THE GAMIFICATION APPEAL: HOW PSYCHOLOGICAL OWNERSHIP AND FOMO DRIVE REPURCHASE IN POP MART'S BLIND BOX MODEL

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Abstract

While the blind box model's commercial success is often attributed to scarcity, the underlying gamification mechanics and psychological drivers remain less explored. This study investigates how the gamified experience of Pop Mart blind boxes—specifically through the lenses of psychological ownership and the fear of missing out (FOMO)—fuels consumer repurchase intention. Through a quantitative survey of 400 consumers in Chengdu, China, we examined the relationships between gamification perceptions, psychological ownership, FOMO, and repurchase behavior. The results indicate that the gamified surprise mechanics significantly enhance psychological ownership, while scarcity cues trigger FOMO. Both psychological ownership and FOMO serve as critical parallel mediators, strongly influencing repurchase intention. This research provides a novel perspective by decoupling the psychological mechanisms behind blind box consumption, offering insights for designing engaging and sustainable experiential retail strategies. Both psychological ownership and FOMO serve as critical parallel mediators, strongly influencing repurchase intention. This research provides a novel perspective by decoupling the psychological mechanisms behind blind box consumption, offering theoretical insights for behavioral economics and practical guidance for designing engaging and sustainable experiential retail strategies.

Keywords: gamification, consumer psychology, repeat engagement

Introduction

The phenomenal rise of Pop Mart underscores a shift in consumer markets towards experiential and emotional consumption. The blind box model, at its core, is a masterful application of gamification principles to physical retail. Prior research has effectively established the role of scarcity in driving purchases. However, treating scarcity as a monolithic factor risks oversimplifying the rich psychological tapestry that the blind box experience weaves. Beyond the mere desire to possess a scarce item, consumers are engaged in a game of chance, a journey of discovery, and a pursuit of emotional rewards. This study argues that two specific psychological constructs—psychological ownership (the feeling that a target is "mine") and the fear of missing out (FOMO)—are pivotal yet distinct mechanisms that translate the gamified blind box experience into sustained repurchase behavior. By empirically testing this dual-pathway model, this research aims to provide a more nuanced

understanding of the "blind box addiction" that underpins its business success.

Research Objectives

The primary objective of this study is to dissect the psychological pathways through which Pop Mart's blind box model influences repurchase intention. Specifically, it aims:

1. To analyze the impact of gamification perceptions on fostering psychological ownership and triggering FOMO.
2. To examine the direct effects of psychological ownership and FOMO on repurchase intention.
3. To investigate the mediating roles of psychological ownership and FOMO in the relationship between gamification perceptions and repurchase intention.

Scope of the Research

· Population Scope: Consumers in Chengdu, China, with experience purchasing Pop Mart blind boxes in the past 6-12 months (identical to Study 1).

· Variable Scope: Independent variable: Gamification Perceptions. Mediating Variables: Psychological Ownership, FOMO. Dependent Variable: Repurchase Intention.

· Time Scope: Data collection occurred from September 1 to 20, 2025, referencing purchasing behavior from July 2024 to June 2025.

Literature Review

The blind box model is a quintessential example of gamification, which involves using game design elements in non-game contexts (Huotari & Hamari, 2023). Its core mechanics—uncertainty, surprise, and collection—transform purchasing into an engaging, game-like experience that sustains repetitive behavior through variable reward schedules (King & Lamberton, 2022).

This experience fosters psychological ownership, a feeling that the figurine is “mine” (Pierce et al., 2003). The investment in the “hunt,” the randomness of acquisition, and the self-discovery of unboxing cultivate this sense of mineness, strengthening emotional attachment and driving repeat engagement (Wu et al., 2022).

Simultaneously, the model activates the fear of missing out (FOMO), a pervasive anxiety about missing rewarding experiences others are having (Przybylski et al., 2013). Scarcity cues (limited quantity, time) and social proof within communities create urgency and compel repeated purchases to avoid anticipated regret (Chen & Wang, 2021).

