JOURNAL OF CULTURAL ANALYSIS AND SOCIAL CHANGE

Journal of Cultural Analysis and Social Change,
2025, 10(4), 5095-5105
ISSN: 2589-1316

The Double-Edged Sword Effect of Flow Experience: Mediating Mechanisms and Protective Moderation of Reality Anchoring — Evidence from Chinese Short-Form Video Users

Bin Chen[1*], Xuemei Sun[2]

[1] *National Institute of Development Administration, Thailand, ORCID:0000-0002-9169-521X. Email: chen.bin@stu.nida.ac.th*
[2] *Assistant Professor, International College, National Institute of Development Administration, Thailand*

*__Corresponding Author:__ chen.bin@stu.nida.ac.th

Citation: Chen, B. & Sun, X. (2025). The Double-Edged Sword Effect of Flow Experience: Mediating Mechanisms and Protective Moderation of Reality Anchoring — Evidence from Chinese Short-Form Video Users, *Journal of Cultural Analysis and Social Change*, 10(4), 5095-5105. https://doi.org/10.64753/jcasc.v11i1.3995

Published: December 25, 2025

ABSTRACT

In the highly immersive interaction context of short-form video platforms, flow experience presents a dual facilitation-risk effect. However, existing research has primarily examined its role from a single perspective and lacks a systematic investigation of boundary conditions for protective psychological mechanisms. This study integrates flow theory, habit theory, and conservation of resources theory to develop a dual-pathway model linking flow experience to continuance usage behavior through parallel mediators. Reality anchoring is introduced as a protective moderating variable, and its buffering effects on risk pathways are tested. Based on a sample of Chinese short-form video users (N=857), results show that flow experience influences continuance usage behavior primarily through parallel mediators rather than direct effects ($\beta = -0.039$, $p = 0.370$). Reality anchoring selectively weakens the conversion of flow experience into digital escapism and excessive use (interaction β ranges from -0.126 to -0.128, $p < 0.001$), but has a limited effect on the automated mindless scrolling pathway. This study contributes by integrating both facilitative and risk mechanisms within a unified framework and proposing reality anchoring as a key boundary condition for digital health, providing a theoretical basis for platform well-being-oriented design and user self-regulation.

Keywords: Short-form video, Flow experience, Continuance usage behavior, Parallel mediation, Reality anchoring, Digital well-being.

INTRODUCTION

Short-form video has become an essential digital infrastructure. Its product logic, centered on strong interactivity, instant feedback, and personalized content delivery, facilitates users' entry into flow states characterized by high focus, clear goals, and immediate feedback (Nakamura & Csikszentmihalyi, 2014). However, flow does not necessarily equate to healthy sustained engagement: it may strengthen user-platform stickiness through emotional commitment and relational embeddedness, but it may also trigger digital health risks such as escapist use, automatized scrolling, and excessive use under conditions of reduced reflective monitoring and accumulated resource depletion. Existing research often explains short-form video engagement either from the perspective of positive user experience or problematic use, but systematic evidence on how flow experience simultaneously influences continuance usage behavior through both facilitative and risk mechanisms within a single framework remains limited—particularly regarding boundary condition tests for protective psychological mechanisms on risk pathways.

Based on this gap, this study focuses on two objectives. First, to construct and test the multi-pathway mechanism through which flow experience influences continuance usage behavior via parallel mediators, including platform loyalty, social belonging, digital escapism, mindless scrolling, and excessive use. Second, to introduce reality anchoring as a protective moderator, examining its buffering effect on risk pathways and indirect effects, thereby defining viable boundaries for healthy short-form video use.

