

A Study on the Mechanisms Influencing Youth Intermittent Disengagement Behavior on Short Video Platforms

—Based on the Moderating Role of Self-Control Ability

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Abstract: As a product of the technological revolution in information media, short video platforms feature an increasingly complex scale of information, functional settings, and social networks. These complexities pose risks of perceived overload on the user level, leading to negative usage behaviors such as usage fatigue and intermittent disengagement. Based on the Stimulus-Organism-Response (S-O-R) theoretical framework, this study constructs a model of the mechanisms influencing intermittent disengagement behaviors among young users on short video platforms. Innovatively, the study introduces the moderating role of self-control theory. Data were collected through an online questionnaire, yielding 423 valid samples, and analyzed using structural equation modeling, mediation effect modeling, and moderation effect modeling. Results indicate that perceived information overload has a significant positive impact on the occurrence of intermittent disengagement among youth; usage fatigue partially mediates the pathway from perceived information overload to intermittent disengagement and fully mediates the pathway from perceived functional overload to intermittent disengagement; self-control ability positively moderates the relationship between usage fatigue and intermittent disengagement.

Keywords: short video platforms, intermittent disengagement behavior, youth group, usage fatigue, perceived overload.

1. Introduction

With the rapid transformation and iteration of digital technology and the widespread adoption of mobile electronic devices such as smartphones, various social media platforms have increasingly permeated daily life. Among these, short video platforms see particularly high usage frequency and duration among young users. During their use of short video platforms, young people often experience fatigue while also showing varying degrees of addiction. Indeed, understanding how to use short video platforms effectively and to balance time between work, study, relaxation, and entertainment has become an urgent question for today's youth.

Most existing literature focuses on disengagement behaviors on social media in general, with relatively few studies examining intermittent disengagement among young users on short video

platforms. This study specifically centers on intermittent disengagement behaviors among young people, a primary user group of short video platforms. Using a quantitative research approach, it adopts the "Stimulus-Organism-Response" (S-O-R) model as a foundational framework and creatively introduces "self-control ability" as a moderating variable. This study aims to explain the mechanisms and influencing factors behind intermittent disengagement behaviors among young users on short video platforms.

2. Literature Review and Research Hypotheses

2.1. S-O-R Theory

The Stimulus-Organism-Response (S-O-R) theory is widely applied to explain the mechanism by which individuals experience psychological state changes and behavioral responses when subjected to internal or external stimuli. This theory has been demonstrated to effectively explain social media users' psychological and behavioral responses when facing situational stimuli [1]. In this study, we consider users' experiences of perceived overload on short video platforms as the stimulus element, the resulting negative usage emotions as the organism element, and the intermittent disengagement behavior adopted by users as the response element.

The stimulus element, "S," describes an individual's cognitive state when encountering information that exceeds their processing capacity. This study follows Lee et al.'s [2] classification of overload types in social networks: perceived information overload, perceived functional overload, and perceived social overload. Users' experiences of perceived overload typically negatively influence their behavior on social media platforms. Based on this, the study proposes the following hypotheses:

H1a: Perceived information overload has a positive impact on the occurrence of intermittent disengagement behavior.

H1b: Perceived functional overload has a positive impact on the occurrence of intermittent disengagement behavior.

H1c: Perceived social overload has a positive impact on the occurrence of intermittent disengagement behavior.

The organism element, "O," refers to users' negative emotions related to social media platform usage, with fatigue being the most commonly studied emotion influencing disengagement behaviors. Therefore, this study focuses on social media usage fatigue as the key point for analyzing negative emotions. Research by Gan Chunmei [3] and Lin [4], based on the S-O-R theory, has confirmed that both information overload and functional overload lead to user fatigue. Additionally, studies have shown that fatigue has a significant positive impact on the willingness and behavior of short video users to intermittently disengage, consistent with findings by Zhang et al. [5] and Dai et al. [6]. Based on these findings, this study proposes the following hypotheses:

H2a: Perceived information overload has a positive impact on usage fatigue.

H2b: Perceived functional overload has a positive impact on usage fatigue.

H2c: Perceived social overload has a positive impact on usage fatigue.

H2d: Usage fatigue has a positive impact on the occurrence of intermittent disengagement behavior.

