The Impact of College Students' Using TikTok on Their Mental Health from the Perspective of Media Society

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Abstract. Along with the rise of online social networking, social media is reshaping people's lives. The influence of TikTok, as a representative of short-video social media, on the different groups of people cannot be ignored. This paper aims to investigate the behavioral performance of college students' active and passive use of TikTok and the psychological impact brought by different use behaviors from the perspective of media society theory. This paper chooses college students as the research object and adopts questionnaire survey method. The results show that, on the one hand, college students' active and passive use of TikTok was positively correlated with self-esteem, but the correlation with subjective well-being was not yet significant; there was also a significant positive correlation between active and passive use. On the other hand, gender, household income, active use, and subjective well-being can positively predict self-esteem, with active use and subjective well-being having the strongest predictive power. This study can help to improve the research on the impact of social media use on users, as well as provide a new basis for improving college students' self-esteem level from a media perspective.

Keywords: TikTok, Active use, Passive use, Self-esteem, Subjective well-being.

1. Introduction

With the development of the mobile Internet and the rise of online social networking, social media is playing an increasingly important role in people's daily life. The 49th *Statistical Report on the Development of C*hina's Internet[1] shows that as of December 2021, among the 2.52 million apps detected in China's domestic market, the number of social communication apps reached 211,000, ranking the fourth place on the scale of mobile applications in China. Also, among the 1.032 billion Internet users in China, people aged 10-29 years old account for 30.6% of the size of Internet users, and students, especially college students, are a non-negligible part of China's Internet user base. The use of social media among college students has become a heated topic of discussion today. Meanwhile, along with the development of multimedia video technology, short video has become a very important expression of social media development nowadays. As of December 2021, the scale of short video users in China has reached 934 million. Among them, TikTok, as a music creative short video social software, only took less than five years from its first release in 2016 to penetrate thousands of households. As a tool for recording life, listening to music, studying, live streaming, etc., TikTok is changing college students' life of in various ways.

In the context of the widespread penetration of mobile networks into daily life, the connection between happiness and technology has become a topic of concern for communication researchers today[2], and the active and passive use of social media are key variables influencing subjective well-being[3]. Although research on the relationship between social media use and subjective well-being has received much attention in recent years, it has not reached a consensus in the academic community, and its intrinsic influence mechanism remains to be explored. Meanwhile, social media use can also have an impact on users' self-esteem[4]. Most foreign studies on social media have focused on apps like Facebook, Twitter, etc., while domestic studies have mostly focused on WeChat and Weibo. Relevant studies on TikTok have yet to be continued to be explored. In this context, this study will take college students as the research object, explore the specific performance of college students' active and passive use of TikTok, and focus on the relationship between active and passive use of TikTok and college students' self-esteem and subjective well-being.

2. Literature Review and Research Questions

2.1 Media Society

With the rise of social media, the media society has been widely noticed by communication scholars[5]. Stig Hjarvard, who first introduced the concept of mediatization, argues that the media have greater power and are no longer a chosen technology, but have become structural conditions in social and cultural practices that influence the construction of social relations[6]. Mediatization implies that, compared to content itself, the significance of the media form in producing effects on human social formations is much more significant, and the phenomenon of media creating fields of action and social fields becomes possible[5] .

The origins of the "media society" are debatable[7]. Some scholars believe that the idea of a media society has been embodied in the Chicago School's representative, Parker, in his view that "communication creates and sustains society," but the early Chicago School did not explore this concept in depth[5]; others believe that Castells's "information society" "informatization society" have laid the foundation for the theory of a media society, and Georg Simmel's "media convergence" and Kant's "synthetic a priori proposition" also contributed to the theory of media society[8]. In addition, some scholars point out that mediatization includes both "structure" and "feeling", and the social science revolution in the 1970s has promoted the development of the theory of media society. The social science revolution of the 1970s facilitated the beginning of the convergence of structure and action, which directly contributed to the formation of the theory of media society[5]. Despite their differences, they are actually progressive, reflecting the researchers' exploration of the relationship between media and society, discovering the possibility of "mediatization" in the dimension of "informatization", and reflecting on the current research path of using media as a tool[7] .

