



Information or Means? The Research on the Influencing Factors of Adolescents' Short Video Addiction Behavior

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Abstract. Adolescents' addiction to short videos is becoming increasingly significant, which brings great challenges to adolescents' physical and mental health and daily life. Based on the SOR model, this study starts with short video characteristics, introduces emotional dependence, and empirically explores their impacts on adolescents' short video addiction behavior. Using questionnaire data from 157 adolescents aged between 12 and 18, this study found that, 1) the relationship between information bias and short-video addiction was an inverted U-shaped, while entertainment means was positively associated with short-video addiction behavior; 2) emotional dependence mediated the roles of information bias and entertainment means on short-video addiction behavior. Meanwhile, this paper found that burner accounts enhanced the relationship between information bias and emotional dependence, but had no significant moderating effect on the relationship between entertainment means and emotional dependence. Therefore, this study not only enriches the research on short video addiction behavior but also proposes some countermeasures to deal with adolescents' addiction behavior of short videos in the era of mobile Internet.

Keywords: adolescent; short video addiction behavior; emotional dependence; short video characteristics

1 Introduction

Short videos have reached a 90% penetration rate among adolescents, with nearly 20% showing addictive tendencies. Prolonged immersion risks attention deficits and mental health issues, underscoring the urgency to investigate addiction triggers.

Upon reviewing existing research, it has been found that past studies are mostly based on the Stimulus-Organism-Response (SOR) model, analyzing how short video content has an impact on short video addiction and its underlying mechanisms. For instance, prior studies predominantly employ the SOR model to analyze short video addiction mechanisms, identifying personalized recommendations[1], social interactions[2], and content quality[3] as key triggers. Mechanisms like hedonic gratification[4], stress relief[5], and flow experience further[6] explain addictive behaviors.

Although the body of literature on short video addiction is gradually growing, there are still some shortcomings. Firstly, It's about stimulus oversimplification. Focus on

information quality overlooks distinct impacts of information bias (sensationalized content) and entertainment features (interactive designs) on adolescent vulnerability. In addition the prior study neglected the emotional drivers, limited attention to emotional dependence, a critical psychological factor in adolescents' viewing experiences. Moreover, the prior study neglected behavioral context gap. Adolescents' burner account usage—a tool for role-switching and emotional expression—remains unexamined as a moderating variable.

To address the above gaps, this paper focuses on adolescents as the research subjects, adopt the Stimulus-Organism-Response (SOR) model. It pioneers the integration of burner account usage as a moderating variable to analyze its influence on short video characteristics. Theoretically, this expands the SOR framework's applicability; practically, it offers novel insights for designing interventions targeting adolescent short video addiction.

2 Conceptual Model and Hypothesis Development

2.1 Concept Definition of Adolescents

Adolescence is a transitional stage between childhood and adulthood, with significant social and cognitive milestones. Therefore, the age delineation has mostly performed differently. For example, Enstad[7]categorized adolescents into two stages, mid-adolescents (14-16 years old) and late adolescents (17-25 years old), based on longitudinal studies of populations, the Norwegian Tracking Opportunities and Problems Study, and the Australian Study of International Youth Development; Orben[8] positioned adolescents as being between the ages of 10-24 years old from the perspective of psychological well-being, and analyzed how social deprivation during adolescence can have far-reaching effects; Odgers and Jensen[9] identified the age region of adolescents as 13-18 years based on the state of mental health in the digital age. Therefore, to include as much of the range proposed by most of the above scholars as possible, and combine the positioning of adolescents by the above scholars with the influencing factors of the digital age, this study decides to determine the span of adolescents to be 12-18 years old, which is the age at which the first formation of social consciousness and the ability of self-cognition begin to develop, and an important period in which human beings can lay down a foundation for future growth.

