



Effect of Short Video Addiction on Self-identity: Mediating Role of Self-esteem and Appearance Anxiety

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Abstract. The current study aims to explore the mediating role of self-esteem and appearance anxiety between short video addiction and self-identity among female users of short videos. 400 female users were recruited via short video addiction scale, self-esteem scale, objectification of female content scale, internalization of beauty ideals scale, self-identity scale. The results found: (1) Self-esteem played a significant mediating role between short video addiction and self-identity; (2) The chain mediating effect of internalization of beauty ideals and self-esteem was not significant; (3) The chain mediating effect of objectification of female content and self-esteem was significant. Therefore, self-esteem and part of appearance anxiety acted as mediators in the relationship between short video addiction and self-identity. The higher the short video addiction is, the lower self-esteem is, the higher the appearance anxiety is, hence, the more likely the person would not identify with themselves. The relevant results have reference value for an in-depth understanding of the influence mechanisms of contemporary female self-identity

Keywords: Short video addiction; Self-esteem; Appearance anxiety; Self-identity

1 Introduction

Short video addiction refers to the psychological behavior of having a strong, continuous sense of desire and dependence on the short video APP¹. According to the 2023 "Her Economy" Insight Report released by QuestMobile (2023), by January 2023, the number of active users of mobile Internet women reached nearly 600 million, and the average monthly usage time of female users reached 163.6 hours, among which the stickiness of short videos and social platforms is very high. QuestMobile (2023) reported that women spend about five hours a day using the Internet, and more frequently browse content related to appearance management, such as beauty makeup². Therefore, the female group is still the main consumer group of the "appearance economy", and the first consumer goods that they pay attention to are beauty products. Researchers pointed out that women frequently browsing such content on new social media would increase their attention to their bodies³⁻⁵.

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The addiction to short videos related to unrealistic body appearances leads to excessive upward social comparisons in appearance, causing cognitive bias in the body. Individuals make social comparisons by watching the content presented by themselves and others on social platforms to judge how they have been recognized by others⁶⁻⁷. In addition, due to the non-instant communication and editable features of social networking sites, people would manage their image and identity-related information in these social environments. As a result, individuals tend to selectively show their positive self⁸⁻¹⁰.

There is plenty of "positively biased" information on similar "we-media" platforms of short videos, that is, the content displayed by many outstanding individuals. Compared with other types of social media, short video platforms are filled with visually fragmented content related to appearance, which will have a greater impact on users' body images¹¹. Therefore, the comparison made by women with short video addiction's daily appearance is mostly upward social comparison¹². Upward social comparison is to compare their actual offline selves with the selves that others present online (ideal selves), which would create a greater gap between the ideal image and their own images, putting a negative impact on self-evaluation¹³.

Too many upward social comparisons in appearance lead to hidden damage to women's self-esteem. Self-esteem is the attitude of an individual towards him- or herself, which is formed through the internalization of the individual's evaluation of others based on the criteria adopted by the important people in their society¹⁴. First, studies have shown that higher levels of upward social comparison can lead to lower levels of self-esteem¹⁵⁻¹⁶. Secondly, self-esteem is negatively correlated with Internet addiction¹⁷⁻¹⁸. Therefore, it can be inferred that short video addiction and self-esteem are also negatively related. In addition, self-esteem is also related to self-evaluation of their appearance, with low self-esteem causing individuals to have a lower estimation of their appearance¹⁹⁻²⁰.

Appearance anxiety can also be influenced by watching short videos. Appearance anxiety is a kind of social evaluation anxiety pointing to appearance²¹ which can be measured in two ways, namely the objectification of female content²²⁻²⁴ or internalization of beauty ideals²⁵⁻²⁷.

The objectification of female content refers to the frequency at which women watch objective female content in short videos. The higher the frequency of short video use, the greater the probability of being exposed to the objective female content. The frequency of exposure to objectified female content can also influence women's self-identity. Studies have shown that there is a relationship between the length and frequency of social media use and women's body monitoring. Besides, viewing highly attractive images of women with makeup, fitness, weight loss, selfies, etc., reduces women's appearance satisfaction²²⁻²⁴. Therefore, the objectification of female content may be positively correlated with appearance anxiety. In addition, studies have shown that objective female content exposure is also correlated with self-esteem levels²⁸.

