

## **Moderating Effect of Gender on the Relationship between TikTok Usage and Positive Emotion among TikTok Users in China**

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### **Abstract**

This study aims to identify the moderating effect of gender on the relationship between TikTok usage and positive emotion among TikTok users in China. As TikTok is a new emerging social media, there are few researches on TikTok usage and its association with positive emotion among TikTok users in China. To fill the gap, this study utilized a quantitative research method by using survey approach. A cross-sectional study was adopted, while the questionnaires were distributed online in this study. The study has collected 244 questionnaires through convenience sampling technique. The results shown that both of the two predictors which are perceived usefulness and perceived ease of use toward using TikTok are significantly associated with positive emotion among TikTok users in China. However, gender does not play a moderating role on the relationship between TikTok usage and positive emotion. It was found that the users of TikTok are mainly young generation. This study suggests that users should use TikTok reasonably and appropriately.

**Keywords:** TikTok, Positive Emotion, Gender, Perceived Usefulness, Perceived Ease of Use, China

### **Introduction**

In the light of the 43rd statistical report on the development of Internet in China, the number of Internet users in China has exceeded 829 million, while the number of mobile Internet users in China attained 817 million (China Internet Network Information Center, 2019). TikTok is one of the most prevalent social media in China as well as around the world. In accordance with the statistical result from Sensor Tower, by the end of the 1<sup>st</sup> quarter 2020, TikTok has been downloaded more than 2 billion times all over the world on the App Store and Google Play (Sensor Tower Blog, 2020). By creating a content ecology and pushing power through algorithms, TikTok enabled users with similar interests to expand their social relationships

through content sharing, becoming a social media video applications hot style in China from 2018.

### **Problem Statement**

With the current ICT environment, there is changes in the way people communicate and use of ICT that help to reduce their psychological emotion. Scholars like Xu and Wu (2020) found that using Twitter could increase positive emotion of users (Xu & Wu, 2020); analogously, it was reported that a savoring manipulation on Facebook usage could enhance positive emotions for university students (Yu, Sheldon, Lan, & Chen, 2020). Beas and Salanova claimed that workers with more positive attitudes toward ICT would increase the level of professional self-confidence, which could also promote positive emotions (Beas & Salanova, 2006). It was stated that emotional needs are an important factor motivating users to use TikTok (Wang, Gu, & Wang, 2019). On the contrary, Boyd and Ellison clarified that depression and low self-esteem had a significant relationship with too much time spending on social media, such as QQ and Facebook (Boyd & Ellison, 2007). It showed a reciprocal relationship between high usage of social media and negative emotion (Wang, Gaskin, Rost, & Gentile, 2018). It can be inferred from these studies that high frequency social media usage had a significant impact on users' positive emotion. The findings of previous researches were inconsistent. According to these phenomena ICT usage such as TikTok could affect positive emotion among users, this study is interested in identifying what the relationship between TikTok usage and positive emotion is. What's more, some issues about using TikTok have been reported as well, such as cyberbullying, information disclosure, risky behavior and hazardous communities and so on (Cox, 2018; Perez, 2019). These issues increased the body image dissatisfaction, eating disorders risk, depression and anxiety of TikTok users. As a result, these issues were very harmful to the positive emotion of users (Akin & Iskender, 2011; Dunlop, Freeman, & Jones, 2016; Ferguson, 2015; Kranzler & Bleakley, 2019; Patton et al., 2014; Tripathi, 2017). Therefore, to determine the relationship between TikTok usage and positive emotions among TikTok users in China by conducting this study is in great need.