2.2 The SOR Framework

The Stimulus-Organism-Response (SOR) framework (Mehrabian & Russell) [10] posits that external stimuli (e.g., environmental factors) trigger internal psychological states (organisms), which drive behavioral responses. While widely applied in online communities and social commerce, its use in technology addiction—particularly short video addiction—remains limited.

According to the SOR model framework, individuals stimulated by external environmental factors will form conscious or unconscious psychological responses and thus

prompts behavioral responses, which is applicable to analyzing the internal mechanisms of addiction among short video users. Therefore, this study considers the characteristics of short videos, such as information bias and means entertainment, as stimuli from the external environment. It can stimulate adolescents' psychological perception, i.e., emotional dependence (O), which in turn affects short video addictive behavior (R). Specifically, information bias refers to vulgarized and vulgarized undesirable information, while entertainment means refers to entertaining short video presentations, including the title, content, and form of short videos.

Meanwhile, in order to explore the contextual function of adolescents' self-presentation styles on the role of short video features, this study introduces burner account as a moderating variable into the model. The conceptual model of this study is shown in Figure 1.

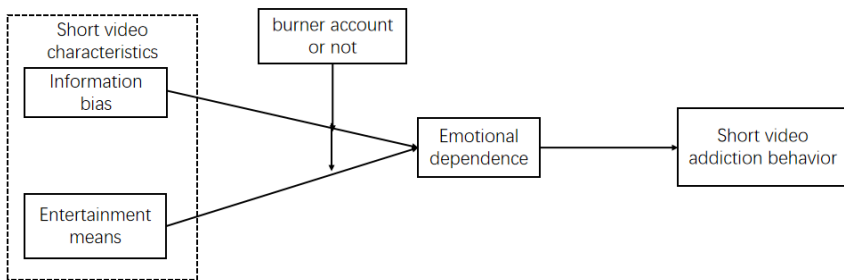


Fig. 1. Conceptual model

2.3 Hypotheses Development

2.3.1 Short Video Features and Adolescent Short Video Addiction Behavior.

Driven by profit motives, short video platforms often lack content regulation, leading to widespread information bias—characterized by low-quality, sensationalized content (e.g., violence, utilitarianism) and algorithmic homogenization.

Thus it can have a double impact on the adolescent. On the one hand, this is due to addiction triggers. Vulgar language and exaggerated visuals enhance short-term entertainment value, capitalizing on teens' limited self-control and preference for casual browsing. Teenagers, on the other hand, tend to ignore the quality of content, increasing the likelihood of addictive consumption. On the other hand, too much vulgar content may, to some extent, reduce user experience, interest and addictive tendencies.

H1 There is an inverted U-shaped relationship between information bias and short video addiction behavior

The higher the level of entertainment means the more diverse entertaining means are used in short videos. Therefore, as the level of entertainment increases, the more fun and entertainment short videos bring to adolescents. For example, cool filming techniques and special effects, beautiful costumes, interesting plots and characters with characteristics, and popular background music composed of vivid and interesting images attract teenagers' eyes and bring entertainment value to teenagers. The good emotions triggered by these positive experiences keep adolescents happy and energetic,

which in turn leads to addictive behaviors. Therefore, this study proposes the following hypothesis,

H2 Entertainment means is positively related to short video addiction behavior.

2.3.2 Short Video Features And Emotional Dependence.

This paper argues that the relationship between information bias and emotional dependence is an inverted U-shaped. The main reasons are shown as follows. With the increase of information bias, short videos give adolescents immediate entertainment value and positive emotional preference, which enhances psychological connections such as the sense of immersion in short videos, which in turn tends to make them emotionally dependent. However, when the degree of information bias is too high, short videos may release negative energy, which may cause them to be demoralized and produce negative emotions of disinterest, boredom, and fatigue, thereby weakening emotional dependence. Therefore, this study proposes the following hypothesis,

H3 The relationship between information bias and emotional dependence is an inverted U-shaped.

