

Short video social media use and subjective wellbeing among young adults in rural China: The mediating roles of upward social comparison and online social capital

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ABSTRACT

This paper aims to describe how videos affect human behavior, especially teenagers and other major human beings. Given the large number of young adults who use short video social media (e.g., TikTok, Douyin, and Kuaishou) in rural China, understanding how the use of such platforms affects their subjective wellbeing is crucial. This study examines the mediating roles of online social capital and upward social comparison in the relationships between short video social media use (intensity, active vs. passive use) and subjective wellbeing using data gathered from a web-based survey of 412 young adults living in rural China. Structural equation modeling demonstrated that active short video use is associated with a greater level of online social capital, which in turn is related positively to subjective wellbeing. Passive short video use is negatively associated with online social capital. Active short video use is also associated with a greater level of upward social comparison, whereas passive short video use is negatively associated with upward social comparison. Nevertheless, the relationship between upward social comparison and subjective wellbeing is not statistically significant. Use intensity was associated with neither online social capital nor upward social comparison. The findings extend the understanding of the psychologically powerful nature of short video social media platforms and their effects on subjective wellbeing among Chinese rural young adults.

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1. Introduction

With the advance in Internet technology and smartphones, social media is now widely used in China. Short video social media platforms (e.g., TikTok, Douyin, and Kuaishou) in particular are increasingly popular among young people in rural China, with Chinese users of such platforms reaching 888 million in 2021; 49% of this population are young people from rural China [1]. Short video social media platforms offer users a wide range of online content providing access to information, entertainment, and social bonding with others; like their urban peers, young people in rural China can post their videos to express their life and thoughts, comment on others' videos, and share content with others. While prior studies have shown that online social capital and upward social comparison are related to people's emotional health [2],[3], only a limited number of studies have reported the associations among short video social media use, these two important psychological factors, and the emotional health of young adults in rural China. This study seeks to fill in the gaps.

The present study used a quantitative survey to understand the patterns of short video social media platform use and its relationship with emotional health among young adults in rural China. The findings will facilitate understanding of such platform use in this population and provide evidence to enhance the emotional health of young people by maximizing the benefits and minimizing the negative effects of social media use.

2. Theoretical Framework

2.1. Short video social media use and upward social comparison

Social comparison theory posits that individuals have a need to evaluate their opinions and abilities [4]. Downward social comparison refers to the state of comparing oneself to perceived inferior others [5], while upward social comparison refers to comparisons with perceived superior others [6]. When using social media, the extent to which social media users engage in upward social comparison(s) on different types of social media platforms has received less examination. While most studies on Facebook and Instagram found that their use predicts upward social comparison [7], [8], one study examined the use of other types of social media platforms (e.g., WhatsApp, Snapchat, and YouTube) and found no association between social media use and upward social comparison. Compared to Facebook and Instagram, short video social media platforms have their technology affordances, which may illicit upward social comparison. Many celebrities and influencers have a wide following on these platforms [9], which may induce users to engage in upward social comparison with them. However, the gratifications of people who use short video social media are different from those using Facebook or Instagram and may inhibit social comparison. Prior studies on TikTok have shown that gratification of entertainment and affective needs [10], the need for escapism, and self-expression are important reasons for using the platform [11],[12].

Prior studies have also identified two types of social media use: passive (e.g., browsing) and active (e.g., creating content and interacting with others) [13],[14]. While many studies have found that passive use may illicit upward social comparison and envy [15], few have provided a direct test between social media use types and upward social comparison. Moreover, most of the prior studies have focused on social interaction-oriented social media (e.g., Facebook and WeChat) [13],[16]. On short video platforms, users watch content from strangers not just from a network of chosen friends and family members [17]. To fill the research gap, we ask the following research question:

RQ1: Is there an association between short video social media use (use intensity, active vs. passive short video social media use) among young adults in rural China and upward social comparison?

