

A Study of the Pathways of Tiktok Use on Chinese Adolescents' Self-Esteem

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Abstract. In today's digital world, social media has become deeply embedded in adolescents' daily lives, and research related to online short-form media and adolescents' psychological development is gradually increasing. This fresh, instantaneous, and globalised interaction brings new ways of communication to adolescents, but also brings also brings mental health challenges. This research investigates the bifurcated impact of the TikTok short-form video platform on the progression of adolescent self-esteem. TikTok presents adolescents with avenues for self-articulation and societal acknowledgment, thereby potentially fortifying self-identity and communal affiliation. Conversely, mechanisms of social comparison and algorithmic curation may precipitate a decline in self-esteem, an escalation of anxiety, and the potential for problematic short-form video engagement. In addition, the study points out the limitations of existing methods and suggests that neuroscience and longitudinal studies should be combined in the future for a deeper understanding of their long-term effects. Meanwhile, it is suggested that media literacy education, parental guidance, content creation incentives, and psychological support should be used to help adolescents use short videos in a healthier way and to balance their positive and negative effects.

Keywords: Teenagers, TikTok, self-esteem, education, social media

1. Introduction

Since 2016, the expansion of short-form video applications such as TikTok, propelled by the increasing ubiquity of mobile internet access and the pervasive influence of social media platforms, has become inextricably linked to the developmental landscape of adolescence. As a highly interactive digital ecosystem, TikTok garners substantial engagement from teenage demographics, serving as a conduit for information acquisition, recreational pursuits, and social interaction, thereby facilitating avenues for self-expression and the cultivation of social capital through user-generated content. Within the framework of educational psychology, adolescence represents a pivotal juncture for the establishment of self-esteem, wherein external determinants, encompassing peer affiliations, familial dynamics, and the pervasive presence of social media, exert considerable influence. The virtual interactions engendered by TikTok wield a profound influence on adolescent psychological development, shaping perceptions of self-worth and social identity. This paper undertakes a synthesis of extant research pertaining to TikTok utilization and its correlation with adolescent self-esteem, with the objective of elucidating the conceptual underpinnings and developmental

trajectories of self-esteem, delineating the multifaceted impact of TikTok on this construct, and identifying salient moderating factors. The overarching aim is to furnish actionable insights for researchers, educators, and industry stakeholders, thereby fostering the cultivation of a supportive and developmentally appropriate short-form video milieu conducive to the enhancement of adolescent self-esteem and overall psychological well-being.

2. The concept and development of self-esteem in adolescents

2.1. Definition and psychological significance of self-esteem

Self-esteem is an individual's overall evaluation of his or her values and abilities, and the resulting self-acceptance or self-denial. According to psychologist Rosenberg, self-esteem reflects an individual's holistic evaluation of themselves and influences their emotions, behavior, and social adaptability [1]. Self-esteem plays a crucial role in psychological well-being, academic achievement, interpersonal relationships, and behavioral decision-making. Individuals with high self-esteem tend to be more psychologically resilient and able to cope with challenges more positively. In contrast, those with low self-esteem may be more prone to anxiety, depression, or social avoidance tendencies. In addition, the level of self-esteem also influences an individual's motivation and behaviour, with high self-esteem individuals often being more motivated to pursue goals, whereas low self-esteem individuals may be self-limiting due to fear of failure. Therefore, self-esteem is not only an important part of an individual's self-perception but also a key factor in psychological health and social adaptation, and the development of a healthy level of self-esteem is important for promoting personal growth and well-being.

2.2. Characteristics and developmental needs of self-esteem in the adolescent stage (12 to 18 years)

According to a longitudinal study [2], adolescents' self-esteem shows a curvilinear increase from 14 to 21 years of age, with a more pronounced increase in self-esteem during adolescence (14-21 years of age), a finding that suggests that adolescence is a critical stage in the development of self-esteem, which may be closely related to adolescents' experiences of identity exploration, social role change, and cognitive maturation. Adolescent development between the ages of 12 and 18 is a complex and dynamic process in which adolescents undergo rapid physical, psychological, and social changes and face significant challenges in the transition from childhood to adulthood. During this period, the development of self-esteem in adolescents is characterised by the following distinctive features:

(1) Fluctuation of self-esteem level: Due to the physical and mental changes of adolescence, the self-esteem level of adolescents does not grow steadily but shows fluctuation.

