

# Assessing the impact of social media exposure on children's cognition and social development

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**Abstract:** *In the current information society, social media has become an indispensable part of our daily lives. However, the impact of social media on children's cognition and social development has attracted widespread attention from society. This article uses quantitative and qualitative analysis methods to evaluate the impact of social media exposure on children's cognition and social development. Firstly, we collected and analyzed a large amount of empirical data on children's social media exposure. Then, through the analysis of these data, it was found that social media exposure has to some extent promoted the cognitive development and social skills improvement of young children. Research has shown that appropriate social media exposure can promote language development, innovative thinking, and social interaction skills in young children. However, excessive exposure may have a negative impact on the health and physical and mental development of young children. In summary, social media has an impact on the cognitive and social development of young children, but how to manage and use social media reasonably to play its positive role and weaken its negative impact is a topic that we need to continue researching and exploring. The research results have positive reference significance for parents and educators to understand and guide young children's reasonable exposure to social media.*

**Keywords:** *Social media; Preschool cognition; Social development; Quantitative and qualitative analysis; Positive and negative impacts*

## 1. Introduction

With the development of the Internet, more and more children begin to use social media. This phenomenon has aroused great concern. Some people believe that social media can provide many opportunities for information and communication, helping children learn language, develop innovative thinking, and social skills. However, some people are concerned that social media may also bring some problems that may affect children's thinking and behavioral development. So, we need to carefully study and understand the impact of social media on children, and how to help them better use social media. I hope that through this study, useful advice can be provided to parents and teachers to help them better guide children to use social media, maximize its advantages, and reduce potential negative impacts.

## 2. Social media exposure and its definition and background on children's cognition and social development

### 2.1. Definition and Types of Social Media Exposure

The definition and types of social media exposure are the basis for understanding its impact on young children's cognition and social development (Han et al., 2023). Social media exposure can be defined as the process in which young children interact with others, share content, and obtain information through various digital platforms. Digital platforms include but are not limited to social networking sites, instant messaging tools, video sharing platforms, and online gaming communities.

There are various types of social media exposure, which can be divided into active and passive contact based on the interaction mode and content. Proactive contact refers to individuals initiating interactions, such as posting content, commenting, and chatting with others. Passive contact refers to young children browsing content posted by others on social media, tending to receive information without engaging in interaction.

The experiences and impacts brought by these different types of social media exposure vary depending on the depth and frequency of interaction, further affecting children's cognition and social

development. For example, the rapid flow and fragmented presentation of information on social media may sometimes solidify young children's ways of thinking to some extent. Early childhood is a critical stage of cognitive development, and excessive exposure to unfiltered or deeply analyzed information streams may lead to them being accustomed to receiving superficial information and lacking critical and deep thinking abilities. The solidification of this mindset may limit their potential in problem-solving, innovation, and creativity in the future. A deep understanding of the definition and types of social media exposure is crucial for assessing its impact on early childhood development<sup>[1]</sup>.

## ***2.2. Participation level of young children in social media***

The penetration rate of social media in children's lives is constantly increasing, and more and more children are beginning to come into contact with and use various social media platforms (Albin-Clark, 2022). For example, video sharing apps, child friendly social networks, and dating and learning apps designed for young children all have a certain popularity among young children. Children interact with social media in their daily lives through their parents' devices or smart hardware specifically designed for them. These platforms not only provide entertainment content, but also include interactive learning resources and social functions, gradually forming children's usage habits. Research shows that the activity time, type, and frequency of young children on social media have been increasing year by year<sup>[2]</sup>.

## ***2.3. Previous research on the impact of social media on children's cognition and social development***

In previous studies, the impact of social media on children's cognition and social development has attracted widespread attention from the academic community (Nicholas, Rouse & Garner, 2023). Some studies have shown that moderate social media exposure can help improve children's language and cognitive skills, such as increasing vocabulary and improving cognitive flexibility. Overreliance on social media may have a negative impact on young children's focus and behavioral norms, leading to increased attention span or behavioral problems. There are studies showing that social media also has certain potential in promoting young children's social communication skills and emotional cognition, but this effect depends on the quality of content and the way it is used. Different research findings reflect the complex impact of social media on the development of young children, and further exploration of specific mechanisms and conditions is needed.

