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Content Analysis of Short Video Dissemination From the Perspective of College Students' Preferences

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This study was conducted to determine the extent to which students use short videos. The study subjects were college students from the Beijing, Jiangsu, Shandong, and Henan provinces in China. A questionnaire survey was used to assess students' reliance on short videos. A crawler program was used to collect students' browsing history of short videos to investigate the different types preferred by students. The K-means algorithm was used to classify students based on their level of addiction to short videos, and the short video dissemination preferences of different classifications were compared. It was found that the surveyed college students showed a preference for short videos of situational skits, creative clips, and news highlights. There were 2,017 individuals in the normal group and 879 individuals in the addiction group. Survey results showed that the addiction group demonstrated significantly higher average viewing duration, number of forwards, number of likes, and number of collections for short videos compared to the other group.

Keywords: short video, college student, preference tendency, dissemination

1. INTRODUCTION

Driven by the rapid advancement of mobile Internet technology, short videos have emerged as a significant form of media for disseminating information and engaging in cultural consumption in contemporary society (Chen et al., 2024; Sun et al, 2023; Xu et al., 2020). Particularly among college students, short video platforms have become a primary channel for information acquisition, entertainment, social interaction, and learning. Short videos are widely popular with college students due to their succinct content, impactful visuals, and rapid dissemination, as well as their highly personalized and interactive nature that resonates with the information-seeking habits and expressive needs of today's youth (Li, 2021; Lei et al., 2025; Shen et al., 2024). Additionally, short video platforms continuously enhance content distribution through algorithmic recommendations, ensuring that students from various interest groups can access tailored video content, resulting in a personalized viewing experience. However, the rapid development of the short video content ecosystem has revealed issues such as low-quality content, value bias, and addictive behaviors, which have the potential to impact the mental well-being, academic progress, and social awareness of college students (Qu et al, 2024; Bi & Tang, 2020; van Deen et al., 2022). Therefore, analyzing short-video content from the perspective of college students' preferences is essential for understanding their behavioral patterns, psychological tendencies, and media literacy in the age of new media. This analysis can also

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Table 1 Content of the questionnaire.

	Survey item	Survey result
Demographic characteristics	Gender	
	Grade	
	Major	
Short video addiction scale for college students	Item	Filling explanation
	Because of viewing short videos, you have overspent your traffic flow.	Please read the question items carefully and truthfully choose the degree of conformity: very inconsistent (one point), somewhat inconsistent (two points), unsure (three points), somewhat consistent (four points), or consistent (five points).
	You find yourself watching short videos for a more extended period than you originally intended.	
	You try to spend less time on watching short videos, but cannot do it.	
	You never feel that you have spent enough time watching short videos.	
	When you stay out of the cell phone signal zone for a while, you are constantly worried that you will miss some interesting short videos.	
	It is hard to uninstall the short video app.	
	If you do not watch short videos for a while, you will be anxious.	
	You will feel upset if you do not watch short videos.	
	If you do not watch short videos, you will feel confused in your free time.	
	You will watch short videos when you feel isolated.	
	You will watch short videos when you feel lonely	
	You will improve your low mood through watching short videos.	
	You become addicted to short videos when you find that you have to accomplish other things, and feel disturbed because of it.	
	The efficiency of work is reduced due to short videos.	

assist short video platforms to improve content quality and dissemination efficiency.

Wang (2022) proposed utilizing intelligent neural networks in intelligent robots or systems to improve information gathering for the editing and sharing of short video news. Moreover, they compared those robots or systems with those already available on the market. Zhang (2021) explored issues within mobile short video platforms and discussed strategies for their development. Wang et al. (2025) investigated the production of short exercise videos using big data settings, and conducted analysis using algorithms incorporating big data and microservices architecture skills.

2. CASE STUDY

2.1 Subjects

A crawler program (Yan et al., 2019) and a questionnaire were used to collect data on college students' short video viewing habits, and their psychological well-being. The research subjects were college students from Beijing, Jiangsu, Shandong, and Henan. Initially, 3,000 questionnaires were distributed to the students, which included items to be investigated as well as request to share their short video browsing records. Ultimately, 2,986 questionnaires were returned, with 2,887 of these respondents consenting to provide their short video browsing records.

2.2 Methods

A questionnaire was used to collect college students' basic information and their reliance on short videos. The questionnaire content is outlined in Table 1. In addition to demographic details such as gender, grade, and major, the questionnaire included a short video addiction scale. This scale comprised 14 items, each rated on a 5-point Likert scale, with a total score ranging from 14 points to 70 points. A higher score indicated a greater degree of addiction.