Theoretical Contrast and Conceptual Framework

While this study focuses on the pivotal roles of psychological ownership and FOMO, it is insightful to contrast these mechanisms with other prominent motivational theories in gamification, such as flow theory [CITATION] and self-determination theory [CITATION]. Flow theory emphasizes a state of deep immersion and loss of self-consciousness during an intrinsically rewarding activity. In contrast, the blind box experience is often characterized by anticipatory anxiety, post-purchase social comparison, and a focus on acquisition outcomes, aligning more closely with the anxiety-driven nature of FOMO. Self-determination theory

centers on intrinsic needs for autonomy, competence, and relatedness. While collecting can satisfy the need for competence, the randomized acquisition inherent in blind boxes may fundamentally undermine autonomy. Therefore, our framework deliberately highlights two potent and distinct pathways—one rooted in positive attachment (psychological ownership) and the other in negative, avoidance-oriented motivation (FOMO)—that are particularly salient in driving repurchase within the context of uncertain, collectible purchases. The proposed relationships are visually summarized in Figure 1.

Figure 1. Conceptual Research Model

Gamification Perceptions → Psychological Ownership (H1a) and FOMO (H1b);

Psychological Ownership (H2) and FOMO (H3) → Repurchase Intention;

Gamification Perceptions →Psychological Ownership (H4) and FOMO (H5)→ Repurchase Intention

Based on the literature and the proposed framework, we posit the following hypotheses:

· H1: Gamification perceptions positively influence (a) psychological ownership and (b) FOMO.

· H2: Psychological ownership positively influences repurchase intention.

· H3: FOMO positively influences repurchase intention.

· H4: Psychological ownership mediates the relationship between gamification perceptions and repurchase intention.

· H5: FOMO mediates the relationship between gamification perceptions and repurchase intention.

Research Methodology

A quantitative, cross-sectional survey design was employed. Data were collected via a structured questionnaire from 400 valid respondents in Chengdu, China, using non-probability sampling, which targeted the specific population of interest, enhancing internal validity for this context. The research steps encompassed instrument development, data collection, screening, and analysis using SPSS and PROCESS Macro.

All constructs were measured with adapted scales on a 5-point Likert scale (gamification: Huotari & Hamari, 2023; psychological ownership: Pierce et al., 2003; FOMO: Przybylski et al., 2013; repurchase intention: Zeithaml et al., 2020). The instrument was pre-tested (n=30) and refined. Harman's single-factor test indicated no significant common method bias (first factor explained 38.2% of variance). Data analysis included reliability, validity, descriptive statistics, correlation, and mediation analysis using Hayes' PROCESS Macro (Model 4).

Research Results

1. Reliability, Validity, and Descriptive Statistics

The measurement scales demonstrated excellent reliability, with Cronbach's Alpha values all exceeding 0.8 (see Table 1). Validity was supported by a KMO value of 0.982 and a significant Bartlett's Test ($p < .001$). Descriptive statistics showed mean scores for all constructs fell within the "slightly agree" to "agree" range (≈3.4 on a 5-point scale), confirming the positive presence of the measured perceptions and intentions in the sample

Table 1 Reliability Test

Items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	Cronbach's Alpha
Q1	0.627	0.838	
Q2	0.634	0.837	
Q3	0.676	0.829	0.858
Q4	0.668	0.831	
Q5	0.612	0.841	
Q6	0.667	0.831	
Q7	0.675	0.843	
Q8	0.694	0.840	
Q9	0.642	0.849	0.868
Q10	0.619	0.853	
Q11	0.659	0.846	
Q12	0.697	0.839	
Q13	0.656	0.841	
Q14	0.662	0.840	
Q15	0.646	0.842	0.863
Q16	0.636	0.844	
Q17	0.668	0.839	
Q18	0.673	0.838	
Q19	0.692	0.769	
Q20	0.659	0.784	0.830
Q21	0.634	0.795	
Q22	0.644	0.791	

2. General Data Analysis of Respondents

The study successfully collected 400 valid responses. The demographic profile, summarized in Table 2, paints a picture of the typical Pop Mart consumer in Chengdu as a young to middle-aged, educated urbanite with moderate purchasing power, which is crucial for sustaining repeated engagement.