Even though numerous researches were conducted to look at social media usage, lots of the studies focused on social media (such as Facebook) addiction (Andreassen & Pallesen, 2014; Griffiths, 2012; Hong, Huang, Lin, & Chiu, 2014; Hormes, Kearns, & Timko, 2014; Koc & Gulyagci, 2013; Kuss & Griffiths, 2017; Ryan, Chester, Reece, & Xenos, 2014), cybercrime (Benson, Saridakis, & Tennakoon, 2015; Iskandarishak et al., 2012; Patel, Taghavi, Junior, Latih, & Zin, 2012; Rajeyyagari & Alotaibi, 2018; Saridakis, Benson, Ezingear, & Tennakoon, 2016; Suma, Dija, & Pillai, 2018; Vladlena, Saridakis, Tennakoon, & Ezingear, 2015), social cohesion (Cyrek, 2017; Han, Sun, & Hu, 2017; Ijs, Levijoki, & Kuikka, 2018; Marlowe, Bartley, & Collins, 2017; Waltinger, 2018), communication skills (Alqahtani, 2019; Caton & Chapman, 2016; Galvez-Rodriguez, Haro-de-Rosario, & Caba-Perez, 2018; Hamzah & Sabri, 2018; Jimenez & Morreale, 2015; Mansour, 2015; Oltulu, Findik, & Ozer, 2018; Povilaitis, 2019), usage emergency problems (Ancy Breen, Merry Ida, & Queen Mary Vidhya, 2016; Colazo, 2015; Fry & Binner, 2016; Gabarron, Serrano, Wynn, & Armayones, 2012; Knuth, Szymczak, Kuecukbalaban, & Schmidt, 2016) and psychological behavior (Grace, Ross, & Shao, 2015; Hong & Chiu, 2016; Love et al., 2016; Taylor & Strutton, 2016; Yang, 2016), etc. However, all the studies above did not look at the theme of positive emotions by social media usage. Additionally, as TikTok is a new emerging social media, few previous studies have focused on TikTok and its association with positive emotions among TikTok users. Besides, it was stated

that there was a significant difference between gender and positive emotions (Deng, Chang, Yang, Huo, & Zhou, 2016; Schweder & Raufelder, 2019). To fill in these gaps, this current study is aimed to examine the moderating effect of gender on the relationship between TikTok usage and positive emotions among TikTok users in China.

To examine the attitudes toward social media or new technology, previous researches focused on the technology acceptance model (TAM). Nonetheless, there is still a research gap on the study and understanding of the attitudes toward using TikTok. Hence, using TAM to study on the attitudes toward using TikTok is considering filling in the theoretical gap in TikTok usage as well. Eventually, it is hoped that the existing research theories in this academic field could be enriched and some new perspectives could be achieved. After finding out the impact of TikTok usage on users' positive emotions, this current study hopes to provide relevant data and analysis from the findings to future researches under the field of social media usage and positive emotions in China.

### **Research Questions**

Based on these statements, two main questions were raised up:

1. what is the relationship between TikTok usage in terms of attitudes toward using TikTok and positive emotions among TikTok users in China?
2. Is gender a moderating role toward the relationship between TikTok usage and positive emotions among TikTok users in China?

In accordance with the two research questions, the main objective of this present study is to determine the moderating effect of gender toward the relationship between TikTok usage and positive emotions among TikTok users in China.

### **TikTok Usage among Users in China**

It was reported that by January 2019, TikTok's daily active users had exceeded 0.25 billion, while its monthly active users had been more than 0.5 billion in China (China Economic Net, 2019). TikTok provided a platform for users to show themselves and expand social relationships (Omar & Dequan, 2020). "Music dubbing" made up 26.98% while the proportion of "funny story" and "mind relaxing" was 17.00% and 16.41% for the main charm factors attracting TikTok users (Feng, Chen, & Wu, 2019). Chinese government agencies began to use TikTok to interact with citizens. They run official accounts on TikTok to post statements or announcements to clarify public concerns (Zhu, Xu, Zhang, Chen, & Evans, 2020).

