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# *Social Media Use and Loneliness among the Young Generation: A Review of Psychological Mechanisms*

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***Abstract:*** In the digital age, social media has been deeply integrated into the daily lives of the younger generation. However, despite increased online connectivity, feelings of loneliness are rising among young people, raising concerns in psychological research. Based on five recent empirical studies, this paper systematically reviews the relationship between social media use and loneliness among young people, focusing on the psychological mechanisms involved in the mode of use (active vs. passive) and the role of interactive features. Studies have found that passive use behaviors (e.g., browsing other individuals' content) are more likely to trigger feelings of loneliness, whereas active use (e.g., interacting and posting) does not always produce positive psychological effects. The article also explores the moderating role of COVID-19 Pandemic, interactive features, social media addiction, and platform differences. Current gaps in the literature include a lack of longitudinal research, inconsistent definitions of usage patterns, and limited cross-cultural perspectives. This research helps to deepen the understanding of the psychological impact of digital behaviors and provides theoretical references for youth mental health interventions and social platform design.

***Keywords:*** Social Media Use, Loneliness, Young Generation, Psychological Mechanisms, Interactive Features

## 1. Introduction

Against the background of the rapid development of digital technology, social media has become an essential part of the daily life of the contemporary young generation. Whether it is information access, emotional expression, or social interaction, social platforms (e.g., Instagram, TikTok, Facebook, Weibo, etc.) play a key role in the youth population [1]. However, while online connections are becoming more frequent, the quality of relationships and subjective well-being in reality may not be rising in the same pace [2]. A growing body of research points to mental health issues such as rising loneliness and increased emotional distress in young populations alongside high-frequency social media use. Nevertheless, it has also been discovered that certain social media behaviors (e.g., interactions) may help alleviate feelings of loneliness in specific contexts, suggesting that we cannot simply view social media as a source of negative affect [3].

Loneliness, as a subjective and painful emotional experience, usually stems from the gap between an individual's desired social relationships and reality [4]. Research has shown that loneliness not only affects an individual's mental health, but is also strongly associated with a variety of negative outcomes such as anxiety, depression, and decreased self-esteem. While social media, as an

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increasingly dominant socialization channel, connects individuals to the outside world, it may also trigger psychological effects such as social comparison, feelings of exclusion, and information overload, thus exacerbating the experience of loneliness [5,6]. Therefore, the relationship between social media use and loneliness among young people has become an important topic in current psychological research.

### 1.1. Research objectives and research questions

The purpose of this review paper is to focus on the relationship between social media use and loneliness among the younger generation, systematize the relevant empirical research findings, and focus on the psychological mechanisms involved. Specific research objectives include:

1) Sorting out research findings on the correlation between social media use and loneliness among young people.

2) Analyzing the difference in psychological impact between active and passive usage.

3) Explore the role of underlying psychological mechanisms such as social comparison, self-presentation, and addictive behaviors in this context.

4) Identify gaps in current research and future research directions.

Based on the above objectives, this paper will attempt to answer the following research questions:

1) Is social media use significantly associated with loneliness among younger generations?

2) How do different modes of use (e.g., active posting, interaction vs. passive browsing) differ in affecting loneliness?

3) What psychological mechanisms might mediate or moderate between the two?

4) What are the gaps in current research that need to be further explored?

This article will explore how social media affects young people's experience of loneliness by reviewing five recent empirical studies from the perspectives of frequency of use, mode of use, addictive behaviors, interactive characteristics, and epidemic situations. Through this review, it is hoped that it will provide a theoretical basis for understanding youth mental health issues in the digital age, as well as a reference point for the development of subsequent intervention strategies.

## 2. Related studies

The purpose of this chapter is to review and analyze empirical studies on the relationship between social media use and loneliness in the younger generation. By organizing the relevant literature in the past five years, the study focuses on the role and performance of different modes of use, psychological mechanisms and population characteristics in this topic, providing a theoretical basis and research background for the subsequent discussion.

### 2.1. Investigating the relationship between social media use and adolescent loneliness

The relationship between social media use and adolescent loneliness is complex and multifaceted, involving various influencing factors such as usage patterns, motivations, and platform types. Huang [7] conducted a literature review and found the relationship between social media use and adolescent loneliness, noting that there is a complex two-way interaction between the pair. The authors focus on the use of several variables such as frequency, usage patterns, motivation and platform type based on extensive literature analysis. Research has found that adolescents' over-reliance on social media, especially when used as a substitute for real socialization, is often associated with increased loneliness. In contrast, social media may have a positive impact when used to maintain real relationships and enhance social support. In addition, gender differences were significant, with female users more likely to feel lonely due to social media use, possibly related to social evaluation sensitivity and usage behaviors. In terms of platform type, Facebook was more strongly associated

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with loneliness, while Instagram was found to help reduce loneliness in some studies. The study also points out that teenagers' motivations for using social media, such as seeking belonging or compensatory socialization, play a key role in it. The article concludes by emphasizing that most of the current studies used cross-sectional design, lacking causal inference and longitudinal qualitative analysis, and that more attention should be paid to the dynamic evolution of individual differences and psychological mechanisms in the future.