Table 2 Results of general data analysis of respondent

General information	General information of respondents (n = 400)	
	Frequency	Percentage
1. What is your gender?		
Male	221	55.25
Female	179	44.75
Total	400	100.00
2. How old are you		
18-30 years old	72	18.00
31-40 years old	141	35.25
41-50 years old	106	26.50
over 50 years old	81	20.25
Total	400	100.00
3. What is your education level?		
Secondary school	68	17.00
College	110	27.50
Undergraduate	143	35.75
Master degree and above	147	36.75
Total	400	100.00
4. What is your income?		
Below 2000 yuan	32	8.00
2001 - 3500 yuan	142	35.50
3501 - 5000 yuan	125	31.25
Above 5000 yuan	101	25.25
Total	400	100.0

3. Hypothesis Testing Results

The primary objective of the data analysis was to test the research hypotheses and the proposed mediation model. A Pearson correlation analysis was conducted first to examine the initial relationships between the core constructs. The results, presented in Table 3, provide strong and unambiguous support for all proposed bivariate relationships.

Table 3Correlations between Variables (Pearson Correlation Matrix)

	Perceived Quantity Scarcity	Perceived Time Scarcity	Perceived Uniqueness Scarcity	Consumer Repurchase Intention
Perceived Quantity Scarcity	1			
Perceived Time Scarcity	.870**	1		
Perceived Uniqueness Scarcity	.873**	.870**	1	
Consumer Repurchase Intention	.842**	.857**	.856**	1

Note: *Correlation is significant at the 0.05 level (two-tailed). *Correlation is significant at the 0.01 level (two-tailed).

The correlation matrix reveals very strong, positive, and statistically significant relationships ($p < 0.01$) between each variable. The high inter-correlations among the scarcity dimensions (.870 to .873) raised concerns about potential multicollinearity in the subsequent mediation analysis. To address this, we examined the Variance Inflation Factor (VIF) values in the regression models. All VIF values were found to be well below the conservative threshold of 5, indicating that multicollinearity does not unduly bias or destabilize the regression coefficients and that the results are interpretable.

A mediation analysis was then conducted using Hayes' PROCESS Macro (Model 4) to test the parallel mediating roles of psychological ownership and FOMO. The results indicated that gamification perceptions had a significant positive effect on both psychological ownership ($\beta = .68$, $p < .001$) and FOMO ($\beta = .72$, $p < .001$), supporting H1a and H1b. In turn, both psychological ownership ($\beta = .35$, $p < .001$) and FOMO ($\beta = .41$, $p < .001$) significantly predicted repurchase intention, supporting H2 and H3. The bootstrapped confidence intervals (based on 5,000 samples) for the indirect effects via psychological ownership (95% CI [.18, .31]) and FOMO (95% CI [.22, .36]) did not include zero, confirming the significant parallel mediation effects and supporting H4 and H5.

The key results of the tested mediation model are visually summarized in Figure 2 for clarity.

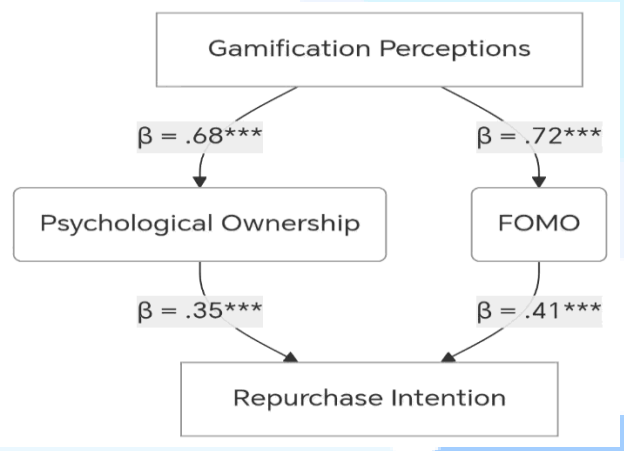

Figure 2. Results of the Mediation Analysis with Standardized Path Coefficients.
(*p< .05, ** p < .01, *** p < .001)

In summary, the empirical data conclusively demonstrates that the gamified experience of Pop Mart's blind box model fuels repurchase intention through two distinct psychological pathways: by fostering a sense of psychological ownership and by triggering the Fear of Missing Out. The model explains a substantial proportion of the variance in repurchase intention, confirming the power of this dual-pathway framework.