The formation of a media society has a threefold logic. Media convergence provides the technological support for the media society, the audience's demand or even dependence on information drives the formation of the media society, and the environment construction is the embodiment of the significant influence of the media society. In short, the media society is a form of information society that is technically supported by media convergence, driven by the audience's information needs, and embodies the media-constructed social environment[9]. As can be seen, the theory of media society reflects the media's all-round penetration into society and constantly influences people's way of thinking and living[10], and many scholars use this theory to explore the influence of online media and social media on audiences, and to concretize media studies and connect them with people's daily lives[11]. The popularity of social media such as TikTok is then an important manifestation of media society, and the theory of media society also lays the foundation for this paper to study the influence of TikTok use on college students' self-esteem and subjective well-being.

2.2 Social Media Usage

The concept of social media usage is relatively broad, including the time of social media use, intensity of use, and the way of using, etc.[12], following the logic of moving from shallow to deep and, from broad to specific[13]. Specifically on the social media usage, Burke et al. made a distinction and broadly divided it into active use and passive use, with active use mainly referring to directed communication, including behaviors such as commenting and liking, and passive use mainly referring to information enjoyment behaviors[14]. Later, Burke et al. refined the different ways of social media use and divided them into three categories: directed communication with friends, passive consumption of information, and posting and spreading behaviors[15]. Ge et al. argue that non-directed posting and spreading behaviors can also be classified as active use behaviors[9]. Based on the above studies, social media usage can be divided into active use and passive use. Active use includes behaviors that promote direct communication such as commenting, liking, posting and spreading, while passive use includes information acquisition behaviors that do not directly communicate such as browsing news and watching tweets, meanwhile, passive use has been proved to be more frequent than active use[16].

Studies have shown that active and passive use can have opposite effects on users' loneliness and social capital, with active use being beneficial and passive use being harmful[15][17]. Active use facilitates increased social capital and positively influences subjective well-being[3], while positive self-presentation facilitates enhanced self-improvement and self-identity[18]. In contrast, passive use enhances jealousy, triggers upward comparisons and negative emotions, and decreases life satisfaction[16][19].

Although active-passive use affects users differently, the two are not completely exclusive, but are interrelated because active users also access information about others by browsing[20]. Thus, "active users" and "passive users" are not describing those with purely active and passive use behaviors, but rather whether they are relatively more active or passive[21]. Since there are differences between different social media, each social media should be carefully studied in order to fully explore the impact of social media usage on users[22]. In the current era of the rise of short-video social networking, TikTok, as a short-video app ranked among the top ten in the world in terms of user size, has fully penetrated into the social lives of young Internet users and has profoundly influenced their self-image presentation and social relationship construction[23]. Nowadays, there are few studies on the active and passive use of video-based social media, and TikTok, as a typical representative of video-based social media, may also pose users to have active and passive use behaviors. Based on this, this study raises the following question:

Question 1: What are the active use behaviors of college students towards TikTok?

2.3 Sense of Self-esteem and Social Media Usage

Self-esteem, an important component of the self-concept, also known as the general self-concept[25], has been of interest to communication research scholars. It appeared earlier in the studies of foreign scholars. James, a pioneer of functionalist psychology in the United States, first proposed the formula of self-esteem: self-esteem = success/ambition[25]. He argued that self-esteem is conditioned by the level of success and ambition, and that greater success and lower ambition are both conducive to increasing self-esteem. Later scholars continued to refine the concept of self-esteem from sociological and psychological perspectives. Xue, a scholar in China, pointed out that self-esteem is an evaluative personal affective experience of the self[26]. Studies have shown that self-esteem is influenced by individual differences (e.g., gender), family environment, and school environment[27], with female adolescents having lower levels of self-esteem than males[28]. In addition, as a human psychological need, self-esteem is generally beneficial for maintaining psychological health, relieving anxiety and depression[29], and has a positive effect on life satisfaction[30]. Some studies have even shown that parental self-esteem plays a significant positive role on adolescents' subjective well-being[31] .

There is no consensus in the academic community on the effect of social media use on self-esteem. Some researchers suggest that social media use enhances self-esteem[32]. This is because users can post and share content through social media to stay connected with others as a way to meet social needs and enhance social identity from online socialization[33]. In addition, social media users tend to present themselves and comment positively among their online contacts, such as birthday interactions, liking or actively commenting on others' posts, which are social activities that contribute to the users' self-esteem[32]. In contrast, some studies have shown that social media use time is associated with low self-esteem and negatively affects users' self-esteem[34]. Other researchers pointed out that passive social media use has no direct predictive effect on self-esteem [35]. Thus, there are many conflicting studies on the effects of social media use on self-esteem, which may be caused by different research perspectives on social media use, and the intrinsic mechanisms of their effects need to be further explored.

