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Screen Time and Children's Social-Emotional Development: A Systematic Literature Review of Psychological Evidence

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ABSTRACT. Screen time has become an integral part of children's daily lives, raising concerns about its implications for social-emotional development. This systematic literature review aims to synthesize psychological evidence published between 2019 and 2024 regarding the relationship between children's screen time and social-emotional development. Relevant studies were identified and analyzed based on their discussion of emotional regulation, behavioral adjustment, social competence, executive functioning, psychological well-being, and related developmental outcomes. The reviewed evidence indicates that excessive and poorly regulated screen exposure is generally associated with less favorable social-emotional outcomes, including increased internalizing and externalizing behaviors, difficulties in emotional regulation, reduced executive functioning, sleep-related problems, and lower social competence. However, the findings also demonstrate that screen time is not inherently detrimental because its effects vary according to duration, content, purpose, developmental stage, family environment, and parental mediation. Educational content, interactive activities, co-use with caregivers, and appropriate parental guidance may reduce potential risks and facilitate positive developmental experiences. The review concludes that children's screen use should be understood through a multidimensional psychological perspective rather than solely through the number of hours spent using digital devices. A balanced approach combining reasonable screen boundaries, parental mediation, meaningful interpersonal interaction, physical activity, adequate sleep, and developmentally appropriate digital content is therefore recommended to support healthy social-emotional development.

Keywords: *Screen Time; Social-Emotional Development; Children; Psychological Development; Emotional Regulation; Parental Mediation; Digital Media.*

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INTRODUCTION

The rapid expansion of digital technology has transformed the everyday experiences of children, making smartphones, tablets, computers, televisions, and other screen-based devices increasingly common in homes and educational environments(Caballero-Julia et al., 2024a). Screen exposure has become embedded in children's activities for entertainment,

communication, learning, and social interaction, thereby making screen time an important developmental issue in contemporary childhood. Although digital media can provide educational resources and opportunities for communication, excessive or inappropriate exposure may interfere with developmental processes that require direct interaction, physical activity, sleep, and face-to-face communication(Sanders et al., 2023). A systematic review of evidence available before the COVID-19 pandemic found that higher levels of screen time were associated with several adverse health and well-being outcomes, including depressive symptoms, poorer quality of life, behavioral problems, anxiety, hyperactivity, and poorer psychosocial health (Eirich et al., 2022). Therefore, understanding screen time should extend beyond measuring the duration of exposure to examining its potential implications for children's psychological and social-emotional development.

Social-emotional development refers to children's growing capacity to understand and regulate emotions, establish relationships, communicate effectively, demonstrate empathy, and behave appropriately within social environments. These competencies are fundamental because they influence children's adjustment to family life, peer relationships, school participation, and broader psychological well-being(Cipriano et al., 2023). During childhood, social-emotional abilities develop through repeated interpersonal experiences, emotional exchanges, imitation, play, and opportunities to practice self-regulation in real-world contexts. Consequently, extensive engagement with screens may become developmentally significant when it displaces activities that normally provide opportunities for social learning and emotional regulation. (Oswald et al., 2020a), through a systematic scoping review of 186 studies, reported that higher levels of screen time generally appeared to be associated with less favorable psychological outcomes, although considerable heterogeneity existed in how screen exposure and psychological outcomes were conceptualized and measured.

The relationship between screen time and children's social-emotional development is particularly important because screen exposure is not a single, uniform experience. Different forms of screen use may involve substantially different psychological processes, including passive viewing, interactive gaming, educational activities, social communication, and joint media use with parents or peers(Mallawaarachchi et al., 2024). Similarly, the developmental consequences of screen use may depend on content quality, duration, timing, purpose, age appropriateness, and the social context in which the device is used. Evidence from a systematic review of school-aged children indicates that screen use became increasingly prevalent during the years surrounding the COVID-19 pandemic, with entertainment, learning, and socializing representing major purposes of screen exposure (Qi et al., 2023). Thus, the psychological impact of screen time should be understood through a multidimensional perspective rather than through exposure duration alone.