The response element, "R," refers to the final intermittent disengagement behavior exhibited by the user. As an important form of negative social media usage, it specifically manifests as the user adopting a certain innovation, subsequently ceasing use for a period, and then resuming it, potentially in a repeated cycle of adoption and cessation. Based on the "Cognition-Emotion-Behavior" theoretical paradigm, Zhu Qinwu's empirical analysis concluded that perceived information overload, functional overload, and social overload positively influence user fatigue, which in turn triggers intermittent disengagement behavior [7]. Based on this, the study proposes the following hypotheses:

H3a: Usage fatigue mediates the impact of perceived information overload on the occurrence of intermittent disengagement behavior.

H3b: Usage fatigue mediates the impact of perceived functional overload on the occurrence of intermittent disengagement behavior.

H3c: Usage fatigue mediates the impact of perceived social overload on the occurrence of intermittent disengagement behavior.

2.2. Self-Control Theory

Self-control is defined as an individual's ability to overcome or suppress short-term impulses that conflict with long-term goals [8].

The frequent use of short video platforms exposes young users to negative experiences such as perceived information, functional, and social overload, which can lead to a certain level of addiction. Consequently, it becomes difficult for them to disengage, even intermittently, to avoid the negative emotional impact of short video platforms and the substantial time consumption that affects their daily work and study. Based on this, the study posits that young users with a stronger self-control ability are more likely to engage in intermittent disengagement behaviors to mitigate the negative impacts associated with short video platform use. In other words, self-control serves as a moderating factor in the pathway from usage fatigue to intermittent disengagement behavior. Therefore, we propose the following hypothesis:

H4a: Self-control positively moderates the impact of usage fatigue on the occurrence of intermittent disengagement behavior.

In summary, the theoretical model of this study is presented in Figure 1.

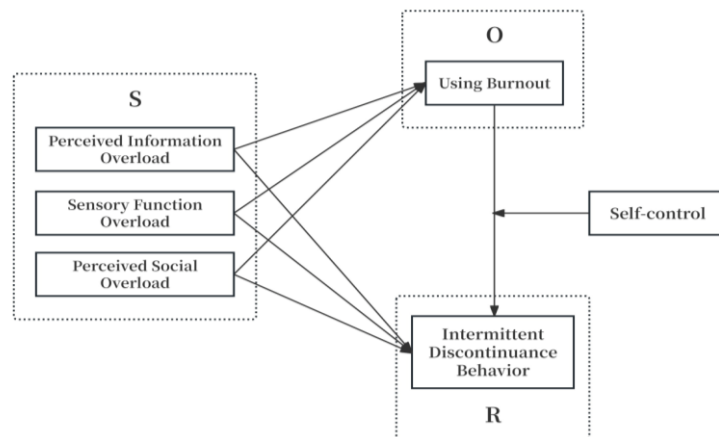


Figure 1: Theoretical Model of this Study

3. Research Methodology

This study employs a questionnaire survey method. To ensure the reliability and validity of the questionnaire, established scales from academic literature were used for construct measurement, and a pilot survey was conducted on the target group, yielding 65 valid responses.

Based on feedback from the pilot survey, modifications were made to address issues of unclear wording, resulting in a more concise formal questionnaire. The specific variable measurements and reliability and validity tests are shown in Table 1.

Table 1: Variable Measurement and Reliability and Validity Testing

	Reference Source	Cronbach's α	KMO
Perceived Information Overload	Zhang(2016)[5]	0.882	0.813
Sensory Function Overload		0.831	0.784
Perceived Social Overload		0.889	0.81
Using Burnout	Lee(2016)[2];Maier(2015)[9]	0.847	0.735
Intermittent Discontinuance Behavior	Shen(2017)[10];Zhang(2016)[5]	0.911	0.737

In the formal survey, a total of 435 responses were collected. After excluding responses with a completion time of less than 60 seconds and those containing logical errors, 423 valid responses were retained, resulting in an effective rate of 97.2%. Descriptive statistical results reflecting the basic characteristics of the respondents are presented in Table 2.

