



Anti-Addiction Mode as a Tool to Control Minors' Use of Short Video Media: Issues and Suggestions

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Abstract: Short video platforms have launched the minors' anti-addiction system to address the issue of short video addiction among minors. However, some platforms have rendered this function null and void in order to increase traffic or work perfunctorily. This paper selects the top 10 most popular short video apps in China today and analyzes the permissions, operation, and content of their minors' mode. The study finds that the minors' mode on short video apps has issues in four aspects: identity confirmation, operation, content control, and column setting. (1) The study reveals that nearly all apps struggle to accurately identify minors; (2) the operations and management of most apps suffer from technical loopholes and information barriers; (3) the content grading in many apps is insufficiently detailed and lacks appeal; (4) the columns and functions of the mode in some apps are heavily emasculated. This paper suggests potential strategies to address these issues: 1) enhancing user identification in the minors' mode; 2) addressing technical issues in the minors' mode and raising user awareness; 3) refining the content classification in the anti-addiction mode for minors; 4) formulating a unified evaluation standard for the operability of the anti-addiction mode for minors and introducing a third-party censorship organization to oversee platform implementation; and 5) proactively assuming social responsibility.

Keywords: minors' mode, anti-addiction mode, teenager mode, short-video addition, video platform, short video app

Received: 15 March 2024 **Revised:** 24 May 2024 **Accepted:** 14 June 2024

1. Introduction

1.1 Background

The concept of minors' anti-addiction mode, also known as the teenager mode, originated under the guidance of the Cyberspace Administration of China (CAC, 2019). In the era of intelligent media, more and more teenagers are addicted to short videos (Xu, 2019; Peng, 2020; Xie & Jia, 2021; Gao, 2022). To cope with this problem, in March 2019, CAC (2019) organized short video platforms, such as TikTok and Kwai, to pilot a teenager's anti-addiction system. The system regulates teenagers' short video use behavior in terms of use time, duration, functions, and browsing content. In September 2021, the CAC issued a guideline requiring platforms to increase investment in developing and upgrading teenager anti-addiction programs (CAC, 2021). Currently, all short-video live streaming platforms have launched, optimized, and upgraded their anti-addiction modes for teenagers. The teenager anti-addiction system is embedded in the short video app. When users start it for the first time every day, a window pops up to guide parents and teenagers to choose and use it. Once the user enters the teenager anti-addiction mode, it restricts their use of time

slots, service functions, and online hours, allowing them to access only the teenager's exclusive content pool. In order to strengthen the protection of minors on the Internet, CAC upgraded the "teen mode" to the "minors' mode" in 2023 (Xinhua Net, 2023; China News, 2023). It also publicly released *Guidelines for the Construction of Mobile Internet Minors' Mode (Draft for Public Comments)* for public consultation and suggestions (CAC, 2023).

1.2 Problem Statement

It is extremely important for short video platforms to develop anti-addiction models for minors. An official report shows that as of December 2018, the number of short video users in China reached 648 million, most of whom are teenagers (CNNIC, 2018). Another report shows that 20% of teenagers watch short videos "almost often" and nearly 10% watch short videos "multiple times a day" (CNNIC, 2018). As of June 2020, the number of online video (including short videos) users in China reached 888 million, accounting for 94.5% of all Internet users (CNNIC, 2020). The proportion of middle school students, high school students, and vocational school students watching short videos reached 52.7%, 52.4%, and 70.3%, respectively (CNNIC, 2020). According to the national research on minors' Internet usage, in 2021, 66.0% of minors accessed the Internet on weekdays, and 2.6% of minors accessed the Internet for more than 5 hours (CNNIC, 2022). In addition, as of June 2023, there were nearly 1.1 billion Internet users in China, of which 3.8% were under 10 years old, 13.9% were between 10 and 19 years old, and nearly 200 million were teenagers (CNNIC, 2023). The above data show that the proportion of minors using short videos is high, and the penetration rate is close to saturation. Short videos significantly consume minors' study and rest time, which is detrimental to their healthy physical and mental development. Therefore, it is necessary to create a healthy, civilized, and orderly network environment and guide short video platforms to empower young people's growth instead of increasing their burden. Short video platforms can introduce an anti-addiction mode for minors, which can prevent them from overusing short videos and help them develop rational and healthy Internet usage habits.