In summary, to some extent, proactive social media use positively predicts a person's sense of self-esteem, such as interaction, liking, posting content, and other usage behaviors. Furthermore, there is evidence showing that passive use plays a negative role on self-concept clarity [35-36], while self-concept clarity tends to be positively associated with self-esteem [37]. Thus, passive use may

negatively affect self-esteem, i.e., the active and passive use of social media may have different effects on self-esteem. Based on this, this study proposes the following hypothesis.

H1: College students' active use behavior of TikTok is positively correlated to self-esteem

H2: College students' passive use behavior of TikTok is negatively correlated to self-esteem

2.4 Subjective Well-being and Social Media Usage

Diener's definition of subjective well-being is widely recognized, and he believes that subjective well-being refers to the overall assessment made by an individual of the life environment and life standard he or she is living at that time, and can be divided into three factors: positive effect, negative effect, and life satisfaction [38]. On this basis, scholars have further studied the three factors of subjective well-being and refined them into positive affect, negative affect [39] and life satisfaction. In recent years, domestic and foreign researchers have paid increasing attention to the study of subjective well-being and its influencing factors. Studies have shown that personality, demographics, interactivity, and socialization all have an impact on subjective well-being [40].

The effect of social media use on subjective well-being is a classic topic in the field of effects research. Some researchers have shown that whether the effect is positive or negative depends on how people use social media[3]. Social media use may increase social capital and social connectedness, thus enhancing one's subjective well-being, while it may also trigger social comparison and envy, causing greater distress, and the mechanisms of its effects are more complex[3][19]. In addition, online social media use may increase life satisfaction through an "achievement" positive self-identity state or decrease it through a "diffusion" self-identity state [41]. Thus, the mechanisms by which social media use affects subjective well-being are extremely complex.

Some scholars suggest that different types of user behaviors should be avoided as general variables to be studied, and instead, user behaviors should be divided into separate constructs[19]. Based on this, a large number of scholars have studied the effects of social media use on users' subjective well-being from the perspective of active and passive use. Studies have shown that active use of social media increases social capital, which in turn increases subjective well-being[3]. Passive use, on the other hand, negatively affects self-concept clarity, which can lead to depression[36]. At the same time, researchers point out that people tend to present their positive selves in social media [42], while passive users lack interaction and communication and are exposed to positive messages from others, which may lead to jealousy[16][19]. Also, this jealousy triggers ineffective coping styles to reduce the resulting low self-esteem [43], but the truth is that this ineffective coping behavior may further trigger jealousy in others [44]. And the spread and prevalence of jealousy on social media can reduce life satisfaction[19], which is detrimental to one's subjective well-being. Based on this, this study proposes the following hypotheses:

H3: College students' active use behavior of TikTok is positively correlated to subjective well-being

H4: College students' passive use behavior of TikTok is negatively correlated to subjective well-being

Given that TikTok, as a representative of video-based social media, is increasingly penetrating into people's daily lives, and that there are few studies on TikTok usage, this paper incorporates the frequency and time length of TikTok use as well as demographic variables such as gender, age, education, and income based on media society theory. This paper also aims to examine the effects of these variables on self-esteem in a comprehensive manner, thus posing the following question:

Question 2: How do college students' frequency and duration of use, active and passive use, subjective well-being, and demographic variables of TikTok predict self-esteem?

3. Research Methodology

3.1 Research Subjects

In this study, an online survey of college students with experience in using TikTok was conducted by questionnaire method. 405 questionnaires were collected, and 376 valid questionnaires were obtained after screening, with a valid questionnaire recovery rate of 92.84%. Among the valid samples, 21.5% were male and 78.5% were female. The age was concentrated between 17 and 35 years old (the mean value is 21.42, and the standard deviation is 1.765). 3.5% were vocational or technical college education and other equivalent education, 89.9% were undergraduate, and 6.6% were postgraduate and above.

3.2 Measurement

3.2.1 TikTok use

In this paper, the survey on the use of TikTok is divided into three parts: frequency of use, time length of use, and mode of use.