Internalization of beauty ideals refers to women's internalization of external ideal beauty standards or values of appearance²⁹. The triple influence model pointed out that, including electronic media, various social and cultural channels to individuals the ideal appearance of social recognition, individuals would internalize the ideal appearance

standard, make the unrealistic ideal image their evaluation of appearance standard, and frequently compare appearance based on this standard³⁰. Short video platforms provided an excellent place for appearance comparison. Studies have pointed out that the media, with both the depiction of the ideal body image and peer influence, conveyed information about the importance of appearance, making it easier for people to internalize the ideal beauty^{9,31}. Previous studies have shown that most people think they do not meet the popular aesthetic standards for comparison^{30,32}, which would lead to individual dissatisfaction with themselves. Therefore, the higher the degree of short video addiction, the higher the frequency of appearance comparison, and the more likely to think that they do not meet the public aesthetic standards. In addition, studies have shown that the internalization of ideal beauty could positively predict women's physical dissatisfaction²⁵⁻²⁷, that is, the degree of internalization of beauty ideals is positively correlated with appearance anxiety.

Besides, self-identity is an individual's understanding of themselves, which can reveal the true self and the self to grow in the future³³. Self-identity is influenced by self-esteem, as well as by appearance anxiety.

First, the level of self-esteem was significantly associated with the self-identity presentation³⁴⁻³⁶. For example, after experiencing failure, people with low self-esteem usually treat this result in a self-deprecating way³⁷. Second, the objectification of female content is also associated with self-identity²²⁻²⁴. At the same time, the degree of internalization of beauty ideals can also affect the self-identity of individuals, and the internalization of social ideal image will cause individual dissatisfaction with the body^{9,38}. Also, women usually experience more intense dissatisfaction with their ideal appearance than men³⁹⁻⁴⁰.

This study aims to explore the characteristics of female self-identity and try to explore the relationship between short video addiction, self-esteem, objectification of female content, internalization of beauty ideals, and self-identity, so as to provide a psychological basis for understanding the self-identity of contemporary women. Based on the abovementioned studies, this study proposes to hypothesize 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.

2 Method

2.1 Subjects

By sending the questionnaires to female users of short videos on the Internet, a total of 505 questionnaires were collected, 105 data that did not meet the requirements were removed, and 400 valid data were recovered, with an effective recovery rate of 79.21%. Among them, 1 (0.25%) was under 18, 241 (60.25%) aged 18-25, 84 (21%) aged 26-30, and 74 (18.5%) were over 31.

2.2 Research tools

2.2.1 Short video Addiction Scale.

This study used the college students' short video addiction scale¹. This questionnaire contains four dimensions (withdrawal, escape, runaway and inefficiency), including 1-5 for withdrawal, 6,7,8 for escape, 9-12 for runaway, and 13,14 for inefficiency, using 5 points Likert score system. The higher the score, the higher the short video addiction. In this study, Cronbach's α coefficient of withdrawal dimension was 0.884, Cronbach's α coefficient of escape dimension was 0.742, Cronbach's α coefficient of runaway dimension was 0.723, and Cronbach's α coefficient of inefficiency dimension was 0.842. The Cronbach's α coefficient of this scale was 0.906 suggesting high reliability.

2.2.2 The objectification of female content scale.

The objectification of female content was assessed by the frequency of viewing objectified female content. According to previous research, the content is divided into five categories: beauty, fitness, weight loss, selfies and body display^{22-24,41}. This scale used 5 points from "never" to "always", the higher the score, the higher the physical female degree. In this study, the Cronbach's α coefficient was 0.826, which showed high reliability.

2.2.3 Internalized Scale of Beauty Ideals.

Internalization of beauty ideals was measured using the internalized subscale of the Sociocultural Attitude Toward Appearance Questionnaire, SATAQ⁴². There was a reverse scoring question, and the people with a high score had a high degree of acceptance and internalization of the ideal beauty. In this study, to accommodate the research purposes, "TV" was replaced with "short video". Cronbach's α coefficient of this scale is 0.805, and the reliability was high.

