

# How Psychological Factors Impact Chinese Youth Tik Tok Addiction

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## ABSTRACT

Tik Tok is very popular all over the world, especially in China. In some cases, the excessive use of Tik Tok can lead to addiction among Chinese youth. This report is based on the Mesomeric effect to study the factors affecting short video app addiction. A total of 349 valid questionnaires were collected to test the hypothesis. The results confirmed that social anxiety, loneliness and happiness were positively correlated with Tik Tok addiction. At the same time, social anxiety, loneliness, and happiness contribute to the desire to seek relationships and lead to Tik Tok addiction. Loneliness partly leads to escapism, and through escapism leads to Tik Tok addiction

**Keywords:** Chinese youth, Tik Tok, social media addiction, psychological factor and Mesomeric effect

## 1. INTRODUCTION

Tik Tok is a short video social networking platform. Video creators can upload their videos with detailed tutorials and a simple editing process. Ordinary users can also get a good video experience through a simple interface. Tik Tok has 200 million downloads in the U.S. and more than 11 billion downloads worldwide. This does not include Chinese data [1]. In China, Tik Tok's daily active users pass 600 million, with greater than 50% of users being underage or around 22 years old. In China, the impact of Tik Tok is more evident than anywhere else. Social concerns about the app have followed Tik Tok's rapid explosion. According to the Aurora report [2], the average user spends 90 minutes a day on the short video app. The time people spend on Tik Tok continues to increase. People spend much time on Tik Tok and neglect their actual work and social relationships.

Initially, addiction was simply defined as excessive involvement in a behavior or activity, whether positive or negative. Addiction is defined as a recurrent disease of overwhelming impulses that cannot be controlled [3]. Previously, many studies have examined Facebook addiction [4,5]. The nature of short video addiction is consistent with social media addiction. "Internet addiction can be described as "a disorder in which an individual's inability to control his or her use of the Internet causes marked distress and/or functional

impairment and that furthermore creates psychological, social, school and/or work difficulties" [6]. The study demonstrates the physical health hazards, mobility loss, and relationship deficits associated with short-form video addiction.

Some scholars have previously made more detailed studies on social media addiction. These reports have generally identified the factors and causes of social media addiction. But fewer studies have focused on this group of Chinese youth and the emerging software Tik Tok. "In contrast to social media use, addiction usually occurs over a long period and undergoes a psychological process" [7]. Most studies clearly show a positive relationship between social media and psychological factors. However, there are not many reports examining how psychological factors influence Chinese youths' addiction to Tik Tok. Previous studies on psychological factors have included loneliness, social anxiety, lack of subjective well-being, and desire for self-expression. In addition to examine the direct link between psychological factors and Tik Tok addition, this study also explores the specific processes.

## 2. LITERATURE REVIEW

### 2.1 Tik Tok and its use

Tik Tok, a social media app, uses algorithms to manage user-provided content. Moreover, Tik Tok users can publicly articulate wanting to have connections with

other users and share their subjective ratings of platform content which, in turn, feeds into the algorithms that decide about the content in a user's profile feed" [8]. Tik Tok offers the opportunity to create videos quickly, contain, record, edit, and share video features, and it focuses more on short video formats and interactions than images and text. Kuss report that young users seem to make the most of the different features of the platform and enjoy the satisfaction of social media [9]. Meng also proved that young people tend to use more functions in Tik Tok [10].

Nevertheless, there are several widely held views. The initial response is that social media platforms provide immersive services through algorithms, and users will always see what they want to see or simple, direct feedback interaction [11]. Meng and Scherr offer similar reasons for using Tik Tok: sociability, escape, self-expression, or relaxation [8,10]. In this context, whether there is a connection between Tik Tok use and psychological factors can help us better understand the process of Tik Tok addiction.

## **2.2 Social Media Addiction**

"The common definition of the term addiction in recent times is the habitual, compulsive need and use of a substance" [12]. Now, the concept of social media addiction has come into the public eye. The anonymity and great social media content make people use social apps to enrich their social lives. "Social media addiction is defined as being overly concerned about SNSs (Social Network Site), driven by a strong motivation to log on to or use SNSs, and to devote so much time and effort to SNSs that it impairs other social activities, studies/job, interpersonal relationships, and psychological health and well-being" [13]. According to existing studies, the causes of social media addiction are low subjective well-being, low physical health, negative psychological emotions, and personality-related [5,7,14,15]. These reasons appear to be like those for Tik Tok.

