

ORIGINAL ARTICLE



# The Impact of Short Video Addiction on Self-identity: Mediating Roles of Self-esteem and Appearance Anxiety

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*L'impacte de l'addicció als vídeos curts en la identitat pròpia: rols mediadors de l'autoestima i l'ansietat per l'aparença*

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## Abstract

*Purpose:* This study aims to evaluate the attributes of female self-identity, and investigate the correlation between addiction to short videos, self-esteem, objectification of female content, internalization of beauty ideals, and self-identity. The goal is to develop a psychological framework that enhances our comprehension of the self-identity of contemporary Chinese women. *Methodology:* This study employed an online survey with a convenience sampling approach to gather responses from 400 female short video users from four most popular Chinese social media platforms: Sina Weibo, Xiaohongshu, Douban and WeChat, the Chinese equivalents of Twitter, Instagram, Reddit and WhatsApp respectively. *Results:* The results suggest that (1) self-esteem played a significant role in mediating the relationship between short video addiction and self-identity; (2) the chain mediating effect of internalisation of beauty ideals and self-esteem was not statistically significant, and (3) the chain mediating effect of objectification of female content and self-esteem was statistically significant. Therefore, the greater the short video addiction, the lower self-esteem, the deeper the appearance anxiety, and thus the higher the likelihood that the individual would not identify with themselves. The results provide a theoretical foundation for gaining a deeper understanding of the factors that influence females' self-identity. Simultaneously, it offers new ideas for enhancing women's self-identity. In addition, previous studies on women's appearance anxiety have given less attention to self-esteem and self-identity. This study, however, looks more extensively into both aspects, so broadening the investigation of the factors impacting women's self-identity.

## Keywords

short video addiction, self-identity, self-esteem, appearance anxiety, China, social media, Weibo, WeChat, online survey.

## Resum

**Objectiu:** aquest estudi pretén avaluar les característiques de la identitat pròpia femenina i examinar la relació entre l'addicció als vídeos curts, l'autoestima, la cosificació del contingut femení, la interiorització dels ideals de bellesa i la identitat pròpia. L'objectiu és desenvolupar un marc psicològic que millori la nostra comprensió de la identitat pròpia de les dones xineses contemporànies. **Metodologia:** aquest estudi va utilitzar una enquesta en línia utilitzant un mètode de mostreig de conveniència per recopilar respostes de 400 usuaris femenins de vídeos curts a través de les quatre plataformes de xarxes socials xineses més populars: *Sina Weibo*, *Xiaohongshu*, *Douban* i *WeChat*, els equivalents xinesos de *Twitter*, *Instagram*, *Reddit* i *WhatsApp* respectivament. **Resultats:** els resultats suggereixen que (1) l'autoestima va tenir un paper important en promoure la relació entre l'addicció als vídeos curts i la pròpia identitat; (2) l'efecte causant de la cadena de la interiorització dels ideals de bellesa i l'autoestima no va ser estadísticament significatiu, i (3) l'efecte causant de la cadena de la cosificació del contingut i l'autoestima femení va ser estadísticament significatiu. Per tant, com més gran sigui l'addicció als vídeos curts, més baixa l'autoestima, més profunda és l'ansietat de l'aparença i, per tant, més gran és la probabilitat que l'individu no s'identifiqui amb si mateix. Els resultats proporcionen una base teòrica per comprendre millor els factors que influeixen en la pròpia identitat de les dones. Alhora, ofereix noves idees per millorar la pròpia identitat de les dones. A més, estudis previs sobre l'ansietat per l'aspecte de les dones han prestat menys atenció a l'autoestima i a la pròpia identitat. Aquest estudi, però, aprofundeix en ambdós aspectes, ampliant així la investigació dels factors que incideixen en la pròpia identitat de les dones.

## Paraules clau

addicció als vídeos curts, identitat pròpia, autoestima, ansietat per l'aparença, Xina, xarxes socials, *Weibo*, *WeChat*, enquesta en línia.

## Recommended citation

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## 1. Introduction

Short video addiction is defined as a strong and enduring craving for and dependence on the short video platforms (Li *et al.*, 2021). By January 2023, about 600 million Chinese women spent 163.6 hours per month on mobile Internet, with 30.1% of this time (or 49.244 hours per month) watching short videos, according to the "Her Economy" *Insight Report* issued by QuestMobile (2023). Over one-third of all short videos are on beauty care (i.e., cosmetic makeup), indicating how much time and effort Chinese women commit to their appearance. Researchers have noted that women who frequently consume such content on social media platforms develop an unhealthy preoccupation with their physical appearance (Feltman; Szymanski, 2018; Slater; Tiggemann, 2015; Zheng *et al.*, 2019).