2.2. Short video social media use and online social capital

Online social capital refers to “refers to the potential tangible and intangible resources a person can obtain via their social connections” [3],[18]. When using social media, individuals can obtain information, feel cared for, and be supported by posting new content, obtaining feedback from others, and replying to comments. By connecting to others, social media users can build online social capital [19],[21]. Prior studies have suggested that social media use intensity is positively associated with online social capital Wang et.al; however, some scholars have argued that only active social media use is positively associated with perceived online social capital [13],[23], whereas passive use of social media may not be [22]. Most of these prior studies have focused on social networking-oriented social media (e.g., Facebook and WeChat) Wang et.al, where users use such platforms mostly for social connection and information [22]. It remains unclear how short video social media use relates to social capital, as the motivations for using such platforms are entertainment, self-expression, and escapism. We therefore ask:

RQ2: Is there an association between short video social media use (use intensity, active vs. passive short video social media use) among young adults in rural China and perceived social support?

2.3. Subjective wellbeing, upward social comparison, and online social capital

Online social capital is beneficial to emotional health. Prior studies have suggested that social capital generally reduces psychological distress and leads to fewer episodes of depression [25], or low negative affect, as well as encouraging high positive affect [24]. Prior studies have also found that online social capital is positively associated with subjective wellbeing and life satisfaction [23],

[26]. Therefore, we propose: H1a: Online social capital is positively associated with subjective wellbeing.

Upward comparison is believed to decrease wellbeing [27]. In the context of social media use, prior studies of upward social comparison, in which social media users might think that the people they view are in some way superior to them [2], have found that such users tend to have feelings of envy and inadequacy [7]. Numerous studies have suggested that upward social comparison is associated with decreased self-esteem, greater depression severity, and lower subjective wellbeing [28]. Therefore, we propose: H1b: Upward social comparison is negatively associated with subjective wellbeing.

3. Method

An online survey (www.wenjuanxing.com) was conducted to investigate the relationship between short video consumption and emotional health among young adults in Chinese rural areas. Inclusion criteria were (1) living in a rural area, (2) watching short videos on social media platforms, and (3) being aged 18 to 35 years. Exclusion criteria were (1) mental illness or cognitive impairment (hearing or vision problems) and (2) other severe physical diseases. Participation was voluntary, and anonymity was assured. The final sample contained 412 participants. All items were translated into Chinese through a standard back-translation process [29].

The respondents' demographic information is summarized in Table 1. Of the 412 respondents, 209 (51%) were male. Nearly half of the respondents (51%) had a college degree or above. A majority (73%) of the respondents were between 18 and 30 years old, with 42% of those being 18 to 25 and 32% from 26 to 30 years old. Most respondents were workers (36%) and farmers (31%). Around 43% of the respondents had a monthly income of 3000 RMB or below (approximately 475 USD).

3.1. Measures

Short video social media use intensity. Short video social media use intensity was assessed with a 5-item measure (sample item: "Using short video social media has become one part of my daily life") [30]. Respondents answered on a 5-point Likert scale (1 = *Very slightly or not at all, a little*; 5 = *Very much*) ($M = 4.55$, $SD = 0.83$; Cronbach's $\alpha = 0.72$).

Active and passive short video social media use. Active vs. passive short video social media use was assessed by asking the respondents how often they "shoot the video and post it on the social media platform/view comments only/view short videos only/liking and forwarding short videos/commenting short videos." Respondents answered on a 5-point Likert scale (1 = *Very slightly or not at all, seldom*; 5 = *Very often*).

Upward social comparison. Upward social comparison was assessed by asking respondents to report how they agreed or disagreed with the two questions: "When I am watching short videos, I often think that (1) other people have more better living conditions than I do; (2) other people are doing better than I am." Respondents responded on a 5-point Likert scale (1 = *strongly disagree*; 5 = *strongly agree*) ($M = 2.81$, $SD = 1.10$; Cronbach's $\alpha = 0.90$) [31].