There is a universal standard for social media addiction to help me collect data in my experiments. The Bergen Social Media Addiction Scale (BSMAS) is based on the Bergen Facebook Addiction Scale [15]. It works by examining whether the respondent is addicted to social media through several questions that contain the core of addiction. The usability of the item form has been validated in different experiments [16,17]. The tool can be used to assess how addicted adolescents are to social media on the Internet.

## **2.3 Short video addiction and psychological factors**

Social media addiction psychological factors include loneliness, social anxiety, and other standard psychological states of Chinese teenagers. According to

Atroszko's summary: "In line with this, studies show that Facebook addiction is related to poor social functioning, e.g., relationship dissatisfaction, loneliness, social anxiety, and lack of social support, as well as preference for online social interaction." [5] In conclusion, this series of studies prove a relationship between psychological factors and Facebook addiction. Feng showed that psychological and emotional factors are the main factors that affect Tik Tok experience and Zhang further revealed the causes of addiction to short video apps through interpersonal attachment influenced by psychological factors both confirm that the above psychological factors regarding Facebook addiction are applicable in short video apps [18, 7]. However, the Facebook addiction study positions were country-specific, and only Facebook was studied as a target. Chinese youth and Tik Tok are research subjects.

### **2.3.1. Loneliness**

Conceptually, loneliness can be seen as the difference between the level of social relationships one desires and the level of social relationships one achieves [19]. People with loneliness usually have trouble making friends, working in groups, or socializing [20]. Although lonely people have difficulty socializing in real life, the Internet gives them a whole new opportunity. Morahan-Martin's research points out that lonely people are more likely to be attracted to the Internet [21]. Avoiding face-to-face online communication can promote the formation of online friendships by reducing anxiety. The 2016s report made the same point. Lonely people are more likely to participate in video games because interactive gameplay modulates negative emotions associated with loneliness and increases a sense of community and belonging [22]. Like the Internet and video games, social media has many of the same features, such as identity hiding and interactive communities. So lonely people are more likely to develop symptoms of social media addictions.

### **2.3.2. Social anxiety**

Social anxiety may also be essential factor in Social Media addiction. "Social interaction anxiety refers to a persistent fear that is experienced in one or more social situations when individuals face unfamiliar people" [7]. It is not just shyness. They desire the company of others but avoid social situations for fear of being found unlikeable, stupid, or uninteresting. As a result, they avoid speaking in public, expressing opinions, or being friendly with their peers [23]. The short video format provides a relaxed environment and, with anonymity, makes people with social anxiety inclined to speak on the Network. Atroszko proved that social anxiety is positively associated with Facebook addiction. This finding is consistent with new reports that users' social anxiety affects their interpersonal attachment and promotes addiction [5,7]. This is consistent with the

social compensation hypothesis that people with high social anxiety and low social skills are more inclined to use virtual communities to compensate for the lack of genuine interpersonal relationships [24]. His findings confirm Stein’s view that Facebook users with high social anxiety spend more time looking for connections on the Internet [23].

**2.3.3.Happiness**

Human beings live not only for existence but for happiness. Happiness includes a cognitive assessment of overall life satisfaction. Because the triple structure of happiness (life satisfaction, positive affect, and negative affect) represents an individual’s subjective assessment of their life, happiness is referred to as subjective well-being [25]. Social media use and addiction have been shown to have a link to well-being. People use Facebook when they have low happiness [26]. Although both studies show the same results to some extent, Denti states that the more time people spend on Facebook, the less delightful they are, while Kross held the opposite result that Facebook use does not reduce subjective well-being [14, 26]. There have been no studies on the emotional reactions of Young Chinese to using Tik Tok.

Hypothesis 1: Psychological factors can lead to avoidance and a desire to socialize and then to Tik Tok addiction

Hypothesis 2: Psychological factors can lead to escape from reality, which then leads to Tik Tok addiction

Hypothesis 3: Psychological factors can lead to desire build relationship, which then leads to Tik Tok addiction

Hypothesis 4: The more Tik Tok was used on young Chinese, the more negative emotions they experienced

Hypothesis 5: Young Chinese are more likely to be addicted to Tik Tok than those over the age of 26 in China.

