



The Impact of TikTok Short Videos on Anxiety Level of Juveniles in Shenzhen China

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Abstract. TikTok is one of the most successful Chinese social media applications in the world. Since it was found in 2016, an increasing population of user, especially teenagers, have been engaged to the social media platform by its short videos. Despite the new technological effect and newer method of online communication it has brought, this investigation is planned to discover the effect of TikTok's information on the teenagers in Shenzhen China, and the further correlation between the viewing the short videos in TikTok and its impact on teenager's stress and anxiety level. The investigation is launched by delivering electronic questionnaire to Shenzhen's high school students and teenagers aged from 13 to 20. From the results, it is discovered that the teenagers in Shenzhen have been impacted by the information in TikTok in a small extent due to their higher level of education. However, a positive correlation of teenage stress level and the intensity of viewing TikTok has been investigated. It has been discovered that as juveniles and high school students are familiar with the viewing short video, they will be less efficient at work after viewing TikTok. This results to an increasing level of the general stress level and usually triggers the increasing level of anxiety as the teenagers find themselves fail to achieve their expected targets in time.

Keywords: TikTok Short Videos · Anxiety Level · Juveniles · China

1 Introduction

TikTok, which is known as Douyin in China, has become one of the most popular social media apps worldwide. From its emergence in 2016, Douyin's prevalence successfully introduced a new era of social media interaction, and it serve as the world's prominent destination for creating short-form mobile videos in Asia, United States and other parts of the world [1]. The short video platform allows people to record their lives and share about the interesting topics via short videos which were generally between 30 s to 5 min. It also gives users the opportunity to interact with others and catchy music to make their own videos. As such online entertainment is designed to be easily operated, viewers can change topics or videos by sliding the screen and the platform was soon known after its release. TikTok's development is based on its technology of Artificial intelligence and mega-data, which targets every user's preference and recommend videos to relevant audiences respectively by monitoring how much time they spend on watching short

videos of every topic. In this case, the video producers have to create attractive works to engage viewers in less than 5 s. All factors above offer TikTok popularity, with a score of 4.9 out of 5 in Apple's Chinese APP store, users of 85.5% Chinese population and installation of 6.7 billion worldwide [2].

According to the statistics, in March 2022, TikTok has over 1 billion monthly active users worldwide, which has 32.5% of teenage users between 10–19-year-old and 29.5% of users aged 20–19 [3]. As the data suggested, the Z generation group constitutes the primary consumption of short video, however, they are the most likely groups to be influenced by the social media with little life experiences.

TikTok is a private company, due to its optimistic development, people see the commercial opportunity of it and begin to explore its potential human resources and technical development. However, the new measure of information transfer is considered about having negative impact on its major viewers. In order to create engaging short videos, bloggers have to compress or clip the information and edit it in accordance with people's interests. In this case, information in these short videos, especially about social experiences and popular science can be misleading to the public. And because of the immature teenager are usually incapable of distinguishing reliable on the platform, they are often influenced by false information or messages with stereotypes.

2 Literature Review

With the increasing influence of TikTok, there have been many researches on social media or TikTok's correlation with human anxiety and cognitive impacts on teenagers. According to Jacqueline Nesi in 2020, founded by the American Foundation for Suicide Prevention, social media comprises a vast array of digital tools, and thus characterizing its overall effect on youth remains challenging [4]. In her research, adolescents' peer experiences play a critical role in the onset and maintenance of psychopathology and specific online peer experiences have been identified as potential risk factors for mental health concerns. On the internet, it seems that social comparisons between peers are increasing common, that people evaluate their own views and achievements in relation to other people's accomplishments to gain a good understanding of themselves [5]. However, an unfavourable comparison regarding accomplishments, abilities, or appearance may lead to self-disaffection and anxiety of the teenagers. And according to Fardouly and Vartanian's research, higher levels of online social comparison are associated with depressive symptoms in youth [6], and that appearance-specific comparisons on social media may heighten risk for disordered eating and body image concerns [7]. Also, Nesi claims that Cybervictimization, or the experience of being a victim of bullying by peers online, should be taken as a risk of immersing into social media. This is because its association with higher rates of self-harm and suicidal behaviour [8].

In addition to the potential risks that social media may produce, there have also been researches that pinpoint on the TikTok's influences on teenage anxiety. Based on the already revealed risks of social media, Ismail's research was focusing on the correlation between the intensity of using TikTok and stress level among teenage users during the pandemic of COVID-19 [9]. By executing quantitative research in his city towards teens aged 13–20, the results of data analysis conducted in this study indicate that the intensity

of using TikTok social media access and stress levels have a significant relationship, alongside a crucial influence on adolescent's development, where adolescents experience many significant changes in their lives to build relationships and socialize with their peers.