Short videos deliver high-density entertainment stimuli (e.g., clickbait titles, viral soundtracks, dynamic editing) to engage adolescents emotionally, fostering emotional dependence. On the one hand, under cognitive conditioning, adolescents regard short videos as leisure tools and emotion regulators, forming habitual use patterns. On the other hand under emotional mobilization, the entertainment elements (humor, suspense) maintain attention and pleasure, which will strengthen adolescents' dependence. Therefore, this study proposes that,

H4 Entertainment means having a positive relationship with emotional dependence.

2.2.3 The Mediating Role of Emotional Dependence.

Furthermore, the stronger the emotional dependence, the more time and energy adolescents tend to invest in watching short videos, thus increasing the frequency and length of use of short videos and creating short video addiction. Based on the above hypotheses, this study proposes that,

H5a Emotional dependence plays a mediating role in the relationship between information bias and short video addiction behavior.

H5b Emotional dependence plays a mediating role in the relationship between means of entertainment and short video addiction behavior.

2.2.4 The Moderating Role of Burner Account.

Since a single account involves risky effects such as expression control, online disclosure, and parental control, adolescents usually choose to create account splits (i.e., burner accounts) to avoid these risks and can speak more freely. Therefore, a burner account is an individual response to risk avoidance in the new context of "surveillance socialization". In this situation, adolescents are allowed to spend more time focusing on vulgar and entertaining video content, thus enhancing the relationship between information bias and emotional dependence. Hence, this study proposes the following hypotheses:

H6 Account splitting enhances the relationship between information bias and emotional dependence.

Besides avoiding risks, adolescents are highly individualistic and want to exhibit themselves on short video platforms to gain a sense of existence and value. Short videos with rich entertainment means can also allow teenagers to show their abilities because of their technology and knowledge. Moreover, short videos using entertainment means will gain more recognition from the audience, including parents. Therefore, the relationship between means of entertainment and emotional attachment may not be significant when adolescents have account splitting.

H7 The moderating effect of account splitting on the relationship between means of entertainment and emotional dependence is not significant.

3 Methodology

3.1 Data Collection and Sample

This study adopts the method of a questionnaire to test the hypotheses.

The target population of this study was 12-18-year-old adolescents who use TikTok in China. The questionnaires were collected through a professional Chinese online survey platform, WJX. The survey lasted for a week, and 160 questionnaires were administered. However, 6 questionnaires were deleted because they had not watched the short video recently. Finally, 157 valid questionnaires were obtained, with a recovery rate of 96%.

The demographic characteristics of the research sample are shown as follows. The majority of the surveyed teenagers are over 17 years old (62.03%). The educational level of teenagers is concentrated in high school (28.48%) and college (35.44%). The majority of teenagers use short videos three times a day or more (62.39%). The daily use time is concentrated in 1-2 hours (47.47%). The majority of adolescents have been using it for three years or more (63.13%).

3.2 Variable Measurement

To ensure the effectiveness of the scale, all scales were mainly adapted from previously mature scales, using multiple items for measurement scored on a five-point Likert scale, with 1 being "not at all consistent" and 5 being "completely consistent".

(1) Information bias. This was measured by three items, as in Huang et al.

(2) Entertainment means. Referring to the study of Scarantino et al., and measured with 4 items.

(3) Emotional dependence. Referring to the study of Yu, Xie & Huang et al., it was measured with 4 items.

(4) Family support. Referring to the study of Benjamin et al. measured with 3 question items.

(5) Short video addiction. Referring to the study by Wang et al. and measured with 4 question items.

(6) Control variables. Age, education, duration of short video use, and years of short video use were chosen as control variables.

3.3 Data Analysis and Results

3.3.1 Reliability and Validity.

The results showed that the correlation coefficient between any two variables is less than 0.5, which indicated that they were less likely to be threatened by multicollinearity. In addition, the α -value of all indicators is above 0.6, indicating that the reliability of the measurement indicators is better. Furthermore, the factor loading of each indicator is greater than 0.7, and the AVE value is greater than 0.5. Thus, convergent validity was deemed to hold.