### **Positive Emotion among Social Media Users in China**

In 2018 KANTAR *China Social Media Impact Report*, 99 percent of Chinese social media users agreed that social media brought a lot of positive effects to their lives so that they could achieve positive emotions from social media usage. The most recognized functions of social media were "friends communication" (73%), "learn about updates on current affairs" (69%) and "knowledge growth" (66%) in China (KANTAR, 2018). It was proposed that TikTok have got many users to accept and use it by spreading entertaining content. The humor and camera perspective of the videos on TikTok have a significant impact on users' sense of entertainment, thus effectively promoting the positive emotions of users (Wang, 2020).

### **Methodology**

This current study aims to identify the moderating effect of gender toward the relationship between TikTok usage and positive emotions among TikTok users in China. To achieve this

purpose, this study utilized a quantitative approach by survey method. It was regarded survey as a systematic method for collecting data which illustrated the property of sample (Groves et al., 2011). Keyton (2010) supported that it was the best appropriate method to measure people's behavior through survey and questionnaires (Keyton, 2010). To measure the values of variables, a cross-sectional survey was conducted. The target population in this study is TikTok users in China. However, due to the COVID-19 situation, all the questionnaires were distributed to the respondents online via the platform *Wenjuanxing* which is called 问卷星 in Chinese hosted on the website: <https://www.wjx.cn/>. This survey began in the early March until the end of May 2020. Moreover, convenience sampling procedure was utilized to collect initial data. Recent studies have pointed out that a major factor affecting sample size is power analysis (Hair, Risher, Sarstedt, & Ringle, 2019; Ringle, Sarstedt, Mitchell, & Gudergan, 2018; Uttley, 2019). Power analysis ascertains the minimum number of samples by considering the number of predictors in the research model (Hair, Hult, Ringle, & Sarstedt, 2014). Additionally, it needs to take the whole information of effect size, power and confidence level into consideration to determine the minimum sample size (Hair, Black, Babin, & Anderson, 2018). G\*Power (Faul, Erdfelder, Buchner, & Lang, 2009; Faul, Erdfelder, Lang, & Buchner, 2007) is a statistical software which is available to perform power analysis as well as determine sample size on the basis of power analysis (Memon et al., 2020). Social science scholars always prefer G\*Power because it can take power, effect size and sample size into account simultaneously (Hair et al., 2014; Hair, Hult, Ringle, & Sarstedt, 2017). Therefore, this current study used G\*Power software to perform power analysis and estimate minimum requested sample size. It is worth mentioning that in the calculation process in the light of G\*Power, the number of predictors is the maximum accounts of arrows pointing to a dependent variable simultaneously in the research model (Memon et al., 2020). Based on research model in this study, there are 3 predictors including perceived usefulness of TikTok, perceived ease of use of TikTok and gender. Hence, the minimum sample size of this study should be 119 (see Figure 1).