The COVID-19 pandemic further intensified the relevance of this issue by substantially altering children's opportunities for direct social interaction and increasing reliance on digital devices. School closures, social distancing, home confinement, and online learning resulted in children spending greater amounts of time using screens for both educational and recreational purposes. A systematic review and meta-analysis involving 29,017 children found that screen time increased by approximately 84 minutes per day during the pandemic, representing a 52% increase compared with prepandemic levels (Madigan et al., 2022). This increase is psychologically important because the same digital device may simultaneously function as an educational tool, entertainment medium, communication channel, and substitute for face-to-face interaction. Therefore, the developmental implications of increased screen exposure during this period cannot be interpreted solely as a consequence of the number of minutes children spent in front of screens.

From a psychological perspective, excessive screen exposure may influence emotional functioning through several interconnected pathways. One possible mechanism is the displacement of developmentally beneficial activities, including physical play, sleep, direct conversation, imaginative play, and interpersonal interaction(Putnick et al., 2023). Another

mechanism involves the characteristics of digital content, particularly highly stimulating or age-inappropriate material that may affect attention, emotional arousal, behavioral regulation, and children's ability to manage frustration. A systematic review and meta-analysis published in *JAMA Psychiatry* involving 159,425 children found small but significant associations between greater screen time and both externalizing behavior problems, such as aggression and inattention, and internalizing problems, such as anxiety and depression (Eirich et al., 2022). These findings suggest that screen exposure may be relevant to both outwardly expressed behavioral difficulties and inwardly experienced emotional problems.

The social dimension of children's development is equally important because meaningful social competence develops through reciprocal interaction with parents, siblings, teachers, and peers(Magro et al., 2024). When screen use replaces opportunities for interpersonal engagement, children may have fewer occasions to practice communication, cooperation, empathy, conflict resolution, and emotional responsiveness. However, digital media should not automatically be regarded as socially harmful because interactive and socially mediated screen activities may provide opportunities for communication and collaborative learning(Taylor et al., 2024). The psychological effects of screen exposure therefore depend partly on whether technology facilitates or displaces meaningful social relationships. This distinction is supported by evidence showing that the effects of screen exposure vary according to the type of activity and developmental context rather than being uniformly negative across all forms of digital engagement (Sticca et al., 2025).

Parental involvement represents another important contextual factor in understanding children's screen-related experiences. Children's digital behavior is shaped not only by the amount of time they spend using devices but also by how parents regulate, supervise, and participate in screen activities(Sciacca et al., 2022). Parental mediation may involve setting boundaries, selecting age-appropriate content, discussing digital experiences, and engaging in co-viewing or co-use with children. Conversely, parents' own technology use may interrupt face-to-face interactions and reduce the quality of parent child communication, a phenomenon frequently described as technology-related interference in family interaction(Komanchuk et al., 2023a). Consequently, psychological research increasingly emphasizes the importance of considering the social context surrounding screen use rather than treating children as isolated recipients of digital exposure.

Recent evidence further demonstrates that the context of screen use is critical for understanding psychosocial outcomes. A systematic review and meta-analysis of 100 studies involving 176,742 participants examined different contexts of screen use during early childhood and found that program viewing, age-inappropriate content, and caregiver screen use during children's routines were negatively associated with psychosocial outcomes (Mallawaarachchi et al., 2024). These findings indicate that the question should not simply be whether children use screens, but what they watch or do, how they use the technology, who participates with them, and what developmental activities are displaced. Such a contextual approach is especially relevant to social-emotional development because children's emotional and interpersonal competencies are strongly dependent on the quality of their surrounding interactions(Lin et al., 2024). Therefore, psychological evidence should distinguish between screen time as a quantitative exposure and screen use as a qualitative developmental experience.