Building upon the discussion of how social media influences loneliness, Çetin et al. [8] examined this relationship in a clinical context during the COVID-19 pandemic. Their study explored the relationship between social media use, social media addiction, nomophobia (fear of mobile phone unavailability), perceived loneliness, anxiety, and depression during the COVID-19 Pandemic. The study population consisted of 189 psychiatric outpatients, of whom 92 were identified patients who had recently been placed in isolation and 97 were uninfected. It was found that the isolation group had significantly higher levels of anxiety than the non-segregated group ($p < 0.01$), but their perceived loneliness was instead significantly lower. In the isolation group, social media addiction was significantly and positively correlated with nomophobia ($r = 0.679$), and nomophobia was also moderately correlated with anxiety and loneliness. In the unisolated group, nomophobia was significantly and positively correlated with social media addiction ($r = 0.759$) as well as loneliness ($r = 0.367$). The study stated that although social media can partially alleviate social deficits during isolation, its overuse is prone to psychological burdens. The authors argue that the effect of social media use on loneliness in the context of the epidemic is moderated by cultural structures (e.g., family cohesion), and thus the phenomenon should be understood in the context of a combination of social and psychological factors.

Examining social media behaviors in a different cultural context, Juriansz & Lamba [3] investigated the relationship between social media behaviors and young adult loneliness in the background of the United Arab Emirates (UAE), especially during the quarantine of the COVID-19 pandemic. The study examined the predictive effects of social media interaction, browsing, broadcasting, and social media addiction on loneliness through an online questionnaire survey of 177 young users aged 18 to 25 years. The results showed that only social media interactions significantly reduced the level of loneliness ($\beta = -0.28$, $p < 0.001$), whereas browsing, broadcasting, and addictive behaviors did not have a significant effect on loneliness. These findings contrast with earlier studies suggesting that browsing and addictive behaviors enhance loneliness. The researchers suggested that cultural factors (e.g., collectivist values) and changes in the type of content consumed during the pandemic may account for this difference. Additionally, the study emphasized that interactive behaviors such as commenting, liking, and tagging others have the function of strengthening social support and sense of belonging, especially in socially isolated situations where face-to-face communication is lacking, and are effective in reducing subjective loneliness. The study suggests encouraging interpersonally directed social interactions in similar situations in the future to promote mental health.

### 2.2. The epidemic of loneliness: longitudinal study of passive and active social media use

The impact of passive social media use (PSMU) and active social media use (ASMU) on loneliness has been extensively studied. Roberts et al. [9] conducted a nine-year continuous tracking study in the Netherlands, analyzing the relationship between different modes of social media use and loneliness. The results showed that PSMU significantly predicted increased loneliness in the long term, supporting the PSMU Hypothesis that browsing other people's content and lack of interaction enhances social comparison and diminishes social connectedness. In contrast, although ASMU is often expected to reduce loneliness, the study found that its long-term effect was positively correlated, meaning the more individuals engaged in ASMU, the more their loneliness increased, this may be

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explained by Displacement Effect, where online interaction replaces face-to-face relationships. The study also found a bidirectional relationship between social media use and loneliness, whereby lonely people were more likely to use social media, which in turn increased their loneliness. Besides, moderate use is more likely to reduce loneliness than intensive use, suggesting that "moderate socialization" may be a key mechanism. The study emphasizes that mode of use, as opposed to time spent, is the core variable predicting loneliness, and recommends more longitudinal and experimental studies in the future to validate the pathways of the different mechanisms at work.

The EU Loneliness Survey 2022 [10] analyzes the relationship between social media use, loneliness and emotional distress in a group of young people from 27 member states. The study differentiated between the use of social networking sites (SNS) and instant messaging tools (IMT) and found that high intensity use of SNS was significantly associated with higher levels of loneliness and emotional distress, while IMT had a relatively small or even buffering effect. Further analyses showed that the negative effects of SNS use were mainly from its passive use, such as frequent browsing of information streams, which was significantly associated with loneliness, nervousness, and depression as well; Active use, such as chatting, on the other hand, had a weaker association or no significant effect. The study also found that this negative psychological effect was more pronounced among Generation Z and young women. While the study's cross-sectional design did not allow causality to be established, the impact of SNS remained robust after controlling for demographic variables, social network quality, and lifestyle factors, suggesting that platform usage patterns may be a key mechanism for changes in mental health.