Furthermore, the diverse content of short videos impacts the development of minors' moral values. Short-video content varies in quality, featuring a significant amount of consumer-oriented and entertainment-intensive content. Research has found that a specific category of very popular short videos contains more negative than positive content and that vulgar content is present (Pianpian & Omar, 2023a). Some short-video platforms also highlight issues such as underage pregnancy, unmarried children, spoofing, pornography, vulgarity, and high-risk behaviors among teenagers (CCTV Finance, 2018). Some short videos use curiosity to gain public attention, some use vulgar and radical ideas to gain note, and some use mindless gossip to attract eyes. This phenomenon has attracted extensive attention and in-depth discussion among scholars (Pianpian & Omar, 2023b). The majority of the audience for short videos consists of teenagers, who often surround themselves with these contents, pushing or even imitating them, which can negatively impact their healthy development (Liu, 2018). Furthermore, the homogenization and pan-entertainment of short video dissemination platforms are detrimental to the development of minors' values (Qian, 2019). The immaturity of minors' thinking limits their ability to distinguish the source and authenticity of information. Combined with their developmental stage, imbalance, vulnerability, and differences, they readily succumb to the deceptive content in short videos, which disrupts their accurate assessment of situations. Minors are in a critical period of mental development, with strong curiosity but weak discernment and self-control. Unfavorable information and generalized entertainment content on Internet platforms do not promote the minors' healthy growth. Some Internet content containing undesirable information is likely to prevent minors from forming correct values.

In addition, the intelligent recommendation system of short-video platforms creates an information cocoon for minor users. The short video platform carries out personalized and precise recommendations based on browsing records and only recommends the content chosen and preferred by users, creating a solid information cocoon for minors. Furthermore, if teenagers accidentally click and browse undesirable information, short video platforms will recommend similar content to them in large quantities (Xu, 2019). For many minors, clicking once by chance does not equal liking what to watch, and what they like to watch and what they should watch do not completely overlap in most cases. The platform's intelligent

recommendation system recommends content solely based on viewing records, disregarding what minors should watch, thereby influencing their overall development. Algorithmic projection forms an information cocoon that not only affects minors' balanced development, but also potentially leads to a one-sided knowledge structure, resulting in them becoming one-way people.

These phenomena show that the negative influence of short videos on minors is getting more and more serious. These negative effects, once formed, are often irreversible and may accompany minors for the rest of their lives due to their special characteristics. Therefore, it is crucial for short video platforms to implement an anti-addiction mode for minors to safeguard their legitimate rights and interests, as well as to promote their healthy development.

The establishment of "anti-addiction mode for minors" is an important means to regulate minors' Internet use behavior and strengthen network protection, which is theoretically feasible (Tao & Li, 2023). The anti-addiction model for minors can help to regulate the correct use of short videos by minors, purify the complex and diversified information on the Internet, and assist minors to establish a correct worldview and guard their healthy growth (Tan, 2024). However, since the pilot launch of the "teenager anti-addiction mode" on short video platforms in March 2019, it has achieved little effect in preventing minors from becoming addicted to short videos. Only 21.2% of adolescents believe that the restrictions on the duration and time of use in the "teenager anti-addiction mode" of the short video platforms they participate in are effective in preventing addiction, and more adolescents believe that the "teenager anti-addiction mode" has little control and hints for them (Zhu et al., 2019). An official report (CNNIC, 2022) shows that only 48.2% of underage Internet users and 47.3% of parents have set the anti-addiction mode for minors, and 40.1% of parents and 46.2% of teachers believe that the anti-addiction mode for minors is ineffective. Therefore, exploring the dilemmas of the existing anti-addiction mode for minors in practice will help to provide reference for its own optimization and upgrading.

2. Literature Review

There have been many academic studies on short video addiction. Scholars often explore the influencing factors of short video addiction from a psychological or behavioral perspective (Zhang et al., 2019; Liu et al., 2021; Qin et al., 2022; Tian et al., 2023). However, the number of international studies examining the anti-addiction mode for minors on short video platforms is relatively low. Zhou (2022) used the SWOT method to analyze the advantages and disadvantages of the teenage mode on TikTok, but her analysis was too subjective. Chen (2024) generalized and analyzed China's public policies regarding the minors' mode on short video platforms. Craven (2024) analyzed the issue of children's rights in China's proposed regulations on underage modes from a legal perspective and argued that the bill is unlikely to face significant legal challenges. There are currently no case studies of the "minors' mode". This study intends to analyze the minors' mode on short video platforms in China using both case study and textual analysis methods.

