



SOCIAL MEDIA INFLUENCE ON MENTAL HEALTH: TIKTOK USAGE AND DEPRESSION AMONG YOUTH (A CASE STUDY OF UNIVERSITY OF MALAKAND KHYBER PAKHTUNKHWA PAKISTAN)

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Abstract

TikTok is a well-known social media platform designed by the Chinese Byte-Dance Company, letting its users edit and then upload 15-60 second videos. TikTok can add music, filters, stickers, and background music to pictures. This study tends to draw on the convoluted relationship of TikTok usage and mental health of the Pashtoon youth of Malakand University in Khyber Pakhtunkhwa Pakistan, utilizing Beck's Depression Inventory. This paper is going to explore the psychological effects of TikTok on depression. The sample size was 226, while the stratified proportionate sampling technique that was used in this research managed to return a representation of 62% males and 38% females. The primary objectives are to examine the psychological impacts of TikTok usage on the youth in terms of depression. The findings point toward a significant relationship between high TikTok usage and increased symptoms of depression, thus supporting the hypothesis that excessive use of TikTok correlates with bad mental health. It concludes with certain recommendations for parents, educators, and policymakers to inculcate healthy social media habits. It, in essence, calls for future studies involving non-TikTok users to present a comprehensive understanding of TikTok's effect on mental health.

Keywords: TikTok, Mental Health, Addictive Algorithm, Videos, Music, Psychological Impacts, Youth, Social Media, Platform

Introduction

TikTok is a popular social media platform launched by Chinese Technology Company ByteDance in 2016 designed for uploading and watching fifteen (15) to sixty (60) seconds short videos on mobile phones or webcams. The present form of the app was launched in 2018 and is available in 150 + different markets. It entertains its users with entertainment, comedy, and infotainment content. Its addictive algorithm attracts its users to spend more time on TikTok screen. TikTok allows its user to add music, filters, stickers, and background music to their pictures. TikTok provides an opportunity to two different located users to collaborate on content by split screen duet videos (D'Souza, 2023).

Active monthly users of TikTok are 1.5 billion and the expected users are 2 billion by the end of 2024. The app has been downloaded more than 3 billion times since its launching year 2018 till 2023 (Iqbal, 2024). As for the context of Pakistan is concerned, according to the Pakistan Telecommunication Authority (PTA) the number of diverse social media accounts has crossed 217.1 million and active

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users of social media are 70.1 million in 2023 and the digits of TikTok users are 18.3 million (ProPk Staff, 2023).

Statement of the Problem

The rapid expansion and broad influence of TikTok, particularly among the youth, have sparked concerns regarding its effects on global mental health, especially among individuals vulnerable to the negative aspects of social media usage (Montag, Yang & Elhai, 2021).

The addiction to TikTok is perilous, as it can lead individuals to commit violent acts against those who try to intervene. An article featured in Dawn News in February 2023 highlighted a tragic incident involving a young TikToker named Hasnain from Mayar Dir Lower. He fatally shot his father and caused harm to his mother, all because they attempted to prevent him from using his smartphone.

Since TikTok has an addictive algorithm and it is the most popular social networking site among Pakistani youth, however, it is necessary to get insights into the negative impacts of TikTok on the mental health of Pashtoon youth.

Significance of the Study

This study seeks to investigate and analyze the multidimensional relationship between TikTok usage patterns, content exposure, and the resulting impacts on the mental health of young people in Pakistan. As this area for research is in its infancy and requires a detailed exploration in Pakistani Pashtoon culture. As TikTok is most liked and practiced social media application by Pakistani youth as the number of total TikTok accounts are 18.3 million (ProPk Staff, 2023). However, the relation between TikTok use and depression needs to be highlighted. In this culture mental health conditions are associated with stigma and it causes is considered as demonic possession. Cultural background, norms and values, and available experiences must be taken into account during assessing the mental health outcomes of an individual (Chir & Barid, 2022)

Objectives of the Study

- To examine the psychological impacts of TikTok usage on youth in terms of depression.

Hypothesis

Research Hypotheses (H1)

- The higher would be the excessive use of TikTok by youth, the more would be the risk of developing symptoms of depression.

Alternate Hypotheses (Ha)

- The more would be the excessive use of TikTok by youth, the fewer symptoms of depression would be experienced by youth.

