

# The Road to Improving the Anti-addiction Mode of Short-video Software

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**Abstract.** In today's highly developed information technology, the fragmentation of information is becoming more and more common, which makes short videos popular as an efficient information delivery vehicle. Users of short videos include teenagers, who are at a critical stage in the formation of their outlook on life and are easily influenced by external information. For the sake of the healthy physical and mental development of teenagers, many short video software in the market have established teenager-specific modes to prevent them from becoming addicted to watching short videos. This report uses case studies and content analysis to examine the teenage model of DouYin, a software owned by ByteDance. The report analyses and recommends how the current teen mode achieves the desired effect, how it meets the psychological needs of adolescent users, and whether guardians can be completely at ease with their children's use of short video software because of the establishment of this mode. It gives clear opinions on the future path to improve the teen mode in the internet industry and suggests issues that need to be addressed. It is hoped that large Internet companies like ByteDance can make achievements in protecting young people and contribute to the education of society's next generation together with parents.

**Keywords:** Social Media; Adolescence; Anti-addiction.

## 1. Introduction

On 25 February 2022, China Internet Network Information Centre (CNNIC) released the 49th China Statistical Report on Internet Development in Beijing. This report shows that as of December 2021, the size of China's Internet users reached 1.032 billion, and the Internet penetration rate reached 73.0%[1]. At this stage of high internet penetration, coupled with the fact that since the outbreak of COVID-19, measures such as city closures and delayed school openings have been taken around the world to control the spread of the epidemic, resulting in an increase in the amount of time teenagers (aged 12 to 18) spend at home, which is likely to lead to them spending more time using electronic devices to browse information and using social networking sites.

As the most popular social networking software in China, Douyin mainly uses short videos as a vehicle to enable users to record and share their lives. However, short videos are faster paced and more informative than traditional media, making them more stimulating for young people to watch and thus more addictive. In addition, the low production threshold and uneven content quality of Douyin short videos can easily have a negative impact on the teen group that is forming three outlooks.

Searching for junior high school students as a keyword for filtering content on Douyin, there are several accounts with tens of thousands of followers at the age of 14. The content recorded by these accounts shows that this user has mature aesthetic trends and behavioural patterns that are not in line with their age, and some of them are working with brands that are already earning money at an age when they should be learning to improve themselves.

In order to implement the concept of anti-addiction and healthy social interaction for young people, since the launch of the Teen Mode in July 2018, Douyin has improved this mode several times, managing the social interaction of minors in terms of time and limiting the content. In September 2021, Douyin announced that all authenticated users under the age of 14 on the platform had entered the Teen Mode. As far as we know, no previous research has investigated this mode. This seems to be a common problem that whether parents and even the whole society can fully trust such a control

mode. Therefore, this article will analyse the shortcomings of the Teen Mode through research and develop recommendations..

## 2. Methodology

Firstly, we chose the Teen Mode of the popular short-video software from Beijing-based ByteDance: DouYin as a case study to examine the validity of this new measure. As of December 2021, there were 934 million short video users in China[1], and as early as September 2020, DouYin had over 600 million daily active users[2], making it the most popular short video social media app in China today. And among so many users, there is no shortage of mentally immature teenage groups. The unclassified content of DouYin earlier made it possible for teenagers to be pushed to content that was inappropriate for their current age group, such as bloody and violent ones, and the low threshold for publishing short video content also made it more likely than in previous eras that teenagers would connect with other users of the platform as creators and thus create more risks. In the face of this problem and as a sign of social responsibility, DouYin has launched its Teen Mode in 2018, which is a representative case study. By scanning the QR code, one account can become the "guardian parent" of another account's teenage mode. The child's account cannot exit this mode independently, and the parent's account can be informed of the time of day and the type of videos watched by the account it is supervising. At the same time, the content viewed by the child's account is filtered and the account holder cannot live stream, post content or comment on others.