Online social capital. Online social capital was assessed using a 10-item online social capital scale developed by Williams (2006) [18]. A sample item was "There are several people online I trust to help solve my problems." Respondents answered on a 5-point Likert scale (1 = *Very slightly or not at all, a little*; 5 = *Very much*) ($M = 3.05$, $SD = 0.93$; Cronbach's $\alpha = 0.94$).

Subjective wellbeing. Diener et al. suggested emotional health has three components, *positive emotion*, *negative emotion*, and *life satisfaction* [32]. The participants were asked to rate the extent to which they experienced each mood state during the previous week, including positive (joy, affection, and pride) and negative (anger, sadness, and anxiety) states Diener et.al on a 7-point scale (1 = *Very slightly or not at all, a little*; 7 = *Very much*). A question was used to measure participant's *life satisfaction* (i.e., "The conditions of my life are excellent") [32] ($M = 3.26$, $SD = 1.10$; Cronbach's $\alpha = 0.86$) [32].

3.2. Statistical analysis

In the structural component of the model, short video use intensity, active short video social media use, and passive short video social media use were tested as exogenous. Upward social comparison and online social capital were mediators. In the measurement component of the model, active short video social media use and passive short video social media use were the two latent variables. Analysis was conducted using AMOS 24 statistical software. Model fit was assessed using model χ^2/df , root mean square error of approximation (RMSEA), comparative fit index (CFI), and standardized root mean square residual (SRMR). Good fit is indicated by a nonsignificant χ^2/df , $RMSEA < 0.05$ with the upper limit of the 90% CI < 0.1 , $CFI > 0.9$, $SRMR < 0.1$, and absolute values of standardized residuals < 0.1 .

4. Results and Discussion

Table 1 presents the respondents' demographic details. Table 2 shows the zero-order correlation matrix for short video social media use intensity, active vs. passive short video social media use, upward social comparison, online social capital, and subjective wellbeing.

Table 1. Survey Participant Profile

		n	%
Gender (male = 1)		209	51
Age	18–25	171	42
	26–30	131	32
	31–35	110	27
Marital status	Single/divorced	167	41
	In a relationship/married	245	59
Monthly household income	RMB 3,300 and below	176	43
	RMB 3,301–6,500	178	43
	RMB 6,501 and above	58	14
Occupation	Student	75	18
	Professional (e.g., doctors and teachers)	16	4
	Worker	88	21
	Self-employed	46	11
	Farmer	127	31
	Rural–urban migrant worker	60	15
Education	Elementary school and below	18	4
	Middle school	97	24
	High school	85	21
	College and above	212	51

4.1. Measurement model

The internal reliability of the measurement model was found to be satisfactory. The fit indices of the measurement model were satisfactory: $\chi^2/df = 1.659$, $p < 0.001$, $CFI = 0.995$, $TLI = 0.992$, and $RMSEA = 0.040$ (Table 3). The reliability of the study measures (active and passive short video social media use) was examined using Cronbach's α and the composite reliability (CR) coefficient. The factor loading was above 0.5. CR values exceeding 0.60 were considered indicative of adequate internal consistency. We also looked at the average variance extracted (AVE) for each latent variable to ensure that items were contributing adequately to the construct they indicated, with values above 0.50 considered satisfactory (Table 4). It can thus be affirmed that the variables measured in this study also have discriminant validity.