The objectives of the study are to identify specific problems in the minors' mode on short-video platforms and to target possible recommendations for improvement, contributing to efforts to promote the improvement of the minors' mode and the protection of minors' development.

3. Methodology

The research objective of this paper is to investigate minors' mode on Chinese short video platforms. The study excludes non-Chinese short video apps, as well as minors' mode on long video apps, social media apps, shopping apps, news media apps, and internet apps.

The study begins by sampling the top 10 short video platforms from the China Brand Data Research Institute's instant ranking. The China Brand Data Research Institute's brand voting process is ongoing, and the rankings change all the time. The samples for this study were selected based on the leaderboard's voting data ranking as of July 26, 2024 (CNPP, 2024). The data shows that as of July 26, 2024, TikTok is the most popular short video app among China's short video platforms, followed by Kwai. Other popular short video

apps include Buzzvideo, Channels, Haokan, WeSee, CCTV Video, Vigo Video, MeiPai, and MiaoPai.

A research report from Sealand Securities estimated that the number of daily active users of the top three short video apps, TikTok, Channels, and Kwai, were 760 million, 450 million, and 380 million, respectively, in 2023 (Snowball, 2024). In September 2023, CCTV Video had 214 million users (NRTA Think Tank, 2024). Meipai and Miaopai had 8.8 million and 2.23 million monthly active users in May 2022 (NetEase, 2024), respectively. As of June 2024, China's short video app industry had 989 million monthly active users, including 780 million for TikTok, 427 million for Kwai, 121 million for Buzzvideo, 86 million for Vigo Video, 35 million for Haokan, and 15 million for WeSee (QuestMobile, 2024). The user base of these top 10 short video apps encompasses nearly all short video users in China. Therefore, the sample of 10 short video apps used in this study is typical and representative, and it can accurately reflect the current situation and issues related to minors' mode in China's short video industry.

This study empirically analyzes the minors' mode in these 10 short video apps. The analyzed categories include permissions, operation, and content of the minors' mode (Figure 1). Permission analysis includes time period restriction, duration restriction, restriction of permissions, and exclusive services (Table 1). The operation analysis includes the short video platform's identification of minor users, pop-up window prompts, video playback settings, mode entry and exit settings, and mode opening paths (Table 2). The content analysis primarily covered content grading, content preference, the number of channels, column classification, and the content of the first recommendation in the minors' mode (Table 3).