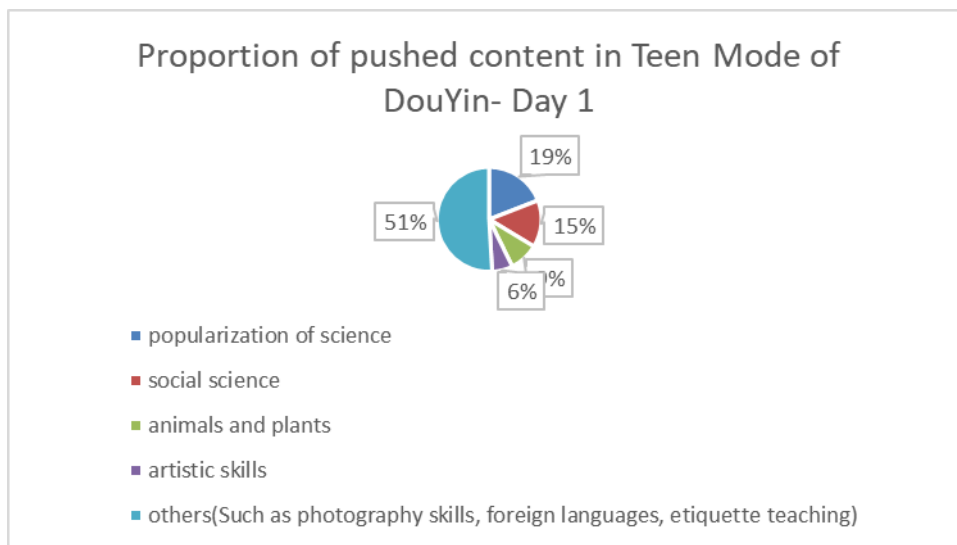
In the analysis of this case, the authors have used the SWOT theory model to analyse the current situation of the most used youth model in China. In addition the authors use the case study method, a method which has the advantage that a case can be analysed and studied from multiple perspectives and as comprehensively as possible in order to develop an in-depth understanding and conclusions about the issues involved. This research strategy enables the researcher to break down a complex and broad topic or phenomenon to one or more manageable research questions. [3]However, due to the lack of comparison, the knowledge system is incomplete and sometimes lacks typicality. The content analysis method was also used in this study. It's a replicable and valid inference approach from texts (or other significant matter) to the settings in which they're used.[4] Its advantage is that the statistics are not influenced by subjectivity, but the disadvantage is that the meaning of the data is elusive and the final analysis is likely to be subjective and not the only inference to be drawn, but must be combined with other information before a conclusion can be made.