(2) High dependence on external evaluations: Adolescents' self-concept is not yet fully mature, and they tend to rely on external evaluations to construct their self-worth.

(3) The influence of social comparison is significant: the need for social interaction increases during adolescence, and they are more likely to assess their self-worth through social comparison.

(4) Positive correlation between achievement and self-esteem: Personal achievements such as academic performance, athletic ability, and artistic talent significantly affect adolescents' self-esteem.

During this critical developmental stage, adolescents require robust social support and a positive self-concept. Family, school, and peer affirmation are crucial for cultivating self-esteem.

Furthermore, exploration and cultivation of hobbies, academic pursuits, and valuable social connections enhance self-worth. Parents and educational institutions should grant adolescents autonomy, enabling them to experiment, assume accountability, and foster self-efficacy through successful experiences within secure environments.

3. Mechanisms of the tiktok platform's influence on adolescent behaviour

3.1. Basic functions of tiktok and adolescent use behaviour

TikTok, a short-video platform where everyone can post videos, offers 15-second to 1-minute creation features and supports users to add music, filters, special effects, and editing tools [3]. Video content includes daily entertainment, talent demonstration, and knowledge dissemination. Its fragmented content and instant entertainment are highly suited to teenagers' preferences, bringing a sense of relief and a temporary escape from real life to the audience. Literature data shows that there are more than 1.5 billion monthly active users of TikTok globally [4], and 92.7 per cent of Chinese teenagers use the platform [5], with 41 per cent of teenagers saying that they watch it at any time during their free time [6]. Particularly during the COVID-19, TikTok became a major tool for adolescents' recreation and socialisation, with 60% of users using it for more than 30 minutes per day [4]. As the viewing base grew, adolescents gained attention by parodying popular content, showcasing their talents or documenting their daily routines, and began shooting videos at home, school, markets, and anywhere. However, it is also easy to get caught in a cycle of "screen-scrubbing" as algorithms push repetitive content [3].

3.2. Social mechanisms and interaction patterns on the tiktok platform

TikTok's social mechanism is centred on "liking, commenting, and sharing", supplemented by fan interaction and topic challenges. The algorithm precisely pushes content through user behavioural data (e.g., viewing time, liking preference), forming an "information cocoon" [6]. Adolescents are integrated into groups by participating in popular topics (e.g., dance challenges), forming social circles based on shared interests [3]. However, this mechanism also exacerbates competitive relationships, with users quantifying their self-worth through the number of "likes" and some adolescents blindly imitating high-risk behaviours to gain traffic [4]. In addition, TikTok's "follow back" mechanism and fan group chats reinforce virtual social bonding, but may also lead to real social alienation[3].

3.3. Mechanisms of influence from the perspective of educational psychology

From an educational psychology standpoint, TikTok's influence on adolescents manifests primarily through social learning theory, social comparison, and self-identity formation. This multidimensional impact shapes learning habits and affects self-esteem development. Balancing the platform's positive and negative effects necessitates collaborative efforts from schools, families, and society to foster healthy adolescent development in the digital era via judicious guidance, mental health support, and enhanced media literacy.

3.3.1. Social learning theory and behavioural imitation

Adolescents form their self-perceptions by observing and imitating the behaviour of others; TikTok's short-form video content provides a rich 'behavioural model' for adolescents, but its impact

varies across individuals and contexts, and TikTok's online celebrities and content creators are invariably role models for adolescents.