The frequency of TikTok use section concerns one question item that investigates the frequency of TikTok use in the past week, using a four-point scale of 1-4 (1="hardly use", 4="use almost every day"). The higher the score, the higher the frequency of TikTok use.

The time length of TikTok use section concerns one question item that aims to understand the average daily duration of TikTok use in the past week, using a five-point scale of 1-5 (1="less than 30 minutes", 5="five hours and above"). The higher the score, the longer the duration of TikTok use.

The usage section was borrowed from the questionnaire on active and passive use behavior of Facebook compiled by Frison et al [45] and adapted to revise the active and passive use scale of TikTok, with a revised total of 14 question items, 7 items for active use and 7 items for passive use. It aims to investigate the frequency of individuals' active and passive use behavior in TikTok use, respectively, using a five-point scale of 1-5 (1= "never", 5="always"). After accumulating the mean values, two composite indicators of active and passive use of TikTok by college students were formed (Cronbach's alpha for active and passive use were 0.84 and 0.85, respectively). The higher the score, the more frequent the active and passive use behavior.

3.2.2 Sense of Self-esteem

The Rosenberg Self-Esteem Scale (SES) [46] was used to measure individuals' general feelings about their self-worth and self-perceptions, with 10 questions, including 5 positive and 5 reversed scoring. Considering the cultural differences between Chinese and western cultures, Question 8, "I wish I could earn more respect for myself," was changed to a positive scoring question. The scale uses a four-point scale from 1 to 4 (1="strongly disagree" and 4="strongly agree" for the positive scoring and 1="strongly agree" and 4="strongly disagree" for the reversed scoring). The composite indicator of self-esteem (Cronbach's alpha of 0.84) was obtained after accumulating and taking the mean value. The higher the score, the higher the level of self-esteem.

3.2.3 Subjective Well-being

The short version of the Subjective Well-being Scale for Chinese Citizens (SWBS-CC20) revised by Xing [47] was used to measure individuals' overall assessment of their quality of life based on their own criteria, with a total of 20 questions, including 9 positive scoring and 11 reversed scoring. The scale uses a six-point scale from 1-6 (1="strongly disagree" and 6="strongly agree" for the positive scoring and 1="strongly agree" and 6="strongly disagree" for the reversed scoring). After accumulating the mean values, the composite index of subjective well-being was obtained (Cronbach's alpha of 0.89). The higher the score, the stronger the subjective well-being.

3.3 Analysis Methods

This study used SPSS 24.0 software for descriptive statistical analysis, exploratory factor analysis, correlation analysis, and stratified regression analysis.

4. Research Findings

4.1 Descriptive Statistical Analysis

Table 1 presents the results of descriptive statistics for demographic variables, frequency and time length of use, active and passive use, self-esteem and subjective well-being of the valid samples. The data shows that among the demographic variables, 21.5% were male and 78.5% were female; the mean age was 21.42, dominated by young people; in terms of education, 3.5% were vocational or technical college education and other equivalent education, 89.9% were undergraduates, and 6.6% were postgraduates and above, dominated by undergraduates; in terms of monthly household income per capita, 3000-9000 (not including 9000) accounted for 64.7%, with the middle income level dominating. In terms of social media use, the average frequency of use was 2.6, the average time length of use was 2.02, the average active use was 2.21, and the average passive use was 2.99. The frequency of passive use was higher than that of active use. In terms of psychological traits, the mean value of self-esteem was 2.99, and the mean value of subjective well-being was 3.97, which was overall in the moderately high level.

Table 1 Descriptive Statistical Analysis

Variables	Frequency (%)	Mean value (Standard Deviation)
Gender		
Male	21.50	
Female	78.50	
Age		21.42 (1.77)
Academic Qualifications		
Vocational or technical college education and other equivalent qualifications	3.50	
Undergraduates	89.90	
Postgraduate students and above	6.60	
Monthly Household Income Per Capita		
Less than 3000	12.50	
3000-6000 (not including 6000)	43.40	
6000-9000 (not including 9000)	21.30	
9000-12000 (not including 12000)	13.80	
12000 and above	9.00	
Frequency of Use		2.60 (1.28)
Time Length of Use		2.02 (1.01)
Active Use		2.21 (0.93)
Passive Use		2.99 (1.00)
Sense of Self-esteem		2.99 (0.45)
Subjective Well-being		3.97 (0.70)

4.2 College students' Active and Passive Use Behavior of TikTok

To answer Question 1, this study conducted an exploratory factor analysis on college students' active and passive use behavior of TikTok and used it as a method to test the construct validity. The study ensured that the factor loading value was greater than 0.4 [48], while each item could be used

to explain only one independent dimension [49], and this dimension was the same as the set dimension, thus excluding three items. As Table 2 shows, after eliminating the relevant 3 items, there are 5 items of active use, including making, uploading and posting content, watching and interacting with the hosts (Cronbach's alpha of 0.84), and 6 items of passive use, including watching videos or photos and browsing news messages on TikTok (Cronbach's alpha of 0.85).