**3. METHOD**

**3.1 Survey**

The data collection took the form of a survey, as psychological factors cannot be obtained by data alone. The specific situation of participants learned through the progressive questions in the survey. An interview is also

**Table 2** Average social addiction points from each question and total.

Age	Q1	Q2	Q3	Q4	Q5	Q6	Average Social Addiction points
<18	3	3	3.43	3.71	2.86	2.86	3.14
18-24	2.96	3.06	3.25	2.89	2.96	3.03	3.03
24-30	3.03	3.3	3.25	3	2.86	2.9	2.06
2.99	2.99	3.3	3	2.86	2.56	2.43	2.86

a good option but consider the time and financial or background required. Surveys can collect more information in less time. The survey included four parts: social anxiety, loneliness, subjective well-being and satisfaction, and the part of social media addiction was represented by several standardized measurement questions. These questions adopt the form of agreement level, which can better distinguish psychological factors at different levels that affect the use of social media. Because the interviewees are Chinese. The survey translated into a local Chinese version before release. Family members fill out the survey to check the wording and layout of the survey before it is officially released. Finally, the survey was modified to achieve the pace expected by the general respondents.

**3.2 Data collection**

The survey will be released on September 13, 2021. Question Star is the third party that publishes the questionnaire. After uploading the questionnaire to The Questionnaire Star, the website will push the questionnaire to the mobile phones of random users. This is not an accurate targeted survey. Anyone can fill out the questionnaire. By September 14th, 349 surveys had been collected. Specific age, gender and other basic data are shown in Table1. Surveys that took too little time, gave the same answers to all the choices, and didn't answer important questions were automatically classified as invalid and not included in the data analysis.

**Table 1** Basic Population Information

	Item	Count	Percentage
<b>Gender</b>	Male	137	39.26%
	Female	212	60.74%
<b>Age</b>	<18	7	2.01%
	18-24	120	34.38%
	24-30	145	41.55%
	>30	77	22.06%
<b>Using time</b>	<1h	51	14.6%
	1-2h	201	57.59%
	>1h	97	27.79%

**4.ANALYSIS**

**4.1 Basic Data Analysis (Table 2-3)**

**Table3** Emotion by using Tik Tok

		Number of populations	Percentage
Do you think Tik Tok relieves your stress	Yes	296	84.81%
	No	53	15.19%
Emotions when using Tik Tok	Happy	219	61%
	Anxiety	75	21%
	Sad	72	20%
	Relax	227	65%

Social addiction is most severe in the younger than 18 age group=3.14 but the sample is too small. Social addiction is least severe in people older than 30 years old=2.86. Hypothesis 5 supported that young people are more addicted to Tik Tok.

Sixty-five percent of people feel relaxed while watching Tik Tok, while 61 percent feel happy. Hypothesis 4 does not hold for the population surveyed. The respondents to this survey of Chinese young people reported feeling positive emotions when using Tik Tok. Chinese young people feel positive emotions when using Tik Tok.

**4.2 Reliability and Validity analysis**

It is the degree of consistency of the results obtained when the same method is used for repeated measurements of the same object. “This model is a model of internal consistency, based on the average inter-item correlation.” A Cronbach alpha coefficient greater than 0.7 means that the scale is credible. CITC is the correlation coefficient between the analyzed terms, if it is lower than 0.3 then consider deleting this result. Validity Analysis is represented by KMO. KMO>0.6 means the data is effective.

**Table 4** Social Addiction each question data reliability Analysis

Social Addiction BSMA	CITC	Cronbach $\alpha$
Use a lot of time thinking about or planning using social media	0.535	0.741  (Standard $\alpha$ : 0.745)
Felt an urge to use social media more and more	0.451	
Used social media to forget about personal problems	0.368	
Tried to cut down on the use of social media without success	0.503	
Got troubled by being prohibited from social media use	0.465	
Used social media too much to negatively impact on your job or study	<b>0.568</b>	

**Table 5** Social anxiety each question data reliability analysis

Social Anxiety	CITC	Cronbach $\alpha$
I feel anxious when talking with people I have just met.	0.457	0.832 ( Standard $\alpha$ :0.834 )
I feel nervous when I talk with people I do know very well.	0.603	
I feel uneasy while making new friends.	0.702	
I feel tense when I met someone for the first time.	0.704	
I am afraid of interacting with others.	0.572	
I feel nervous when I must talk with others about myself.	0.61	