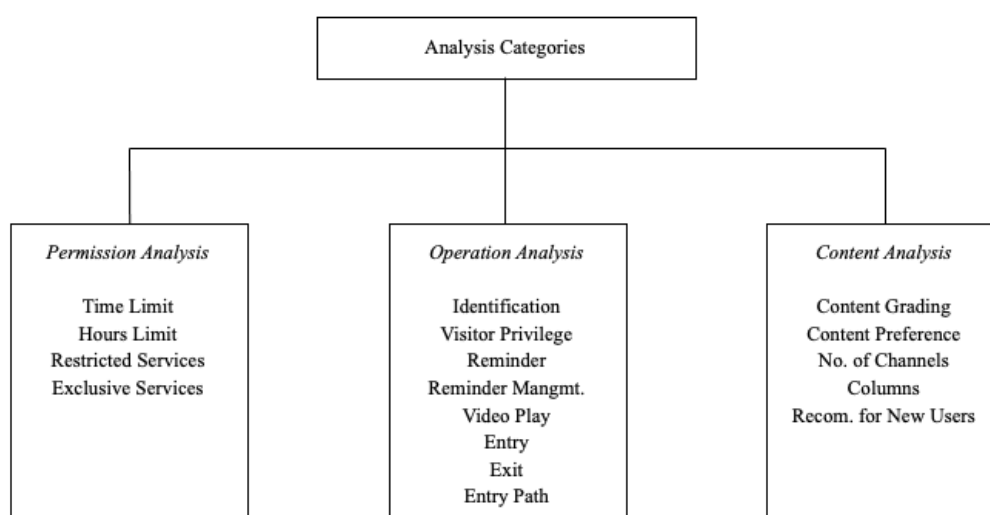


Figure 1 Analysis Categories for Minors' Mode on Short Video Apps

4. Analysis

4.1 Permission Analysis of Minors' Mode

As shown in Table 4.1, nine of the 10 apps have a minors' mode, except for CCTV Video, which does not have a minors' mode. All apps' minors' mode prohibits users from using it between the hours of 22 p.m. and 6 a.m., and the daily usage limit is limited to 40 minutes. However, users can use six apps for an extended period of time by entering a password. The minors' mode primarily restricts users to functions such as recharge, reward, gift, and live broadcast. In Channels, users can set their own access rights, including live broadcast, recharge, payment, public account, applets, recommendation, search, games, shopping, and emoji. Three of the ten apps provide exclusive services for minors, mainly including refunds for minors, reports for minors, and customer service for minors. Kwai also offers activities for teenagers. But the other seven apps did not provide customer service functions.

Table 4.1 Permission Analysis of Minors' Mode on Short Video Apps

Apps	Time Limit	Hours Limit	Restricted Services	Exclusive Service
TikTok	22pm-6am	≤40 minutes	Live stream, recharge, reward	Minor refunds
Kwai	22pm-6am	≤40 minutes	Live stream, recharge, reward	Minor refunds, minor reports, activities, customer service
Buzzvideo	22pm-6am	≤40 minutes PIN for long	/	/
Channels	22pm-6am	≤40 minutes PIN for long	Set by users	Users set their own payment limits
Haokan	22pm-6am	≤40 minutes PIN for long	Recharge, reward	/
WeSee	22pm-6am	≤40 minutes PIN for long	Recharge, reward, gift	/
CCTV Video	/	/	/	/
Vigo Video	22pm-6am	≤40 minutes PIN for long	Recharge, reward, synchronize	Underage refunds, underage reports, customer service
MeiPai	22pm-6am	≤40 minutes PIN for long	Browse only	/
MiaoPai	22pm-6am	≤40 minutes	Recharge, reward, withdraw	/

4.2 Operation Analysis of Minors' Mode

Table 4.2 reveals that, with the exception of Channels, which necessitates parental registration due to its integration with WeChat, the remaining nine apps lack real-name authentication for users. On these apps, users can browse and watch all the short video content on the platform as visitors. This loophole allows the underage group to access video content for adults.

7 of the 10 apps have pop-up windows to remind users to turn on the minors' mode. However, 3 platforms automatically skip the reminder after 5 seconds, while the remaining 4 platforms allow users to tap the "Got it" button to continue watching the uncategorized content. Moreover, all apps only remind once a day, and after skipping or closing for the first time, they will no longer remind when opened repeatedly within a day. This makes the reminder function null and void.

Videos on 3 app platforms require users to manually click the play button. However, the other 7 apps set their videos to play automatically. The moment a user taps the app, the recommended short videos will play automatically. While this commercial strategy for customer acquisition and retention can boost platform traffic, it may also result in users wasting their time on irrelevant content.

To exit minors' mode on all short video platforms, a guardian must enter a password. Six platforms also require password verification for entry, while access to the minors' mode on the other three apps does not require guardians to enter a password. On most platforms, the personal account controls the entry to the minors' mode. To access the tab for minors' mode, users must first tap their account. In three apps, the entry to the minors' mode is very hidden and difficult to find. Even if users manage to find the portal, the entry and exit paths are intricate and perplexing. This complicated and hidden system design is not user-

friendly and does not promote the minors' mode.