Null Hypotheses (Ho)

- There would be no significant relationship between the excessive use of TikTok and the risk of developing symptoms of depression among youth.

Review of the Literature

TikTok use and Mental Health

Numerous scholarly articles have endeavored to elucidate the intricate correlation between TikTok usage and the psychology of adolescents. As underscored by Lin (2023), TikTok's primary user base primarily consists of teenagers, thereby making it a momentous influence on their day-to-day existence and social interactions. Despite its widespread popularity, the platform has garnered criticism for hosting content characterized by violence, indecency, and

immaturity. The proliferation of such content carries grave implications for the psychological development and mental well-being of adolescent users.

Based on these findings, it is crucial for stakeholders, including parents, educators, and policymakers, to recognize the complex challenges posed by TikTok and implement proactive measures to protect the psychological well-being of adolescent users. This includes promoting digital literacy, developing critical media consumption skills, and creating supportive environments that encourage open communication and healthy coping mechanisms.

Furthermore, A descriptive study analyzed by Gajo, Gaisen, Lino, Edano & Calixtro Jr (2022) have found that using TikTok is crucial for positive mental health outcomes. Additionally they associate moderate use of TikTok with mental wellbeing of students. This study was conducted to assess the mental health of college students through using TikTok and to get insights into the impacts of TikTok on mental health.

A study conducted by Carpenter (2023) analyzed a sample of 260 college students, mostly white and female, aged 20.1 years. The results showed that while weekly frequency of TikTok use was unrelated to the outcome of interest, hours of daily TikTok use were associated with negative body image effects, higher levels of depression, and content anxiety. In addition, stronger attachment to TikTok was associated with higher levels of depression and content anxiety. Notably, the study showed significant differences in these associations when the sample was broken down by race and ethnicity.

TikTok Use and Depression

A cross-sectional study conducted by Rojowska & Cincio (2024) discovered a positive correlation between the problematic use of TikTok and negative mental health outcomes, specifically depression. It is worth noting that no gender disparities were observed in these patterns, indicating that this issue affects all genders equally. Furthermore, adolescents may be particularly susceptible to severe depression as a result of TikTok usage. The purpose of this study was to investigate the role of TikTok as a mediating agent between procrastination and depression in adolescents. The study's findings indicated that individuals aged 18 to 25 exhibited more severe symptoms compared to those aged 26 to 35. The researchers found a positive relationship between procrastination, problematic TikTok use, and depression. They argue that problematic TikTok use serves as a mediating agent between procrastination and depression.

Another study conducted by Maguire & Pellosmaa (2022) aimed to examine the correlation between mental health conditions and social media usage, with a specific focus on TikTok. An online survey was administered in April/May 2022, utilizing a snowball convenience sampling technique. The research delved into mental health issues such as stress, anxiety, and depression, exploring their potential connections with social media habits. Among the 295 participants, predominantly Caucasian and aged 18-25, the findings revealed a positive association between higher levels of depression, anxiety, and stress, and increased engagement with social media platforms, including TikTok addiction. The study revealed that younger participants demonstrated higher engagement with social media platforms. While females and individuals experiencing severe mental health challenges such as depression, anxiety, or stress exhibited a tendency for increased social media usage, no significant interaction between gender and social media engagement was observed. Notably, individuals grappling with severe depression,

anxiety, or stress displayed elevated levels of TikTok addiction compared to individuals with normal mental health levels.

On the other hand, the research study conducted by Maddox (2023) aimed to investigate the relationship between average daily TikTok use and various mental health outcomes, such as depressed self-esteem, anxiety, and loneliness. Unlike previous studies, this research specifically focused on TikTok use and its impact on mental health. The hypothesis was that increased TikTok use would correlate with higher levels of depression, anxiety, loneliness, and lower self-esteem. However, the study results revealed no significant correlations between TikTok use and mental health outcomes. Linear regression analysis did not provide evidence supporting TikTok use as a predictor of mental health outcomes. Post hoc exploratory analyses comparing active TikTok users and non-users also found no significant differences in mental health outcomes between the two groups.

However, there are some researchers who link the use of TikTok to positive outcomes in mental health. A study conducted by Ramsden & Talbot (2024), in alignment with the theory of mood management, emphasizes the role of TikTok as a mechanism for emotional regulation among students. The study suggests that TikTok can be an effective tool for reducing anxiety and stress, thereby impacting mental health positively.