Prolonged exposure to specific video content may unconsciously influence adolescent behaviors, values, and consumption patterns. For instance, urban youth, exposed to displays of affluence, may equate material possessions with success, while rural youth might emulate "grassroots rebellion" content, leading to frustration due to real-world limitations. Gender-specific content preferences are also evident, with girls focusing on appearance-based videos and boys imitating risky behaviors. Furthermore, platform algorithms prioritize sensational content, potentially limiting exposure to role models embodying intrinsic qualities like character and perseverance. The study found that only 12% of educational videos make it into the teen recommendation stream, compared to 63% of entertainment[3]. Some of the "rich" and "value-oriented" content may reinforce adolescents' materialistic tendencies or appearance anxiety.

3.3.2. Social comparison and self-esteem development

Individuals assess their value by comparing themselves with others. The number of likes, comments, and followers on TikTok has become an important indicator of social recognition for adolescents, amplifying the dimension and intensity of comparison, which may lead to an over-reliance on external evaluations to construct self-worth. In addition to traditional comparisons of appearance and wealth, adolescents began to compare dimensions such as the level of video editing and the number of followers. In addition, the gap in educational resources leads to rural adolescents being more prone to an inferiority complex. After being exposed to high-consumption content, adolescents from low-income families experience a decrease in self-esteem levels that is 2.3 times greater than that of adolescents from affluent families [5], a phenomenon that is particularly significant in adolescent populations, and which is prone to lead to psychological problems such as low self-esteem, anxiety, and even depression.

3.3.3. Self-identity development and dilemmas

TikTok usage during adolescence, a crucial period for self-identity formation, introduces variances in identity construction. For instance, urban adolescents may readily achieve acceptance via curated "high-class" online identities, potentially fostering detachment between their authentic selves and virtual personas. However, the "perfect" images and success stories on the TikTok platform may give rise to a sense of inferiority in comparison and may even lead to the misperception that these carefully packaged avatars represent real-world standards. However, at the same time, left-behind adolescents are more likely to become emotionally dependent on TikTok as a source of support. This may lead to a loss of direction in the process of exploring one's own identity, and an over-consumption of social trends at the expense of one's own real needs and values.

4. Positive effects of tiktok use on self-esteem

4.1. Social recognition and self-affirmation: positive feedback and attention

According to social identity theory, an individual's self-esteem is largely influenced by the evaluations of social groups. On the TikTok platform, adolescents can gain likes, comments, and attention by posting content, and this positive feedback enhances their recognition of their abilities and promotes positive self-identity. Furthermore, TikTok's feedback mechanism, through likes and comments, offers immediate social validation, fostering a sense of belonging among adolescents.

This data-driven affirmation enhances self-esteem by promoting positive self-perception and mitigating feelings of isolation. [5] Noted that adolescents' sense of self-worth significantly increased after gaining attention by posting talent videos through the TikTok platform. For example, users displaying dance or creative content often feel "seen" due to fan interaction, which strengthens their self-identity [3]. This positive social feedback can activate the reward system in the brain, increase dopamine production, and lead to a sense of fulfilment and self-confidence, especially for adolescents who are introverted or lack attention in reality [4].

4.2. Sense of achievement and self-confidence: boosting self-esteem through content creation and fan interaction

TikTok provides a wealth of editing tools and creative special effects that enable adolescents to be creative, produce content on their own, and gain audience recognition. [4] Adolescents demonstrably cultivate multimedia proficiencies in video production and editing, concurrently augmenting their communicative capabilities via engagement with their respective fan bases. For instance, musical artists refine their professional acumen through iterative rehearsal of choreographic sequences, while positive audience feedback serves to bolster their self-assurance [6]. The content creation process itself can enhance adolescents' sense of achievement, and when the work is widely disseminated, adolescents will further develop a sense of accomplishment, which will enhance their self-esteem level. When individuals feel that they can influence others and receive positive feedback, their self-esteem is further enhanced. In addition, some adolescents have become "campus Internet celebrities" through TikTok and gained status recognition in real society [4].