3.3.2 Results.

This study employs hierarchical regression analysis to test the research hypotheses. The results are shown in Table 1 and Table 2.

First, the direct effects were tested. As indicated in the tables, Model 1 only added the control variables based on Model 1, Model 2 incorporates informational bias and its quadratic term, while Model 3 added entertainment means. The results of Model 2 indicate that the relationship between informational bias and short video addiction follows an inverted U-shape ($\beta_1 = 0.219$, $p < 0.01$; $\beta_2 = -0.179$, $p < 0.05$), thereby confirming H1. The results of Model 3 demonstrate that the relationship between entertainment means and short video addiction is positive ($\beta = 0.337$, $p < 0.001$), thus confirming H2.

Secondly, the mediation effect was tested. Table 2 examined the relationship between the independent variables and emotional dependence. The results of Models 7 and 8 indicated that the relationship between informational bias and emotional dependence follows an inverted U-shape ($\beta_1=0.006$, $p>0.01$; $\beta_2=-0.158$, $p<0.1$); The relationship between entertainment means and emotional dependency is positive ($\beta=0.365$, $p<0.001$). Hence, H3 and H4 are both supported. Furthermore, by comparing with the results of Models 2 and 4 in Table 1, as well as Models 3 and 5, it was shown that when including emotional dependence, the absolute values of the regression coefficients for the squared term of informational bias and entertainment means on short video addiction both decreased ($\beta_1=-0.119$, $p<0.1$; $\beta_2=0.217$, $p<0.01$). Therefore, emotional dependence played a mediating role in the effects of informational bias and entertainment means, thereby verifying H5a and H5b.

Table 1. Regression results of short video characteristics, emotional dependence, and short video addiction behavior

Variables	Dependent variable: short video addition behavior				
	Model 1	Model 2	Model 3	Model 4	Model 5
(Constant)	3.211***	3.410***	3.400***	2.246***	2.367***
Age	0.040	0.038	0.043	0.056	0.051
Education level	-0.054	-0.048	-0.023	0.005	0.008
Short video usage duration	0.242**	0.225*	0.200*	0.135	0.135

Years of short video usage	0.007	-0.034	-0.042	-0.068	-0.063
Information bias		0.122		0.120	
The squared term of Information bias		-0.179*		-0.119	
Entertainment means			0.337***		0.217**
Emotional dependence				0.381***	0.330***
R-squared	0.057	0.124	0.165	0.253	0.251
Adjusted R-squared	0.032	0.089	0.138	0.218	0.221
F	2.284	3.526**	5.980***	7.204***	8.384***

Note: + $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, the same below.

Table 2. Regression Results of short video characteristics and emotional dependence

Variables	Dependent variable: emotional dependence				
	Model 6	Model 7	Model 8	Model 9	Model 10
(Constant)	3.045***	3.181***	3.258***	3.207***	3.393***
Age	-0.069	-0.117	-0.062	-0.120	-0.135
Education level	-0.066	-0.071	-0.049	-0.068	-0.049
Short video usage duration	0.268**	0.262**	0.217*	0.261**	0.206
Years of short video usage	0.139	0.122	0.075	0.081	0.034
Information bias		0.005		0.057	
The squared term of Information bias		-0.058+		0.027	
Entertainment means			0.287***		0.369***
Burner account or not				0.044	0.163*
Information bias×Burner account				-0.017	
The squared term of Information bias×Burner account				0.081*	
Entertainment means×Burner account					-0.013
R-squared	0.085	0.111	0.212	0.162	0.162
Adjusted R-squared	0.061	0.075	0.186	0.110	0.110
F	3.530**	3.107**	4.092***	3.152**	3.152**

Finally, the moderation effect test was tested in Model 9 and 10. As shown in Model 9, after adding the account duplication variable and its interaction terms, the coefficient between the burner account and the square of information bias is significantly positive ($\beta=0.081$, $p<0.05$). However, Model 10 indicated that the coefficient between burner account and entertainment means is negative but not significant ($\beta=-0.013$, $p>0.1$). Therefore, the burner account enhances the relationship between information bias and emotional dependence, supporting H6. However, the moderating effect of burner account on the relationship between entertainment means and emotional dependence is not significant, Hence, H7 is supported.