The issue is particularly salient during early childhood because the first years of life represent a sensitive period for the development of emotional regulation, communication, social responsiveness, and behavioral control. During this period, children depend heavily on caregivers and environmental experiences to develop foundational social-emotional competencies. Excessive screen exposure may reduce opportunities for direct interaction, particularly when screens are used during routines that would otherwise involve conversation, shared attention, and emotional exchange. Evidence synthesized in recent developmental research indicates that screen exposure among young children has been associated with a range of developmental outcomes,

although findings remain heterogeneous and some studies report nonsignificant or beneficial associations depending on the context of use (Mallawaarachchi et al., 2024). This complexity demonstrates the need for a systematic examination of psychological evidence rather than relying on assumptions that either uniformly condemn or promote children's screen use.

Another important consideration is the bidirectional nature of the relationship between screen exposure and children's psychological functioning. Children who experience emotional or behavioral difficulties may use screens more frequently as a form of distraction, emotional regulation, entertainment, or avoidance, while extensive screen exposure may simultaneously contribute to difficulties in behavior and emotional adjustment(Neville et al., 2021). This possibility means that correlations between screen time and social-emotional difficulties should not automatically be interpreted as evidence that screen exposure alone causes developmental problems. Earlier systematic evidence already identified substantial methodological limitations, including the predominance of cross-sectional studies and considerable heterogeneity in measurements of screen time and psychological outcomes (Oswald et al., 2020b). Accordingly, a systematic literature review is necessary to synthesize findings across different psychological domains and identify patterns, inconsistencies, and gaps in the existing evidence.

Despite the growing body of research, several limitations remain in the literature concerning the relationship between screen time and children's social-emotional development. Existing studies frequently differ in participants' ages, definitions of screen time, measurement instruments, types of digital devices, and indicators of emotional and social functioning(Byrne et al., 2021). Such methodological diversity makes it difficult to determine whether observed associations are attributable to screen duration itself or to specific characteristics of digital media use. Moreover, the increasing importance of digital learning and social communication means that screen use cannot simply be categorized as either beneficial or harmful without considering its purpose and context. A systematic literature review can therefore provide a more comprehensive psychological interpretation by integrating evidence concerning emotional regulation, behavioral adjustment, social competence, peer relationships, and psychosocial well-being.

Based on these considerations, the present study focuses on "Screen Time and Children's Social-Emotional Development: A Systematic Literature Review of Psychological Evidence." The review is directed toward psychological evidence published during 2019–2024, a period characterized by rapid digitalization and a substantial transformation of children's screen-use patterns, particularly during the COVID-19 pandemic. The study seeks to synthesize empirical findings concerning how screen exposure is associated with children's emotional functioning, behavioral regulation, social competence, and psychosocial adjustment. It also considers contextual factors such as content, duration, purpose, developmental stage, parental involvement, and the social environment surrounding screen use. Through this synthesis, the study is expected to clarify the psychological patterns emerging from the literature and provide an evidence-based foundation for parents, educators, psychologists, and policymakers in promoting healthier and developmentally appropriate digital experiences for children.

METHOD

This study employed a systematic literature review (SLR) design to synthesize psychological evidence concerning the relationship between screen time and children's social-emotional development(Paul et al., 2021). The review focused on empirical studies published between 2019 and 2024, covering research on children's emotional regulation, social competence, behavioral adjustment, psychological well-being, and interpersonal relationships in relation to screen exposure. Literature was identified through searches of major academic databases, including Scopus, Web of Science, PubMed, and Google Scholar, using combinations of keywords such as *screen time*, *children*, *social-emotional development*, *emotional regulation*, *social competence*, *psychological well-being*, and *digital media*. The review followed the general principles of the PRISMA framework to ensure

a systematic process of identification, screening, eligibility assessment, and inclusion of relevant studies(Page et al., 2021). Only peer-reviewed publications written in English and directly examining children's screen use and psychological or social-emotional outcomes were considered.

The literature selection process consisted of several stages, beginning with the identification of potentially relevant studies through database searches. The inclusion criteria were studies published from 2019 to 2024, involving children as the primary population, examining screen-based media or screen time as a relevant variable, and reporting psychological, emotional, behavioral, social, or psychosocial outcomes. Studies were excluded when they focused exclusively on adults, did not address screen exposure, were not related to psychological or social-emotional outcomes, or consisted of editorials, opinion pieces, conference abstracts, or duplicate publications(Rethlefsen et al., 2021). After removing duplicates, titles and abstracts were screened according to the predetermined criteria, followed by full-text assessment of potentially eligible articles. The final studies were selected based on their relevance and contribution to understanding the psychological relationship between screen time and children's social-emotional development.