Table 2. Zero-Order Correlation Matrix for Variables

	IV1	ACU	PAU	ME1	ME2	DV
<i>IV1</i>	1					
<i>ACU</i>	0.537**	1				
<i>PAU</i>	0.397**	0.577**	1			
<i>ME1</i>	0.586**	0.656**	0.374**	1		
<i>ME2</i>	0.430**	0.499**	0.248**	0.677**	1	
<i>DV</i>	0.132**	0.148**	0.038	0.144**	0.067	1

^a Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. IV1 = short video use intensity; ACU = active short video social media use; PAU = passive short video social media use; ME1 = online social capital; ME2 = upward social comparison; and DV = subjective wellbeing.
^b

4.2. Research model and hypothesis tests

The structural models indicated that the fit indices of the research models were satisfactory: $\chi^2/df = 3.031$, $p < .001$, GFI = 0.837, NFI = 0.899, TLI = 0.921, CFI = 0.929, and RMSEA = 0.070 (Table 3). The structural model is shown in Figure 1. RQ1a assessed the relationships between short video social media use and upward social comparison. Short video social media use intensity was not connected with upward social comparison. Active use was positively associated with upward social comparison ($\beta = 1.547$, $p < .001$), whereas passive use was negatively associated with upward social comparison ($\beta = -1.091$, $p < .001$). RQ1b assessed the relationships between short video social media use and online social capital. Short video social media use intensity was not connected with online social capital. Active use was positively associated with upward social comparison ($\beta = 1.627$, $p < .001$), whereas passive use was negatively associated with upward social comparison ($\beta = -1.055$, $p < .001$). H1a assessed the relationship between upward social comparison and subjective wellbeing, which was not supported. H1b assessed the relationship between online social capital and subjective wellbeing and was supported ($\beta = 0.22$, $p < .001$) (Figure 1).

Table 3. Fit Indices of the Measurement and Structural Models

	Measurement model	Structural model
<i>X2/df</i>	1.659	3.031
<i>GFI</i>	0.997	0.837
<i>NFI</i>	0.994	0.899
<i>TLI</i>	0.992	0.921
<i>CFI</i>	0.995	0.929
<i>RMSEA</i>	0.040	0.070

Table 4. Results of the Confirmatory Factor Analysis

Construct	Item	Factor loading	S.E.	C.R.	P	CR	AVE
<i>Active short video social media use</i>	<i>ACT1</i>	0.569					
	<i>ACT2</i>	0.875	0.136	10.311	***	0.772	0.537
	<i>ACT3</i>	0.723	0.093	13.148	***		
<i>Passive short video social media use</i>	<i>PASS1</i>	0.793				0.711	0.553
	<i>PASS2</i>	0.691	0.067	11.651	***		

Note: *** $p < 0.001$.

Online social capital mediated the relationships between active use and subjective wellbeing ($\beta = .355$, $p < .05$) and passive use and subjective wellbeing ($\beta = -.23$, $p < .05$). Upward social comparison did not mediate any relationships between short video social media use (intensity, active vs. passive use) and subjective wellbeing (Table 5).

Table 5. Results of the Mediation Analysis

Mediation path	Coef.	95% CI		P
Use intensity—online social capital-subjective wellbeing	0.025	-0.037	0.093	0.346
Active use—online social capital-subjective wellbeing	0.355	0.098	0.743	0.003
Passive use—online social capital-subjective wellbeing	-0.23	-0.535	-0.055	0.003
Use intensity—upward social comparison-subjective wellbeing	-0.002	-0.037	0.029	0.856
Active use—upward social comparison-subjective wellbeing	-0.136	-0.426	0.088	0.225
Passive use—upward social comparison-subjective wellbeing	0.096	-0.063	0.324	0.225