This study employs flow theory to explain the immersive optimal experience state (flow experience), characterized by a balance of challenge and skill, clear goals, immediate feedback, and a sense of control (Nakamura & Csikszentmihalyi, 2014). Habit theory emphasizes the tendency toward automated use formed through repeated cues and reinforcing feedback (Wood & Rünger, 2016), and automaticity research further indicates that individuals may exhibit "unintentional behavior" when lacking conscious monitoring (Labrecque et al., 2024). Conservation of resources theory posits that individuals tend to acquire, maintain, and protect resources; when resources are depleted or when threats to resources are perceived, self-regulation failure and uncontrolled investment become more likely (Hobfoll et al., 2018). Building on this foundation, this study proposes a parallel multi-pathway framework in which flow experience influences continuance usage behavior through both promotional mediators (platform loyalty, social belonging) and risk mediators (digital escapism, mindless scrolling, excessive use). Continuance usage behavior refers to users' sustained intention and actual continuation behavior in maintaining platform use after initial adoption (Bhattacherjee, 2001).

Parallel Pathways of Flow Experience: Facilitative and Risk Mechanisms

Regarding promotional mechanisms, the pleasure and sense of mastery from flow experience can strengthen users' emotional attachment and recommitment to the platform, thereby enhancing platform loyalty. Platform loyalty is typically defined as users' stable preference and sustained commitment to use a specific platform, manifested as a combination of attitudinal and behavioral loyalty (Ertemel et al., 2021; Lin et al., 2024). The interactive cues and community atmosphere of short-form videos may also enhance individuals' sense of social belonging—the subjective experience of feeling accepted, connected, and needed (Xu et al., 2025). Therefore, the hypotheses are:

H1a: Flow experience positively influences platform loyalty.

H1b: Flow experience positively influences social belonging.

Regarding risk mechanisms, highly immersive states may reduce reflective monitoring, thereby increasing users' inclination to use short-form videos as an escapist strategy for emotional regulation or to cope with reality stress. Digital escapism refers to the tendency of individuals to temporarily avoid real-world problems or negative emotions through media use to obtain short-term psychological relief (Orazi et al., 2023). Under reinforcing structures such as infinite scroll, use behavior more easily becomes habituated and manifests as mindless scrolling—a state lacking clear goals and self-monitoring, characterized by automated continuous swiping and browsing (de Segovia Vicente et al., 2024). Further, when resource depletion and self-control pressure accumulate, users are more likely to exhibit excessive use, manifested as loss of control over use, time investment exceeding plans, and accompanied by negative consequences (G. Li et al., 2024). As a consequence, three hypotheses were presented:

H1c: Flow experience positively influences digital escapism.

H1d: Flow experience positively influences mindless scrolling.

H1e: Flow experience positively influences excessive use.

Although flow experience may theoretically directly influence continuance usage, when multiple mediating pathways coexist, this study exploratorily tests whether its direct effect remains significant. In this regard, this study hypothesizes:

H1f: Flow experience positively influences continuance usage behavior.

Effects of Mediating Variables on Continuance Usage Behavior

Platform loyalty and social belonging reflect users' relational and emotional connections to the platform and are typically viewed as important socio-emotional drivers of continued use. Digital escapism, mindless scrolling, and excessive use reflect more compulsive/automatized forms of engagement that may similarly drive increased continuance usage behavior, though their content leans more toward risk-based participation. The following hypotheses were proposed:

H2: Platform loyalty positively influences continuance usage behavior.

H3: Social belonging positively influences continuance usage behavior.

H4: Digital escapism positively influences continuance usage behavior.

H5: Mindless scrolling positively influences continuance usage behavior.

H6: Excessive use positively influences continuance usage behavior.

Moderation and Parallel Mediation of Reality Anchoring

Reality anchoring refers to individuals' metacognitive regulatory capacity to maintain awareness of time passage, real-world goals, and self-state during immersive digital interaction, and to calibrate behavior accordingly. Its theoretical roots trace to metacognitive monitoring (Sobocinski et al., 2024; Behrendt et al., 2024) and regulation, as well as control loop models of self-regulation (Reinecke et al., 2022). In the short-form video context, higher reality anchoring helps redirect attention from immersion-induced attentional capture toward real-world tasks and long-term goals, thereby reducing the likelihood of digital escapism and excessive use. This study expects reality anchoring to exert a protective moderating effect on risk pathways:

H7: Reality anchoring negatively moderates the relationship between flow experience and digital escapism.

H8: Reality anchoring negatively moderates the relationship between flow experience and mindless scrolling.