In summary, most studies have found that passive social media use (e.g., browsing content) is significantly and positively associated with loneliness [8-10], whereas the effects of active use (e.g., posting, interacting) diverge depending on the background of the study and the sample, with some studies showing that it reduces loneliness [3], and some showing that long-term usage is equally possible to increase loneliness. In addition, interaction traits, as key dimensions of usage styles, showed a positive role in buffering loneliness in specific contexts (e.g., epidemic isolation). The relationship between social media addictive behaviors and loneliness is variable and may be influenced by cultural factors or social support networks. Variables such as social comparisons, platform differences and epidemic situations were also addressed in the study, which moderated or mediated the results. Currently, most studies use cross-sectional design and lack longitudinal tracking and causal validation, which urgently need to be further advanced in future studies.

## 3. Discussion

A compilation and comparison of these five studies suggests that most of the current research supports the view that the pattern of social media use is more important than the amount of time spent using it, and that passive use behaviors (e.g., browsing content without interacting with it) are more likely to be positively associated with feelings of loneliness. However, relying solely on the dual classification of active and passive may still be rough, and factors such as the interaction's direction, target, and specific situation still need to be further refined and analyzed. For example, Juriansz & Lamba [3] suggest that interactive features such as commenting, liking, and labeling have a positive effect on reducing loneliness in specific contexts such as epidemic isolation, suggesting that future research should pay more attention to whether there is a real establishment of emotional connection, social support, and sense of belonging behind interactive behaviors.

Moreover, while the traditional view is that active use helps to reduce loneliness, Roberts et al.'s [9] Substitution Effect. This finding suggests that "interaction" cannot simply be regarded as a universally effective intervention, but that its psychological effects need to be specifically analyzed in relation to factors such as motivation and social environment.

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Overall, the results of the relevant studies have implications for psychological interventions, educational campaigns, and platform design: When considering the effects of social media use, it is important to go beyond the single indicator of "time spent" and focus more on the methods and motives of use, in order to optimize the quality of online interpersonal interactions to a level close to the face-to-face communication, so that individuals can avoid experiencing an increased sense of loneliness when they use the Internet.

## 4. Research gaps in current research

Though studies have been conducted that provide primary evidence on the relationship between social media use and loneliness, overall, there are still multiple gaps that should be further explored. First, although most current studies have reached some consensus on the basic division between active and passive use, there are still minor differences in the specific operational definitions and measurements, which may affect the comparability of the results and the consistency of explanations. Second, most of the studies were cross-sectional in design, making it difficult to specify causality, and only Roberts et al. [9] used longitudinal data to validate the prediction of change in loneliness by usage behaviors. In addition, limited attention has been paid to individual differences within the young population, such as whether individuals are students, employed workers, or have a history of psychological distress. These variables may play a moderating role in the relationship between social media use and loneliness, yet are largely under explored in the existing research papers. Finally, research is still dominated by European and American samples, and although one study focuses on young adults in a Middle Eastern background [3], overall, there is still a large research gap in the influence of cross-cultural contrasts and cultural contexts on psychological mechanisms.

In summary, future research should explore more systematically and profoundly in the operationalization of usage patterns, research design methodology, individual difference variables and cultural background diversity to more comprehensively understand the role of digital social behaviors in impacting loneliness among young people.

## 5. Conclusion

This article integrates five recent empirical studies on the relationship between social media use and loneliness in the younger generation, focusing on the core variables of usage patterns, interaction characteristics, and addictive behaviors. Research generally agrees that passive use is significantly associated with loneliness, while the impact of active use varies by situation. Interaction Features, which show positive effects in reducing loneliness in specific contexts (e.g., epidemic isolation), social media addiction, and social comparisons may also play a mediating mechanism in this case.

Although this study provides a systematic overview of existing researches, it still has some limitations due to its review nature. Firstly, the research is mainly based on existing information and lacks the support of original source data, thus there are limitations in presenting new theories or perspectives. Second, limited by length and research format, this study fails to dig deeper into the psychological mechanisms behind the interactive behaviors, nor cover the real-life observation in practical research. This makes the study representative in terms of summarization, but there is still potential for improvement in terms of theoretical innovation and mechanism explanation.

Based on the results of this study, future research can combine the original data to conduct primary validation of the mechanism model and enhance the evidence base of the analysis. In addition, an interdisciplinary research perspective can be introduced to combine communication behavior, psychological mechanisms, and technology design to deepen the understanding of the association between social media use and loneliness.

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As digital socialization has become one of the mainstream modes of interaction, loneliness, as a psychological phenomenon, has become increasingly multifaceted in its causes and reflects the complexity of contextual and structural characteristics. Based on existing research, an in-depth exploration of the emotional quality and psychological dynamics of social media interactions will help to expand the academic understanding of youth's experience of loneliness. At the same time, this perspective can also provide theoretical insights and practical directions for building a more human-oriented digital social environment.

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