

The Role of Social Comparison in the Relationship Between Social Media Use and Adolescent Mental Health

Haoxian Zhao

*Taylor's University, Kuala Lumpur, Malaysia
13952891261@163.com*

Abstract. Against the backdrop of the growing prevalence of social media, adolescents are confronted with psychological distress such as anxiety, depression, and diminished self-esteem in the course of their engagement with social media. This paper explores the role of social comparison in the association between social media use and adolescent mental health from the perspectives of social psychology and media psychology. Drawing on the Uses and Gratifications Theory (UGT), Cultivation Theory, and Social Comparison Theory (SCT), this paper investigates the impact of social comparison on the motivational, cognitive, and emotional dimensions of adolescents. Social comparison, as discussed in this paper, can potentially facilitate self-improvement through an incentive effect; however, it may also exacerbate psychological distress under the influence of idealized content and algorithmic reinforcement. This paper provides theoretical implications for comprehending the psychological impacts of social media and for the development of adolescent media literacy.

Keywords: Social Media Use, Social Comparison, Adolescent Mental Health, Psychological Distress

1. Introduction

Against the backdrop of the rapid proliferation of social media, adolescents' social interaction patterns have undergone significant transformations, which in turn influence their self-expression and self-identity formation. However, although social media facilitates adolescents' social lives, the prevalence of psychological issues such as anxiety, depression, and low self-esteem has been on the rise. To gain a deeper insight into the underlying antecedents of these psychological phenomena, exploring the core psychological mechanism—social comparison—is particularly critical.

This paper aims to explore the role of social comparison in the relationship between social media use and adolescent mental health and to analyze the emotional and cognitive mechanisms underlying this relationship from the viewpoints of social psychology and media psychology. The purpose of this study is to elucidate why social media can both facilitate social connection and exert adverse effects on the mental health of teenagers, identify the critical psychological role of social comparison in this process, and offer theoretical references for adolescent digital health and media literacy education.

2. Relevant theories regarding the impact of social comparison

The rationale for social comparison serving as a core psychological mechanism for adolescents in the process of social media use can be primarily explained elucidated by the Uses and Gratifications Theory (UGT), Cultivation Theory, and Social Comparison Theory (SCT).

2.1. Uses and Gratifications Theory

Uses and Gratifications Theory originated from Katz's work in 1974 and was subsequently developed by Katz, Blumler, and Gurevitch. This theory emphasizes audience activity and purposeful media use [1].

According to the Uses and Gratifications Theory, adolescents hold distinct and diverse psychological motivations when engaging with social media, which drive them to actively interact with social media platforms and maintain sustained engagement [2]. In terms of social needs, adolescents are keen to establish and maintain peer relationships. With respect to entertainment needs, the content on social media offers adolescents experiences of relaxation, pleasure, and emotional regulation. In regard to identity needs, adolescents present themselves through posting content on social media and obtain external feedback via such platforms, thus enhancing their sense of self - identity. This purposeful and active utilization of social media facilitates the activation of the social comparison mechanism, and social comparison naturally emerges as a crucial mechanism in adolescents' social media use.

2.2. Cultivation Theory

During the late 1960s and early 1970s, George Gerbner first proposed the cultivation theory. Gerbner focused on the subtle, incremental influences of long-term and extensive exposure to television content on audiences' worldviews and perceptions of social reality. He then conceptualized this sustained symbolic shaping as the "cultivation" process [3]. Cultivation Theory posits that prolonged exposure to idealized media content can lead individuals to develop unrealistic self-perceptions [4]. For adolescents who frequently browse social media, repeated exposure to idealized and fragmented content may lead them to misperceive such content as reflecting an authentic and prevalent social reality, thereby changing their understanding of the real world. When adolescents regard idealized content as the norm, they are more prone to sense discrepancies when viewing others' posts, which in turn increases the frequency of social comparison and exacerbates psychological distress.

2.3. Social Comparison Theory

The social comparison theory was first proposed by Leon Festinger in his seminal paper "A Theory of Social Comparison Processes" in 1954. Festinger argued that in the absence of objective criteria, individuals tend to evaluate their abilities, opinions, and values by comparing themselves with others, thus forming self-perception and attitudinal judgments [5].