Data extraction was conducted systematically using a structured matrix containing information on author and publication year, research location, participant characteristics, study design, type and measurement of screen exposure, psychological or social-emotional variables, principal findings, and reported limitations. The extracted evidence was then synthesized narratively by identifying recurring patterns and differences across the selected studies. Particular attention was given to the dimensions of emotional regulation, behavioral problems, social competence, anxiety and depressive symptoms, interpersonal relationships, and overall psychosocial well being(Abdoli et al., 2024). The synthesis also considered contextual moderators, including children's age, duration of screen exposure, type of content, purpose of screen use, parental involvement, and whether screen activities replaced or supported direct social interaction. The results were subsequently organized thematically to provide an integrated psychological interpretation of how screen time may be associated with children's social-emotional development.

RESULT AND DISCUSSION

Results

The systematic literature review identified a consistent association between excessive screen time and several dimensions of children's social-emotional development. Across the reviewed studies, the most frequently reported outcomes included emotional regulation, internalizing behavior, externalizing behavior, social competence, attention, self-control, and psychological well-being. The evidence, however, did not indicate that screen exposure was uniformly harmful because the effects varied according to duration, content, context, developmental stage, and parental mediation. Reported that higher screen time was associated with poorer psychosocial health, behavioral difficulties, lower well-being, and depressive symptoms, although the strength of evidence differed across outcomes. More recent evidence has strengthened the association between screen exposure and behavioral difficulties while emphasizing that the relationship is generally small and influenced by methodological characteristics (Eirich et al., 2022).

The reviewed evidence indicates that emotional and behavioral regulation is one of the most sensitive developmental domains associated with screen exposure. In a large systematic review and meta-analysis involving 159,425 children, (Eirich et al., 2022)found small but statistically significant associations between greater screen time and both externalizing and internalizing behavior problems. Specifically, screen time was associated with externalizing problems such as aggression and inattention and internalizing problems such as anxiety and depressive symptoms. The magnitude of these relationships was relatively small, suggesting that screen time should be considered as one factor among multiple environmental and developmental influences rather than as a single causal determinant. This interpretation is

consistent with longitudinal evidence showing that behavioral problems and screen exposure may influence each other over time (Neville et al., 2021).

Longitudinal studies provide important evidence regarding the direction of the relationship between screen time and children's social-emotional functioning. (Neville et al., 2021), using data from 10,172 Irish children, found evidence of bidirectional associations between screen exposure and behavioral difficulties across childhood. Higher levels of externalizing and internalizing behavior at age three predicted greater screen time at age five, while greater screen time at earlier ages was subsequently associated with increased internalizing behavior. These findings suggest that children experiencing emotional or behavioral difficulties may receive more screen exposure from caregivers, while prolonged screen exposure may simultaneously contribute to subsequent difficulties. Therefore, the relationship between screen time and social-emotional development should be interpreted as dynamic and potentially reciprocal rather than as a simple one-directional effect.

Evidence from preschool populations further demonstrates that screen exposure may be associated with behavioral difficulties during a critical period of social-emotional development. McArthur et al. (2022) examined 1,994 mothers and children and found that higher levels of screen time were related to developmental and behavioral outcomes among preschool-aged children(McArthur et al., 2022). (Xie et al., 2020), in a study involving 1,897 Chinese preschool children, examined digital screen exposure in relation to behavioral characteristics and identified concerns regarding excessive exposure. These findings are important because early childhood represents a developmental period in which children acquire emotional regulation, interpersonal communication, self-control, and social problem-solving through direct interaction with caregivers and peers. Excessive screen use may reduce opportunities for these interactions, particularly when screen activities replace play, conversation, physical activity, and shared family routines.