5. Negative effects of tiktok use on self-esteem

5.1. Social comparison and decreased sense of self-worth

TikTok's idealized personas instigate social comparisons among adolescents. Social comparison theory posits that individuals evaluate their self-worth by benchmarking against others. TikTok's Internet celebrities and Key Opinion Leaders (KOLs) frequently disseminate heavily curated videos showcasing idealized lifestyles, potentially precipitating feelings of inadequacy and discontent among adolescents due to the difficulty in replicating such standards in reality. It makes adolescents prone to upward comparisons with others, i.e., with more successful and popular people, which can lead to a decreased sense of self-worth. Guo [5] shows that 48.8% of adolescents feel inferior after seeing other people's achievements or appearance; Lin [4] points out that excessive exposure to the content of "showing off wealth" and "face value" may lead to self-denial. May lead to self-denial. For example, adolescents who cannot live up to the "Netflix standard" may fall prey to appearance anxiety or materialistic values [4]. This over-reliance on social validation may lead to conditioned self-esteem, whereby an individual's self-esteem is based on external feedback rather than their own stable value identity.

5.2. Damage to self-esteem from online violence and vicious comments

The openness of TikTok makes adolescents vulnerable to online violence and malicious comments, and negative social feedback can seriously impair self-esteem development. Adolescents may experience malicious criticism, mockery, or personal attacks on TikTok, leading to a decline in self-esteem. Cyberbullying is increasing on social media, where anonymity and low-threshold commenting mechanisms contribute to cyberviolence, and individuals who are attacked may

develop anxiety, depression, and even affect their real-life social skills.[4] Research indicates that adolescents are susceptible to depression and suicidal ideation following severe victimization. The 2022 case of Zheng Linghua, who faced extensive cyberbullying after sharing a photo of herself visiting her sick grandfather, post-master's acceptance, exemplifies this. Despite subsequent clarifications, unrelenting public censure exacerbated her trauma, culminating in her suicide.

5.3. Potential negative effects of over-reliance on virtual worlds on self-esteem

The robustness of self-esteem is contingent upon an individual's capacity to uphold a consistent self-appraisal across diverse, tangible scenarios. However, protracted engagement with TikTok, wherein adolescents become reliant on platform-derived social validation for self-esteem construction, may precipitate a neglect of real-world personal development. Subsequent detachment from the virtual sphere may engender a perceived deficit in authentic interpersonal connections, culminating in social apprehension and, consequently, impeding the protracted cultivation of self-esteem. Studies have pointed out [6] that some adolescents view virtual attention as the only source of self-esteem and are prone to frustration once fan growth stagnates or content goes cold. Some studies further emphasise that over-reliance on virtual recognition can blur the boundaries of self-perception and lead to identity confusion. For example, adolescents lose their willingness to express themselves to maintain their "perfect" persona by catering to algorithms [3].

Secondly, the instant feedback mechanism of short videos (e.g., getting likes and comments quickly) tends to make adolescents develop an "instant gratification" mentality, while in real life, many achievements require a long period of hard work before they can be attained. Long-term reliance on short videos may make teenagers lack patience and frustration, and their self-esteem may suffer a more serious blow once they fail in reality.

6. Conclusion

This paper examines the impact of the TikTok short video platform on the development of self-esteem in adolescents. The study points out that the adolescent stage (12-18 years old) is a critical period for the development of self-esteem, which is influenced by peer relationships, social identity, and external feedback. TikTok, characterized as a high-engagement platform, cultivates a milieu wherein adolescents, through content dissemination, garner positive reinforcement, manifested as endorsements and commentary. This interactive dynamic furnishes a conduit for self-expression, facilitating social validation and bolstering self-esteem, thereby augmenting self-identity and fortifying communal affiliation among its adolescent users. However, there is also a potential risk that the "perfect persona" on TikTok may cause adolescents to develop a sense of inferiority and rely excessively on likes and attention to assess their self-worth. In addition, immersive viewing caused by algorithmic recommendations may lead to short video addiction, affecting learning and daily life, and even increasing the risk of anxiety and depression.

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