An examination of the literature on short video addiction has uncovered a correlation between women's addiction to short videos and a range of adverse outcomes. These encompass increased anxieties regarding one's physical attractiveness (Lewallen; Behm-Morawitz, 2016; Bell; Dittmar, 2011), decreased self-esteem (Vogel *et al.*, 2014; Xiao *et al.*, 2007), and a weakened sense of self-identity (Ma, 2019). This study aims to evaluate the attributes of female self-identity, and investigate the correlation between addiction to short videos, self-esteem, objectification of female content, internalization of beauty ideals, and self-identity. The goal is to develop a psychological framework that

enhances our comprehension of the self-identity of contemporary Chinese women. In this study, self-identity refers to a person's perception of themselves, which may unveil both the authentic and prospective selves (Liu *et al.*, 2015).

## 2. Related work

Empirical evidence indicates that in comparison to other forms of social media, short video platforms are replete with visually fragmented content concerning appearance, which have the potential to significantly impact users' perceptions of body images (Saiphoo; Vahedi, 2019). Female viewers' addiction to watching short videos depicting unattainable body standards leads to an excessive upward social comparison in terms of physical appearances, which in turn triggers cognitive bias against one's own physique (Dai, 2019; Politti-Corn; Fardouly, 2020; Kim; Park 2016). The upward social comparison means individuals comparing their actual-selves with the idealised online personas of others (Fardouly *et al.*, 2017). This comparison exacerbates the difference between one's true self-image and the desired way of presenting oneself, resulting in a negative self-assessment (Ma, 2019). Women engage in social comparisons by observing posts that they and others put on social media platforms to assess how they have been perceived by others (Festinger, 1954; Trudy; Leanne, 2016), and they tend to govern their online images by deliberately exhibiting their favorable self-images (Liu *et al.*, 2015; Rodgers; Melioli, 2016; Sung *et al.*, 2016). When everyone shares idealized self-portraits, an illusion of "biased positive" images arises in digital space, misleading viewers into believing that there are numerous beautiful women in the world, while I am merely unattractive.

Engaging in frequent upward social comparisons with others, particularly in terms of physical attractiveness, might inadvertently undermine women's self-esteem. Self-esteem refers to an individual's perception of oneself, which is shaped by how others evaluate him or her based on the criteria established by influential cohort members (Mead, 1934). Studies have shown that higher levels of upward social comparison are connected with lower levels of self-esteem (Niu *et al.*, 2016; Vogel *et al.*, 2014). Also, there is a link between Internet addiction and low self-esteem (Jiang; Yang, 2012; Xiao *et al.*, 2007), and thus, self-esteem is thought to have a negative relationship with short video addiction. Additionally, a correlation has been observed between an individual's self-esteem and their perception of their physical appearance; individuals who possess low self-esteem tend to hold a negative view of their own appearance (Baudson *et al.*, 2016; Lowery *et al.*, 2005). Accordingly, the following research hypotheses were proposed: **H1c**: short video addiction negatively influences the female self-esteem; **H4**: self-esteem positively predicts the female self-identity. Based on the hypotheses of **H1c** and **H4**, this study aims to verify the mediating effect of self-esteem on short video addiction and self-identity.

Research also indicates that short videos have the capacity to trigger feelings of appearance-related anxiety. Appearance anxiety is the emotional suffering that arises from worrying about how others view one's physical appearance. Appearance anxiety can be assessed using two methods: objectifying feminine content (Lewallen; Behm-Morawitz, 2016; Kim; Park, 2016; Politte-Corn; Fardouly, 2020) or internalising the concept of ideal beauty (Knauss *et al.*, 2007; Bell; Dittmar, 2011; Vartanian; Hopkinson, 2009). The former, objectifying feminine content, refers to the frequency with which women view short videos that objectify women. The presence of objectified female

content on a regular basis may impact the self-identity of women. A correlation has been established by research between the frequency and duration of social media usage by women and the degree to which they engage in body surveillance (Saiphoo; Vahedi, 2019). Exposure to visually appealing photos of women with make-up, fitness, weight loss, selfies, and similar content has a negative impact on women's overall satisfaction with their own appearance (Kim; Park, 2016; Lewallen; Behm-Morawitz, 2016; Politte-Corn; Fardouly, 2020). In other words, treating female content as an object may be directly proportional to the degree of appearance concern. Furthermore, research shows that viewing female content as simply objects is connected with low self-esteem (Dai, 2019). Accordingly, **H1b** is proposed: short video addiction is a negative predictor of objectifying feminine content; **H3 (a-b)**: objectifying feminine content negatively predicts female self-esteem and self-identity. Based on **H1b** and **H3 (a-b)**, this study aims to verify that the chain mediating effect of objectifying feminine content and self-esteem between short video addiction and self-identity is significant.