## 3. Results and Discussion

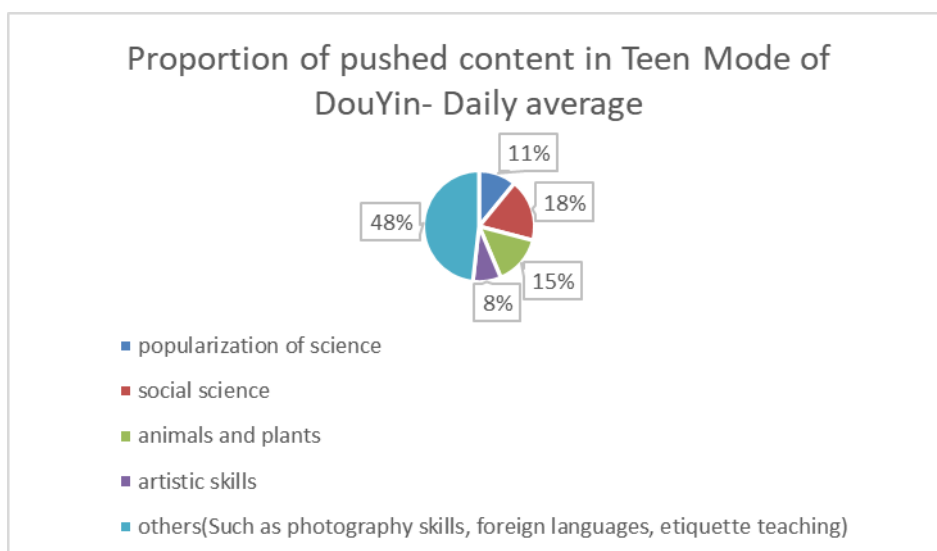
### 3.1. Statistics

In April 2021, DouYin upgraded its Teen Mode with the launch of a "Discover" channel, which will match age-appropriate content to users of different ages, while children can also use the search function to explore content that interests them. It is the first live video platform in the industry to offer this feature in its Teen Mode. This breakthrough has led to the belief that DouYin is at the front end of the path to perfecting the teenage Mode, and ByteDance's good corporate image is well established. In corporate marketing literature, the importance of corporate identity in offering a competitive edge to a firm is a key topic. Most academics believe that corporations' increased interest in CI is a response to their desire to stand out in an increasingly competitive environment, as well as an awareness of its potential to help them obtain a variety of market benefits.[5]

The authors used DouYin's teen mode over a week-long period, between 8pm and 8:40pm each day, setting the user's age at 12 years old, and made a count of 541 content samples to derive the proportion of content that was restricted to this software's home page tweets.



**Figure 1.** Proportion of pushed content in Teen Mode of DouYin- Day 1



**Figure 2.** Proportion of pushed content in Teen Mode of DouYin- Daily average

It is clear from the data that Douban is pushing a diverse range of content to teenagers. The change in the percentage of various types of videos from Figure 1 to Figure 2 shows that Shake is personalising its recommendations based on the preferences displayed by teenagers. The richness of the content makes most people praise the software for its content, but in fact this part is also its downfall.

### 3.2. SWOT analysis

In terms of strengths, due to the large number of DinYin users, it will also be far more likely to make refinements to the Mode from the perspective of teenage guardians in terms of the feedback harvested from users than any other video social software in China.

When it comes to weaknesses, the authors found in the actual use of DouYin's teen Mode that DouYin still suffers from inadequate content screening. In a search for "pretty girls", where the user's age is set at ten, girls aged 8-12 appear, but are clearly overdressed and heavily made up, stereotyping the characteristics of "pretty girls". It is clear that although DouYin has announced the formation of a dedicated team to screen content, there is still confusion over the management of content. In the case of the three-year-old user, the content pushed was full of incomprehensible scientific experiments, which showed that DouYin was ineffective in recommending content for younger children.

At the opportunity level, although DouYin has launched the "Meng Zhi Project", by inviting experts to create video content, focusing on creating video content in categories such as science, life knowledge and animation, and setting up "animals and plants", "space science", etc. It also set up sub-sections such as "Animals and Plants" and "Space Science" to help young people learn more systematically and to meet society's demand for young people to watch short videos not only for entertainment but also to gain knowledge and broaden their horizons. But at the same time, many segments have not been touched, such as the popularisation of physiological knowledge. During a developmental era when gender roles, sexual attitudes, and sexual behaviors are being formed, adolescents may be exposed to sexual content in the media. [6]. This generation may be especially vulnerable since their cognitive skills for critically analyzing media messages and making decisions based on possible future outcomes are not completely developed. [7]. Current mainstream forms of media do not specifically address sex education for the youth population, so the relevant content they see is likely to be adult in nature. The authors argue that Shake could introduce special content on sex education specifically for minors to provide a healthy orientation to their sexual views.

In terms of threats, the teenage Mode of DouYin has not changed the characteristics of short videos to the extent that young people are attracted to, and even addicted to, this fast-paced mode of information delivery. 3.7% of the adolescents were classified as being addicted to the Internet.[8a] Restricting the length of time that young people can use it will tend to make them rebellious and many will try to get around it. In addition, if an age-group-specific popular knowledge app decided to enter the short-form video space, DouYin's content would be threatened. DouYin needs to shape the software's irreplaceability to hold its ground in this competitive market. DouYin is currently the preferred choice of Chinese teenagers and parents among short video software not only because of its large number of users and the type and amount of content of its videos, but also because the protection mechanism it has put in place for teenagers is currently the most complete in the Chinese internet industry.