Given these findings, it is crucial for educators, parents, and mental health professionals to acknowledge the potential drawbacks of excessive TikTok usage among students and implement proactive strategies to mitigate its negative impact on mental health and academic performance.

Zahra Qazi, Ali, Hayat & Hassan (2022) shed light on the intricate relationship between TikTok usage, mental health outcomes, and academic performance. Their research emphasizes that TikTok addiction plays a significant role in linking poor academic performance to heightened levels of depression and anxiety among students. The compulsive use of TikTok, characterized by excessive engagement and preoccupation with the platform, can disrupt academic commitments and worsen existing mental health issues.

The emergence of TikTok has brought about a revolution in the realm of entertainment and self-expression, especially among student demographics. However, its widespread influence has also raised concerns regarding its potential contribution to mental health issues and academic performance challenges among young adults.

After reviewing the literature on the relation between TikTok use and depression some of the researchers argue that TikTok has negative impacts on mental health in terms of depression while some go against this statement on other hand, some researchers indicate that TikTok can play a role as mitigating agent of depression and anxiety. We also found that all studies are conducted on Western culture and no single study is found on Asian culture especially Pashtun culture. Therefore this study is intended to investigate the relationship between the dependent and independent variables (TikTok and Depression) in Pashtun culture.

Research Methodology

Research Design: The research design for this study was quantitative, focusing on using the Beg's Inventory for Depression, to measure the mental health of the target population. This scale provides us with the data in numerical form which is why the nature of the study is quantitative.

Universe of the Study: The universe of the study was the University of Malakand. The University of Malakand is offering Twenty-Eight (28) academic programs for various disciplines, a significant amount of the students are of or below Twenty-Eight (28) years which fulfills the criteria of youth. Accordingly, the data was collected from the students of the University of Malakand.

Population: The population consisted of regular students enrolled in BS programs at the University of Malakand, providing a large and diverse sample for the study. The students of BS programs at the University of Malakand were easily accessible for the researchers. The targeted population for this study comprised active TikTok users aged 18-25 years. We identified the population through our TikTok accounts and personal connections. Using the app's location feature, we traced users who had uploaded videos and tagged the University of Malakand location. For further verification, we corresponded with them through the Direct Message option. The researchers communicated with 570 users, excluding 90 former University of Malakand students. The remaining 480 users were BS program students, including 70 personally known students. This resulted in a total population of 550 students, comprising 340 male and 210 female students. This allows for a more accurate and reliable analysis of the relationship between TikTok use and mental health among university students

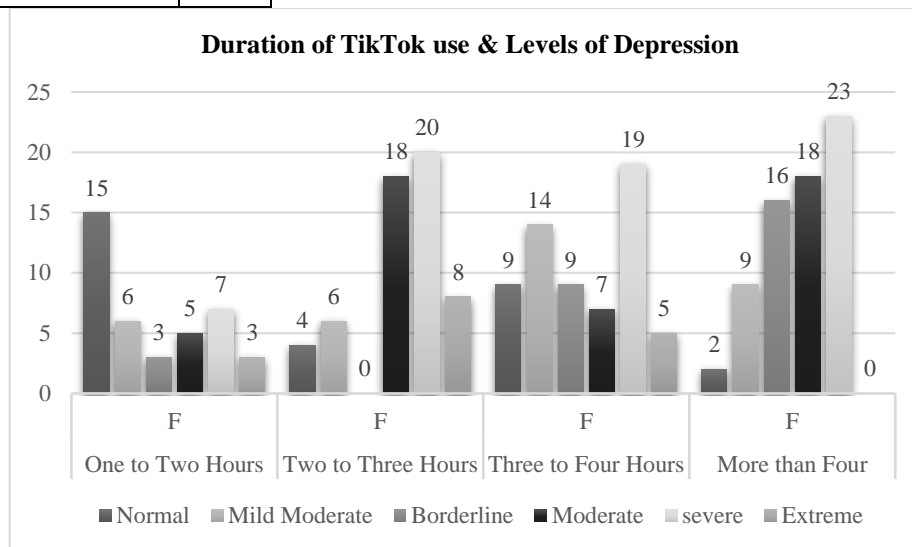
Sample Size and Sampling Techniques: The sample for this study was selected using the Krejcie and Morgan (1970) formula, which is appropriate for large population sizes. According to the Krejcie and Morgan table for determining sample size for a finite population, the sample size for a population of 550 is 226. A stratified proportionate sampling technique was employed to ensure that all strata were adequately represented based on gender. By proportioning the 62% male students and 38% female students of the total 550 students, we obtained a sample size of 140 male and 86 female students, giving us a total sample size of 226 students. This ensures that the sample has the same proportion of male and female students as the population.