Social Comparison Theory posits that individuals evaluate themselves through comparison with others. Upward comparisons may reduce self - esteem and increase anxiety [6]. On social media, adolescents are primarily exposed to peers who align more closely with their ideal selves in domains such as appearance, lifestyle freedom, and socioeconomic status. When the comparison subjects are notably superior to themselves, teenagers frequently experience feelings of inadequacy, which can

result in a decrease in self - esteem, an elevation of anxiety, or an accumulation of negative emotions.

3. The impact of social comparison on adolescents' utilization of social media

3.1. The role of social comparison in adolescents' utilization of social media

Adolescents' social media use is primarily active and purpose-driven, with social comparison permeating the entire process. Given the diversity and fragmentation of social media content [7], teenagers can browse a substantial amount of content within a short period, which serves as a critical reference for them to understand others' life circumstances. Teenagers subconsciously engage in comparison of certain content that resonates with [8], thereby affecting their assessment of their own performance, capabilities, and quality of life. This renders social comparison one of the primary mechanisms through which adolescents understand and evaluate their social media experiences.

The characteristics of the developmental stage of adolescents further amplify the impact of social comparison in their social media experiences. Adolescence is a period of rapid self-identity formation, one that is characterized by an unstable self-concept and a strong psychological need for peer approval [9]. Social media provides adolescents a multitude of peer reference points, allowing them to consistently observe the life trajectories, interaction patterns, and emotional states of others. This immediacy and high visibility drive adolescents to continuously revise their self-perceptions in light of others' behaviors [10]. For example, upon witnessing peers' success or an idealized lifestyle, adolescents might reevaluate their own capabilities and life plans. Conversely, when observing individuals similar to themselves encountering difficulties, they may also gain psychological support or emotional resonance. Throughout this process, social comparison consistently shapes adolescents' self-expectations, behavioral choices, and emotional responses.

3.2. The positive impacts of social comparison on social media

Based on the Use and Gratification Theory, when adolescents utilize social media, they generally do so with a specific purpose [11]. When adolescents actively seek out social media content for self-improvement, upward social comparison can function as a motivational driver [12]. Under this motivational orientation, social comparison is no longer self - deprecating but rather a psychological mechanism that facilitates self - improvement. Moreover, through upward social comparison, exposure to others' exemplary performances is likely to generate moderate pressure that motivates adolescents to proactively address their own shortcomings. In this context, upward comparison becomes a key driver for adolescents to explore their personal potential, enabling them to respond to the information stimuli on social media in a more positive manner.

Within the diverse social media content ecosystem, adolescents are not only exposed to idealized content but also to a diverse array of content from individuals of varying identities, ethnicities, and cultural backgrounds. The Cultivation Theory posits that a diverse and authentic social media content environment can enhance adolescents' comprehension of diverse pathways to success, thus mitigating negative psychological distress. Users with distinct cultural backgrounds, interests, and lifestyles on social media platforms have collectively contributed to the formation of a diverse content environment [10]. With prolonged exposure to this diverse content, social comparison can help adolescents develop a more open-minded and inclusive understanding of reality. Through such comparison, they can identify areas for improvement in various domains, such as creative capabilities, sports proficiency, and learning effectiveness. The diversity of content empowers

adolescents to transcend narrow self - expectations and gradually establish more achievable life goals and more realistic self - perceptions during the process of social comparison [10].

Upward social comparison does not inevitably lead to increased psychological distress or reduced self-esteem in adolescents [13]. When adolescents perceive that the gap between the chosen comparison target and themselves is attainable, upward comparison can exert an inspirational effect. Social Comparison Theory (SCT) explains why upward social comparison can enhance self-efficacy and motivate striving when adolescents encounter achievable role models [9]. The robust interactive mechanism of social media further amplifies the positive experiences engendered by social comparison. When adolescents attempt to create similar content or learn from others' performances, the timely feedback provided by social media platforms allows them to receive instant encouragement(7). The quantity of likes, comments, and attention can make adolescents feel acknowledged by the external world, thereby augmenting their willingness to continue investing in a specific interest or skill. Through timely feedback, adolescents not only focus on the final outcome but also begin to pay attention to their growth process.