In the past, research has often focused on the impact of social media on teenagers, not least by exploring the psychological reasons for their addiction to short-form video. For example, to alleviate feelings of isolation, adolescents have a high need for positive feedback from their surroundings before forming an independent personality, and are often more likely to indulge in the online world when authoritative figures in their minds, such as their parents, are not available to pay attention to their behaviour. Teenagers can participate in video content by watching it and simply by retweeting and commenting on it. After posting content that participates or imitates novelty in their circle of friends, they receive likes and approval from their audience[9], and the online world facilitates an increase in the number of audiences, which makes it satisfying for teenagers. The creation of a teen Mode should not only limit the content that teens watch, the length of time they use and the features they use, but moreover should address the underlying causes of addiction so that it can be effectively controlled to achieve the desired goal.

According to the past research, social media serves two purposes: first, to develop social relationships with people in order to feel like a member of society, [10]and second, to regulate one's perception of others through reputation management and online image management. [11] Therefore, the use of socially enabled short video apps by young people should not be discouraged, both in terms of their needs and the role of social media. However, appropriate controls are essential for teenagers who have no self-control. Users can be tested before entering teenage mode, and the features can be gradually liberalised during subsequent use. At the moment the most basic teenage mode has the following issues to address.

### 3.3. Solutions

How can the teen model really achieve the desired effect? iiMedia Research data shows that over 60% of respondents have more than one phone number,[12] and in such an era, it seems easy for teens to exploit the loopholes by using unused mobile phone numbers at home or older mobile phone numbers that do not use social media to sign up for new DouYin accounts in order to bypass the teen

model. Online platforms should improve the accuracy of identifying teenage users. The stronger the technology, the greater the responsibility.[13] The authors suggest that DouYin should capture users' faces from time to time during their use. To prevent privacy leakage issues, a pop-up window could be popped up to inform users before the capture and wait for them to confirm the captured content before uploading it. If the user refuses to be captured twice in a row, DouYin may reject the user's use. Also if a teen face image is captured, the interface will automatically go into teen mode.

How do you meet the psychological aspects of social media use for teens on a restricted basis? In order to prevent children from being negatively affected by interaction issues on DouYin, the teen mode closes the comment section and does not allow users to post content or initiate live streams. However, in author's opinion, this initiative does not address the loneliness that teens may feel. Peers also have a big influence on young individuals. During adolescence, peer acceptance or rejection has a significant influence, and adolescents have a strong psychological drive to fit in with their peer group. [14]. The author would therefore suggest that DouYin improve Teen Mode by adding the concept of groups and requiring users to take their real names, which could grant teachers or guardians permission to create this organisation and allow users to interact with classmates or friends they know in real life in the comments section. As for the content posted, it needs to be reviewed by both the Shakeology staff and the organisation initiator.

Are parents reassured with the teen Mode? Many parents are quick to blame online platforms and let their guard down after seeing the system in question enacted. However, this should not be the case, as the teen Mode still has many shortcomings due to its short establishment, and children may still become addicted after intentionally bypassing regulation. Adolescence may thus be a perplexing time for both the adolescent and the parents who are supporting the adolescent as he or she progresses through this stage of life. [15]But parents need to be aware of this and increase their responsibility for supervision. It is only a competent parent who interacts with their child and is involved in all aspects of his or her life and is guided by the right values. At the same time, parents are expected to advise and question the youth Mode on online platforms from an adult point of view and from the point of view of protecting their children's physiology and psychology. Society as a whole has a responsibility to provide guidance to young people, and with the proliferation of "ID generators" that can assist in deciphering teenage patterns, internet regulators should be strict in screening the release of such software. In addition, it is recommended that DouYin send regular text messages to parents of users of Teen Mode to inform them of changes in their children's interests, not only to increase conversation between parents and children, but also to give direction to modern parents who are open to developing their interests.