Based on the exposure results, there have been several indications of the emergence of sources of stress in adolescents caused by excessive media use. Research revealed that late teens are the most active social media users and are mostly at risk of experiencing mental health problems with a high percentage [8]. In addition, quoted through the Jawapos.com news page, it states that as many as 60% of teenagers experience stress due to excessive use of social media. Research conducted found that the influence of social media can have an impact on stress; according to Bhat's research, this occurs because individuals are worried about their privacy and are concerned about the number of people who like posts and comments on their social media [10].

Despite the factors that TikTok may impact adolescents' stress level and mental health, the short video platform is argued about having misinformation. Based on the former researches, although TikTok has reached an satisfactory level of providing educational information to the public, it had been proved to have risk on misleading its viewer by providing only short video to explain theories and uncommon experiences [11].

All investigations above had revealed the potential risks on social media or TikTok's global teenage audiences, including not only a rising stress and anxious level but also educational effect of the misinformation about academic aspects. However, there are still existence of research gaps. First of all, although many researches demonstrates the influences on TikTok audiences worldwide, there is few studies focusing on the Chinese juvenile users, who is as known as the young generation Z. In addition, as the investigations on TikTok's information quality has been recently criticized, studies about information topics varies among distinct aspects, for example the COVID, diabetes and vaccines; however, there is few studies focusing on the teenager's awareness and cognition about mental health in China.

Teenage mental health issues are becoming common phenomena in China, and TikTok's influences on teens now serves as one of the major causes of the rising general anxiety level and influences the public's awareness about getting mental health treatments. In this case, by revealing the upper issue, there will be more understanding on teenage mental health problems and consequently more effective resolutions can be executed. Thus, the purpose of this study is to reveal the impact of misinformation about mental health related topics on Chinese teenagers and further investigates how TikTok will influence Chinese juvenile's daily stress level and anxiety via questionnaires.

3 Methodology

The current study was approached by using mixed method and descriptive research, which includes the analysis of quantitative data collected through measurement procedures with graphs. The targeted respondents in this research are active teenagers using TikTok social media aged from 13 to 20 years who lived in Shenzhen, China. In the investigation, the quantitative approach gave insight about the participants' perceptions toward the use of TikTok videos. Afterwards, the qualitative approach allowed the researchers

to gain a deeper understanding about the issue. Based on the predicted influence of viewing TikTok and the related psychological theories, an electronic questionnaire was administered on a Tencent questionnaire software in Chinese and was publicized through Chinese major social platforms; including WeChat and TikTok. To respect the privacy of the participants, the questionnaire was anonymous.

In the questionnaire, symptoms and normal reactions are described as questions and the respondents' degree of influence is collected, along with the frequency of these impacts. Respondents were expected to answer whether they found themselves suffering from both mental and physical influences when viewing and after viewing TikTok and how much they found themselves addicted to the short video modes when receiving information. They were also expected to grade their conscious degree of impact in the range of 1–5 in the questions. Most of the questions were delivered in Multiple choices so that the answering process would be more efficient and effective for the investigator to collect data. The first part of the questionnaire consisted of 10 statements and descriptions that the participants may experience when viewing TikTok. Along with the application of 5 Point Likert scale, the participants were expected to respond by choosing one of the options 1 to 5 expressing how far they agreed with their experiences and the stated symptoms. Frequency of TikTok viewing were also asked to be rated by the respondents through multiple choices of 1–5 but with different options. In this case, 1 refers to never and 5 indicates that TikTok was always used in one's daily routine. Furthermore, the participants were asked about whether they consider themselves as conscious and aware of the negative influences that viewing TikTok might bring. This helps the investigator to further analyse the impact of TikTok and the short video industry on the aspect of people's self-conscious and awareness. The above items in the questionnaire resulted in numeric data, while there is also an open-ended question in the end of the questionnaire, which required the participants to explain their problems when using TikTok videos and obtaining information via the short video platform specifically. Any other suggestions about using TikTok is also asked as an optional question.

By computing the means of each answer, the numeric data were analysed and compared with all of the items in the multiple questions so as to observe the respondents' perception generally. Additionally, the data obtained from the open-ended questions in the second part of the questionnaire were analysed by following the statistical procedures of familiarizing and categorizing the statements, coding and reducing the descriptions, and then interpreted and represented by certain adjectives. The collecting process lasted for two weeks, and the questionnaire was set that each respondent could only answer once to prevent unrealistic and repeated answers. 150 samples were collected from the questionnaire, however, there was a limitation of the media, that the questionnaire could not be delivered to every local teenager.