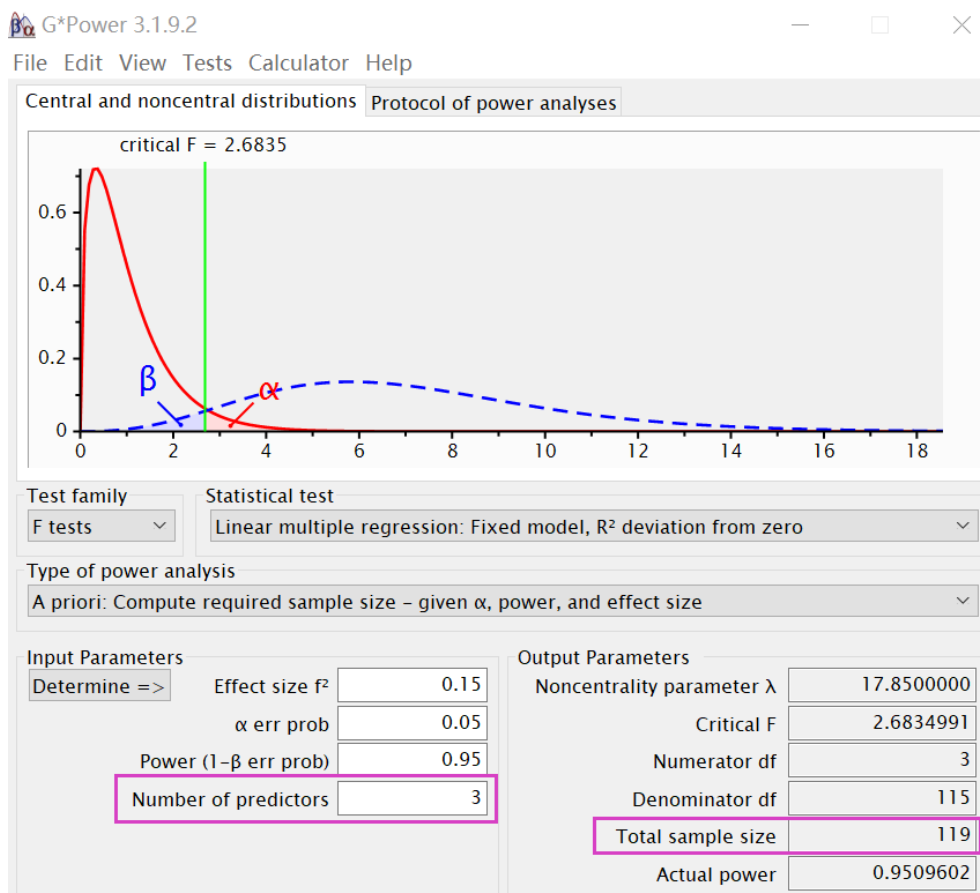


Figure 1: Sample size based on G\*Power software of this study (Faul et al., 2009).

244 respondents volunteered to participate in this study. 205 respondents reported that they used TikTok (84.02%) while only 15.98% of the respondents did not use TikTok. Only those who use TikTok were taken into consideration in this study. In addition, 4 respondents with outliers and 5 respondents with missing data were eliminated, which led to that 196 respondents were eligible for further statistical analysis. Descriptive analysis, inferential analysis and assessment of structural equation modeling based on SPSS version 25 and smart-PLS were applied in this research to analyze data.

Measurement of TikTok usage which mainly focused on attitudes toward using TikTok includes 11 items extracted from (Davis, 1989; Samsuddin, Omar, & Shaffril, 2018; Tsai, Lin, & Tsai, 2001). There are two constructs under this variable: perceived usefulness of TikTok (PU) and perceived ease of use of TikTok (PEOU). Measurement of positive emotion (PE) includes 6 items retrieved from (Kern, Waters, Adler, & White, 2015). *Table 1* illustrated the assessment of the measurement model. The values of Cronbach's Alpha coefficients and the composite reliability (CR) for all the constructs in this study were more than 0.8, which indicated that the measurement model is reliable (Gefen, Straub, & Boudreau, 2000; Nunnally, 1978). Average Variance Extracted (AVE) for all the three constructs exceeded 0.50, which suggested that the convergent validity of the measurement is adequate (Bagozzi & Yi, 1988; Fornell & Larcker, 1981). *Table 2* reported that Heterotrait-Monotrait (HTMT) ratio was less than 0.85 for the whole measurement model. It supported that discriminant validity of the measurement model was achieved (Kline, 2015).

Table 1: Internal consistency and convergent validity of the measurement

Construct	Item	Loading	CR	Cronbach's $\alpha$	AVE	Convergent Validity (AVE > 0.5)
PU	PU1	0.772	0.865	0.805	0.562	YES
	PU2	0.672				
	PU3	0.808				
	PU4	0.746				
	PU5	0.793				
PEOU	PEOU1	0.766	0.872	0.826	0.535	YES
	PEOU2	0.656				
	PEOU3	0.799				
	PEOU4	0.621				
	PEOU5	0.745				
	PEOU6	0.783				
PE	PE1	0.653	0.922	0.897	0.665	YES
	PE2	0.821				
	PE3	0.835				
	PE4	0.875				
	PE5	0.831				
	PE6	0.859				