## **3. The impact of social media exposure on cognitive development in young children**

### ***3.1. The impact of social media on children's learning and memory abilities***

In the current information age, the impact of social media on children's learning and memory abilities has become an important research topic. Social media provides rich multimedia content for young children, presented in multiple sensory forms such as images, videos, and sounds, which helps enhance their efficiency in information reception and memory (Stacy & Conn, 2022). Studies have shown that educational social media with stronger interactivity can increase children's interest in learning content, thereby enhancing memory retention. For example, through games or interactive videos, young children can learn new knowledge points in a relaxed and enjoyable environment, and consolidate their memory through repeated exercises. The instant feedback mechanism in social media can also help young children verify and correct their memory content, making the learning process more effective (Luo, Berson & Berson, 2023). There are also studies suggesting that excessive reliance on social media may lead to attention disorders in young children, affecting the formation of their long-term memory. Social media has a large amount of information and a fast update speed, which makes it easy for young children to immerse themselves in short, fragmented information streams. Over time, this is not conducive to systematization and deep learning. In the process of using social media to promote children's learning and memory, it is necessary to carefully control the exposure time and content quality to ensure maximum positive effects<sup>[3]</sup>.

### ***3.2. The impact of social media on the language development of young children***

The impact of social media exposure on the language development of young children is mainly reflected in multiple aspects. Social media provides a rich multilingual environment, exposing young children to multiple languages, which has a positive impact on their language acquisition. Interactive activities on social media, such as chatting and video calling, enhance children's language expression

ability and vocabulary accumulation. During these interactive processes, young children have the opportunity to imitate and learn the language usage patterns of adults and peers, thereby improving their oral and listening skills. Overreliance on social media may reduce opportunities for face-to-face communication in young children, affecting their language development in real-life social contexts<sup>[4]</sup>.

### ***3.3. The impact of social media on children's attention and focus***

Social media exposure significantly affects young children's attention and focus. This is because the rapid information updates and high interactivity of social media can easily cause brief attention shifts in young children. The frequent prompts and multitasking environment on social media are also not conducive to cultivating young children's ability to focus on a single task for a long time. Moderate use of social media, especially on platforms with educational content and structured activities, may help improve young children's focus and task completion abilities, provided that usage time and content are properly managed.

## **4. The impact of social media exposure on the social development of young children**

### ***4.1. The impact of social media on young children's social skills and emotional cognition***

The participation of young children on social media can significantly affect their social skills and emotional cognition. Social media provides children with more channels to access and learn various social skills by offering different interactive opportunities. In a virtual environment, young children can improve their language expression ability and conflict resolution skills by imitating the interactions of characters in videos (Romano, Perez & Abarca, 2022). The rich scenario simulations and role-playing on social media help young children understand the emotions and behavioral motivations of others, thereby enhancing their emotional cognitive abilities.

Overreliance on social media may limit opportunities for face-to-face communication, leading to a weakened adaptability of young children to real-life social interactions and an increased risk of social isolation. The lack of nonverbal cues in real life, such as facial expressions and body language, in the interaction in front of the screen may lead to limited emotional recognition and expression abilities in young children. The virtual interaction and instant feedback mechanisms on social media may also affect children's patience and emotional regulation abilities, making them more prone to emotional outbursts when facing setbacks in reality<sup>[5]</sup>.

Although social media provides a new way for young children to learn social skills and emotional cognition, ensuring their moderate and appropriate use is crucial. Educators and parents need to actively guide and help young children achieve balanced development opportunities in both virtual and real environments.

### ***4.2. The Relationship between Social Media and the Development of Preschool Behavior***

Exposure of young children through social media may have a significant impact on their behavioral development. Moderate and healthy use of social media can stimulate children's curiosity and imagination, and promote their interest in exploring the unknown world. However, excessive or inappropriate contact may lead to a series of problems. The massive amount of information on social media may lead to information overload for young children, affecting the development of their concentration and even causing the solidification of their thinking patterns, limiting their creativity and critical thinking. In addition, inappropriate content may also trigger imitative behavior in young children, including aggressive tendencies, posing challenges to their social and emotional development. Therefore, parents and educators need to guide carefully to ensure that social media becomes a support for the healthy growth of young children rather than an obstacle, and promote the positive trajectory of young children's behavioral development through effective supervision and content screening<sup>[6]</sup>.