H9: Reality anchoring negatively moderates the relationship between flow experience and excessive use.

Within the parallel mediation framework, if the direct path from flow experience to continuance usage behavior is non-significant, whereas multiple mediators produce significant indirect effects, this constitutes a multi-mechanism mediated explanation. Accordingly, we propose the following hypothesis:

HM1: Platform loyalty mediates the relationship between flow experience and continuance usage behavior.

HM2: Social belonging mediates the relationship between flow experience and continuance usage behavior.

HM3: Digital escapism mediates the relationship between flow experience and continuance usage behavior.

HM4: Mindless scrolling mediates the relationship between flow experience and continuance usage behavior.

HM5: Excessive use mediates the relationship between flow experience and continuance usage behavior.

RESEARCH METHODOLOGY

This study employs a quantitative research design to examine how flow experience influences user continuance usage behavior through multi-pathway mechanisms in short-form video platforms. Structural Equation Modeling (SEM) is considered the most appropriate analytical approach (Hair, Risher, et al., 2019). The study adopts a cross-sectional design explicitly, collecting data at a specific time point to explore associational patterns among variables (Spector, 2019). Partial Least Squares SEM (PLS-SEM) was selected as the analytical tool due to its strong robustness in handling complex models, non-normal data distributions, and exploratory research (Hair, Risher, et al., 2019).

Sample and Data Collection:

This study focused on users of Chinese short-form video platforms, selecting users from Douyin, Kuaishou, and Xiaohongshu as the sample. These three platforms collectively cover both mainstream and niche market segments and are representative. Given the large population size and absence of a complete sampling frame, quota sampling was employed (Iliyasu & Etikan, 2021; Kalton, 2023), using the age distribution reported by Statista (2024) as a reference and targeting the mainstream group aged 20–59 years. Questionnaires were distributed through "Wenjuanxing," combined with dissemination via WeChat, QQ, and community channels, with real-time monitoring of response structure.

Data were collected in July 2024 via the "Wenjuanxing" (www.wjx.com) online platform over one month, yielding 1,127 questionnaires. After rigorous screening, 857 valid questionnaires were obtained, achieving a valid response rate of 76.0%. The sample size and data quality meet the requirements for statistical analysis (Rubin & Babbie, 2016).

The sample gender distribution was 55.31% female and 44.69% male, consistent with typical user characteristics of social media and content platforms. The educational distribution indicates that the sample primarily represents users with higher vocational education. Regarding platform usage, Douyin (50.41%) accounts for half of the sample, aligning with the market reports mentioned earlier. The city size distribution shows a marked concentration in higher-tier cities, with respondents from large cities (57.53%) and megacities (24.62%) accounting for 82.15% of the sample.

Measures

All latent variables were measured using seven-point Likert scales, adapted from the existing literature and adjusted for the short-form video usage context. Continuance Usage Behavior, the dependent variable, was measured following Limayem et al. (2007). Flow Experience measurement integrated recent research on short-form video contexts (Yang et al., 2023; Zhao & Wagner, 2023). Platform Loyalty was measured following Ryu and Suh (2021) across three dimensions: emotional, attitudinal, and behavioral loyalty. Social belonging was assessed across three aspects: content resonance, interactive participation, and community identification (Xu et al., 2025). Digital Escapism was measured based on Wong et al. (2024) across three dimensions: stress escapism, emotion

regulation, and reality avoidance. Mindless scrolling was measured following de Segovia Vicente et al. (2024) and Ruiz et al. (2024) and assessed across three dimensions: automated behavior, low cognitive engagement, and time distortion. Excessive Use measurement employed the scale developed by W. Li et al. (2024). The moderator, Reality Anchoring, was measured using research by Camara Dit Pinto et al. (2024) on reality perception in digital media use and by Bajorunaite et al. (2022).

Control Variables

To enhance internal validity and control for potential confounding, gender, age, education, and city size were included as control variables, thereby reducing bias from demographic differences and improving the reliability of the conclusions (Salkind, 2010).