**Table 6** Loneliness each question data reliability analysis

Loneliness	CITC	Cronbach $\alpha$
How often do you feel that you lack companionship?	0.638	0.769 (Standard $\alpha$ :0.770)
How often do you feel left out?	0.554	
How often do you feel isolated from others?	0.625	

**Table 7** Happiness each question data reliability analysis

Happiness	CITC	Cronbach $\alpha$
Happy level	0.314	0.469 (Standard $\alpha$ :0.492)
Happy level contrast other people	0.354	
Some people are generally very happy. They enjoy life regardless of what is going on, getting the most out of everything. To what extent does this characterization describe you?	0.476	
Some people are generally not very happy. Although they are not depressed, they never seem as happy as they might be. To what extent does this characterization describe you?	0.017	

**Table 8** Total Cronbach and KMO

	Cronbach alpha	KMO
Social media Addiction	0.741	0.748
Social Anxiety	0.832	0.877
Loneliness	0.769	0.698
Happiness	0.469	0.638

Table 4-7 demonstrates credible and valid data on Tik Tok addiction, social anxiety and loneliness components. In the happiness dimension, the validity of the survey showed a normal index while the reliability did not reach the expected level. The happiness dimension did not find any outliers by model checking. The reason for this is may the use of reverse questions for the happiness

dimension - higher scores for some of the questions mean happier and higher scores for others mean less happy - resulting in low reliability of the data.

**4.3 Correlativity and regression correlation**

**Table 9** Spearman’s Rank Correlation Coefficient of Social Anxiety, Loneliness and Happiness. (p means possibility to happened. Ex. If  $p=0.05$ , then means there is 95% possibility to happen)

Social Anxiety	Correlation Coefficient	0.472**
	p	0
Loneliness	Correlation Coefficient	0.429**
	p	0
Happiness	Correlation Coefficient	0.273**
	p	0
* $p<0.05$ , ** $p<0.01$		

The research used Correlation analysis to study the correlation between addiction and social anxiety, loneliness and happiness respectively, and used Pearson correlation coefficient to indicate the strength of the correlation. The Table 9 showed that the correlation coefficient between addiction and social anxiety was 0.472, and the significant level was 0.01. The correlation

coefficient between addiction and loneliness was 0.429, and the significant level was 0.01. The correlation coefficient between addiction and happiness was 0.273, reaching the extremely significant level 0.01. Therefore, addiction is significantly positively correlated with social anxiety, loneliness and happiness. Therefore, hypotheses 4, 6, and 9 are supported.

**Table 10** Linear regression analysis

	Unstandardized Coefficients		t	p	VIF	R <sup>2</sup>	F
	B	Standard erro					
Constant	0.989	0.213	4.646	0**	-	0.293	F(3,345)=47.698 P=0.000
Social Anxiety	0.211	0.049	4.292	0**	1.894		
Loneliness	0.186	0.046	4.043	0**	1.833		
Happiness	0.252	0.053	4.765	0**	1.055		
Dependent variable: Tik Tok Addiction							
D-W: 2.055							
*p<0.05, **p<0.01							

As can be seen from the above table 10, Social Anxiety, loneliness and happiness are taken as independent variables, while Addiction is taken as dependent variables for linear regression analysis. The r-square value of the model is 0.293, which means that Social Anxiety, loneliness and happiness can explain 29.3% of the changes in Addiction. When F test was carried out on the model, it was found that the model passed the F test (F=47.698, P =0.000<0.05), which indicated that at least one of Social Anxiety, loneliness and happiness would have an impact on Addiction. All VIF values in the model are less than 5, which means there is no collinearity problem. The D-w value is close to the number 2, indicating that there is no autocorrelation in the model and no correlation between sample data. So the model is good. The final concrete analysis shows that:

- The regression coefficient value of Social Anxiety is 0.211(t=4.292, P =0.000<0.01), which means that Social Anxiety has a significant positive influence on Addiction.

- The regression coefficient value of loneliness was 0.186(t=4.043, P =0.000<0.01), which meant that loneliness had a significant positive influence on Addiction.

- The regression coefficient value of happiness is 0.252(t=4.765, P =0.000<0.01), which means that happiness has a significant positive influence on Addiction.