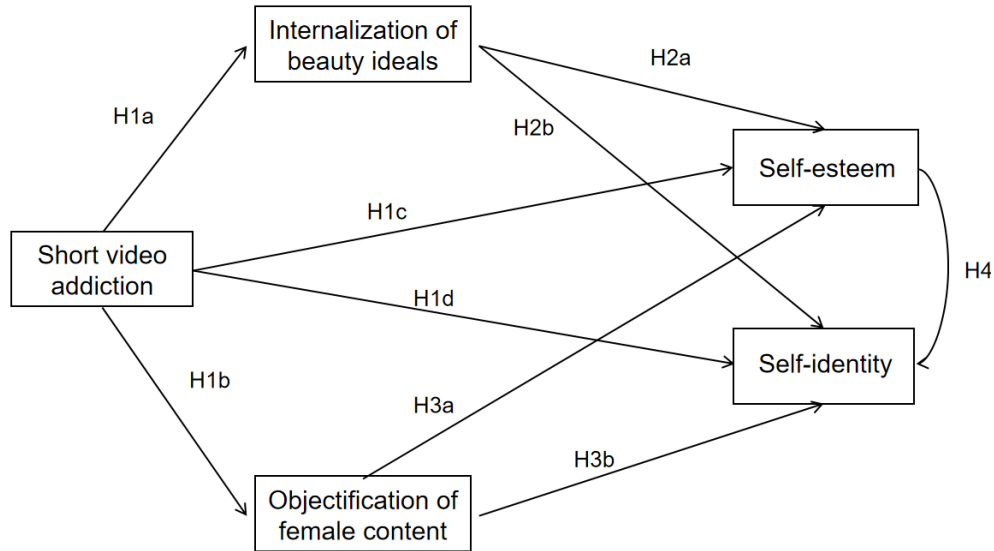
The concept of internalization of beauty ideals pertains to the process by which women adopt and internalise external standards or values of physical attractiveness (Reiman, 2010). The triple-influence model posited that individuals are subjected to a multitude of social and cultural influences, including electronic media, which promote an idealised notion of social recognition based on appearance. Consequently, individuals internalise this idealised standard and adopt it as their own evaluation of appearance. They then engage in frequent comparisons of their own appearance against this unrealistic ideal image (Thompson *et al.*, 1999). Short video platforms offer a superb venue for comparing one's appearance with others. Previous studies have established that a significant proportion of women hold the perception that they fail to satisfy the dominant aesthetic standards against which they are measured (Jacobi; Cash, 1994; Thompson *et al.*, 1999), leading to personal discontentment. Consequently, as the level of addiction to short videos increases, so does the frequency of engaging in appearance comparison, and the likelihood of perceiving oneself as not meeting societal beauty standards. Empirical studies have established that women's dissatisfaction with their physical appearance can be reliably predicted by the extent to which they internalise societal beauty ideals (Bell; Dittmar, 2011; Knauss *et al.*, 2007; Vartanian; Hopkinson, 2009). Put simply, the degree to which women internalise these standards of attractiveness is directly correlated with the intensity of their anxiety concerning their physical appearance, and thus influence their self-identity. Accordingly, the following research hypotheses were proposed: **H1a**: short video addiction negatively influences the female internalization of beauty ideals; **H2 (a-b)**: internalization of beauty ideals is a negative predictor of self-esteem and self-identity. Based on **H1a** and **H2 (a-b)**, this study aims to verify the chain mediating effect of internalization of beauty ideals and self-esteem between short video addiction and self-identity.