Upon receiving consent from students willing to share their short video browsing history, a crawler program was employed to extract their browsing records. The crawling

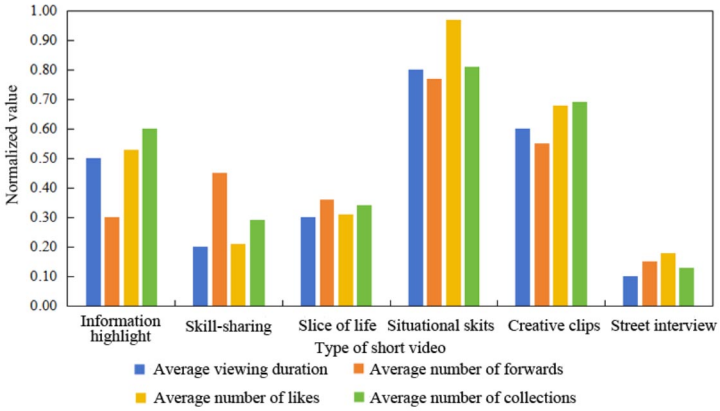


Figure 1 Dissemination characteristics in different short video types crawled by the program.

Table 2 K-means classification results for the surveyed students.

	Normal group	Addiction group
Number of people/n	2,017	879
Average total addiction score/point	16.3	58.4

period was from May 1, 2025 to June 31, 2025. The collected data included characteristics such as video type, viewing duration, number of forwards, number of likes, and number of collections.

Following the data collection, the students were segmented based on the data obtained from the short video addiction responses. If a fixed threshold of the total addiction score is used for grouping, on the one hand, it is not easy to determine the threshold, and on the other hand, the total addiction score is relatively general and does not fully consider the evaluation dimensions to which each item belongs. Hence, the K-means clustering algorithm (Zhang & Liu, 2021; Gao et al., 2026) was employed to classify students into two groups. Each student's score for the 14 scale items represented the 14 dimensions of the items. During the clustering process, the K value was set to 2, and the maximum iteration limit was set at 100. The group with the lower overall addiction score was denoted as the 'normal' group, while the other group was labeled as the 'addiction' group. Then, a comparison was conducted of the short video-related data features between the two groups.

2.3 Mathematical Statistics

The comparison of browsing records between the two groups was statistically analyzed using the SPSS software (Liu & Chen, 2018; Hu, 2025), and the data were presented in the form of $x \pm s$. The independent sample t-test was used to make comparisons between groups.

2.4 Results

After consent acquisition, the crawler program extracted the short video browsing records. The short videos were categorized based on the criteria provided by the short video platforms, and the dissemination characteristics under various types were analyzed. Due to large differences in the units and numerical ranges of different dissemination features, normalization was conducted. The distribution of short video dissemination features in various types of short videos is depicted in Figure 1. The figure shows that the college students surveyed had a distinct preference for short videos of situational skits, creative clips, andnews highlights.

The K-means clustering algorithm was employed to classify the surveyed students based on the scores for the 14 items in the addiction scale. The classification results are presented in Table 2. Two groups were obtained by means of the classification algorithm. The normal group included 2,017 individuals with an average total addiction score of 16.3, while the addiction group consisted of 879 individuals with an average total addiction score of 58.4.

After grouping, the dissemination characteristics for various short video types in each group were statistically analyzed and compared (Table 3). Except for street interview-type short videos, the addiction group exhibited significantly higher average viewing duration and number of forwards, likes, and collections for different types of short videos compared to the normal group. The dissemination characteristics of the addiction group were more significant for short video types such asnewshighlights, situational skits, and creative clips.

3. DISCUSSION

Short videos have emerged as a means of disseminating information. Their use has greatly increased due to the development of the mobile Internet, particularly among college students. Short video platforms have experienced explosive growth since 2016, transitioning from mere entertainment tools to multifaceted digital media platforms that

Table 3 Communication characteristics of the two groups of students on different short video types.