2.2.4 Self-identity Scale.

Self-identity is assessed by the Self-identity scale⁴³. There were 19 questions on this scale, with 4 points scored, from "completely inconsistent" to "very consistent". There were 12 reverse scoring questions. Finally, all the scores of the questions were added to the total score of the scale. The higher the total score, the stronger the sense of self-identity. The Cronbach's α coefficient of this scale was 0.779, with relatively good reliability.

2.2.5 Self-esteem scale.

Rosenberg's self-esteem scale was used to measure the degree of self-esteem⁴⁴. There are 4 reverse scoring questions, using 4 points of scoring, the higher the score, the stronger the sense of self-esteem. In this study, Cronbach's α coefficient was 0.825 with good reliability.

2.2.6 Data processing method.

Descriptive statistics and correlation analysis were performed using SPSS24.0. Multiple mediation effect models were tested using model 6 in the PROCESS procedure⁴⁵ and the significance of mediation effects was sampled 5000 times using the method of percentile Bootstrap with bias correction.

3 Conclusion

3.1 Common method deviation test

First, Harman univariate detection was conducted, and the results showed that the 14 factors were greater than 1, and the variance interpretation rate of the maximum factor was 15.634% (<40%), so there was no serious common method bias in this study.

3.2 Description of statistics and correlation analysis

We first described the means and standard deviation respectively for women's short video addiction, self-esteem, internalization of beauty ideals, objectification of female content, and self-identity (Table 1).

The correlation analysis among various variables showed that short video addiction was positively correlated with the objectification of female content and internalization of beauty ideals, and negatively correlated with self-identity and self-esteem. Objectification of female content is positively correlated with the internalization of beauty ideals and negatively correlated with self-identity and self-esteem. The degree of internalization of beauty ideals is positively correlated with self-identity, and negatively correlated with self-esteem. Self-identity is positively correlated with self-esteem (Table 1).

Table 1. Descriptive statistics and correlation analysis of short video addiction, self-esteem, objectification of female content, internalization of beauty ideals, and self-identity

Variables	M	SD	1	2	3	4	5
1 Short video addiction	45.26	11.346	—				
2 Self-esteem	28.58	4.271	-0.155**	—			
3 Objectification of female content	16.27	4.778	0.400**	0.061	—		
4. Internalization of the beauty ideals	28.41	5.684	0.356**	0.038	0.607**	—	
5 Self-identity	52.72	6.935	-0.316**	0.663**	-0.138**	-0.109*	—

Note: * * p < 0.01, the same below

3.3 Analysis of the mediation effect of self-esteem and internalization of the beauty ideals between short video addiction and self-identity

The indirect effect of the pathway with self-esteem as the mediating variable was -0.6849 (95%, LLCI=-1.142, ULCI=-0.2613). The path indirect effect of using internalization of the beauty ideals as the mediating variable was -0.1652 (95%, LLCI=-0.3893, ULCI=-0.0281). The indirect effect of the pathway with self-esteem and internalization of the beauty ideals as chain mediators was 0.0066 (95%, LLCI=-0.0013, ULCI=0.0221). Total indirect effects were -0.8435 (95%, LLCI=-1.3489, ULCI=-0.3763)

After specific analysis, short video addiction significantly negatively predicted self-esteem ($\beta = -0.1554$, $t = -3.138$, LLCI = -0.2527, ULCI = -0.0581) and positively predicted internalization of the beauty ideals ($\beta = 0.3712$, $t = 7.8603$, LLCI = 0.2784, ULCI = 0.4641).

Self-esteem could significantly positively predict internalization of beauty ideals ($\beta = 0.0957$, $t = 2.0274$, LLCI = 0.0029, ULCI = 0.1886), and internalization of beauty ideals could not significantly negatively predict self-identity ($\beta = -0.445$, $t = -1.6623$, LLCI = -0.9712, ULCI = 0.0813).

Self-esteem played a significant partial mediation role between short video addiction and self-identity, and self-esteem- internalization of beauty ideals did not play a significant chain mediation role between short video addiction and self-identity (Figure 1).

The mediation effect was further tested by the Bootstrap method (5000 repeats), and the results showed that (Table 2): the mediation effect of short video addiction on self-identity (38.45% of the total effect) was generated through one mediation chains: the mediation effect of short video addiction → self-esteem → self-identity (indirect effect = -0.685).