4 Results

According to the questionnaire and related results, it is investigated that 93.2% of the respondents claim themselves as aware of the negative influences of viewing TikTok and 89% of them suggest that they found themselves addicted to the platform. However, only 16% of the respondents said that they had been consciously and deliberately

reducing the viewing time of TikTok successfully, 64% of the respondents said that their efforts of balancing the viewing time of short videos have failed; the remaining 20% of teenagers state that they had not attempt to break the current balance between immersing themselves in short videos and the realistic life of work and study.

When comparing the TikTok users' frequency of viewing the platform, 62% of the teenagers indicates that they view TikTok on a daily basis, 60% of them use usually 2–3 h a day and 11% of the responded users apply the app for more than 4 h per day.

96% of the participants said that they had already adapted the current form of information obtaining, and 97% of them admitted that they found the information and messages in TikTok were intriguing but not providing any professional assistance in life, others consider TikTok as a medium of observing friends and favoured bloggers, so that every information might be useful in life. Among the possible received information, the frequency of viewing educational videos on TikTok is also collected: 95% of the participants said they had been delivered educational videos by the mass A.I system of TikTok; and 92% of the participants said they have seen videos about mental health related contents among the short videos. In this case, even 85% of the participant claimed that they already had some understanding of the mental health diseases related content, for example, depression and anxiety disorders and other anxious emotions, 90% of them found that TikTok videos had changed their perceptions of the mental health related information. Among these participants, 70% of the viewers stated that TikTok made them feel like Depression and anxious feelings have gradually become a common phenomenon and online trend; 10% of the viewers found that in TikTok, anxious feeling are more common to be seen and accepted. However, 87.8% of the respondent suggests that such influence on the acceptance of mental health problems online was not the same as reality. Additionally, according to 46% of the respondents, the trend of stressed and anxious feeling in cyberspace had brought them an exhausted feeling in realistic life. 70% of the participants admitted that such trend on TikTok make them tired of perceiving other anxious feelings of others in reality.

Also, the collected results suggests that 94% of the participants had experience physical and mental influence after viewing TikTok, from which the open-ended questions. 80% of the sample indicates that the respondent usually experience a sense of lost after viewing TikTok, and 8.5% of the participants said that a detachment from real life took place when they were viewing TikTok.

The 5 Likert Scale questions have been also analysed. 95% of the respondents agree or strongly agree that they felt excited and hard to concentrate on their work after viewing TikTok. In addition, among the respondents, 64% viewers agreed that they had an increasing stress level and anxious feeling of finishing their work. 19% of the participant indicated that they sometimes have headache because of their rising anxiety level. However, when referring to the impact of obtaining information on TikTok, although 83% of the respondents agreed or strongly agreed there had been misleading information in the short videos, 92% of the participants stated that they considered themselves not being influenced, neither being misled when viewing TikTok.

5 Discussion

The investigation aims to discover the influences of TikTok's short video on Chinese teenager's understanding and awareness of anxious feeling and mental health related problems, along with the further investigation of TikTok's influence on Chinese juvenile's daily stress and anxiety level. The results of data analysis conducted in this study indicate that the intensity of using TikTok social media access and stress levels have a significant relationship. This is in line with the stages of adolescent developmental tasks, namely adolescent socio-emotional, biological, and cognitive development, where adolescents experience many significant changes in their lives to build relationships and socialize with their peers [12].

The study results also show that the level of intensity of adolescents in accessing social media is in the moderate category overall. This is in accordance with the research that found that most teenagers experienced low level social media addiction, and almost half of the adolescents experienced high social media addiction levels. This is related to Shenzhen's high school students' daily routine, that many high schools forbid the students to bring any electronic devices and most high schools provide accommodations. In this case, 36.8% of the sample have no electronic devices and opportunity of viewing TikTok in the weekdays.

The respondent's stress level in the investigation is in the medium category, and gradually increases with their age and TikTok's viewing time. This means that most of the respondents experience high stress due to the intensive use of social media for a long period. According to the theory, stress arises due to a transactional stimulus, meaning that the stressor appears to be a stimulus to stress in adolescents [13, 14].