Table 4.2 Operation Analysis of Minors' Mode on Short Video Apps

Apps	Identification	Visitor Privileges	Reminder	Reminder Mngmt.	Video Play	Entry	Exit	Entry Path	
TikTok	/	View without login	Popup Reminder	Auto-skip	Autoplay	/	PIN	Account-Teen	Mode-On/Off
Kwai	/	View without login	Popup Reminder	Auto-skip	Autoplay	PIN	PIN	Home-Teen	Mode-Password-Access
Buzzvideo	/	View without login	/	/	Autoplay	/	PIN	Account-Teen	Mode-On/Off
Channels	Parent Registration	/	/	/	Autoplay	PIN	PIN	Back-WeChat-Account-Settings-Teen	Mode-On/Off-Password
Haokan	/	View without login	Popup Reminder	Tap to skip	Autoplay	PIN	PIN	Account (hidden)-Settings-Teen	Mode-On/Off
WeSee	/	View without login	Popup Reminder	Tap to skip	Autoplay	PIN	PIN	Account-Settings-Teen	Mode-Password-Function Limit Switch-Back-Back-Back-Entry
CCTV Video	/	View without login	/	/	Tap to play	/	/	/	
Vigo Video	/	View without login	Popup Reminder	Auto-skip	Autoplay	/	PIN	Account-Settings-Teen	Mode-On/Off
MeiPai	/	View without login	Popup Reminder	Tap to skip	Tap to play	PIN	PIN	Account-Settings-Teen	Mode-On/Off
MiaoPai	/	View without login	Popup Reminder	Tap to skip	Tap to play	PIN	PIN	Account-Settings-Teen	Mode-On/Off

4.3 Content Analysis of Minors' Mode

Only 40% of short video platforms provide content grading in the minors' mode, so minor users of different ages can browse other content. The remaining 60% of platforms have no content grading. Only 20% of platforms have a minors' mode where users can select content preferences based on their interests. The remaining 80% of platforms have no content preference selection. Only three platforms allow minors to choose the channels they want to watch on the homepage of their mode. The remaining 70% of platforms have no channel settings. The search function is missing in minors' mode on seven out of ten platforms. Users cannot like, retweet, or comment in minors' mode on seven platforms. The other three platforms only have an exit function in minors' mode. Only four of the platforms' minor modes have abundant columns on the homepage where users can operate according to their needs. In addition, most of the platforms' first

recommended content for new minors favors popular science and education. On two platforms, the recommended content for minors is biased towards society and politics; on the other two platforms, it is biased towards underage and young children; and on one platform, it is biased towards adults and vulgarity. Additionally, the study discovered hidden pornographic content in one platform's recommendations for minors.

Table 4.3 Content Analysis of Minors' Mode on Short Video Apps

Apps	Content Grading	Content Preference	No. of Channels	Columns	Recommendation for New Users
TikTok	Grading by age	Set by users	12	Logout, Settings, Home, Discover, Subscribe, Recom., Channel, Search, Like, Favorite, Retweet, Shoot, Messages, Account	Early childhood-oriented, animation
Kwai	Grading by age	/	0	Logout, Settings, Age, Recom., Home, Follow, Like, Customer Service, Activities, Account	Animals, sports, talent, music, travel, language learning, education
Buzzvideo	Grading by age	/	8	Logout, Home, Channels, Discover, Age	Science, humanities, history
Channels	/	/	0	Back, Follow, Friends, Recom., Settings, Follow, Favorites, Retweets, Likes, Comments	Pets, sports, exercise, travel, science, education, history, law, hidden pornography
Haokan	/	/	0	Logout, Refresh, Shorts, Follow, Account	Politics-oriented, news
WeSee	/	/	0	Logout	Society-oriented, anime, society, vulgarity
CCTV Video	/	/	/	Search, Channel, Recom., Hot, Home, TV, Live, Friends, Account	News, sports
Vigo Video	Grading by age	Set by users	12	Logout, Settings, Home, Discover, Subscribe, Recom., Search, Messages, Account	Science, history, experiment, handicraft, music, painting, sports
MeiPai	/	/	0	Logout	Early childhood-oriented, pets, art, science, history, life knowledge
MiaoPai	/	/	0	Logout	Adult-oriented, movies, cars, anime, travel, music, society, vulgarity

5. Discussion

According to the above analysis, the minors' mode on the current short video platforms primarily faces the following issues.