DATA ANALYSIS AND RESULTS

This study employed Partial Least Squares Structural Equation Modeling (PLS-SEM) to test the theoretical model. Following the standard two-stage approach for PLS-SEM analysis, the quality of the measurement model (outer model) must be assessed before conducting path analysis of the structural model (inner model) (Hair, Risher, et al., 2019).

As shown in

Table **1**, all indicators of the measurement model performed excellently, reaching highly satisfactory levels.

Internal consistency was evaluated through Cronbach's Alpha (CA) and Composite Reliability (CR). Following Hair, Jr., et al. (2019) recommendations, both CA and CR values should exceed the empirical threshold of 0.7. Results showed that Cronbach's Alpha values for all constructs ranged from 0.781 to 0.937, and composite reliability values ranged from 0.873 to 0.955. All constructs met the reliability threshold, indicating strong internal consistency of the measurement instruments.

Convergent validity was assessed through Average Variance Extracted (AVE), which should exceed 0.5 (Fornell & Larcker, 1981). Results showed AVE values ranging from 0.633 to 0.841, all exceeding the 0.5 threshold, demonstrating good convergent validity—that is, items within each construct effectively converge to measure the same concept.

Table 1 Construct reliability, validity, and factor loadings

Construct	Indicator	Loadings	Cronbach's alpha	CR	AVE
	FE1	0.892			
	FE2	0.893			
	FE3	0.886			
FE	FE4	0.889	0.913	0.939	0.792
	PL1	0.875			
	PL2	0.879			
	PL3	0.879			
PL	PL4	0.894	0.905	0.933	0.778
	SB1	0.898			
	SB2	0.905			
	SB3	0.913			
SB	SB4	0.896	0.925	0.946	0.815
	DE1	0.883			
	DE2	0.897			
	DE3	0.832			
DE	DE4	0.884	0.897	0.929	0.765
	MS1	0.899			
	MS2	0.888			
	MS3	0.905			
MS	MS4	0.906	0.921	0.944	0.809
	EXU1	0.874			
EXU	EXU2	0.873	0.902	0.931	0.773

	EXU3	0.899			
	EXU4	0.869			
	CUB1	0.795			
	CUB2	0.818			
CUB	CUB3	0.887	0.781	0.873	0.696
	RA1	0.915			
	RA2	0.927			
	RA3	0.901			
RA	RA4	0.924	0.937	0.955	0.841

(Note: FE=Flow experience ,PL=Platform loyalty, SB=Social belonging, DE=Digital escapism, MS=Mindless scrolling, EXU=Excessive use, RA =Reality anchoring, CUB=Continuance Usage Behavior)

After confirming good reliability and convergent validity of the measurement model, discriminant validity was examined. This study employed two mainstream testing methods: the Fornell-Larcker criterion and the heterotrait-monotrait ratio (HTMT) (Fornell & Larcker, 1981; Hamid et al., 2017; Henseler et al., 2014). Results showed that the square root of AVE for each construct exceeded all correlation coefficients in its corresponding row and column. This indicates good discriminant validity among constructs. The study further employed the more stringent HTMT ratio for supplementary verification (Hair, Jr., et al., 2019). All HTMT ratios were below the conservative threshold of 0.85, strongly demonstrating high distinctiveness among constructs and confirming good discriminant validity (Franke & Sarstedt, 2019).

Common Method Bias (CMB) and Multicollinearity Analysis

Since data were primarily collected through questionnaires at a single time point, with all variables completed by the same respondents, the risk of common method bias (CMB) exists (Baumgartner et al., 2021). This study employed a marker variable theoretically unrelated to all other constructs to test the potential for CMB (Jaakkola & Terho, 2021). Following previous research, respondents' attitude toward the color blue served as the marker variable. Results showed that all paths from the marker variable to all variables were nonsignificant and close to zero. After incorporating the marker variable, the path coefficients and significance levels in the original model remained unchanged. Results therefore indicate no serious common method bias in this study. Additionally, the full variance inflation factor (VIF) was used to test multicollinearity. The maximum VIF value was 1.451, below the threshold of 3.30 (Hair, Jr., et al., 2019). The study thus shows no multicollinearity issues.