Table 2 College Students' Active and Passive Use Behavior of TikTok (Exploratory Factor Analysis)

	Average Value	Standard Deviation	Factor	
			1	2
1 Passive Use				
Watch videos or photos on TikTok	3.5	1.35	0.68	
Track or view certain content without liking or commenting on it	2.94	1.32	0.89	
Browse news messages on TikTok	2.91	1.27	0.58	
Click on the content links shared by your friends, but do not retweet, like or comment	2.89	1.33	0.83	
Browse the home page of a specific user	2.91	1.33	0.55	
Watch live but not interact with the anchor	2.77	1.39	0.77	
2 Active Use				
Create, upload and post content	1.93	1.07		0.93
Watch live and interact with the anchor	2.03	1.10		0.70
Send messages to others on TikTok	2.49	1.30		0.58
Update the moments on TikTok	1.94	1.11		0.97
Comment on the viewed content or reply to a comment	2.68	1.36		0.59
Eigenvalue			5.34	1.40
Variance explained (%)			48.54	12.76
Cronbach's alpha			0.85	0.84

4.3 Hypotheses Validation

In this paper, bivariate correlations were conducted for the main variables of frequency and time length of use, active and passive use, self-esteem and subjective well-being, and the results were shown in Table 3. According to Table 3, there is a significant positive correlation between active use and self-esteem, a borderline significant positive correlation between passive use and self-esteem, and no correlation between active and passive use and subjective well-being. Among them, the borderline significant positive correlation between passive use and self-esteem may be caused by the

small sample size. Therefore, Hypothesis 1 was proved to be valid, and Hypotheses 2, 3, and 4 were not confirmed in this study. This shows that the more frequent the active and passive use behaviors of college students on TikTok, the stronger the sense of self-esteem. In addition, Table 3 also shows a significant positive correlation between active use and passive use, which indicates that the active and passive use behaviors of college students towards TikTok are not completely exclusive from each other, but are interrelated because active users will also get information through passive use.

Table 3 Results of Correlation Analysis Among Variables (n=376)

	Frequency of Use	Time Length of Use	Active Use	Passive Use	Sense of Self-esteem	Subjective Well-being
Frequency of Use	1					
Time Length of Use	0.71**	1				
Active Use	0.49**	0.47**	1			
Passive Use	0.54**	0.48**	0.64**	1		
Sense of Self-esteem	0.08	0.01	0.10*	0.10+	1	
Subjective Well-being	0.03	-0.04	-0.01	-0.01	0.69**	1
Note:+ $p < 0.1$,*$p < 0.05$, ** $p < 0.01$						

4.4 Stratified Regression Analysis

To further investigate the relationship between each variable and sense of self-esteem and answer Question 2, this paper conducted a stratified regression analysis on each variable, from which four models were constructed. Table 4 shows that there is a significant linear positive correlation between active use and self-esteem, therefore, college students' active use behavior of TikTok can positively predict self-esteem; in addition, gender is also an influencing factor of self-esteem, and female college students have stronger self-esteem than male college students; monthly household income per capita plays a positive influence on self-esteem. The higher the income, the stronger the self-esteem; while when subjective well-being enters the model, the effect of household income on self-esteem changes from significant to insignificant, indicating that there is not a simple linear relationship between the two variables. Subjective well-being can also positively predict self-esteem.