4 Conclusion

In order to explore the factors of short video addiction in adolescents, this study, based on the SOR model, analyzed the effects of short video information bias and entertainment means on short video addiction behavior and explored the mediating role of emotional dependence and the moderating role of burner account. Through empirical testing, this study obtained the following conclusions.

(1) Information bias had an inverted U-shaped relationship with short video addiction behavior, while entertainment means is positively related to short video addiction behavior. This indicates that short video content and means have different roles in short video addictive behavior.

(2) The relationship between information bias and emotional dependence is an inverted U-shaped curve, while entertainment means is positively related to emotional dependence. Based on this, this study further verified the mediating roles of emotional dependence in the relationship between information bias and short video addiction, and the relationship between mean entertainment and short video addiction, respectively.

(3) Burner's account enhances the relationship between information bias and emotional dependence, while account splitting does not have a significant moderating effect on entertainment means and emotional dependence.

4.1 Theoretical Contributions

This paper has some important theoretical implications. First, by considering information bias and means entertainment as important feature factors, this study identifies the differential effects short video features on short video addiction behavior. Compared with previous studies, this study analyzed the influencing factors of short video addiction behavior from both content and means. The findings confirmed the importance of information quality and means of entertainment in previous studies, while identifying the possible negative effects of vulgar information on adolescents. Therefore, this study elaborates the differentiated role of short video content and means, enriching the research on the influencing factors of short video addiction among adolescents.

Second, from the perspective of emotional dependence, this study explains the internal mechanism of short-video characteristics affecting adolescents' short-video addiction behavior. Based on the SOR framework, this study explains the formation mechanism of short video addiction behavior from external stimulus, emotional response of the organism to short video addiction behavior, which enriches the research content of the SOR theoretical framework in the context of short video.

Third, previous studies have mainly focused on adolescent personality traits as an important contextual factor, neglecting short-video engagement behaviors in online contexts. This study explores the moderating role of burner account by incorporating adolescent short video platform participation behavior into the research model, which in turn enriches the contextual research on adolescent short video addiction.

4.2 Practical Implications

Our results also have important practical implications for adolescents, platforms, and Short video producers.

First, adolescents should cultivate the habit of self-management and external supervision. For example, they should set a single-day usage limit through the built-in time lock on their cell phones. At the same time, they also need actively participate in offline activities such as sports clubs and study and practice, forming healthy interest substitutes.

Second, Platform regulators should build a system of technical intervention and content optimization. On the one hand, it should establish a content quality grading system to limit the flow of low-quality, vulgar, and exaggerated videos, and at the same time set up an in-depth content zone to give double recommendation weight to high-quality videos of popular science and skills.

Third, Short video producers should practice value leadership and positive incentives. The production team should always carry out the creative concept of conveying positive values, while MCN organizations should actively take the responsibility of ethical training for creators, incorporate social responsibility indexes into KPI assessment, and provide traffic support for accounts that convey positive values.

4.3 Limitations

This study has some limitations that need to be further explored. First, the sample size is limited because this study only selected participants from Chinese teenagers. Future research could examine people in different countries and regions who are in the teenage age group to improve and expand the sample data. Second, this study did not analyze the individual factors of adolescent addiction in depth, such as intrinsic factors of gender, age, education, and family environment, which can be further explored. Finally, the degree of adolescents' addiction to short video use changes constantly, which means that it is feasible and necessary to give them appropriate guidance and advice; however, this study did not design an experiment to verify the feasibility and effectiveness of guidance and advice, which is worthy of future research.

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