The literature also highlights the importance of sleep as an indirect pathway linking screen exposure to social-emotional difficulties. (Guerrero et al., 2019)found that screen time was associated with problem behaviors among children and explored sleep duration as a potential mediating mechanism. Similarly reported relationships among screen use, sleep, and emotional or behavioral difficulties among preschool children with neurodevelopmental disorders. Digital screen exposure can interfere with sleep through several mechanisms, including delayed bedtime, psychological stimulation, exposure to light, and displacement of bedtime routines. Poor sleep may subsequently impair emotional regulation, attention, frustration tolerance, and behavioral control, thereby creating a pathway through which screen exposure can affect social-emotional functioning.

Another important finding concerns executive functions, which provide a psychological foundation for social-emotional competence. (McHarg et al., 2020), in a longitudinal study of British toddlers, found that screen time at age two was negatively associated with the development of executive functions between ages two and three. Executive functions such as inhibitory control, working memory, and cognitive flexibility are closely related to children's ability to regulate emotions, control impulses, follow social rules, and adapt to interpersonal situations. (Jusienė et al., 2020) similarly examined the relationship between screen-based media use and executive abilities in preschool children. These findings suggest that the potential influence of screen time on social-emotional development may operate partly through cognitive self-regulation processes.

The review also identified parental behavior and family interaction as important contextual factors. (Komanchuk et al., 2023b)found that parental mobile-device use can influence caregiving interactions and may have implications for children's social and emotional development. This suggests that children's developmental outcomes are not determined solely by the amount of time children themselves spend with screens but also by how screens influence parent-child interaction. When parental attention is repeatedly interrupted by mobile-device use, opportunities

for responsive communication, joint attention, emotional coaching, and social learning may be reduced. Consequently, the family media environment should be considered alongside children's individual screen-time duration when evaluating social-emotional outcomes.

Table 1. Summary of Findings on Screen Time and Children's Social-Emotional Development

No.	Study	Sample	Main Finding	Social-Emotional Outcome
1	Stiglic & Viner (2019)	Systematic review	Higher screen time was associated with poorer psychosocial health and well-being.	Well-being, depression, behavior
2	Eirich et al. (2022)	159,425 children	Greater screen time showed small but significant associations with behavioral problems.	Internalizing & externalizing behavior
3	Neville et al. (2021)	10,172 children	Screen time and behavioral difficulties showed bidirectional associations.	Emotional & behavioral adjustment
4	McArthur et al. (2022)	1,994 children	Higher screen exposure was associated with developmental and behavioral difficulties.	Behavior, development
5	Xie et al. (2020)	1,897 preschoolers	Excessive digital screen exposure was associated with behavioral concerns.	Behavior, self-regulation
6	Guerrero et al. (2019)	Children	Screen time was associated with problem behaviors, partly through sleep duration.	Behavior, sleep, regulation
7	Lin et al. (2019)	Preschool children	Screen use was related to sleep and emotional/behavioral difficulties.	Emotional & behavioral regulation
8	McHarg et al. (2020)	British toddlers	Higher screen time was negatively associated with executive-function development.	Self-control, cognitive flexibility
9	Jusienė et al. (2020)	Preschool children	Screen-based media use was related to executive abilities.	Self-regulation, executive function
10	Beamish et al. (2019)	Parent-child studies	Parental mobile-device use influenced caregiving interactions.	Social interaction, emotional development

Discussion

The findings indicate that screen time should not be conceptualized simply as a quantitative variable measured by hours per day. Contemporary evidence increasingly emphasizes the importance of the content, context, purpose, and social conditions surrounding children's screen use. (Oswald et al., 2020b)demonstrated through a systematic scoping review that psychological effects differ according to the nature of screen activities and that opportunities for green time and outdoor experiences may interact with screen exposure. Similarly, emphasized that healthy screen use among preschool children requires attention to minimizing excessive exposure, mitigating risks, mindful use, and parental modeling. Thus, a psychological interpretation of screen time requires a multidimensional framework rather than an exclusive focus on duration.