Table 2: Descriptive Statistics of Demographic Variables

	Definition	Mean	SD
Gender	Man=1; Woman=2	1.454	0.498
University Category	Project 985=1; Project 211=2; General College=3	2.071	0.832
Degree	Bachelor's Degree=1; Master's Degree=2	1.284	0.451

4. Data Analysis and Hypothesis Testing

4.1. Structural Equation Model Analysis

4.1.1. Model Fit Testing for Structural Equation Model

Structural equation modeling (SEM) is a method for constructing, estimating, and testing causal models, effectively estimating causal relationships among observed and latent variables, as well as between latent variables themselves. This study used AMOS 26.0 to analyze the hypothesized model and test the model's hypotheses. The structural equation model is illustrated in Figure 2.

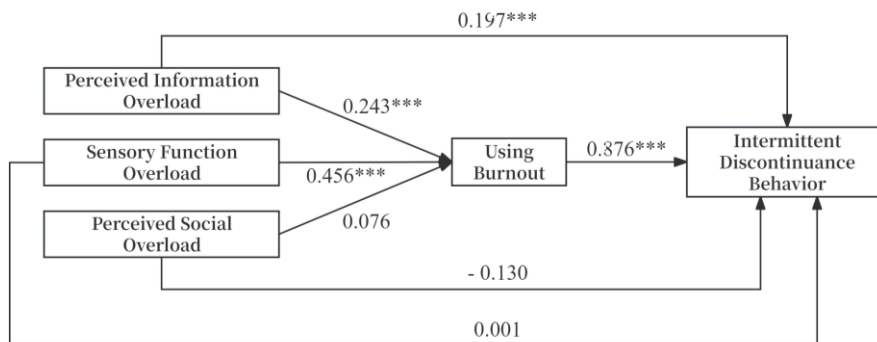


Figure 2: Structural Equation Model

In testing model fit, all indicators met the required standards. Specifically, the CMIN/DF value was 3.902, meeting the standard of less than 5; the RMSEA value was 0.083, below the threshold of 0.1; and the RMR value was 0.073, under the standard of 0.08. Furthermore, the CFI, GFI, IFI, and NFI values all exceeded the 0.9 benchmark. Thus, the model demonstrated a good overall fit, accurately reflecting the research outcomes.

4.1.2. Hypothesis Testing for Structural Equation Model

Using AMOS 26.0, we statistically analyzed the path coefficients in the structural equation model and conducted hypothesis testing. The criteria for significance testing were: an absolute C.R. value greater than 1.96 and a p-value less than 0.05. The significance levels of model paths and the hypothesis testing results are presented in Table 3. Based on these results, hypotheses H1a, H2a, H2b, and H2d are supported, while H1b, H1c, and H2c are not supported.

Table 3: Path Coefficient Testing for Structural Equation Model

Hypothesis Path	Effect Size	S.E.	C.R.	P	Supported
Perceived Information Overload→ Intermittent Discontinuance Behavior	0.197	0.078	2.318	0.020	Yes
Sensory Function Overload→ Intermittent Discontinuance Behavior	0.001	0.139	0.005	0.996	No
Perceived Social Overload→ Intermittent Discontinuance Behavior	-0.130	0.126	-1.186	0.236	No
Perceived Information Overload→ Using Burnout	0.243	0.113	2.456	0.014	Yes
Sensory Function Overload→ Using Burnout	0.456	0.171	2.983	0.003	Yes
Perceived Social Overload→ Using Burnout	0.076	0.159	0.656	0.512	No
Using Burnout→ Intermittent Discontinuance Behavior	0.876	0.125	5.876	0.000	Yes

4.2. Mediation Effect Testing

A mediation model is a statistical analysis method for examining the pathway through which an independent variable affects a dependent variable. In cases where the influence of variable X on variable Y is mediated by variable M, M serves as the mediator in the research model. Here, Y is a function of M, and M is a function of X, with mediation effects classified as either full or partial mediation based on their influence.

Based on the structural equation model analysis, hypothesis H1c is not supported, indicating that usage fatigue is not a function of perceived social overload. Therefore, the pathway of perceived social overload → usage fatigue → intermittent disengagement behavior is not supported, leading to the rejection of H3c and H4c as well. We conducted 5,000 bootstrap analyses on the two influence pathways, perceived information overload → usage fatigue → intermittent disengagement behavior and perceived functional overload → usage fatigue → intermittent disengagement behavior. The results of the mediation effect test are shown in Table 4.