The more stressors that occur, the more triggers appear and increase the level of stress felt by adolescents. The results of data analysis in this study indicate that the intensity of social media use with stress levels has a significant positive relationship. This means that the higher the intensity of adolescents in accessing TikTok social media, the higher the stress level experienced by adolescents. According to Lazarus and Cohen suggested that one of the stress factors that arise due to the environment, namely background stressors, which are daily problems in life and the social environment, and these stressors have a small impact on individuals but if they occur continuously, it will generate negative stress. Examples include having responsibilities, feeling lonely, arguing, peer conflicts, poor interpersonal relationships, social environment and disputes with family [15].

Based on this, it can be seen that the social environment is correlated with stress. Research conducted states that the cause of the high intensity of social media use among adolescents is based on fear of missing out on information, connecting with peers, and priorities in updating social media. Then, teenagers who are active in using social media more intensely can feel changes such as sleep patterns, headaches, insomnia, difficulty in interacting, mood swings, and stress manifestations that can arise in adolescents.

Furthermore, according to the stage of adolescent development, especially the stage of social development, adolescents experience many changes in their lives, especially in terms of socializing with their peers [12]. Adolescence is also inseparable from stress, which is identified with storm and stress, or a turbulent period characterized by conflict and mood swings. The existence of rapid changes, difficulties in socializing, conflicts with peers, disputes with parents, and media use are indications of the emergence of

stress in adolescents. When associated with the help of social media, the use of TikTok social media for some teenagers is a stressor, both individuals posting on social media or viewing content on social media.

Also, since most of the teenagers have been already familiar with the short video mode of obtaining information from TikTok, they gradually have less patience on long process to gain useful information, for example, reading books and watch longer and more professional videos. In this case, teenagers are less concentrated on the works that they are assigned to read and do, leading to less efficiency and lower productivity. This results in further anxiety, that teenagers can not accept the changes on their work, which doesn't match with their expectation. Under such stimulation, one can be disappointed to himself, leading to depressed feeling or anxious emotions and rising stress levels.

6 Conclusion

In fact, a growing number of pan-intellectual creators are spreading knowledge through TikTok. Questions in humanities, finance, art, life and other fields can be answered on TikTok. The form of short video has changed the original seemingly boring way of knowledge expression, which can not only help creators to spread knowledge out in a vivid way, but also allow netizens to broaden their horizons more easily. Therefore, in many people's minds, TikTok has become an encyclopaedia. The study conclude that TikTok has a few impacts on the subconscious understanding of anxious feeling of the juveniles in Shenzhen, and a significant correlation between the intensity of using TikTok and juvenile's anxious level in realistic lives. The investigation aims to discover the influences of TikTok's short video on Chinese teenager's understanding and awareness of anxious feeling and mental health related problems, along with the further investigation of TikTok's influence on Chinese juvenile's daily stress and anxiety level.

References

1. Jaffar, B. A. (2019). Living in a moment: Impact of TikTok on influencing younger generation into micro-fame. *Journal of Content, Community and Communication*.
2. He, X. (2021). *Overview on the growth and development of TikTok's globalization*. Atlantis Press.
3. Doyle, B. (2022, April 21). *TikTok Statistics - Everything You Need to Know*. Retrieved April 27, 2022. <https://wallaroomedia.com/blog/social-media/tiktok-statistics/>
4. Nesi, J. (2020). The impact of social media on youth mental health: Challenges and opportunities. *North Carolina Medical Journal*.
5. Grogan, S. (2012). Body image development. In T. F. Cash (Ed.), *Encyclopedia of body image and human appearance*. Academic Press.
6. Fardouly, J., & Vartanian, L. R. (2016). Social media and body image concerns: Current research and future directions. *Current Opinion in Psychology*.
7. Carter, B. (2016). Association between portable screen-based media device access or use and sleep outcomes: A systematic review and meta-analysis. *JAMA Pediatrics*.
8. John, A. (2018). Self-harm, suicidal behaviours, and cyberbullying in children and young people: Systematic review. *Journal of Medical Internet Research*.

9. Ismail, N. S. (2022). *The relationship between the intensity of using Tik Tok social media and stress level among teenagers in Makassar City during the pandemic*. Atlantis Press.
10. Bashir, H., & Bhat, S. (2016). Effects of social media on mental health: A review. *The International Journal of Indian Psychology*.
11. Villa-Ruiz, C. (2020). Overview of TikTok's most viewed dermatologic content and assessment of its reliability. *Journal of the American Academy of Dermatology*.
12. Santrock, J. W. (2011). Life-Span Development, *Current Opinion in Psychology*.
13. Rice, V. (2000). Handbook of stress, coping, and health. Implications for Nursing Research, Theory, and Practice.
14. Bartlett, D. (1998). *Stress: Perspectives and processes*. Open University Press.

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