First, the system fails to identify minors accurately. The minors' mode of all major short video platforms does not make full use of fingerprint identification, face recognition, and other advanced technologies to identify minors' identities accurately and thus is unable to target the opening of the minors' anti-addiction

mode. At present, all major short video platforms, without exception, rely solely on independent passwords to ensure the effectiveness of the minors' mode. However, a single independent password does not effectively guarantee the accurate operation of the minors' mode. After the guardian turns on the minors' mode, teenagers can directly delete the short video platforms and then re-download and install them, so as to achieve the purpose of turning off the minors' mode. After reinstalling the short video apps, they can almost always watch short videos directly without logging in. Furthermore, 74.0% of teenage Internet users own their own devices. The proportion of cell phone ownership is the highest at 63.6%, followed by tablet PCs at 24.0% (CNNIC, 2020). Teenagers can change their passwords directly through cell phone number verification. As a result, teenagers may not need to obtain permission from their guardians to use short video platforms. In this case, when minors open a short video app and see the reminder of whether to turn on the minors' mode, the decision is up to them. Whether or not to enable the minors' mode depends on their self-discipline and self-awareness.

Second, there are technical loopholes and information barriers in operations and management. Anti-addiction modes for minors often intervene in minors' Internet use behavior by restricting browsing time, content, and consumption. Some platforms establish time locks to limit the daily usage hours, and upon reaching the cap on the single usage hours, users must enter a secondary password to continue using the platform. Some platforms also restrict recharging and rewarding behaviors in this mode, or directly cancel live broadcasting boards. In actual use, there are obvious technical loopholes in the minors' mode of some platforms. Minors can bypass the time lock function by uninstalling and reinstalling or forgetting their passwords (Li & Song, 2023). Or they can choose third-party accounts such as QQ, WeChat, Weibo, etc. to log in and easily crack the network supervision mode (Lei & Wang, 2020). Moreover, while most platforms provide pop-up alerts each time a user opens an app, some platforms automatically skip and disappear the pop-up if the user does nothing, while others skip the pop-up if the user clicks the "Got it" button. This provides a window and path for minors to browse uncategorized content. Most platforms adopt a daily pop-up window, but there is no reminder for users to open it again within a day. In addition, most platforms do not clearly indicate the label and location of the minors' mode. To access the mode, users must enter the corresponding module in their personal space. Moreover, some platforms conceal the entrance to the minors' mode, making the entry path and procedure relatively cumbersome. In addition, under the minors' mode, although some platforms have canceled the reward function, there is still information on the page that induces consumption, and there is no hint of risk in the transaction. Some platforms even allow users to jump directly to the third-party payment page, and there is no requirement for secondary real-name authentication or verification during transactions. To summarize, the hidden entrance of the minors' anti-addiction mode and the cumbersome setup procedure lead to the existence of an informed barrier for guardians, which results in a low level of ease of use and applicability of the mode.

Third, the content grading is insufficiently detailed and lacks appeal. Currently, the content in most platforms' anti-addiction mode for minors is low-level, homogenized, and boring, without considering the age range of minors. The "one-size-fits-all" content approach has turned minors and their guardians away from this mode. When users activate the anti-addiction mode for minors on some platforms, the relevant section immediately displays "no matching content for the time being". Some platforms only uniformly recommend children's stories, early childhood animation, literacy and calligraphy, and other low-level content to all users who turn on this mode. Some platforms only provide classroom-related content to users, neglecting the entertainment needs of minors post-learning. The Social Research Center of China Youth Daily conducted a survey of 1,990 parents of minors, and 70.8% of them suggested optimizing the content pool in the anti-addiction mode for adolescents (Sun, 2020). Some apps do not have an exclusive content pool for teenagers and only provide a few videos. Sun's (2020) study also found that some platforms with minors' anti-addiction mode have significantly less content and are slow to update. Some platforms' anti-addiction mode for minors is jokingly called baby mode among the youth population (He, 2023). The only content available is a vast array of public service videos, educational lectures, and various documentaries. Some underage netizens have reported that the only intriguing content left in the anti-addiction mode for minors is a variety of infant and toddler enlightenment-oriented animations (Jiang, 2022; Zhang, 2023). It can be seen that short video platforms have generally not invested in the setting and development of

appropriate content for the minors' mode, despite the differences in the physical and mental development of minors. The minors' mode is not the same as the "infant mode" or the "primary student mode". It is inappropriate to treat minors as a static whole and to ignore the differences in their content needs without taking into account their age differences. At the same time, anti-addiction mode for minors is not the same as "learning mode". For minors, entertainment and learning are not mutually contradictory and interfere with each other. Providing only learning-related content while ignoring their diverse information needs will easily lead to resistance and aversion among minors.