Self-identity refers to a person's perception of themselves, which may unveil both the authentic and prospective selves (Liu *et al.*, 2015). Self-esteem and appearance anxiety both have an impact on the establishment of one's self-identity. According to Fu *et al.* (2011), Qiu *et al.* (2020), and Zhao (2012), self-identity is substantially connected with self-esteem. Individuals with poor self-esteem, in general, engage in self-deprecating behaviour in response to setbacks (Wang; Xie, 2003). The objectification of women's content is also linked to self-identity (Kim; Park, 2016; Lewallen; Behm-Morawitz, 2016; Politte-Corn; Fardouly, 2020). Similarly, the extent to which an individual internalises beauty standards may influence their notion of self-identity. Personal dissatisfaction

with one's physical appearance might be caused by internalizing cultural beauty standards (Rodgers; Melioli, 2016; Rodgers *et al.*, 2011). Furthermore, research has revealed that women are more likely than men to be dissatisfied with their ideal physical appearance (Neumark-Sztainer *et al.*, 2006; Hargreaves; Tiggemann, 2004). Accordingly, a hypothesis **H1d** is proposed: short video addiction negatively predicts self-identity.

Based on the above-mentioned literature review, this study is to test the hypotheses that short video addiction influences female self-identity through three mediating variables: self-esteem, the objectification of female content, and the internalization of beauty ideals (Figure 1).

Figure 1. Hypothesized model



### 3. Research methodology

#### 3.1. Participants

This study adopted convenience sampling method by sending out the questionnaires to female short video users via several most popular Chinese social media platforms: *Sina Weibo* (the Chinese equivalent of *Twitter*), *Xiaohongshu* (the Chinese equivalent of *Instagram*), *Douban* (the Chinese equivalent of *Reddit*), and *WeChat* (the Chinese equivalent of *Whatsapp*).

Each participant received a monetary reward at approximately 0.80 USD for completing a questionnaire. A screening question "Do you watch short videos" is available on the first page of the questionnaire. If the user chooses "Yes", they will continue to do the questionnaire. If the answer is "No", the survey will automatically end, and the questionnaire data were not included in the results. A total of 505 questionnaires were collected, but 83 participants took less than a minute to fill out the questionnaire and 22 participants continuously select the same option. So, 105 that did not meet the requirements were removed. After the user answers the questionnaire, the results will be reviewed, and the user who effectively answers the questionnaire will be paid through the "WJX" (questionnaire distribution platform). Among the 400 valid participants, one is under 18, and the majority (60.25%) of them fall under the 18–25 age bracket. Over one-fifth are between 26–30, and 18.5% are over 31 (Table 1).

Table 1. Descriptive statistics for general variables

Variables	Classification	Frequency	Percentage
Age	under 18	1	0.25
	18–25	241	60.25
	26–30	104	26.00
	over 31	74	18.50
Overall use time of the short video	1 (under 3 months)	21	5.25
	2	37	9.25
	3	93	23.25
	4	119	29.75
	5 (more than 3 years)	130	32.50
Frequency of short video usage	1 (once a month)	22	5.50
	2	11	2.75
	3	23	5.75
	4	73	18.25
	5	114	28.50
	6	81	20.25
	7 (more than 10 times a day)	76	19.00
Daily usage duration of short videos	1 (under 10 minutes)	25	6.25
	2	56	14.00
	3	115	28.75
	4	117	29.25
	5 (more than 3 hours)	87	21.75

### 3.2. Measurement constructs

#### 3.2.1. Short video addiction scale

This study employed the short video addiction scale developed by Li *et al.* (2021) to assess our participants' addiction levels. Fourteen questions involving four dimensions of short-video addiction are designed in our questionnaire (withdrawal, Q1–5; escape, Q6–8; runaway, Q9–12; and inefficiency, Q13–14). The scoring system uses a 5-point Likert scale.

The findings indicate a good Cronbach's coefficients for all dimensions: 0.884 for the withdrawal dimension, 0.742 for the escape dimension, 0.723 for the overrun dimension, and 0.842 for the inefficiency dimension. The Cronbach's  $\alpha$  coefficient for the overall scale was 0.906, indicative of a high degree of reliability.

#### 3.2.2. Objectifying feminine content scale

The assessment of the objectification of female content was based on the frequency of watching content that portrays women as objects. This research followed the previous study and classified the content into five distinct categories: beauty, fitness, weight loss, selfies, and body display (Jebeile *et al.*, 2021; Kim; Park, 2016; Lewallen; Behm-Morawitz, 2016; Politte-Corn; Fardouly, 2020). This scale included a 5-point Likert scale (1 = Never; 5 = Always), with higher scores indicating a greater degree of the objectification of female content. The study yielded a Cronbach's  $\alpha$  coefficient of 0.826, indicating a good level of reliability.