The distinction between passive and interactive screen use is particularly relevant to social-emotional development. Passive viewing may provide fewer opportunities for reciprocal

communication and active problem solving than interactive or socially mediated digital activities. Systematic review of touchscreen use among children younger than five years, noted that digital devices may produce both developmental benefits and potential harms depending on how they are used. Similarly, the literature review by (Caballero-Julia et al., 2024b) demonstrates that the developmental consequences of screen use cannot be understood without considering the specific characteristics and educational purposes of digital activities. Therefore, future research and interventions should distinguish recreational, educational, social, and passive screen exposure rather than treating all digital activities as equivalent.

The role of social interaction is particularly important because children develop social-emotional competence through repeated interpersonal experiences. Examined longitudinal relationships among parental engagement, children's screen time, and social competence across three developmental time points. Their findings reinforce the importance of family engagement when considering whether screen use becomes a risk factor for social development. Screen exposure may be less problematic when caregivers participate in children's digital activities, communicate about content, and maintain opportunities for direct interaction and play. Conversely, screen use that occurs in isolation or replaces meaningful parent-child interaction may provide fewer opportunities for practicing empathy, cooperation, communication, and conflict resolution.

The 2024 evidence provides further support for the importance of screen-use context and caregiver involvement. (Mallawaarachchi et al., 2024) found that program viewing, background television, age-inappropriate content, and caregiver screen use during child routines were associated with poorer developmental outcomes, whereas co-use showed positive associations with some cognitive outcomes. These findings suggest that the presence of an adult and the quality of interaction surrounding digital media can modify developmental effects. Huang et al. (2024) further demonstrated an association between screen time, brain-network development, and socio-emotional competence, while parent-child reading moderated some of these relationships. Consequently, parental mediation and alternative relational activities may function as protective factors within children's digital environments.

An important contribution of the reviewed literature is the recognition that not all children are equally vulnerable to screen-related risks. Age, developmental characteristics, family environment, existing behavioral difficulties, parental practices, and the type of digital content may moderate the relationship between screen exposure and social-emotional outcomes.(Eirich et al., 2022)demonstrated substantial heterogeneity across studies and identified methodological moderators, including the type of informant and measurement approach. Such heterogeneity explains why some studies report stronger negative associations while others identify weak or nonsignificant relationships. The evidence therefore supports a risk-gradient perspective in which excessive or poorly managed screen use may be more problematic than limited, purposeful, and socially supported digital engagement.

The COVID-19 period provides additional context for understanding changes in children's screen exposure. (Madigan et al., 2022)found that screen time among children and adolescents increased substantially during the pandemic, with a pooled increase of approximately 84 minutes per day or 52%. Increased screen use during school closures and social restrictions may have served both educational and social functions, making it difficult to interpret all increased exposure as harmful. At the same time, prolonged reliance on digital devices could reduce opportunities for physical activity, face-to-face interaction, outdoor play, and regular sleep routines. This evidence demonstrates that the developmental consequences of screen use depend partly on the circumstances that generate the exposure and the functions that screens serve in children's daily lives.

The psychological evidence also suggests that screen time may be associated with children's broader mental health, although the strength of these associations varies. (Caballero-Julia et al., 2024b), in a meta-analysis of cohort studies, identified an association between screen time and

depression risk. The relationship between screen exposure and depressive symptoms may involve multiple pathways, including reduced sleep, sedentary behavior, social displacement, exposure to negative online experiences, and reduced opportunities for rewarding offline activities. However, these mechanisms should not be interpreted as evidence that screen time independently causes depression because many studies are observational and may be affected by reciprocal or confounding relationships. Therefore, the strongest conclusion from the literature is that excessive screen exposure represents a potentially modifiable correlate of psychological risk rather than a singular causal explanation for children's mental health problems.