Structural Model and Hypothesis Testing

After confirming that the measurement model's reliability and validity met standards, this study employed Partial Least Squares Structural Equation Modeling (PLS-SEM) for path analysis and hypothesis testing of the structural model. Bootstrapping (5,000 resamples) was used to estimate T-statistics and p-values for path coefficients to determine hypothesis support.

Figure 1 and results show that all five sub-hypotheses regarding flow experience (FE) (H1a–H1e) were supported. FE demonstrated significant positive predictive effects on platform loyalty ($\beta = 0.567$, $p < 0.001$), social belonging ($\beta = 0.465$, $p < 0.001$), digital escapism ($\beta = 0.541$, $p < 0.001$), mindless scrolling ($\beta = 0.415$, $p < 0.001$), and excessive use ($\beta = 0.443$, $p < 0.001$). This indicates that flow experience has important substantive effects across multiple psychological and behavioral outcomes. However, the direct effect of flow experience on continuance usage behavior was not significant ($\beta = -0.039$, $p = 0.370$), thus H1f was not supported.

Of the five paths predicting continuance usage behavior (CUB), four hypotheses were supported. Platform loyalty (H2; $\beta = 0.247$, $p < 0.001$), social belonging (H3; $\beta = 0.160$, $p < 0.001$), digital escapism (H4; $\beta = 0.203$, $p < 0.001$), and excessive use (H6; $\beta = 0.285$, $p < 0.001$) all significantly and positively predicted CUB. In contrast, the relationship between mindless scrolling (H5; $\beta = -0.015$, $p = 0.709$) and CUB was not significant, thus hypothesis H5 was not supported.

After testing structural model path relationships, this study first evaluated model explanatory power through the coefficient of determination (R^2). According to widely accepted standards (Hair, 2014), $R^2 > 0.75$ indicates substantial explanatory power, $R^2 > 0.50$ indicates moderate power, and $R^2 > 0.25$ indicates weak power. R^2 results for endogenous constructs are shown in **Error! Reference source not found.**. The model's explanatory power f or continuance usage behavior (CUB) reached 37.2% ($R^2 = 0.372$), indicating that the five mediation mechanisms (platform loyalty, social belonging, digital escapism, excessive use, mindless scrolling) can robustly and jointly explain why users continue using short-form video platforms. According to literature standards (Hair, 2014; Shmueli et al., 2019), $Q^2 > 0$ indicates that the model has predictive relevance compared to a baseline model relying only on mean prediction. As shown in Figure 1, Q^2 values for all six endogenous constructs (CUB, PL, DE, EXU,

SB, MS) in this study were significantly greater than 0, confirming that the model overall possesses predictive validity. Control variables showed no statistically significant effects on continuance usage behavior.

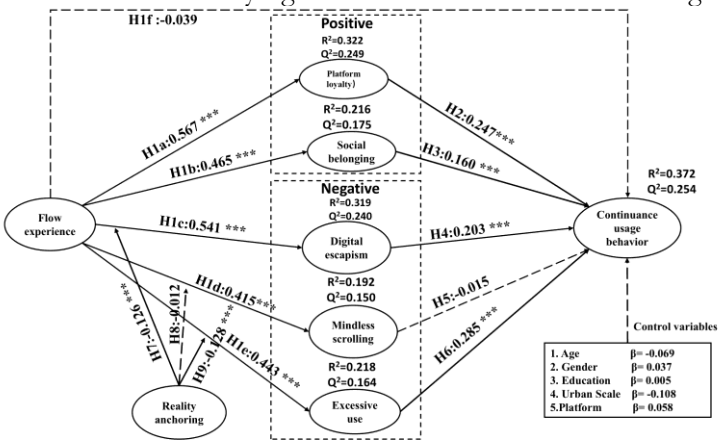

Figure 1 Model Results
*Note: *p < 0.05, **p < 0.01, ***p < 0.001*

Reality Anchoring Moderation Analysis

Reality anchoring can be understood as an individual's psychological brake or reality connector. Specific interaction term path coefficients, T-statistics, and p-values are shown in Table 2.