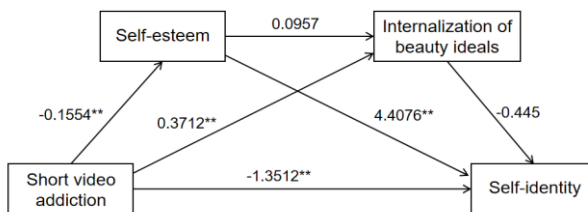


Fig. 1. Chain mediation effect of self-esteem and internalization of beauty ideals between short video addiction and self-identity

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

Effect	Way	Effect value	Effect quantity	95% confidence interval	
				Lower limit	Superior limit
Direct effect	Short video addiction → Self-identity	-1.351	59.91%	-1.886	-0.819

	Short video addiction→Self-esteem→Self-identity	-0.685	31.21%	-1.142	-0.261
Mediation effect	Short video addiction→internalization of beauty ideals→Self-identity	-0.165	7.52%	-0.389	0.028
	Short video addiction→Self-esteem→Internalization of beauty ideals→Self-identity	0.007	-0.32%	-0.001	0.002
	Total mediation effect	-0.844	38.45%	0.224	0.786
Gross effect		-2.195	100%	-2.843	-1.546

3.4 Analysis of the mediation effect between self-esteem and objectification of female content in short video addiction and self-identity

The indirect effect of pathway with self-esteem as the mediating variable was -0.693 (95%, LLCI=-1.1368, ULCI=-0.2679). The indirect effect with objectification of female content as the mediated variable was -0.314 (95%, LLCI=-0.5591, ULCI=-0.0958), The indirect effect of pathway using self-esteem and objectification of female content as chain mediating variables was 0.0147 (95%, LLCI=0.0021, ULCI=0.0365). The total of all indirect effects was reported as -0.9923 (95%, LLCI=-1.4898, ULCI=-0.5174).

After specific analysis, short video addiction significantly negatively predicted self-esteem ($\beta = -0.1554, t = -3.138, LLCI = -0.2527, ULCI = -0.0581$) and positively predicted objectification of female content ($\beta = 0.4198, t = 9.1014, LLCI = 0.3291, ULCI = 0.5105$).

Self-esteem significantly positively predicted objectification of female content ($\beta = 0.1262, t = 2.737, LLCI = 0.0356, ULCI = 0.2169$) and objectification of female content significantly negatively predicted self-identity ($\beta = -0.7478, t = -2.7451, LLCI = -1.2834, ULCI = -0.2123$).

Therefore, self-esteem played a significant partial mediation role between short video addiction and self-identity, and self-esteem together with objectification of female content played a significant chain mediation role between short video addiction and self-identity (Figure 2)

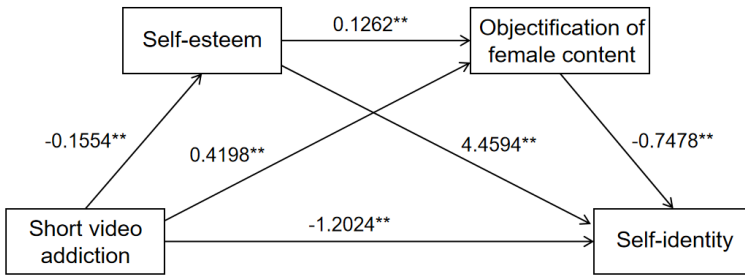


Fig. 2. Chain mediation effect of self-esteem and objectification of female content between short video addiction and self-identity

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

Effect	Way	Effect value	Effect quantity	95% confidence interval	
				Lower limit	Superior limit
Direct effect	Short video addiction→Self-identity	-1.202	54.76%	-1.744	-0.661
	Short video addiction→Self-esteem→Self-identity	-0.693	31.57%	-1.133	-0.272
	Short video addiction→Objectification of female content→Self-identity	-0.314	14.31%	-0.557	-0.09
Mediation effect	Short video addiction→Self-esteem→Objectification of female content→Self-identity	0.015	-0.68%	0.002	0.037
	Total mediation effect	-0.992	45.33%	-1.496	-0.51
Gross effect		-2.195	100%	-2.843	-1.546

The mediation effect was further tested by Bootstrap method (5000 repeated sampling). The results showed (Table 3) that the mediation effect of short video addiction on self-identity (45.33% of the total effect) was generated through three mediation chains: first, the mediation effect of short video addiction→self-esteem→self-identity (indirect effect= -0.693); second, the chain mediation effect composed of short video addiction→objectification of female content→self-identity (indirect effect= -0.314); and third , the chain mediation effect composed of short video addiction→self-esteem→objectification of female content→self-identity (indirect effect=0.015) .