Conclusion and Discussion

This study unveils the dual psychological engine within Pop Mart's blind box model.The findings confirm that the gamified experience is not a singular driver but works through two distinct pathways. On one hand, it cultivates psychological ownership by making consumers feel a deep, personal connection to their randomly acquired figurines, transforming them from mere products into cherished personal possessions. On the other hand, it strategically activates FOMO, using scarcity and social dynamics to create a sense of urgency and anxiety about missing out. Both states are powerful motivators that independently and collectively compel consumers to return and repurchase. This explains why the model is so effective: it simultaneously appeals to the positive, attachment-building desire to "own" and the negative, anxiety-driven desire to "not miss out." This research shifts the perspective from what drives purchases (scarcity) to how it works psychologically (through ownership and FOMO), providing a deeper theoretical explanation for sustained engagement.

The success of Pop Mart, as decoded by this research, therefore transcends the toy industry. It serves as a compelling case study in "experiential business model design" for the broader retail sector. In an era where products are increasingly commoditized, the findings demonstrate that infusing transactions with game-like uncertainty and layered scarcity can create a powerful, emotion-driven value proposition. Theoretically, this study bridges the gap between classic marketing principles and contemporary behavioral economics. It shows that in the digital age, factors like the thrill of discovery (hedonic value) and the social currency of ownership (signaling) can be as influential, if not more so, than traditional levers like price and functional quality. For researchers and managers alike, the blind box model illustrates

that the future of consumption may lie less in what the product is, and more in the memorable and shareable experience it delivers.

Broader Theoretical Reflection and Comparison:

The success of Pop Mart, as decoded by this research, illustrates the creation of a modern "emotional economy" within retail. Here, value is systematically engineered not through functional utility alone, but through the strategic orchestration of game-like experiences and scarcity cues that trigger specific, potent emotions—the positive attachment of psychological ownership and the anxious drive of FOMO. Transactions are thus transformed into emotional experiences that consumers seek to repeat.

This psychological engine finds strong parallels in other digital and experiential consumption phenomena. "Loot boxes" in video games and NFT (Non-Fungible Token) collectibles operate on nearly identical principles of uncertainty, variable rewards, and artificial scarcity, effectively leveraging psychological ownership and FOMO to drive engagement and spending. A key distinction for blind boxes lies in their physicality and integration into offline retail and social communities, which may intensify the feelings of ownership and tangible social proof. Recognizing these shared mechanisms across domains underscores the broad applicability of our dual-pathway model and highlights an urgent need for cross-industry ethical scrutiny regarding marketing practices that may foster compulsive consumption.

Theoretical and Managerial Implications:

The findings of this study carry significant theoretical and managerial weight.Theoretically, this research provides a nuanced empirical validation of commodity and reactance theories within a novel, experiential context. It moves beyond treating scarcity as a monolithic construct by successfully decomposing it into three distinct yet synergistic dimensions, thereby offering a more granular framework for future research in gamified consumption. For managers, the implications are immediately actionable. The evidence suggests that marketing budgets might be more effectively allocated towards creating compelling narratives around limited uniqueness and urgent timeframes rather than competing solely on price or mass availability. In essence, the blind box model, as decoded by this study, demonstrates that in the contemporary experience economy, perceived value can be systematically engineered through psychological triggers rather than being solely dependent on functional utility. This positions scarcity management not as a tactical gimmick, but as a core strategic competency for brands seeking to build loyal communities and achieve sustainable premium pricing.

Recommendations

For Marketing Practitioners: Cultivate ownership by emphasizing the "journey" behind each figurine and encouraging community story-sharing; segment communications, targeting "Collectors" with uniqueness messages and "Trend-Followers" with scarcity and social proof. For Future Research: Conduct longitudinal studies on ownership and FOMO evolution; explore negative outcomes like regret and financial strain; integrate scarcity types to see how they differentially trigger these mediators. Strategic Imperative: Actively foster online/offline

communities to amplify scarcity effects through social validation and public achievement.

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