Table 2 Moderating Effect of Reality Anchoring

Path	β	T	P	Confidence intervals		Hypotheses Result
				2.50%	97.50%	
RA x FE -> DE	-0.126	4.362	0.000	-0.181	-0.070	H7 Supported
RA x FE -> MS	-0.012	0.362	0.718	-0.076	0.055	H8 Not Supported
RA x FE -> EXU	-0.128	3.777	0.000	-0.195	-0.061	H9 Supported

*(Note: FE=Flow experience, SB=Social belonging, DE=Digital escapism, MS=Mindless scrolling, EXU=Excessive use, RA =Reality anchoring) *p < 0.05, **p < 0.01, ***p < 0.001.*

As shown in Table 2, the interaction RA x FE → DE was significant (β = -0.126, p < 0.001). This significant negative moderating effect indicates that reality anchoring weakens the tendency for flow experience to translate into digital escapism. Similarly, the interaction RA x FE → EXU (β = -0.128, p < 0.001) suggests that reality anchoring also reduces the likelihood of flow leading to excessive use. In contrast, the interaction RA x FE → MS was not significant (β = -0.012, p = 0.718). This result implies that flow experience is equally likely to trigger mindless scrolling regardless of the strength of an individual's connection to reality. A possible explanation is that mindless scrolling involves lower cognitive engagement and is a more mechanical behavior, functioning more as a "habit" rather than goal-oriented escapism or addiction.

To clearly visualize these patterns, Figure 2 illustrates how reality anchoring moderates the relationship between flow experience and excessive use, as well as the relationship between flow experience and digital escapism.

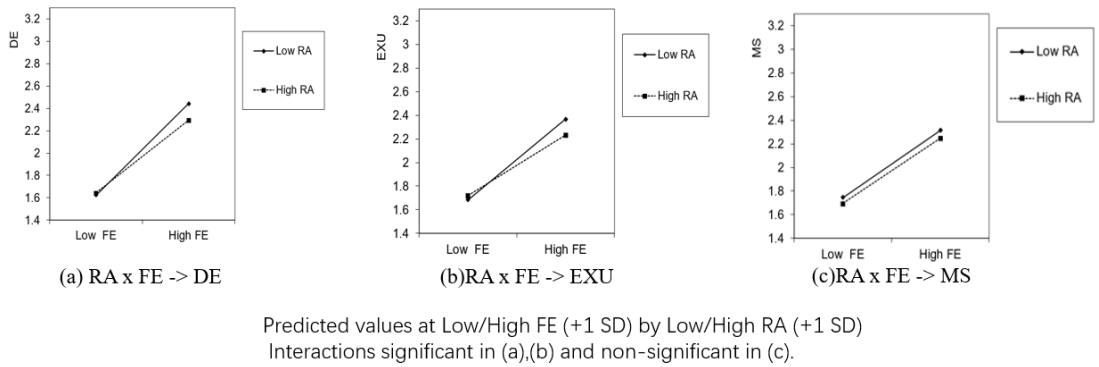

Figure 2 Moderation effects of Reality Anchoring
(Note: FE=Flow experience, SB=Social belonging, DE=Digital escapism, MS=Mindless scrolling, EXU=Excessive use, RA =Reality anchoring)

Mediation Effect Test

To address the theoretical proposition that Flow Experience (FE) influences Continuance Usage Behavior (CUB) through multiple mediators, we employed the bootstrapping method recommended by Hayes (2015). Using Smart-PLS 4.0, we generated 5,000 subsamples to compute 95% bias-corrected confidence intervals for assessing the significance of mediating effects.

Prior to examining the specific mediating paths, an analysis of the total effect, direct effect, and total indirect effect within the model was conducted, with the results presented in Table 3.