Table 2: Heterotrait-Monotrait (HTMT) criterion for discriminant validity of the measurement

	Positive Emotion	PEOU	PU
Positive emotion	-		
PEOU	0.544	-	
PU	0.547	0.481	-

## Results

Table 3 displayed the demographic profiles and TikTok usage frequency of TikTok users in China. The items to measure TikTok usage frequency were retrieved from (Ellison, Steinfield, & Lampe, 2011; Kamarudin & Omar, 2017; Valenzuela, Park, & Kee, 2009; Zainudin, 2013). TikTok users were mainly young people, aged 16 – 25 (60.7%) and 26 – 35 (32.1%). The average duration of using TikTok among TikTok users was 17.04 months (SD = 12.11). The mean of average times to start-on TikTok per day of users was 4.27 (SD = 4.43), whilst the mean of average hours to use TikTok each day was 1.53 (SD = 1.23). 92 respondents used TikTok every day which accounted for 46.9% among the users. 3 respondents had more than 20,000 followers on their TikTok accounts while some users have few followers, which is because some users only use TikTok to watch videos but not post any videos. Consequently, those users have no followers.

Table 3: Demographic characteristics of TikTok users in China (N = 196)

Variable	Frequency	%	Min	Max	Mean	SD
<b>Gender</b>						
Male	102	52.00				
Female	94	48.0				
<b>Age (year)</b>						
			18	54	26.27	6.29
16 – 25	119	60.7				
26 – 35	63	32.1				
36 – 45	9	4.6				
≥ 46	5	2.6				
<b>Education background</b>						
Senior high school or below	8	4.1				
Diploma	27	13.8				
Bachelor	122	62.2				
Master or above	39	19.9				
<b>Marital status</b>						
Unmarried	147	75.0				
Married	49	25.0				
<b>Monthly income</b>						
< 2,000 RMB	64	32.7				
2,000 – 5,000 RMB	48	24.5				
5,001 – 8,000 RMB	32	16.3				
8,001 – 10,000 RMB	19	9.7				
> 10,000 RMB	33	16.8				
<b>Employment status</b>						
Student	60	30.6				
Unemployed	14	7.1				
Full-time employment	104	53.1				
Part-time employment	5	2.6				
Self-employed	12	6.1				
Retiree	1	.5				
<b>Residential zone</b>						
Rural	33	16.8				
Urban	163	83.2				
<b>Duration of using TikTok (month)</b>						
			.50	48.00	17.04	12.11
<b>Average times to start-on TikTok per day</b>						
			1	30.00	4.27	4.43
<b>Average hours to use TikTok per day</b>						
			.20	8.00	1.53	1.23
<b>Average days to use TikTok per week</b>						
			1	7	5.37	1.89
<b>Followers on TikTok account</b>						
			0.00	25043.00	482.54	2925.79

Correlation measures the degree of associations between two or more variables. It refers to how the variables are related. The stronger correlation indicates that the variables have a stronger relationship with each other. Whereas, the lower or weaker correlation means that the variables are hardly related (Rahman, 2018). Based on the result of normality assessment (PU: skewness = .121, kurtosis = 1.617, PEOU: skewness = -.016, kurtosis = -.105, PE: skewness



= -.053, kurtosis = -.237), Pearson Correlation test was employed to test the association between TikTok usage and positive emotion among TikTok users in China. Based on *Table 4*, it was depicted that there is a statistically significant positive relationship between perceived usefulness of TikTok and positive emotion among users in China ( $r = .478, p < .01$ ), while the association between perceived ease of use toward using TikTok and positive emotion is significantly positive as well ( $r = .466, p < .01$ ). The statistical result shown that there is a positive significant relationship between TikTok usage in terms of attitudes toward using TikTok and positive emotion among users in China.