Fourth, the mode's columns and functions are heavily emasculated. Some Internet platforms have gone so far as to neuter their products, blocking some functions that they don't need to completely remove in order to avoid their obligations. Some platforms implement an anti-addiction mode for minors that completely eliminates the "search" function, restricting underage users to browsing only within the platform's teenager-only content, resulting in a monotonous and boring user experience. Some platforms conceal social functions such as liking, commenting, and sharing and do not provide the necessary interactive scenarios during the platform usage process, thereby diminishing the desire of minors for self-expression and self-presentation. Some platforms even simplify the reporting function that should be retained, but they lack a dedicated customer service team for minors. Another 30% of platforms leave only the exit button in the interface of the minors' mode. In order to save on development, operation, and maintenance costs, these platforms often adopt the most favorable modifications within the scope permitted by relevant policies and regulations, without considering the interests of minors. As a result, minors are less enthusiastic about turning on the teenager mode, their trust is not strong, and their drive to make their own choices is weaker.

6. Suggestions

In addition to the technical deficiencies of the system itself, the lack of a unified and operational evaluation index, as well as the platforms' weak sense of responsibility, may make it difficult to put the minors' mode into practice (Guo, 2021a). In this regard, the government and short video platforms, as stakeholders of the anti-addiction mode for minors, should consider optimizing the minors' mode from the following aspects.

Firstly, the identification of users in the minors' mode should be strengthened. In terms of identification, platforms should restrict underage minors from registering for platform accounts, promote a platform-wide real-name registration mechanism, and actively activate the minors' anti-obsession mode for real-name registered underage users. Furthermore, the platform should improve user identification accuracy for underage groups. If the platform determines that the account's actual user is a minor, it can initiate the mandatory intervention mechanism instead of the user activating the minor anti-addiction mode. In addition, short video platforms should actively take on the platform's social responsibility and comprehensively use fingerprint recognition, face recognition, and other technologies to accurately identify underage users and turn on the anti-addiction mode for minors (Wen, 2022). Short-video platforms can use a combination of algorithms and professionals to filter and optimize the content, effectively protecting minors' access to short-form videos.

Secondly, fix the minors' mode's technical loopholes and increase user awareness. Platforms should invest more in technology to fix the technical loopholes of the anti-addiction mode for minors (Ma, 2021; Jiang, 2022). The system flaws of the minors' mode can be circumvented by enhancing the complexity of secondary passwords and refraining from uninstallation and reinstallation. When it comes to consumption, platforms should firmly identify and penalize content creators who induce minors to consume. When transitioning to a third-party payment platform, it is important for the platform to offer significant risk tips, implement additional identity verification barriers, and, if necessary, establish a payment cooling-off period. In terms of promoting knowledge, every time a user enters an application, the platform should provide a pop-up window prompt. Stop users from automatically dismissing pop-up windows and force them to make a decision to advance to the subsequent stage. To encourage minors and their guardians to choose the mode on their own initiative, short video apps should simplify functional statements and avoid using cumbersome and obscure language.

Thirdly, the content classification under the anti-addiction mode for minors should be refined. Platforms should implement a "content + account" grading mechanism to enhance the "Internet + education" application scenario. In light of the problem of uneven and boring platform content in the anti-addiction mode for minors, platforms should take technical measures to clean up and block harmful information that is not conducive to teenagers, such as vulgarity, pornography, terrorism, and gambling. At the same time, the platform should establish a "content + account" grading mechanism. In view of the differences in the physical and mental development of minors and the media needs of different age groups, short video platforms should provide graded and better-matched online content. This can improve the content's appeal and stimulate minors' intrinsic drive to choose the teenager mode. In implementation, platforms can classify underage users into different tiers according to their age and school years and provide them with personalized content or products (Yang, 2023). Platforms or content creators should classify content according to relevant standards and make age-appropriate labels to maximize care for the heterogeneous needs of minors at different stages of development. In addition to improving the rules for screening and presenting content, platforms can also invite schools and relevant organizations to customize and develop a series of products with high-quality content for young people to enrich the pool of exclusive content for minors. By doing this, the diversity of content under the anti-addiction mode for minors can be enhanced, enabling them to explore healthy hobbies and cultivate good aesthetic sensibilities.