#### 3.2.3. Internalising the ideal beauty scale

The measurement of the internalisation of beauty ideals was conducted using the internalised subscale of the Sociocultural-Attitude-Towards-Appearance Questionnaire (SATAQ) as developed by Heinberg *et al.* (1995). A reverse scoring question was used to assess the level of acceptance and internalisation of the ideal beauty among individuals with high scores. "Short video" was utilised in place of "TV" for the purposes of this research. Based on the Cronbach's  $\alpha$  coefficient of 0.805, the reliability of this scale was deemed to be satisfactory.

### 3.2.4. Self-identity scale

The self-identity scale (Ochse; Plug, 1986) is used to evaluate one's self-identity. The scale consisted of 19 questions, each evaluated on a 4-point scale ranging from 1 ("completely inconsistent") to 4 ("very consistent"). There were 12 reverse scoring questions. Ultimately, the scores of all the questions were summed together and added to the overall score of the scale. A greater total score corresponds to a more robust sense of self-identity. The Cronbach's  $\alpha$  coefficient of 0.779, indicating a satisfactory level of reliability.

### 3.2.5. Self-esteem scale

The degree of self-esteem was measured using Rosenberg's (1965) self-esteem scale. There are four questions that are scored in reverse, with a scoring system of four points. The higher the score, the more pronounced the individual's sense of self-esteem. The study yielded a Cronbach's  $\alpha$  coefficient of 0.825, indicating a good reliability.

## 3.3. Data analysis method

Descriptive statistics and correlation analysis were conducted using SPSS 24.0. The researcher employed Model 6 in the PROCESS programme (Hayes, 2018a) to evaluate multiple mediation effect. The significance of the mediation effects was assessed using the bias-corrected percentile bootstrap technique, sampled 5000 times.

# 4. Results

## 4.1. Common method bias test

Common method bias occurs when independent and dependent variables exhibit spurious covariation as a result of data collection from the same study participants in the same measurement context using similar questionnaire item with similar characteristics that affect participants' comprehension and response to questions (Podsakoff *et al.*, 2003). Common method biases are systemic errors that are unrelated to individual traits and can compromise the validity of measurements.

To mitigate the potential occurrence of common method bias, the researchers employed the Harman single factor method in this study. The results of this analysis indicated that out of the 27 factors examined, all had eigenvalues exceeding one. Furthermore, the highest factor variance observed was 17.533%, which is below the threshold of 40%. These findings suggest that there is no substantial presence of common method bias in this investigation (Podsakoff *et al.*, 2003; Harris; Mossholderk, 1996).

## 4.2. Descriptive statistics and correlation analysis

The means, standard deviations, and inter-correlations among the variables are reported in Table 1. The correlation analysis revealed a positive correlation between short video addiction and the objectification of female content as well as the internalization of beauty ideals. Additionally, it indicated a negative correlation between short video addiction and self-identity and self-esteem. The objectification of female content is positively correlated with the internalization of beauty ideals, but has a negative impact on self-identity and self-esteem. The internalization of beauty ideals is positively correlated with self-identity, and negatively correlated with self-esteem. Self-identity and self-esteem have a favourable correlation (Table 2).

Table 2. Descriptive statistics for general variables

Variables	M	SD	Short video addiction	Self-esteem	Objectification of female content	Internalization of the beauty ideals	Self-identity
Short video addiction	45.26	11.346	—				
Self-esteem	28.58	4.271	-0.155**	—			
Objectification of female content	16.27	4.778	0.400**	0.061	—		
Internalization of the beauty ideals	28.41	5.684	0.356**	0.038	0.607**	—	
Self-identity	52.72	6.935	-0.316**	0.663**	-0.138**	-0.109*	—
Short video addiction	45.26	11.346	—				

## 4.3. Mediation effect tests

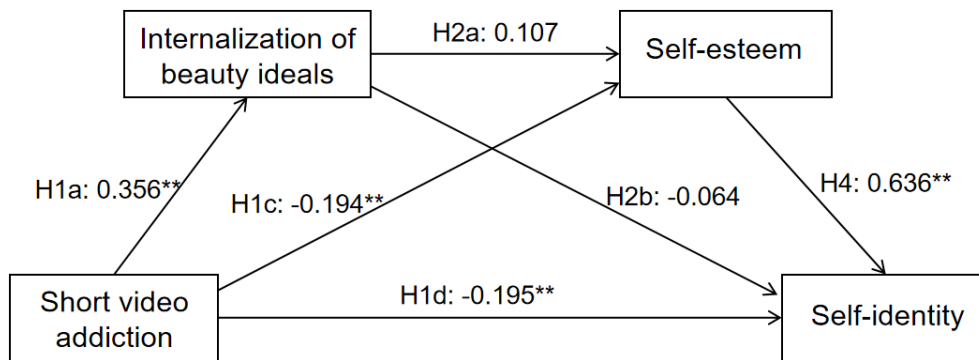
The objective of our study was to investigate the mediating mechanisms through which short video addiction affects self-identity.