Table 3 Total Mediating Effect

Path	Effects	β	Bootstrap 5000 Times			Percentile 95%		Conclusion
			S.E	T statistics	P values	Low	Upper	
FE ->CUB	Direct Effects	-0.039	0.043	0.896	0.370	-0.127	0.044	Indirect-only mediation
	Indirect Effects	0.445***	0.031	14.289	0.000	0.387	0.508	
	Total Effects	0.406***	0.031	12.967	0.000	0.344	0.466	

*(Note: FE=Flow experience, PL=Platform Loyalty, SB=Social Belonging, DE=Digital Escapism, MS=Mindless Scrolling, EXU=Excessive use, CUB=Continuance Usage Behavior) *p < 0.05, **p < 0.01, ***p < 0.001.*

The results indicate that the total effect of flow experience on continuance usage behavior is significant (β = 0.406, p < 0.001), suggesting that flow experience is an important overall antecedent of users' continuance usage behavior. However, after introducing the five mediators, the direct effect of flow experience on continuance usage behavior becomes non-significant (β = −0.039, p = 0.370), and its 95% confidence interval [−0.127, 0.044] includes zero. Meanwhile, the total indirect effect is highly significant (β = 0.445, p < 0.001), with a 95% confidence interval [0.387, 0.508] that does not include zero. According to the mediation assessment criteria proposed by Baron and Kenny (1986) and Xinshu Zhao (2010), when the direct effect is non-significant and the indirect effect is significant, the model is considered to exhibit indirect-only mediation. This indicates that the influence of flow experience on users' continuance usage behavior does not occur directly; instead, it is transmitted through the mediators: platform loyalty, social belonging, digital escapism, excessive use.

To further examine the specific mechanisms of each mediator, we tested specific indirect effects for hypotheses HM1 through HM5. Detailed results are presented in Table 4.

Table 4 Specific indirect Mediating effects

Path	Effects	β	Bootstrap 5000 Times			Percentile 95%		Conclusion
			S.E	T statistics	P values	Low	Upper	
FE -> PL -> CUB	Specific indirect Path	0.140***	0.023	6.141	0.000	0.097	0.187	HM1: Supported
FE -> SB -> CUB	Specific indirect Path	0.074***	0.017	4.307	0.000	0.042	0.11	HM2: Supported
FE -> DE -> CUB	Specific indirect Path	0.110***	0.021	5.163	0.000	0.070	0.152	HM3: Supported
FE -> MS -> CUB	Specific indirect Path	-0.006	0.017	0.371	0.710	-0.038	0.028	HM4: Not Supported
FE -> EXU -> CUB	Specific indirect Path	0.126***	0.021	5.930	0.000	0.087	0.171	HM5: Supported

(Note: FE=Flow experience, PL=Platform loyalty, SB=Social belonging, DE=Digital escapism, MS=Mindless scrolling, EXU=Excessive use CUB=Continuance usage behavior) p < 0.05, p < 0.01, p < 0.001.

The mediating effect of platform loyalty is significant (β = 0.140, p < 0.001), and the 95% confidence interval [0.097, 0.187] does not include zero. Therefore, HM1 is supported. The mediating effect of social belonging is significant (β = 0.074, p < 0.001), with a 95% confidence interval [0.042, 0.110] that excludes zero. Therefore, HM2 is supported. The mediating effect of digital escapism is significant (β = 0.110, p < 0.001), and the 95% confidence interval [0.070, 0.152] does not include zero. Therefore, HM3 is supported. The mediating effect of excessive use is significant (β = 0.126, p < 0.001), with a 95% confidence interval [0.087, 0.171] that excludes zero. Therefore, HM5 is supported. However, the mediating effect of mindless scrolling is not significant (β = −0.006, p = 0.710), and the 95% confidence interval [−0.038, 0.028] includes zero. Therefore, HM4 is not supported.

Taken together, these findings provide strong support for the core model of this study. Specifically, the effect of flow experience on continuance usage behavior is fully indirect, operating primarily through four significant pathways: strengthening platform loyalty, enhancing social belonging, fulfilling digital escapism needs, and inducing excessive use. In contrast, mindless scrolling does not function as an effective mediator in this mechanism.

DISCUSSION AND IMPLICATIONS

Research Discussion and Conclusions

This study reveals the dual nature of flow experience in short-form video contexts: it enhances platform loyalty and social belonging, driving users to form stable emotional embeddedness, while also strengthening risk tendencies such as digital escapism, mindless scrolling, and excessive use. A key finding is that the direct effect of flow on continuance usage is not significant, with influence primarily realized through multiple indirect pathways. This indicates that understanding the formation logic of continued short-form video use requires focusing on mediation mechanisms rather than total effects.