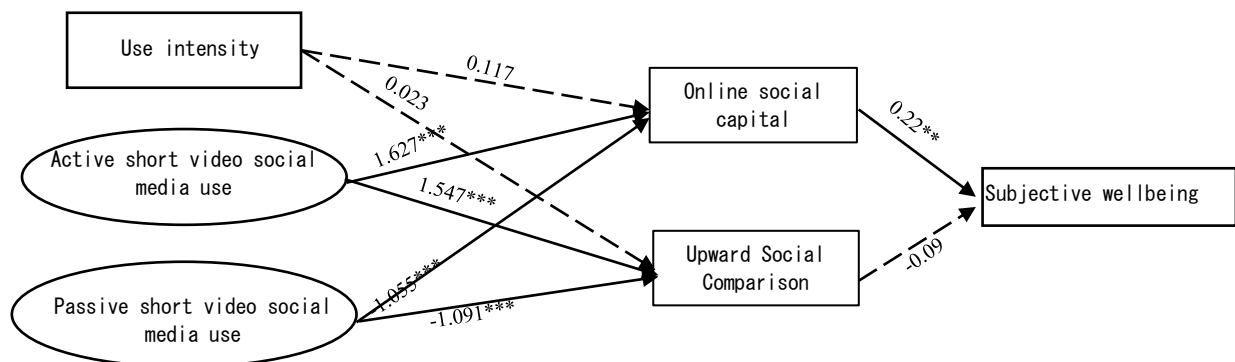


Fig. 1. Structural equation model predicting subjective wellbeing from upward social comparison, online social capital, and short video social media use with standardized path coefficients (* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$)

4.3. Short video social media use, online social capital, and subjective wellbeing

Online social capital mediated the relationships between short video social media use and subjective wellbeing. In particular, active short video social media use was positively associated with social support and was ultimately positively associated with subjective wellbeing. In contrast, passive short video media use was negatively associated with social support and ultimately was negatively associated with subjective wellbeing. These findings are consistent with those of prior studies [13],[23], which have found that social media users who actively engage with social media are more likely to generate new social networks and strengthen their existing networks where they can obtain social support [16]. In contrast, passive social media use may not develop social support due to a lack of interactivity with others. However, we did not find use intensity was associated with online social capital, which was not consistent with studies on Facebook or WeChat [22]. This suggests that short video social media platforms use may have unique features that lead to different psychological consequences. Our study adds a novel understanding of the usage and online social capital on short video social platforms among Chinese young adults in rural areas.

4.4. Short video social media use, upward social comparison, and subjective wellbeing

We did not find upward social comparison mediating the relationships between short video social media use and subjective wellbeing. Active short video social media use was positively associated with upward social comparison, but passive use was negatively associated with upward social comparison. Upward social comparison was not associated with subjective wellbeing. These results are not consistent with those of prior studies, which have suggested passive media use may negatively affect emotional health via upward social comparison [2],[28]. Three factors might contribute to this. First, the networks formed on short video social media are often with strangers, which differ from networks mostly composed of family, friends, or other acquaintances on Facebook or WeChat [17]. When users feel inferior and inadequate watching video clips, passive users (i.e., browsing the videos) can easily stop watching those videos and unfollow the posters.

Second, and related to the first reason, short video social platforms usually employ algorithms to recommend videos to users. Algorithms are computed based on usage patterns. Young adults in Chinese rural areas are recommended videos that may not easily elicit upward social comparison based on their usage pattern. Third, individuals engage in social comparison not only for self-evaluation but also for self-improvement and self-enhancement [33]. Individuals who perceive a discrepancy in their object of social comparison may be motivated to close the gap in that dimension of interest [33]. Users of short video social media might be more likely to engage in self-enhancement behaviors. In the present study, although we found active young adult users (e.g., filming and posting videos, commenting, and liking) on short video social media platforms tend to engage in more upward social comparison, we did not find such social comparison to be associated with their emotional health. Future studies could employ other research methods (e.g., in-depth interviews) to explore the process of how young short video social media users in rural China compare themselves socially with reference to short videos and their attitudes toward upward social comparison.

The study has certain limitations. First, causal relationships cannot be claimed due to the study design. Future studies could employ other research methods to explore the causal relationships. Second, our study only explored the use intensity and active vs. passive use of short video social media platforms. Future studies could explore whether the types of short videos consumed influence related psychosocial factors.

5. Conclusions

This study examined the relationships between short video social media use (intensity, active vs. passive use) and emotional health in an under-explored population, the young adults in rural China. Quantitative survey results showed that actively engaging with short video social media is positively associated with emotional health via online social capital, while passive use is negatively associated with emotional health via online social capital.

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