Type of short videos	Characteristics of short video dissemination	Normal group	Addiction group
News highlights	Average viewing duration/h	30.5 ± 1.1	54.4 ± 3.9**
	Average number of forwards/time	123.1 ± 3.2	155.0 ± 1.1**
	Average number of likes/time	115.6 ± 2.4	151.2 ± 3.1**
	Average number of collections/time	103.8 ± 2.1	132.5 ± 3.2**
Skill-sharing	Average viewing duration/h	31.2 ± 1.2	47.1 ± 3.8*
	Average number of forwards/time	121.4 ± 3.3	143.1 ± 3.5*
	Average number of likes/time	116.7 ± 3.1	142.3 ± 3.7*
	Average number of collections/time	104.3 ± 2.8	126.2 ± 3.6*
Slice of life	Average viewing duration/h	30.7 ± 1.4	46.3 ± 3.8*
	Average number of forwards/time	114.3 ± 2.3	143.3 ± 1.6*
	Average number of likes/time	124.2 ± 2.5	153.6 ± 1.3*
	Average number of collections/time	132.4 ± 2.1	160.3 ± 3.2*
Situational skits	Average viewing duration/h	33.1 ± 1.1	49.4 ± 3.2**
	Average number of forwards/time	121.4 ± 2.4	147.0 ± 3.2**
	Average number of likes/time	116.9 ± 2.3	146.9 ± 1.4**
	Average number of collections/time	128.7 ± 1.7	162.2 ± 3.2**
Creative clips	Average viewing duration/h	32.8 ± 2.8	50.9 ± 1.2**
	Average number of forwards/time	142.3 ± 2.3	171.3 ± 3.2**
	Average number of likes/time	135.7 ± 2.5	170.1 ± 2.3**
	Average number of collections/time	126.8 ± 2.1	160.8 ± 3.4**
Street interview	Average viewing duration/h	33.1 ± 1.3	32.6 ± 1.2
	Average number of forwards/time	141.3 ± 2.1	147.3 ± 3.1
	Average number of likes/time	132.8 ± 1.3	134.0 ± 3.7
	Average number of collections/time	128.9 ± 2.5	132.6 ± 3.6

Note: * indicates that the inter-group difference is significant at the 5% level, ** indicates that the inter-group difference is significant at the 1%.

includes news, knowledge sharing, science popularization, e-commerce product promotion, and socialization. When using short video platforms, college students exhibit distinctive behaviors characterized by frequent usage, fragmented browsing, active content creation and interaction, and stratified attention. Despite the evolution of the short video content ecosystem, the problems such as low-quality content and wrong values caused by its early crude development have gradually impacted the psychological well-being, academic progress, and social awareness of college students. Therefore, there is a need to analyze the content types and dissemination patterns of short videos from the perspective of college students, offering valuable references for guiding students' healthy usage of short videos.

College students from Beijing, Jiangsu, Shandong, and Henan were taken as research subjects. This study used a questionnaire to survey students' reliance on short videos and employed a crawler program to collect their browsing history. Overall, the surveyed college students preferred short videos of situational skits, creative clips, and news highlights. The K-means clustering algorithm classified 2,017 students into the normal group and 879 students into the addiction group. The addiction group showed more time spending on watching and disseminating short videos, particularly for short videos of situational skits, creative clips, and news highlights. The analysis revealed that most surveyed students maintained a healthy relationship with short videos, viewing them as a form of leisure and a tool, thus not investing excessive time in them. Consequently, their dissemination interactions, such as forward, like, and collection, were relatively limited. In contrast, the addiction group demonstrated a reliance on short videos, leading to increased viewing time and dissemination activities. Both collectively and specifically within the addiction group, students displayed a preference for situational skits, creative clips, and news highlights. These types of short videos are not only shorter in duration, but also can make a profound impact by triggering an emotional response within a short period of time.

The following suggestions are made for the governance of short video content.

① A scientific content rating system can be established for short videos of situational skit, creative clip, and informational highlight types. Labeling management can be implemented to restrict the spread of vulgar, false, and harmful information.

② University professors, scientific research institutions, and commonweal organizations are encouraged to join short video platforms and create high-quality knowledge in the form of situational skits, creative clips, and news highlights to enrich students' spiritual world.

③ Media literacy and critical thinking training should be enhanced in the curriculum to assist students in developing a rational perspective on short video content and improving their ability to distinguish information.

4. CONCLUSION

This study focuses on college students from Beijing, Jiangsu, Shandong, and Henan provinces. Using questionnaires, crawling programs, and K-means clustering analysis, it examines the differences in the dissemination preferences of students with varying degrees of addiction towards various types of short video content from the perspective of addiction. College students generally preferred three types of short videos: situational skits, creative clips, and news highlights. This indicates that students as a whole prefer content with strong plots, fast pace, and high information density during fragmented time. Based on the addiction scale, K-means clustering divided the students into a normal group (2,017 people) and an addiction group (879 people). The addiction group significantly differed from the normal group in multi-dimensional behaviors and psychological indicators. The addiction group exhibited significantly higher behavioral frequencies in the three types of short videos: situational skits, creative clips, and news highlights, while there was no significant difference in street interview type. The dissemination behaviors of addicted students increased synchronously with the viewing duration, forming a mutually reinforcing behavioral loop.

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