Fourthly, the industry should formulate an operational and unified evaluation standard for the operability of the anti-addiction mode for minors and introduce a third-party censorship organization to monitor the implementation of the platforms. Although most short video platforms have already developed the minors' mode, there is a lack of operable evaluation indexes for minors' identification, content selection, and dissemination and promotion. This leaves plenty of room for short video platforms to operate in a "black box" in terms of teenagers' identification, content filtering, and dissemination. The industry association should devise a unified evaluation system for the anti-addiction mode for minors of Internet platforms and establish a unified standard for the industry (Guo, 2021b). The industry association should also further refine the construction and maintenance requirements of the minors' mode in terms of time management, authority management, consumption management, content management, privacy protection, and so on. Accurate problem diagnosis paves the way for further enhancement of the anti-addiction mode for minors on short video platforms. The operational evaluation indexes of the teenager mode can encourage short video platforms to establish a robust network for youth safety protection, focusing on prevention beforehand, auditing during the process, and providing treatment afterwards. On the other hand, various short video platforms currently formulate and promulgate an anti-addiction model for minors, but this model remains unpublicized, and its implementation is unknown. Although many short video platforms have implemented a minors' mode in accordance with the relevant spirit and requirements, it is often challenging to determine whether this mode effectively reduces the negative impact of short videos on minors, to what extent, and what issues remain. No third party is involved in the operation of the anti-addiction mode for minors, the accurate identification of youth, the filtering of content under the teenager mode, or the dissemination and pushing of content. Comparatively, it is suggested to include a third-party reviewing group that can do regular or infrequent reviews of the motives for enactment, the steps for enactment, the identification, content selection, recommendation system, implementation process, and results of implementation (Liu, 2021). This could potentially enhance the effectiveness of short video platforms by reinforcing self-censorship, enhancing the anti-addiction mode for minors, and effectively fostering minors' growth.

Finally, short-video enterprises should proactively assume social responsibility. Tao & Li (2023) posit that the lack of corporate and social responsibility on the relevant platform hinders the vigorous implementation of the protection model for minors. According to the China Science and Technology Museum (2021), some enterprises prioritize the anti-addiction mode for minors, imposing stricter conditions and thresholds, while others disregard it, resulting in the minors' mode appearing as a mere formality on the platform. In fact, ensuring the long-term effectiveness of the minors' mode is not difficult for Internet enterprises, both technically and practically. However, the key lies in the enterprises' attitude towards this mode (China Science and Technology Museum, 2021). Establishing an anti-addiction mode for

minors goes against the business logic of the Internet traffic economy. Strict auditing and screening of the content and services available in this mode will lead to a significant decline in the platform's content viewership and a decrease in the application's daily activity rate. It will have a negative impact on the platform's traffic. Moreover, the minors' mode blocks the platform's commercial advertisements and locks the live streaming reward function, thereby directly reducing the platform's revenue. As a result, enterprises set up the minors' mode primarily because of policy pressure rather than the internal motivation of platforms to take responsibility (Chen, 2021). As providers and regulators of online content and services, short-video platforms should balance the relationship between the profit-oriented nature of the minors' mode and the platform's profit-seeking goals and establish a vision and strategy for sustainable development rather than operate in pursuit of short-term interests. They should proactively assume social responsibility for minors' online protection and consciously improve the anti-addiction mode for minors.

These measures may help the anti-addiction model for minors on short video platforms to achieve some results.

7. Conclusion

This study analyzes the permissions, operation, and content of the minors' mode on Chinese short video platforms. The study finds that the minor mode in short video platforms has issues in four areas: identification, operation, content control, and column setting. This paper proposes possible coping strategies for these problems. This study's conclusions and measures can serve as a reference for governments and businesses in other countries. Despite the popularity of various short video apps in these countries, children and adolescents worldwide suffer from short video addiction (Nagata et al., 2022; Woo et al., 2021; Marengo et al., 2022; Obasi, 2024). Therefore, the issues and recommendations in this study regarding the minors' mode in short-video apps may provide some reference for these countries to deal with minors' short-video addiction.

Disclosure Statement

The authors declare that they have not arisen any financial interest or benefit from the direct applications of their research.

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