Results for promotional pathways confirm flow theory's assertions regarding optimal experience, specifically intrinsic reinforcement (Nakamura & Csikszentmihalyi, 2014). When flow experience is frequently triggered in platform interactions, users view the platform as a venue that consistently provides high-quality experiences, which accumulates into loyalty. The social belonging pathway suggests that platform interaction and community cues can transform flow-induced pleasure into social satisfaction. The need for belonging, as a fundamental motivation, drives individuals to seek stable interpersonal connections (Singh et al., 2018).

Risk pathways provide theoretical support for the "dark side" of flow. The mediating role of digital escapism aligns with the compensatory internet use perspective: when online activities become tools for alleviating negative emotions, immersion may evolve into escapist use (Kardefelt-Winther, 2014). Mindless scrolling and excessive use can be understood through habit automaticity—repeated contextual cues gradually shift behavior from goal-directed to automatic responses (Zhang et al., 2024). Notably, mindless scrolling does not significantly predict continuance usage, suggesting that beneath the superficial phenomenon of "can't stop scrolling," impulsive automaticity must be distinguished from mechanisms such as relational commitment and resource depletion.

The moderating role of reality anchoring provides boundary conditions for healthy use. According to conservation of resources theory (Hobfoll et al., 2018), reality anchoring, as a metacognitive calibration capacity, can interrupt the conversion chain from flow to digital escapism and excessive use. Rather than diminishing the experiential value of flow, it helps individuals maintain goal alignment and self-regulatory capacity during immersion.

Research Contributions

At the theoretical level, this study integrates flow, habit, and conservation of resources theories, revealing the effects of flow experience and the parallel operation of positive/negative pathways, and introduces reality anchoring as a moderating mechanism (Bajorunaite et al., 2023; W. Li et al., 2024; Yang et al., 2023), extending the application boundaries of conservation of resources theory.

At the practical level, platform design should shift from maximizing duration to prioritizing user well-being by enhancing social belonging features, introducing positive friction to deter excessive use, and supporting reminder mechanisms that strengthen reality anchoring. At the policy and educational levels, reality anchoring should be integrated into digital literacy curricula, with real-time, adaptive interventions for vulnerable groups. Users can establish reality anchoring through offline activities and proactively use tools to increase friction in use (Bajorunaite et al., 2023; Jia et al., 2025; W. Li et al., 2024).

RESEARCH LIMITATIONS

Several limitations require careful consideration. The cross-sectional design limits causal inference, with findings more appropriately understood as evidence of associations consistent with mechanisms. Self-report measures cannot eliminate common method bias. The sample focuses on Chinese users, necessitating cross-cultural validation to enhance external validity. Reality anchoring was treated as an aggregated construct, leaving unanswered which anchoring mechanism is most critical. Continuance usage behavior, as the outcome variable, may also fail to distinguish between healthy and risk-oriented continued engagement.

FUTURE RESEARCH DIRECTIONS

Future research can advance along four directions: employing longitudinal tracking or experience sampling designs to examine the dynamic evolution of mediation and moderation mechanisms; introducing objective data such as usage duration logs and session counts to validate self-report measures; decomposing reality anchoring into operational dimensions and experimentally evaluating the intervention effects of design elements such as time prompts and goal modes; introducing individual traits and contextual variables such as self-control, mindfulness, and FOMO as moderating factors, and using latent profile analysis to identify different user types to enhance intervention precision.

Institutional Review Board Statement

Ethical review and approval were waived by the Academic Committee of the International College, National Institute of Development Administration (NIDA), Thailand. The study involved a minimal-risk, anonymous online survey of adult short-form video users (ages 20–59), and no personally identifiable information was collected.

ACKNOWLEDGMENTS

I am grateful to my Ph.D. advisor Assistant Professor Xuemei Sun, Ph.D. at the International College, NIDA, for continuous academic supervision and guidance.

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