Table 4: Mediation Effect Test Results

Path	Effect Size	Boot SE	BootLLCI	BootULCI	P
Perceived Information Overload→ Intermittent Discontinuance Behavior	0.135	0.044	0.049	0.220	0.002
Perceived Information Overload→ Using Burnout→ Intermittent Discontinuance Behavior	0.108	0.032	0.054	0.177	0.001
Sensory Function Overload→ Intermittent Discontinuance Behavior	-0.035	0.062	-0.157	0.086	0.571
Sensory Function Overload→ Using Burnout→ Intermittent Discontinuance Behavior	0.129	0.032	0.025	0.151	0.000

According to the mediation effect test results, the 95% confidence intervals for the two mediation pathways — perceived information overload → usage fatigue → intermittent disengagement behavior and perceived functional overload → usage fatigue → intermittent disengagement behavior—did not include zero, indicating significance. This verifies the mediating role of usage fatigue in the relationships between perceived information overload, perceived functional overload, and intermittent disengagement behavior, supporting hypotheses H3a and H3b. Specifically, usage fatigue acts as a partial mediator in the pathway from perceived information overload to intermittent disengagement behavior, and as a full mediator in the pathway from perceived functional overload to intermittent disengagement behavior. Thus, the mediation model is established in this study.

4.3. Moderation Effect Testing

A moderation effect occurs when the impact of variable X on variable Y is influenced by variable Z. When the magnitude and direction of X's influence on Y change based on variations in Z, Z is said to have a moderating effect between X and Y.

Based on the mediation effect test results, we tested the moderating effect of self-control ability in the latter part of the two mediation pathways. To avoid multicollinearity issues, we centralized the variables for usage fatigue and self-control ability and created an interaction term, usage fatigue × self-control ability. The results of the moderation effect test are presented in Table 5.

Table 5: Moderation Effect Test Results

Path	β	SE	t	P
Using Burnout*Self-Control→ Intermittent Discontinuance Behavior	0.125	0.043	2.981	0.003

The test results for the interaction term usage fatigue × self-control ability show a significant impact on the occurrence of intermittent disengagement behavior, indicating that self-control ability positively moderates the influence of usage fatigue on intermittent disengagement behavior. To further verify the moderated mediation pathways, we used the SPSS 26.0 Process plugin, Model 14, to test the moderating effect of self-control ability within the two mediation pathways, as shown in Table 6.

Table 6: Moderated Mediation Effect Testing

Path	Self-Control	Effect Size	Boot SE	BootLLCI	BootULCI
Perceived Information Overload	-1SD	0.313	0.051	0.220	0.421
→Using Burnout	Mean	0.371	0.040	0.297	0.453
→Intermittent Discontinuance Behavior	+SD	0.429	0.042	0.347	0.511
Sensory Function Overload	-1SD	0.325	0.058	0.225	0.447
→ Using Burnout	Mean	0.385	0.054	0.283	0.494
→Intermittent Discontinuance Behavior	+SD	0.445	0.058	0.329	0.557

The test results reveal that, at different levels of self-control, the 95% confidence intervals for both moderated mediation pathways do not include zero, indicating significance. Thus, the moderated mediation pathways are valid: regardless of the level of self-control ability, usage fatigue positively influences the occurrence of intermittent disengagement behavior among youth.

5. Research Findings and Discussion

The research results indicate that perceived information overload and perceived functional overload have a significant positive impact on the occurrence of intermittent disengagement behavior among young people. Usage fatigue serves as a mediating variable, acting as a partial mediator in one pathway and a full mediator in another. Additionally, users' self-control ability positively moderates the influence of usage fatigue on intermittent disengagement behavior.

Based on these findings, the information and functional overload perceived by young people while using short video platforms reflect certain drawbacks of industry development. The "information cocoon" effect, caused by excessive precision in big data recommendations, and the overwhelming array of platform functions may actually have a counterproductive effect on users' daily experiences. Relevant industries should carefully consider their future development direction, potentially reducing the intensity of big data algorithms and focusing on quality rather than quantity in the development of new features.

For the youth demographic, self-control ability significantly influences their frequency and duration of short video platform usage. Contemporary young people need to strengthen their self-control to mitigate the risk of short video addiction. From a fundamental and long-term perspective, adopting behaviors such as intermittent disengagement can help them better manage their use of short video platforms. This approach can reduce the negative impacts of excessive use on their daily study, work, and emotional well-being, ultimately enabling a more balanced personal development and the achievement of life goals.

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