How do you deal with underage users who already have thousands of followers? Teenagers are an easily influenced group, and it is difficult to make the so-called teenage Mode work when they are surrounded by a trend of online fame. A search for "vlogs of Junior high school students" or similar content on the search engine reveals many junior vloggers posting videos about their lives, but some of them show off their wealth and are overly sexualised. The search also shows that the age of the creators of videos on this platform is as young as 10, so it's hard to imagine them wanting their work to be noticed when their peers are worrying about homework. Perhaps our desire for fame and approval is a product of today's fast-paced, consumerist, and lonely culture. [16] Being hounded and imitating others is like mental poison, and they are likely to try to escape the 'childish' online environment around them and expect to become adults. In addition to strengthening the Mode, it is important to explicitly crack down on underage users who have become famous in response to the herd mentality of teenagers. DouYin could limit the number of videos posted by such users each week to prevent minors from being used for traffic or money, and make it mandatory for users of this type to be their guardians and to upload valid IDs.

Algorithmic mechanisms are also used to recommend content for teenagers, but is this really right? In many cases, the production of media content is now done in methods that delegate significant analytical and decision-making authority to sophisticated algorithms. [17] The algorithmic mechanism that ByteDance prides itself on allows users to be recommended content that suits their

preferences, but this should not be fully transposed to teenagers. This group's access to knowledge needs to be as comprehensive as possible, and short videos, by virtue of their content not being fully selectable by users, not only do this by surprise, but should also be used to differentiate themselves from physical content, control the proportion of content pushed to users' preferences and try to contribute to the comprehensiveness of teenagers' knowledge.

### 3.4. Concerns

In order to make it easy to manage their children's software usage and understand trends in interest based on the percentage of time kids spent watching each category of short videos, parents are provided with a weekly "usage report" of the accounts they supervise by DouYin. The types of short videos are vaguely categorised, with science, humanities and social sciences, pets, animation, drawing and crafts being common category names. This raises the question, what are the criteria for classification? If the content of a video is an animation-based popularisation of the habits of pandas, to which category would it be classified? In cases where the classification criteria are not clearly understood by parents, there is a high risk that the statistics will be poor in practical terms and that parents will misunderstand the trend of their children's interests. The basis for this classification is worth discussing and making public.

There is also something to think about. In the test, the users of the children's accounts were not interested in military-related content, but in the weekly newsletter, the military accounts were explicitly recommended in the section "Your child is likely to like the following authors". What is the reason behind this? What is the basis for this recommendation? Is it to fill a gap in the child's knowledge or is there a partnership with these accounts?

In use it was also discovered that, in distinction to the adult version of DouYin, videos in teen mode cannot be multiplied. In the author's opinion this is unreasonable and not every video process is necessarily meaningful. It may be that the inability to multiply is an exercise in patience, but it is important to send out a proportion of videos that can be multiplied based on a judgement of a child's patience and to tailor them to their needs

## 4. Conclusion

In the age of fragmented information, it has become an unstoppable trend for mobile short videos to satisfy people's demand for fast-food culture. Unregulated short video content can easily have a great negative impact on teenagers. A study using Douyin's Teen Mode as the subject of analysis shows that while the current youth restriction system on China's short video social platforms does place restrictions on length and recommended content, there are still loopholes around the actual identity of users, the psychological needs of youth, parental responsibility, established underage creators, the use of algorithmic mechanisms and other levels that need to be further upgraded and improved. The limitation of this study are that the duration of the statistical data was only five days due to the limited capacity of the authors; the possibility of bias on the part of the authors due to their cultural background and personal opinions on specific phenomena, which may affect the validity of the findings; and the lack of a cross-sectional comparison with the rest of the software in the industry that has created new systems or enacted new regulations for the safety of information browsing by young people.

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