4 Discussion

This study tested four independent or control variables, short video addiction, self-esteem, internalization of beauty ideals, and objectification of female content, to explore their influences on self-identity.

First, the direct effect of short video addiction on self-identity was significant, that is, short video addiction can directly predict self-identity. This suggested that individual women with more addiction to short videos had a lower level of self-identity. Second, short video addiction negatively predicted self-esteem, indicating that higher levels of short video addiction indicated lower self-esteem levels. In addition, it indicated that individuals with a higher addiction to short video had a higher degree of objectification of female content; objectification of female content negatively predicts self-identity, indicating that individuals with a higher short video addiction degree possessed lower self-esteem. Objectification of female content played a partial mediating role between short video addiction and self-identity, which showed that short video addiction could not only directly affect self-identity, but also influence it through objectification of female content. This shows that the higher the degree of short video addiction, the higher the degree of individual objectification of female content; objectification of female content negatively predicts self-identity, indicating that the higher the degree of this trait, the lower the individual's self-identity. Finally, 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.

This study found that self-esteem played a significant mediator between short video addiction and self-identity. This may be because the addiction to short videos will lead to less contact with the outside world and less addiction to the Internet to escape reality⁴⁶, leading to obvious social and psychological function damage⁴⁷, thus affecting the level of individual self-esteem. In addition, the level of self-esteem is closely related to the degree of self-acceptance⁴⁸. The higher the level of self-esteem, the higher the degree of self-acceptance, thus the higher the degree of individual self-identity.

This study found that self-esteem and objectification of female content mediate a link between short video addiction and self-identity. This result confirmed the relationship between self-esteem and appearance anxiety¹⁹⁻²⁰. That is, self-esteem will affect women's evaluation of their appearance, and low self-esteem will make women have more serious appearance anxiety. This may be because short video addicts use short video platforms as the main channel to meet their self-esteem needs, this reduces their contact with reality and reduces social adaptation behavior. It affects the individual's self-esteem level, thus further increasing the intensity of the use of short videos, causing a vicious circle. In addition, the improvement in female self-esteem is mainly related to the perceived self-attractiveness⁴⁹, the lower the perceived appearance attractiveness, the more likely it is to develop appearance anxiety, and the lower the self-esteem level.

Although the results show that objective female content plays a mediating role, the internalization of beauty ideals does not. This may be because the frequency of exposure to idealized images is the direct cause of body dissatisfaction. Some studies have pointed out that the amount of media consumption can predict long-term physical and

appearance dissatisfaction and even the degree of female body dissatisfaction increases with the exposure to the perfect image²⁶. The influence of internalization of beauty ideals on self-identity lies in that if women are exposed to idealized images too often, it leads to body dissatisfaction, which emphasizes the frequency of contact with idealized images, rather than the degree of internalization of beauty ideals. However, the influence of the objectification of female content on self-identity lies in the fact that the higher the frequency of female individuals contacting the materialized female content, the greater the probability of contacting the idealized image, and the more likely they are to be dissatisfied with the body.

Generally speaking, individuals with a low degree of addiction to short videos have a high level of social adaptability and high self-esteem, while individuals with a high degree of objectification of female content and internalization of beauty ideals content have a low evaluation due to dissatisfaction with their bodies^{9,23}, which may be the reason for the low sense of self-identity and appearance anxiety. In contrast, individuals with higher addiction to short videos have less exposure to reality⁵⁰. Meanwhile, the source of self-esteem needs, and self-identity is mostly from short videos, which leads to lower self-esteem, more physical anxiety, and lower self-identity.

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 basis for a deeper understanding of the influencing factors of female self-identity. At the same time, it provides new ideas for improving women's self-identity. In addition, previous studies on women's appearance anxiety have less focused on self-esteem and self-identity. This study has explored both in-depth and deepened the exploration of the factors influencing women's self-identity.

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