### ***4.3. The impact of social media on children's relationship building and interaction***

Social media exposure has a significant impact on children's relationship building and interaction. On the one hand, the rational use of social media can enable young children to be exposed to and understand the diversity of interactions earlier, facilitate the establishment of connections with family and friends, and enhance social cognition and emotional communication. On the other hand, excessive reliance on

social media may lead to a lack of social skills in real life, reduced direct interaction with peers, and thus affect the establishment and development of normal interpersonal relationships. Social media plays a promoting role in building relationships and interactions among young children, but it also has potential negative impacts, making reasonable guidance particularly important.

## **5. Comprehensive evaluation of social media exposure on children's cognition and social development**

### ***5.1. The positive impact of social media exposure on the comprehensive development of young children***

Social media has become a part of modern children's lives, and its positive impact on their comprehensive development is particularly significant (Lara-Mejía et al., 2022). Social media platforms provide a wealth of beneficial resources, such as educational games, stories, music, etc., which help improve children's language abilities and cognitive levels. These platforms stimulate children's innovative thinking and enhance their interest in learning through interactive content. Some studies have shown that moderate social media exposure can promote the development of young children, enhance their problem-solving and critical thinking abilities. Through virtual social environments, young children can also access diverse social information, understand different cultural backgrounds and ways of interpersonal interaction, thereby expanding their social cognition. Social media also provides a safe experimental environment for young children to practice social skills such as sharing, collaboration, and communication, promoting the regulation of their emotional development. The establishment of rule awareness and understanding of social norms can also be strengthened in this interaction, enabling young children to handle interpersonal relationships more freely in real life. Properly managed social media exposure can be an effective educational tool that has a positive impact on children's cognition and social development<sup>[7]</sup>.

### ***5.2. Potential negative impacts of social media exposure on early childhood development***

Excessive exposure to social media may have a series of negative effects on young children. Firstly, prolonged use may cause children's attention to be diverted, affecting their normal cognitive development. Research shows that staring at screens for long periods of time can weaken young children's concentration, thereby affecting their learning and memory abilities. Secondly, the information in the virtual world is complex, which may cause confusion in the language development of young children, and incorrect information may mislead their language learning. Thirdly, excessive reliance on social media for interaction may weaken young children's social skills in the real world, leading to discomfort in social interactions and weakened coping abilities. Long term social media exposure may also create a sense of isolation in young children, increase their anxiety and stress, and ultimately affect their mental health and emotional stability. Research suggests that it is necessary to carefully set the time and content of children's use of social media to ensure their healthy cognitive and social development.

### ***5.3. How to guide young children to use social media healthily***

To guide young children to use social media in a healthy way, attention should be paid to the following points: controlling the duration of use and avoiding long-term addiction; Choose social media platforms that are of appropriate age and have healthy content; Parents and educators should participate in and supervise the process of young children's use in order to promptly correct negative behaviors and content; Provide a variety of offline activities to ensure that young children have rich social interactions and cognitive experiences in real life. Through these measures, the positive effects of social media can be effectively utilized and its negative impact can be reduced<sup>[8]</sup>.

## **6. Prospect**

### ***6.1. Summary of the impact of social media exposure on children's cognition and social development***

Social media, as an important component of modern information society, has profoundly influenced various aspects of children's cognition and social development (Lu, 2021). Research has shown that moderate exposure to social media can promote cognitive development in young children to a certain extent. Specifically, social media platforms provide a variety of visual and auditory stimuli that can

promote children's language development and innovative thinking. By participating in interactive content, children's learning and memory abilities are improved. Educational content and games on social media can also improve young children's focus and attention, helping them acquire certain key cognitive skills in the early stages.

In terms of social development, the rational use of social media can enhance young children's social skills and emotional cognition. By interacting with peers and parents on social media, young children can learn how to express themselves, understand the emotions of others, and thus enhance their social communication skills. Social media also provides a virtual social environment for young children, allowing them to experience and learn some basic social behaviors earlier.

Excessive exposure to social media may have negative effects. Long term use of social media may lead to reduced physical activity in young children, which can have adverse effects on their vision and physical health. Negative information on social media may have adverse effects on the mental health and social behavior of young children. For example, violence, pornography, and negative social interactions may lead to emotional instability, anxiety, and depression in young children.