Data Collection: Data for this study was collected using a self-reported questionnaire, including the Beg's Inventory for Depression. Participants were asked to complete the questionnaire in English, the language of instruction at the University of Malakand. The questionnaire also included inquiries about the frequency and duration of TikTok use, along with demographic information such as age, gender, and academic program.

Data Analysis: The data was analyzed using SPSS software, suitable for quantitative data analysis. Descriptive statistics were used to summarize the data, and inferential statistics were employed to test the hypothesis. Multiple regression analysis was utilized to examine the relationship between TikTok use and mental health, controlling for demographic variables.

Analysis and Major Findings**Table No.1- Daily Duration of TikTok Use & Levels of Depression**

Levels of depression	A		B		C		D	
	F	%ge	F	%ge	F	%ge	F	%ge
Normal	15	38	4	7	9	14	2	3
Mild Moderate	6	15	6	11	14	22	9	13
Borderline	3	8	0	0	9	14	16	24
Moderate	5	13	18	32	7	11	18	26
severe	7	18	20	36	19	30	23	34
Extreme	3	8	8	14	5	8	0	0
Total	39	100	56	100	63	100	68	100
Total	226							



Denotations: A= 1 to 2 Hours

B= 2 to 3 Hours

C= 3 to 4

Hours D= More than 4 Hours

Explanation

This table explains two variables: the duration of TikTok use per day and the levels of depression among the respondents. Accordingly, the majority of the respondents, 68/226 (30%), use TikTok for more than Four hours a day, followed by 63/226 (29%) using TikTok for Three to Four hours. Meanwhile, 56/226 (25%) use TikTok for Two to Three hours a day, and 39/226 use the app for One to Two hours a day.

Levels of Depression:

In a related context, among the respondents who use TikTok more than Four hours a day, the majority, i.e., 23/68 (34%), were found experiencing severe depression. Following this, 18/68 (26%) were experiencing Moderate depression. Similarly, 16/68 (24%) were facing symptoms of Borderline Clinical Depression. Furthermore, 9/68 (13%) were found to have Mild-Moderate depression. Among this group, 2/68 (3%) were found normal. Notably, 0 of the respondents in this category were found to have extreme depression.

Likewise, for those using TikTok for Three to Four hours 63/226 (28%), the most common levels of depression was severe, with 19/63 respondents (30%) experiencing this levels. Additionally, 14/63 respondents (22%) were experiencing Mild-moderate depression. Borderline Clinical Depression was present in 9/63 respondents (14%), and the same number of respondents 9/63

(14%) were found to be normal. 7/63 (11%) respondents were found to experience moderate depression. The symptoms of severe depression were found in 5/63 (8%) of respondents.

On the other hand, among the respondents using TikTok for Two to Three hours a day 56/226 (25%), the majority of the respondents, 20/56(36%), were experiencing severe depression. Moderate depression was experienced by 18/56 respondents (32%). 8/56 respondents (14%) in this category were found to have extreme depression. Mild-Moderate depression affected 6/56 respondents (9%). While 4/56 respondents (7%) were found to be normal. None of the respondents was found to be suffer from Borderline Clinical Depression.