**4.4 Mesomeric effect**

The Mesomeric Effect was used to examine the specific process of psychological factors affecting Tik Tok addiction (Baron and Kenny, 1986). The mediating effect is whether the influence of X on Y will be influenced by the mediating variable M first and then Y. That is, whether there is a relationship like X->M->Y.

Table 11 shows the summary of mediating effect results.

**Table 11** Summary of mediating effect results

	c	a	b	a*b	a*b (Boot SE)	Z	P	(95% BootCI)	C'	result
Society Anxiety =>Make up for relationship=>Addiction	0.373**	0.054*	0.18*	0.01	0	21.803	0	0~0.031	0.364**	Partial mediation
Loneliness=>Make up for relationship=>Addiction	0.323**	0.057*	0.179*	0.01	0	21.886	0	0~0.034	0.313**	Partial mediation
Happiness=>Make up for relationship=>Addiction	0.311**	0.126**	0.189*	0.024	0.001	39.131	0	0.002~0.047	0.288**	Partial mediation
Social Anxiety =>Escape from reality=>Addiction	0.373**	0.152**	0.101	0.015	0.001	21.226	0	-0.007~0.046	0.358**	Mediation effect was not significant

Loneliness => Escape from reality=>Addiction	0.323**	0.115**	0.152*	0.017	0.001	27.707	0	0.02~0.048	0.305**	Partial mediation
Happiness => Escape from reality=>Addiction	0.311**	-0.009*	0.280**	-0.03	0.001	-4.242	0	-0.025~0.02	0.314**	Mediation effect was not significant

C is the correlation between psychological factor and Tik Tok addiction. A is the correlation between psychological factor and tow mesomeric variable. B is the correlation between mesomeric variable and independent variable Tik Tok addiction. C' is the correlation between psychological factor and Tik Tok addiction with mesomeric variable. BootSe is the standard error in population.

The results show that "Make up for relationship" is a mediating factor in social anxiety, loneliness and happiness. Social anxiety, loneliness and happiness partly affect Tik Tok addiction directly, and partly affect Tik Tok addiction through Make up for relationship. Escape from reality is still present as a mediating factor in the solitary factor. But in the other two factors, "Not significant" is evident. This means that I am not sure about the existence of Escape from reality as a mediating factor. It is possible that it exists, but my sample data is insufficient to reveal it. It is also possible that it does not exist.

Thus, Hypothesis 1 and 3 supported. Hypothesis 2 does not support by data.

**5.CONCLUSION**

This study sought to explore the influence and role of psychological factors in the process of Tik Tok addiction among Chinese young people. Several key findings emerged from this study. First, social anxiety, loneliness and lower subjective well-being have been identified as one of the factors positively influencing the addiction of Chinese youth to Tik Tok.

This study determined that escape and lack of social connections mediate the process of Tik Tok addiction. Social anxiety, loneliness and subjective well-being can influence the desire to socialize and construct connections with others among Chinese youth. This craving positively influences Tik Tok addiction. On the other hand, this study found that loneliness induces escapist behaviors in Chinese relatives, and that this behavior also positively influences Tik Tok addiction. Social anxiety and happiness do not lead to the behavior of escapism. Still, the influence of psychological factors on Tik Tok addiction is greater than the influence of the phenomenon of "desire to establish influence" on Tik Tok addiction. The existence of the Mesomeric role means that Tik Tok addiction is easier to stop or change than people might think. Young Chinese people do not

suffer from direct psychological factors that lead to Tik Tok addiction. People around them can reduce the duration of Tik Tok addiction by stopping the phenomenon brought about by psychological factors. For example, helping lonely people build friendships. At the same time, the mediating role expresses the connection between psychological factors and different phenomena. By observing the phenomena of a given individual it is possible to infer his psychological state. This helps doctors or other people in the vicinity to better improve the situation of people who need help or are social media addicts.

The study did not show the reason for the age difference in social media addiction as might be expected. In the second half of study, there was no more data to support the link between escapism and social anxiety and subjective happiness. This study mainly investigated factors: loneliness, social anxiety, subjective happiness, escapism and seeking social relationships. Other mediating roles have not been confirmed.

In future studies, I will try to control more variables, such as family environment, to ensure the accuracy of the experiment. While continuing to study the correlation between psychological factors and Tik Tok addiction, we will analyze the influence of the design of Tik Tok and find other connections

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