### 4.3.1. Internalization of beauty ideals and self-esteem

Regarding the relationships between the independent variable and the mediators (Figure 2), the coefficients for the paths of internalization of beauty ideals and self-esteem are 0.356 and -0.194 respectively. This suggests that short video addiction has a positive impact on internalization of beauty ideals and a negative effect on self-esteem. The observed statistically significant relationship between short video addiction and self-identity ( $\beta = -0.195$ ,  $p < 0.05$ ) indicates that short video addiction directly influences self-identity. Regarding the relationship between each mediator and the dependent variable, it is evident that self-esteem exhibits a statistically significant and positive correlation with self-identity ( $\beta = 0.636$ ,  $p < 0.05$ ).



Figure 2. Chain mediation effect of internalization of beauty ideals between self-esteem, short video addiction and self-identity



However, the direct impact of internalization of beauty ideals on self-esteem is not significant, indicating that internalization of beauty ideals does not directly affect self-identity. Therefore, hypotheses 1(a, c, d) and 4 received support, while hypotheses 2(a, b) were not.

Table 3. Results of the mediation test for internalization of beauty ideals and self-esteem

	Effect value	Boot SE	Boot 95% CI lower	Boot 95% CI upper	Effect value
Total effect	-0.317	0.048	-0.410	-0.223	-
Direct effect	-0.195	0.039	-0.272	-0.118	61.51
Total mediation effect	-0.122	0.034	-0.188	-0.055	38.49
Path 1: SVA → IOBI → SI	-0.023	0.015	-0.054	0.004	7.26
Path 2: SVA → SE → SI	-0.123	0.032	-0.183	-0.060	38.80
Path 3: SVA → IOBI → SE → SI	0.024	0.012	0.003	0.050	-7.57

SVA, short video addiction; IOBI, internalization of beauty ideals; SE, self-esteem; SI, self-identity

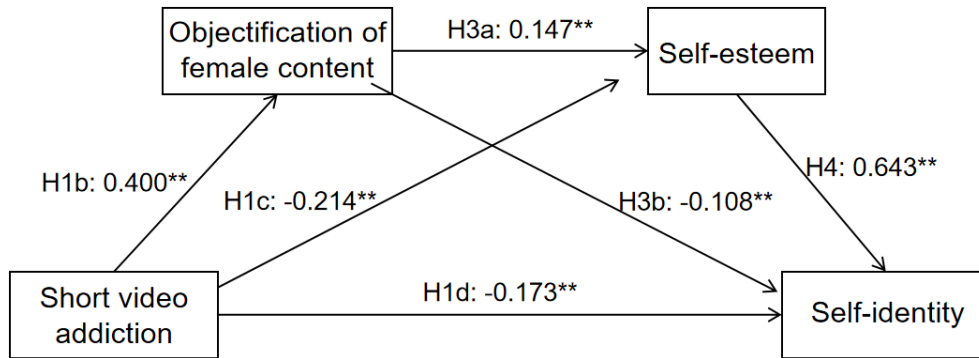
The mediation effect was tested using the Bootstrap method (5000 repeats). The findings, as presented in Table 3, demonstrate that short video addiction has a direct impact on participants' self-identity, with an effect value of  $-0.195$ . The observed direct effect explains 61.51 % of the total effect, suggesting that short video addiction is a significant predictor of self-identity. Regarding the mediation effect, self-esteem ( $\beta = -0.123$ , 95 %, LLCI =  $-1.303$ , ULCI =  $-0.416$ ) act as a mediator of the influence of short video addiction on self-identity. However, the mediating effect of internalization of beauty ideals isn't significant (95 %, LLCI =  $-0.373$ , ULCI =  $0.030$ ). The statistical analysis reveals that the chain mediating effect of internalization of beauty ideals and self-esteem ( $\beta = 0.024$ , 95 %, LLCI =  $0.017$ , ULCI =  $0.343$ ) between short video addiction and self-identity is statistically significant. This indicates that internalization of beauty ideals pass through self-esteem to have mediating effect on self-identity.