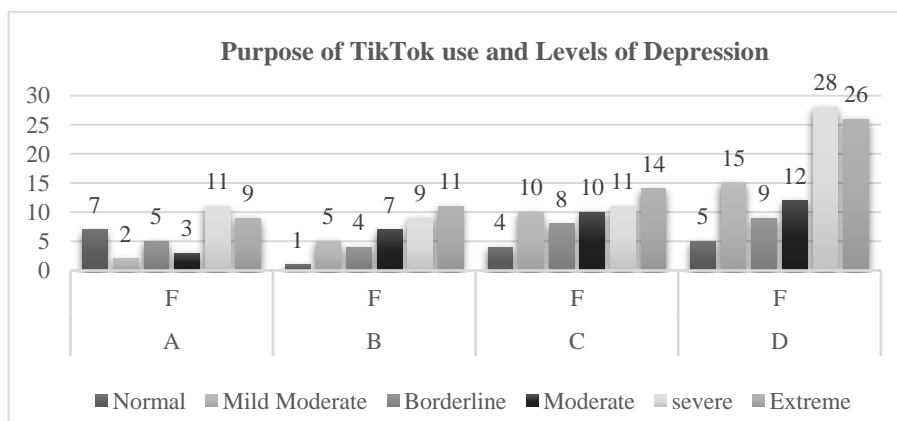
Whereas, those using TikTok for One to Two hours a day 39/226 (17%), the largest group of respondents among them, 15/39 (38%), were found normal. Followed by 7/39 (18%) were found in severe depression. Mild-moderate depression was found in 6/39 respondents (15%). Additionally, 5/39 respondents (13%) were experiencing Moderate depression. while Borderline Clinical Depression affected 3/39 (8%) respondents. Notably, a same number of respondents 3/39 were found in extreme depression.

Findings:

The data shows a clear correlation between longer TikTok usage and increased levels of depression. For instance, among respondents who using TikTok for over four hours a day 23/68 (34%) reported severe depression. This trend persists, with 30% of respondents (19/63) spending three to four hours and 20/56 (36%) spending two to three hours. However, 38% (15/39) spend one to two hours per day found normal. These findings indicate a direct link between longer TikTok usage and increased depression rates.

Table No. 2- Purpose of TikTok use and Levels of Depression

Levels of depression	A		B		C		D	
	F	%ge	F	%ge	F	%ge	F	%ge
Normal	7	19	1	3	4	7	5	5
Mild Moderate	2	5	5	14	10	18	15	16
Borderline	5	14	4	11	8	14	9	9
Moderate	3	8	7	19	10	18	12	13
severe	11	30	9	24	11	19	28	29
Extreme	9	24	11	30	14	25	26	27
Total	37	100	37	100	57	100	95	100
Total	226							



Denotations: A= Getting Information about Current Education.
B= Getting Information about Something Else.
C= Comedy/ Entertainment.
D= No Particular Reason

Explanation:

The table displays the relationship between two variables: the purpose of TikTok use and levels of depression among youth. According to the table, the majority of respondents (95/226, 42%) use the app for no particular reason. The second-largest group (57/226, 25%) uses TikTok for entertainment or comedic purposes. Following this, 37/226 respondents (16%) each use TikTok for informational purposes, specifically for current education and information about something else.

Levels of Depression:

Among 95 respondents who use TikTok for no particular reason 28 respondents (29%) were found in severe depression. Furthermore, 26/95 (27%) were found struggling with the symptoms of extreme depression. Even more, 15/95 (16%) were experiencing Mild-Moderate levels of depression. Meanwhile, 12/95 (13%) moderate levels of depression. Additionally, 9 respondents among 95 (9%) were found to have borderline clinical depression and 5 respondents among 95 (5%) were found normal.

Similarly, among those (57/226) who use the app for entertainment or comedic purposes, 14/57 (25%) were found to have extreme levels of depression. Meanwhile, 11/57 (19%) were in severe depression. Furthermore, 10/57 (18%) were experiencing the symptoms of moderate depression, and 10/57 (18%) had mild-moderate depression. Additionally, 8/57 respondents were found to experience borderline clinical depression and, the lowest number of respondents 4/57 (7%) were found normal.

As far as the purpose "Getting information about something else" is concern, the majority of respondents 11/37 (30) were found in extreme depression. Meanwhile, 9/37 (24%) respondents were in severe levels of depression. Furthermore, 7 (19%) among 37 respondents were experiencing moderate levels of depression. Additionally, 5/37 (14%) were found facing the symptoms of mild-moderate depression. 4/37 (11%) were struggling with borderline clinical depression and only 1 respondent out of 37 respondents was found normal.

In this regard, among those 37/226 (16%) respondents who use the app for getting information about current education, the majority 11/37 (30%) were struggling with the symptoms of severe depression, following this 9/37 (24%) extreme depression. Furthermore, 7/37 (19%) of respondents were found normal. Meanwhile, 5/37 (14 %) respondents were found to have the symptoms of borderline clinical depression. Additionally, 3 (8%) respondents out of 37 were in moderate depression and lastly only 2 (5%) respondents among 37 respondents were experiencing mild-moderate levels of depression.