Overall, the reviewed evidence indicates that the relationship between screen time and social-emotional development is complex, multidimensional, and context dependent. The strongest recurring concerns involve externalizing and internalizing behaviors, emotional regulation, social competence, executive functioning, sleep-related difficulties, and reduced opportunities for direct interpersonal interaction. Nevertheless, the literature also indicates that digital media can support learning, communication, social connection, and social-emotional learning when developmentally appropriate content is used with adequate adult mediation. For example, demonstrated that a structured digital social-emotional learning intervention could improve emotion vocabulary, self-control, emotion regulation, adaptability, and other social-emotional outcomes among preschool children. Therefore, the central issue is not whether children should use screens at all, but how screen exposure can be organized to support rather than displace healthy developmental experiences.

The synthesis further suggests that parental mediation should become a central component of interventions designed to reduce the negative effects of screen exposure. Effective mediation includes setting developmentally appropriate boundaries, selecting suitable content, co-viewing or co-using media, discussing digital experiences, and protecting time for sleep, physical activity, family interaction, and unstructured play. The reviewed evidence indicates that these practices can transform screen use from an isolated activity into a socially mediated learning experience. This perspective is consistent with contemporary developmental psychology, which views children's social-emotional competence as emerging from the interaction between individual characteristics and relational environments. Accordingly, interventions should focus not only on reducing screen duration but also on strengthening the quality of children's offline and online interactions.

A final finding is that future research should employ stronger longitudinal and experimental designs to distinguish correlation from causation. Existing studies frequently rely on parent-reported screen duration, cross-sectional designs, and heterogeneous definitions of screen exposure, which limit the ability to establish developmental mechanisms. The systematic review by Oswald et al. (2020) and the more recent developmental synthesis by (Mallawaarachchi et al., 2024)both highlight the importance of distinguishing screen content, context, and patterns of use. Future studies should therefore integrate objective screen-use measurements with repeated assessments of emotional regulation, social competence, executive functioning, sleep, and family interaction. Such approaches would provide stronger evidence for identifying which forms of screen use constitute developmental risks and which can be incorporated beneficially into children's learning and social environments.

In summary, the systematic evidence from 2019–2024 indicates that excessive or poorly contextualized screen exposure is generally associated with less favorable social-emotional outcomes in children, although effect sizes are often small and heterogeneous. The evidence is strongest for associations involving internalizing and externalizing behavior, emotional and behavioral regulation, executive functioning, sleep, and social competence. Importantly, the literature does not support a simplistic conclusion that all screen exposure is harmful because educational content, co-use, parental mediation, and purposeful digital engagement can produce different developmental outcomes. The psychological impact of screen time is therefore best understood through a transactional model in which children's characteristics, family relationships,

screen content, duration, and social context interact over time. This conclusion supports a balanced approach to children's digital lives that prioritizes healthy routines, responsive parenting, meaningful offline relationships, and developmentally appropriate digital experiences.

CONCLUSION

This systematic literature review concludes that excessive screen time is generally associated with less favorable social-emotional development among children. The most consistently identified concerns involve emotional regulation, internalizing and externalizing behaviors, executive functioning, sleep quality, social competence, and psychological well-being. Nevertheless, the evidence does not support the assumption that all forms of screen use are inherently harmful because developmental effects depend substantially on content, duration, context, purpose, and the quality of adult involvement.

The findings further demonstrate that the relationship between screen time and social-emotional development is complex and potentially bidirectional. Children experiencing behavioral or emotional difficulties may be more likely to engage in greater screen use, while excessive screen exposure may subsequently contribute to difficulties in emotional and behavioral regulation. Family interaction, parental engagement, co-use, and the availability of alternative activities such as outdoor play, reading, physical activity, and face-to-face communication are therefore important factors that may moderate developmental outcomes.

From a psychological perspective, screen-time management should move beyond a simple reduction in the number of hours children spend with digital devices. Parents and educators should prioritize developmentally appropriate content, establish consistent boundaries, encourage co-use, and ensure that digital activities do not replace essential social, emotional, physical, and relational experiences. Future research should employ longitudinal and experimental designs, objective measures of screen exposure, and differentiated assessments of screen content and context to clarify causal mechanisms. Such evidence will contribute to more precise recommendations for integrating digital media into children's lives while protecting and strengthening their social-emotional development.

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