The study found that short video addiction had a mediation effect on self-identity, accounting for 38.49 % of the total effect. This mediation effect occurred through two chains: first, the mediation effect of short video addiction on self-esteem, which in turn influenced self-identity (indirect effect =  $-0.123$ ); second, the chain mediation effect of short video addiction on the internalization of beauty ideals, which then influenced self-esteem and ultimately self-identity (indirect effect =  $0.024$ ).

### 4.3.2. Objectification of female content and self-esteem

The results presented in Figure 3 indicate that short video addiction, as an independent variable, has a statistically significant positive association with objectification of female content ( $\beta = 0.400$ ,  $p < 0.05$ ), a significant negative association with self-esteem ( $\beta = -0.214$ ,  $p < 0.05$ ), and a direct, negative effect on self-identity ( $\beta = -0.173$ ,  $p < 0.05$ ).

Figure 3. Chain mediation effect of objectification of female content and self-esteem between short video addiction and self-identity



For the relationships between each mediator and the dependent variable, objectification of female content ( $\beta = -0.108$ ,  $p < 0.05$ ) and self-esteem ( $\beta = 0.643$ ,  $p < 0.05$ ) are significantly related to self-identity. This suggests that objectification of female content serves as a negative predictor of self-identity and self-esteem is a positive predictor of self-identity. Also, the path coefficient of objectification of female content  $\rightarrow$  self-esteem is significant ( $\beta = 0.147$ ,  $p < 0.05$ ), suggesting that objectification of female content directly and positively influence self-esteem. The data presented above indicates that hypothesis 1(b–d), 3(a–b), and 4 have been supported.

Table 4. Results of the mediation test for objectification of female content and self-esteem

	Effect value	Boot SE	Boot 95% CI lower	Boot 95% CI upper	Effect value
Total effect	-0.316	0.047	-0.404	-0.220	-
Direct effect	-0.173	0.039	-0.248	-0.094	54.75
Total mediation effect	-0.143	0.035	-0.211	-0.077	45.25
Path 1: SVA $\rightarrow$ IOBI $\rightarrow$ SI	-0.043	0.017	-0.078	-0.013	13.61
Path 2: SVA $\rightarrow$ SE $\rightarrow$ SI	-0.138	0.033	-0.202	-0.073	43.67
Path 3: SVA $\rightarrow$ IOBI $\rightarrow$ SE $\rightarrow$ SI	0.038	0.109	0.010	0.071	-12.03

SVA, short video addiction; IOBI, internalization of beauty ideals; SE, self-esteem; SI, self-identity

As shown in Table 4, short video addiction serves as a statistically-significant negative predictor of self-identity, with an effect value of  $-0.173$ , which account for 54.75 % of the total effect. Regarding the mediation effect, self-esteem ( $\beta = -0.138$ , 95 %, LLCI =  $-1.423$ , ULCI =  $-0.493$ ) and objectification of female content ( $\beta = -0.043$ , 95 %, LLCI =  $-0.540$ , ULCI =  $-0.089$ ) act as mediating variables of the influence of short video addiction on self-identity. Furthermore, there is a significant chain mediating effect of objectification of female content and self-esteem ( $\beta = 0.038$ , 95 %, LLCI =  $0.066$ , ULCI =  $0.489$ ) between short video addiction and self-identity.

The study found that short video addiction had a mediation effect on self-identity, accounting for 45.33 % of the total effect. This mediation effect occurred through three chains: firstly, the mediating effect of short video addiction on the objectification of female content, which in turn influenced self-identity (indirect effect =  $-0.043$ ); secondly, short video addiction affected self-esteem, which then influenced self-identity (indirect effect =  $-0.138$ ); and thirdly, the chain mediation effect of short video addiction on the objectification of female content, which influenced self-esteem, and ultimately influenced self-identity (indirect effect =  $0.037$ ).

Overall, hypotheses 1(a–d), 3(a–b) and 4 have been supported, while hypotheses 2(a–b) have not.

## 5. Discussion

This study examined the effects of four variables, namely short video addiction, self-esteem, internalization of beauty ideals, and objectification of female content, on self-identity.

