 times/month	83	19.4%
	Less than 1 hour	39	9.1%
	1-3 hours	201	47.0%
	3-5 hours	129	30.1%
	More than 5 hours	59	13.8%