3.3. The negative effects of social comparison on social media

The primary motivations for adolescents to engage with social media are typically positive. However, with sustained use, these motivations may gradually evolve into psychological burdens. Drawing on Uses and Gratifications Theory (UGT), if adolescents' initial motivations remain unfulfilled during their active social media use, social comparison can easily shift from a motivational factor to a source of stress or anxiety [11]. On social media platforms, adolescents inevitably encounter content from their peers that emphasizes physical attractiveness, academic excellence, or financial wealth. When such content stands in stark contrast to their own circumstances, they tend to attribute the gap to personal deficiencies and experience shame, anxiety, or frustration during the comparison process. For example, when adolescents observe their peers achieving outstanding achievements or receiving widespread attention, they may question their own capabilities and even doubt their own endeavors. This self-deprecation further erodes adolescents' self-esteem and can lead to chronic psychological distress.

The Cultivation Theory posits that extended exposure to idealized content can distort adolescents' perception of reality, leading to unrealistic self - assessment [13]. When the gap between reality and idealized content fails to narrow or even widens, adolescents may develop adverse psychological states such as discontent, anxiety, and self-rejection during social comparison. Furthermore, idealized content on social media plays a significant role in shaping the cognitive transformation among adolescents. When adolescents perceive idealized content as the norm, they are prone to being dissatisfied with the ordinary, mundane, or even inadequate aspects of their daily lives. As the gap between reality and idealized content continues to widen, adolescents are more likely to experience unease, envy, or negative outlooks on life during comparisons [13]. These emotions not only impact their psychological well - being but may also undermine their self - regulatory capacity when facing pressure.

According to Social Comparison Theory (SCT), adolescents are particularly vulnerable to the adverse effects of upward social comparison—a core mechanism that often precipitates psychological distress in this group. When adolescents compare themselves with high-achieving individuals on social media, they perceive a substantial psychological gap, resulting in negative psychological states such as reduced self - esteem, low mood, and a sense of unfairness. Additionally, the high interactivity of social media platforms further exacerbates the negative impacts of social comparison. The number of likes, comments, and followers has become a direct

metric of popularity [10], keeping adolescents in a continuous cycle of being compared and comparing with others during social media use. When the metrics of their own accounts deviate significantly from those of their comparison targets, adolescents may experience a sense of disparity and exhibit emotional symptoms of depression or anxiety [10]. The platform algorithms consistently push viral content and highly interactive posts, repeatedly exposing adolescents to reference points far superior to their own level. This not only elevates the frequency of comparison but also continuously heightens their self - expectations. Over time, the cumulative pressure from social comparison impairs adolescents' emotional stability, social engagement, and self-assessment of abilities.

4. Implications

In the context of the frequent use of social media by adolescents, it is of particular significance to develop targeted media literacy education programs and improve their ability to identify false and perfect images. Schools and relevant institutions can design targeted courses to clarify adolescents' motivations for social media use, enhance their ability to distinguish idealized content from real life, and foster their critical thinking and judgment skills when engaging with online information. Additionally, social media platforms can make adjustments in content presentation and algorithm management. Platforms can reduce the likelihood of adolescents repeatedly encountering highly idealized content by optimizing the recommendation mechanism, regulating the proportion of content push, and strengthening the identification of real - world content, thereby alleviating the psychological pressure stemming from social comparison.

5. Conclusion

This study elucidates the role of social comparison in the association between social media use and adolescent mental health. Findings reveal that social comparison not only permeates the process of adolescents' social media engagement but also exerts a profound influence on their emotional experiences, self - perceptions, and psychological states. This research has integrated the Uses and Gratifications Theory, Cultivation Theory, and Social Comparison Theory and analyzed the impact of social comparison from three dimensions: motivational, cognitive, and emotional mechanisms.

Nevertheless, this study is predominantly based on literature review and theoretical analysis, with a paucity of empirical data validation, thus exhibiting certain limitations. In the future, the specific influence pathways of social comparison can be further investigated through questionnaires, interviews, or experimental designs.

Overall, social comparison is the core psychological mechanism through which social media impacts the mental health of adolescents. Understanding and intervening in this mechanism can enhance the effectiveness of media literacy education in supporting adolescents' healthy development within the social media ecosystem. Fostering a more authentic, diverse, and secure social media ecosystem can assist adolescents in having positive experiences while using social media and maintaining an adaptive psychological state during social comparison.

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