Table 4: Pearson correlations for studied variables

Variable	Perceived usefulness	Perceived ease of use	Positive emotion
Perceived usefulness	1		
Perceived ease of use	.410**	1	
Positive emotion	.478**	.466**	1

Note. \*\* $p < .01$ .

In the light of Structural Equation Modeling (SEM) assessment through the software Smart-PLS, the path coefficient results shown that both perceived ease of use ( $\beta = 0.354, p = 0.000$ ) and perceived usefulness ( $\beta = 0.329, p = 0.000$ ) toward using TikTok are significantly associated with positive emotion among TikTok users in China. However, the results suggested that gender is not a moderating role on the relationship between TikTok usage and positive emotion (see *Table 5*).

Table 5: Path coefficient results (Inclusive of moderator: gender)

	Direct effect	Standard error	T – statistic	P value
PEOU → PE	0.354	0.062	5.764	<b>0.000</b>
PU → PE	0.329	0.065	4.947	<b>0.000</b>
PEOU*GENDER → PE	-.052	0.070	0.749	0.454
PU*GENDER → PE	0.102	0.071	1.426	0.154

The analysis result in *Table 6* demonstrated the determination of  $R^2$  and  $f^2$ .  $R^2$  of 0.340 suggested that 34% of the variance in positive emotion is explained by PU and PEOU toward using TikTok. The model fit is very good as the  $R^2$  value 0.340 is more than 0.30 (Norusis, 2008). The findings of effect size  $f^2$  delineated that the effect of perceived ease of use toward using TikTok on positive emotion is stronger than that of perceived usefulness. Cohen (1988) and Hair et al. (2014) proposed that there was three levels of effect size: 0.02 – 0.15: small, 0.15 – 0.35: medium, > 0.35: large (Cohen, 1988; Hair et al., 2014). In terms of this benchmark, perceived ease of use toward using TikTok contributes to a medium to large effect on positive emotion among TikTok users in China.

Table 6: Determination of co-efficient ( $R^2$ ) and effect size ( $f^2$ )

	Co-efficient of determination		Effect size $f^2$	
	$R^2$	PE	PE	Effect size
PE	0.340			
PU		0.133		Small to Medium
PEOU		0.154		Medium to large



**Discussion**

This current study overviewed the positive emotions among TikTok users in China. Based on the data of this study, it was reported that TikTok usage especially attitudes toward using TikTok could result in positive emotions among TikTok users in China. It has been supported that TikTok usage could reduce the negative emotions and promote positive emotions because of the entertainment of the video contents. Before users started-on TikTok, their emotional statements were stress, loss, fatigue, anxiety and so on; nevertheless, after using TikTok, they felt hopeful and refresh. TikTok usage helped the users to kill boredom and boots up positive emotions (Yang & Zilberg, 2020). However, it would lead to TikTok addiction as well if the users used TikTok problematically.

Overall, there is still space for enhancing TikTok usage and its impact on users' positive emotions. TikTok has a positive effect on stimulating users' positive emotions. This phenomenon is beneficial to TikTok in a way to improve the level of well-being and mental health among users; but if it is used improperly, it may bring negative impacts on users, such as children predator, cyberbullying and harassment (Cox, 2018; Perez, 2019; Phillips, 2018; Weimann & Masri, 2020).

**Recommendations and Conclusion**

This study has found that there is a significantly positive relationship between TikTok usage and positive emotions among TikTok users in China. However, problematic usage of TikTok and TikTok addiction must be controlled. It was also found that TikTok users are mainly young people who aged between 16-35 years old. Among the users, some are still minors. Although parents could make minors' TikTok accounts private, even close comments, hide accounts so that they could not be searched by others and restricted accepting information, and so on. Nonetheless, online violence, cyberbullying and cybercrime on the social media still could not be completely controlled and avoided. The use of TikTok, especially for the minority group, still deserves an attention. Thus, TikTok usage and its influence on psychological aspects of users should be further investigated.

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