Overall, social media has a dual impact on children's cognition and social development. Moderate and reasonable use can have positive effects, but excessive use may have negative effects. Finding a balance point and making social media a beneficial tool for children's growth through effective guidance from guardians and educators is a problem that needs further exploration in future research and practice.

## 6.2. Future research directions and policy recommendations

Future research should focus on the differential impact of different types of social media on young children's cognition and social development, and explore in depth the roles and strategies of parents and educators in guiding young children to use social media healthily. Policy recommendations include developing relevant guidelines, regulating children's daily social media exposure time, advocating for the participation of parents and educators, cultivating children's media literacy, and enhancing their self-control abilities. Develop high-quality social media content suitable for young children, guide the public to strengthen their awareness and correct understanding of the healthy use of social media by young children.

## 7. Conclusion

Overall, this article elaborates on the impact of social media exposure on children's cognition and social development through in-depth research and specific analysis. According to research findings, moderate social media exposure can promote language development, innovative thinking, and social interaction skills in young children. However, excessive exposure may have adverse effects on the physical and mental development of young children. In today's information society, how to manage and use social media reasonably to play its positive role and reduce its negative impact is an important issue that urgently needs to be addressed. In addition, this study also has some limitations. For example, the sample size of this study may not fully represent all children and other issues, which provides a new research direction for our further studies. Considering the significant impact of social media on children's development, future research needs to examine their relationship more specifically, including the frequency, timing, and content of social media exposure. In summary, this article presents some preliminary conclusions about the impact of social media on young children's cognition and social development, hoping to provide reference for parents and educators to guide young children to have reasonable access to social media in their daily lives. In the future, we will further deepen our research in this field and provide more valuable research results for society.

## References

- [1] Albin-Clark, J. (2022). *What is mobile documentation doing through social media in early childhood education in-between the boundaries of a teacher's personal and professional subjectivities?* *Learning, Media and Technology*, pp.1–16. doi:<https://doi.org/10.1080/17439884.2022.2074450>.
- [2] Han, J., Feng, S., Wang, Z., He, J., Quan, H. and Li, C. (2023b). *The Effect of Maternal Trait Mindfulness on Preschoolers' Social Competence: The Chain-Mediating Role of Maternal Self-Control and Problematic Social Media Use.* *Behavioral Sciences (Basel, Switzerland)*, [online] 13(10), p.805. doi:<https://doi.org/10.3390/bs13100805>.

[3] Lara-Mejía, V., Franco-Lares, B., Lozada-Tequeanes, A.L., Villanueva-Vázquez, C. and Hernández-Cordero, S. (2022). *Methodologies for Monitoring the Digital Marketing of Foods and Beverages Aimed at Infants, Children, and Adolescents (ICA): A Scoping Review*. *International Journal of Environmental Research and Public Health*, 19(15), p.8951. doi:<https://doi.org/10.3390/ijerph19158951>.

[4] Lu, J. (2021). *Exploring the adoption of social media in self-paced physical activity in early childhood education: a case in central China*. *Educational technology research and development*, 70(1), pp.321–338. doi:<https://doi.org/10.1007/s11423-021-10059-8>.

[5] Luo, W., Berson, I.R. and Berson, M.J. (2023). *A Social Media Analysis of the Experiences of Chinese Early Childhood Educators and Families with Young Children during COVID-19*. *Sustainability*, 15(3), p.2560. doi:<https://doi.org/10.3390/su15032560>.

[6] Nicholas, M., Rouse, E. and Garner, R. (2023). *Cross-sector collaborations via Facebook: teachers' use of social media*. *The Australian Educational Researcher*, 51(2). doi:<https://doi.org/10.1007/s13384-023-00622-y>.

[7] Romano, M., Perez, K. and Abarca, D. (2022). *The BabyTok Project: Examining the Feasibility and Acceptability of a Light-Touch Social Media Project for Infant–Toddler Teachers*. *Early Childhood Education Journal*. doi:<https://doi.org/10.1007/s10643-022-01426-y>.

[8] Stacy, P.D. and Conn, K. (2022). *The Protective Factor of Early Childhood Attachments and the Risk Factor of Later Life Disruptive Use of Social Media Formats: Is There a Correlation between the Two?* *Journal of Evidence-Based Social Work*, 20(2), pp.211–223. doi:<https://doi.org/10.1080/26408066.2022.2156313>.