Findings:

The data reveals a significant correlation between TikTok usage purposes and depression severity. Among users with no specific purpose or those using it for entertainment, 29% (28/95) and 19% (11/57) respectively reported severe depression, with 27% (26/95) and 25% (14/57) experiencing extreme depression. Conversely, among respondents using TikTok for educational

purposes, lower rates were observed, with 30% (11/37) reporting severe depression and 24% (9/37) experiencing extreme depression.

The Findings indicate a correlation between the purpose of TikTok usage and the severity of depression among youth. Those who use TikTok without a specific purpose or for entertainment purposes exhibit higher rates of severe and extreme depression compared to users who employ TikTok for educational purposes.

Discussion

The objective of this study was to explore the relationship between TikTok usage and depression among youth. Based on the analysis, several key findings have emerged which support or contradict the hypotheses laid out in the study.

The data supports our research hypothesis i.e. The higher would be the excessive use of TikTok by youth, the more would be the risk of developing symptoms of depression. Among respondents who use TikTok for more than four hours a day, 34% reported severe depression, and 26% reported moderate depression. Conversely, those using TikTok for less time showed lower levels of severe depression. For instance, those using TikTok for one to two hours a day, the largest group (38%), were found to be normal, whereas only 18% reported severe depression. This indicates that excessive use of TikTok is associated with a higher risk of experiencing severe depressive symptoms.

The alternate hypothesis i.e. The more would be the excessive use of TikTok by youth, the fewer symptoms of depression would be experienced by youth, is not supported by the findings. The study consistently shows a positive correlation between excessive TikTok use and higher levels of depression. For example, those using TikTok for three to four hours per day reported that 30% experienced severe depression, and 22% experienced mild-moderate depression. Therefore, the data refutes the idea that increased TikTok usage could be associated with fewer symptoms of depression.

The null hypothesis i.e. There would be no significant relationship between the excessive use of TikTok and the risk of developing symptoms of depression among youth, is also refuted by the findings. The study provides clear evidence of a significant relationship between the duration of TikTok use and the levels of depression. For example, among those using TikTok for two to three hours a day, 36% reported severe depression, while only 7% were found to be normal. The trend observed in the data demonstrates that longer TikTok usage is correlated with higher levels of depression among youth, indicating that TikTok usage does have a significant impact on the psychological well-being of young users.

Conclusion

This study delved into the relationship between TikTok use and Depression using Beg's depression inventory conducted at University of Malakand Khyber Pakhtunkhwa Pakistan. For the study 226 students were interrogated who were active users of TikTok. The result shows that there is positive relationship between TikTok use and mental health outcomes in terms of depression. The participants who use TikTok more than 4 hours daily, the majority of them reported high symptoms of depression. Notably, as the duration of the app's use decrease, the symptoms of low levels of depression was reported.

As for as the purpose of TikTok use is concerned, participants who use the app for no particular reason or comedic purpose, the majority of them had extreme and severe level of depression.

The study suggest for the high level of awareness about the consequences of high level of TikTok usage and mental health. The policymakers, educators, parents, and community leaders should be proactive in promoting healthy social media consumption. Further comparative study should be conducted between TikTok users and non-users. This comparison would be helpful in understanding the mental health outcomes between TikTok users and non-users.

Suggestions and Recommendations

Awareness Campaigns

Develop encompassing awareness campaigns aimed at letting parents, students, and teachers know about the negative mental health effects that are associated with high Tik Tok usage including depression. Make use of social media platforms, school programs and community events to effectively disseminate information.

Digital Literacy Programs

Integrate digital literacy in school curriculums to foster responsible/regulated use of social media, critical thinking and balanced media consumption. Regular workshops/seminars for learners, parents or guardians as well as educators should be conducted to strengthen these teachings while giving those practical tactics for managing online actions.

Educational Interventions

Based on this research's findings, educational interventions should be aimed at addressing mental disorders related to Tik Tok application. Develop user-friendly content such as videos or online courses that teach young people about the psychological consequences of using TikTok and provide tips on how they can control their behavior.

Implementing these recommendations could help stakeholders lessen the adverse effect of excessive utilization of TikTok on mental health while fostering an overall healthy internet environment for adolescents thus supporting their general wellbeing

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