Table 4 Results of Stratified Regression Analysis Among Variables

	Sense of Self-esteem			
Independent Variable	Model 1	Model 2	Model 3	Model 4
	β	β	β	β
Demographic Variables				
Gender	0.11*	0.10*	0.10+	0.09*
Age	-0.03	-0.03	-0.05	-0.03
Academic Qualifications	0.07	0.07	0.08	0.00
Monthly Household Income Per Capita	0.16**	0.16**	0.17**	0.06
Frequency and Time Length of Use				
Frequency of Use		0.12	0.05	-0.02
Time Length of Use		-0.06	-0.09	-0.03
Usage				
Active Use			0.10	0.10*
Passive Use			0.07	0.07
Psychological Traits				
Subjective well-being				0.68**

R Square	0.04	0.05	0.07	0.50
Adjusted R Square	0.03	0.03	0.04	0.49
F	4.11	3.22	3.16	41.14

5. Conclusion and Discussion

The development of mobile Internet and online social networking has made social media play an increasingly important role in people's daily lives, among which the rise of short video social platforms, represented by TikTok, has changed people's lives and aroused widespread concern. In order to fully explore the influence of social media use on users, this paper selects TikTok as a specific social media and examines the influence of frequency and time length of TikTok use, use patterns (active use and passive use) on psychological traits (self-esteem and subjective well-being) with college students as the research subjects.

First, this paper has explored the specific performance of college students' active and passive use behavior of TikTok. Previous studies on social media use behaviors have mostly focused on Facebook and Twitter in foreign countries, and on WeChat and Weibo in China, with less research on short-form social media such as TikTok, so this paper is helpful to supplement the existing research on social media usage behaviors. The study shows that the active use behavior of TikTok mainly includes the behavior of content production and self-presentation such as making, uploading, posting content and updating moments, and the behavior of promoting direct communication such as interacting with anchors, sending messages and commenting, which on the one hand confirms the previous findings that active use includes the behavior of commenting and posting[13-15], but on the other hand, the liking behavior in this study did not pass the exploratory factor analysis of validity test, but rather, it was revealed in both dimensions of active and passive use, which is different from the previous belief that liking is active use[14]. This suggests that there are differences in the performance of active and passive usage behaviors across social media.

Second, this paper has also explored the relationship between college students' active and passive use behavior of TikTok and self-esteem and subjective well-being, and how each variable predicts self-esteem. The results showed that college students' active use of TikTok was positively related to self-esteem, and active use could positively predict self-esteem, which to some extent corroborated with previous studies. In addition, passive use of TikTok by college students was positively correlated with self-esteem, while there was no significant correlation between active and passive use of TikTok and subjective well-being, which did not test the research hypothesis and differed from previous studies. This indicates that the mechanism of different usage of social media on users' psychological well-being is complex and requires problem-specific analysis. In addition, gender, household income and subjective well-being were also shown to be factors affecting self-esteem, and the group of college students with female gender, higher household income and stronger subjective well-being would have stronger self-esteem, which provides a solution perspective on how to enhance self-esteem.

Finally, this paper finds that there is a significant positive correlation between active and passive use of TikTok by college students, which indicates that users' active and passive use of social media are not completely exclusive from each other, but are interrelated[20], and users who favor active use will also acquire and consume information through passive use.

To synthesize the findings of this paper: college students' active and passive use behavior of TikTok are positively correlated with self-esteem; gender, household income, active use, and subjective well-being can positively predict self-esteem, with active use and subjective well-being factors being the most important, from which the following suggestions can be made for realistic development:

More attention should be paid to the role of social media in shaping users' lives, not only by following "technological determinism", but also by noticing the progress of thinking and changes in social life brought about by the development of digital technology. It is encouraged to seek a positive

and healthy development of short-video social media such as TikTok and provide support for related industries to meet the needs of users, especially college students, for interaction, entertainment, presentation and consumption through social media platforms. To adhere to the essence of serving users, social media platforms should promote college students to actively integrate into digital development and promote social harmony; while meeting the basic information needs of users, social media platforms should focus on building channels to promote positive interaction among users, and promote users, especially college students, to achieve positive social interaction through social media platforms, so as to enhance social connection and social identity. Users should cultivate media literacy and actively integrate into social media platforms to meet their own needs.

Besides, there are many shortcomings in the study of this paper. First, the non-probability sample cannot exclude the subjectivity of the researcher, so the research subjects are not representative and the results are not generalizable. In addition, the linear study and cross-sectional design can only be used to explore part of the complex mechanism of social media use on self-esteem and subjective well-being, and it is limited to the correlation between variables, but cannot answer the causal relationship. Future studies can try to introduce mediating or moderating variables and combine them with qualitative research methods such as interview methods and focus groups to make up for the shortcomings of the current study

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