Short video addiction has a significantly negative and direct impact on self-identity, meaning that women who have a higher level of short video addiction tend to have a lower level of self-identity. Similarly, there was a direct negative correlation between short video addiction and self-esteem, suggesting that individuals with higher levels of short video addiction tend to have lower levels of self-esteem. Moreover, our study found that objectifying female content played a partial mediating role between short video addiction and self-identity, suggesting that individuals with a higher level of short video addiction exhibited a heightened level of objectifying female content, and then lower levels of self-esteem, and that short video addiction could not only directly affect self-identity, but also influence it through objectification of female content. In addition, self-esteem and objectification of female content play a role in the chain mediation between short video addiction and self-identity, which showed that short video addiction could influence objectification of female content through self-esteem, thus affecting self-identity.

One possible explanation for these findings could be that the addiction to short videos reduces contact with the outside world, causing women to escape from reality but living unrealistically in the virtual world (Yang; Lei, 2007). This, in turn, leads to significant damage to their social and psychological functioning in the real world (Yen *et al.*, 2008). Moreover, there exists a strong correlation between the amount of self-esteem and the extent of self-acceptance (Zhang *et al.*, 2022). Greater self-esteem corresponds to increased self-acceptance, resulting in a stronger sense of individual self-identity. However, objectification of female content negatively affects women's evaluation of their appearance, causing appearance anxiety, sabotaging women's self-acceptance, and thus reducing their self-esteem.

The results of these studies corroborated the connection between one's self-esteem and appearance anxiety (Baudson *et al.*, 2016; Lowery *et al.*, 2005). That is to say, women's self-esteem will influence how they perceive themselves, and women with low self-esteem will experience more severe appearance anxiety. Furthermore, Lord *et al.* (1994) found that the enhancement of female self-esteem is predominantly correlated with perceived self-attractiveness; conversely, a decrease in perceived attractiveness correlates with an increased propensity for appearance anxiety and a decline in self-esteem.

While the findings indicate that objectification of female content plays a mediating role, the internalization of beauty ideals does not. This could be attributed to the fact that the internalisation of ideal beauty for female short video users might not necessarily trigger negative social comparison and thus lead to severe self-doubt. Studies have identified three key motives for social comparison: self-evaluation, self-improvement, and self-satisfaction. These motivations lead to varied outcomes for individuals. Self-evaluation motivation refers to the desire to get a subjective assessment of one's appearances or skills by means of comparison, as proposed by Festinger in 1954. The urge for self-improvement stems from the desire to enhance oneself by drawing inspiration from exemplary persons, thereby acquiring valuable insights on personal growth (Taylor; Lobel, 1989). Self-satisfaction involves evaluating a certain aspect of oneself in relation to someone who is seen to be of lower status or ability (Wills, 1981). Thus, while individuals may internalize the concept of ideal beauty, social comparison may not be driven by self-evaluation, but rather by the need for self-improvement, in order to preserve self-esteem and self-identity.

Individuals exhibiting a low level of short video addiction demonstrate high levels of self-esteem and exceptional adaptability in social contexts. Individuals who are highly addicted to short videos, on the other hand, tend to objectify female content, internalize beauty ideals, and have a low self-evaluation because they are dissatisfied with their bodies (Kim; Park, 2016). This leads to increased anxiety about their appearance and a diminished sense of self-identity (Rodgers; Melioli, 2016). In contrast, individuals who are more addicted to short videos are less exposed to reality (Kraut *et al.*, 1998). As a result, watching short videos is the primary source of their self-esteem and self-identity development, resulting in lower self-esteem, heightened physical appearance anxiety, and diminished self-identity.

Nonetheless, results should be considered with several limitations in mind. Firstly, the study was only for female short video users in China and did not examine users in other countries. Secondly, the study only studied the effect of short video addiction on self-identity and did not study other factors such as the source and type of short video. Future research should explore this aspect. Thirdly, the sense of self-identity may be influenced by other factors, such as depression, anxiety, and so on, but these factors were not excluded in this study.

## 6. Conclusion

In conclusion, this study explored the relationships and mechanisms between self-identity and short video addiction, self-esteem, internalization of beauty ideals, and objectification of female content, providing a theoretical foundation for gaining a deeper understanding of the factors that influence females' self-identity. At the same time, it offers new ideas for enhancing women's self-identity. In addition, previous studies on women's appearance anxiety have given less attention to self-esteem and self-identity. This study, however, looks more extensively into both aspects, so broadening the investigation of the factors impacting women's self-identity.

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