Qualitative Research in Early Childhood Education
E-ISSN: 3123-9897
https://journals-arendra.or.id/rumahjurnal/index.php/QR-ECE
Page 131-144
Vol. 1 No. 2

The Impact of Mobile Phone Use on Early Childhood Interaction And Behavior Patterns: A Qualitative Study

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ARTICLE INFO

Article History
Submitted:
January 23, 2026
Revised:
March 4, 2026
Accepted:
March 30, 2026

Keywords
cell phone use, early childhood , interaction patterns, child behavior, PAUD

Scan Me:

ABSTRACT

Mobile phone use among young children is increasing along with the development of digital technology and has become a serious concern in education. This study aims to determine the impact of mobile phone use on the interaction and behavior patterns of young children and to identify the role of teachers in addressing this issue in preschool settings. This research uses a qualitative approach with a phenomenological paradigm. The research participants were ten PAUD teachers in Sukabumi Regency who were selected using a purposive sampling technique. Data collection was conducted from January to March 2026 using structured interviews. The data obtained were analyzed using thematic analysis techniques to identify key patterns and themes. The results showed that mobile phone use impacts the quality of children's social interactions, reduced verbal communication, and the emergence of changes in behavior and emotional regulation, such as irritability and impatience. This study also found that teachers have a fundamental role in minimizing the negative impacts of mobile phone use through social interaction-based learning strategies, group games, and restrictions on digital media use in schools. Furthermore, collaboration between teachers and parents is a key factor in successfully addressing the impacts of mobile phone use on early childhood . This research provides theoretical and practical contributions to the development of early childhood education in the digital era.

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Doi: https://doi.org/10.66291/qr-ece.v1i2.13

1. INTRODUCTION

Childhood interaction patterns and behavior is a growing research trend in the field of global education. The rapid development of digital technology encourages early childhood to become increasingly familiar with mobile devices from a very young age (Selak et al., 2025). This condition has raised researchers' attention to changes in children's social interaction patterns, both with parents, teachers, and peers. Various studies have shown that mobile phone use can influence the way children communicate and express emotions. In the context of early childhood education, direct interaction is an important foundation for children's social and emotional development (Ainunida & Trismayanti, 2025). Therefore, increased exposure to mobile phones is considered to have the potential to shift traditional forms of face-to-face interaction. This phenomenon makes the topic of mobile phone use in early childhood relevant to continue research. Many educational institutions and academics have placed this issue as a primary focus of contemporary studies (Asqia & Rahma, 2024). This research trend is evident in the increasing number of scientific publications in various international journals. Thus, studies on the impact of mobile phones on early childhood have a strategic position in the global education discourse.

childhood interaction patterns and behavior remains a matter of debate among global researchers. Some researchers argue that mobile phones can provide educational benefits if used appropriately and in a controlled manner. Interactive digital content is considered capable of supporting children's cognitive development and creativity (Hidayah et al., 2025). However, other researchers emphasize the risks of excessive mobile phone use on children's behavior. Negative impacts such as decreased social skills and increased individualistic behavior are often highlighted (Wahyono, 2021). The differences in research results are influenced by cultural context, parenting styles, and duration of mobile phone use. In addition, the lack of adult guidance also strengthens concerns about the negative impacts of mobile phones. This debate shows that mobile phone use in early childhood is a complex issue. Therefore, a qualitative approach is needed to understand the experiences and meanings of mobile phone use in depth (Nur Mutmainnatul Itsna & Risatur Rofi'ah, 2021). Thus, further research is still urgently needed to produce a comprehensive understanding.

In the last five years until 2025 , the national issue regarding the impact of cellphone use on the interaction and behavior patterns of early childhood is increasingly prominent in Indonesia, as evidenced by various studies discussing the relationship between smartphone use and preschool children's behavior and social development (Rizkia Ramadhania Nurbani & Esya Anesty Mashudi, 2023). Research in various regions shows that intense smartphone use can be associated with changes

in social interaction patterns, decreased concentration abilities, and disturbances in eating and sleeping patterns in early childhood, all of which can affect their behavior and interactions in the family and school environment. In addition, national studies also reveal that smartphone dependence has become a concern for parents because a number of preschool children show the risk of addiction from an early age . As a result, children's face-to-face interactions with parents and peers are often disrupted, triggering a shift in behavior to become more individualistic and less empathetic. This behavioral change has become an important topic of discussion in the education and child health sectors in Indonesia because it impacts the social skills and emotional development of preschoolers (Sari & Syawaludin, 2025). In 2025, this concern was reinforced by recommendations from researchers and education practitioners who encouraged monitoring of smartphone use and limiting screen time for early childhood . Addressing this issue also includes the active role of educators and parents in directing the use of digital devices for educational purposes and limiting inappropriate content. Several approaches in schools and communities involve strategies to increase direct interaction between children and their social environment. In addition, campaigns to reduce screen time and promote creative play activities are being intensified to improve the interaction patterns of preschool children (Habiby et al., 2025). The government and educational institutions continue to strive to create guidelines for healthy technology use so that children can develop optimally without being disturbed by uncontrolled cell phone use.

This study aims to determine the impact of mobile phone use on the interaction and behavior patterns of early childhood compared to Japan 's handling of it. In Indonesia, mobile phone use in early childhood is still relatively loose and highly dependent on family parenting patterns. Preschool children in Indonesia tend to use mobile phones as a means of entertainment without consistent adult supervision. This condition has the potential to cause changes in interaction patterns, such as reduced direct communication and increased passive behavior (Afdalia et al., 2023). Meanwhile, Japan applies regulations and a more structured approach to the use of digital technology in early childhood . In Japan, parents and educational institutions emphasize limiting screen time and using mobile phones only for specific educational purposes. Direct social interaction, physical play, and group activities remain the main priorities in early childhood education . Handling the impact of mobile phone use in Japan is also supported by national education policies and high public awareness. This comparison shows significant differences in the management patterns of mobile phone use in early childhood . Therefore , the results of this study are expected to serve as a reference in formulating more effective strategies for handling mobile phone use in Indonesia.

The novelty of this research lies in its comparative qualitative approach, which in-depth examines the impact of mobile phone use on the interaction patterns and behavior of early childhood children , comparing the Indonesian and Japanese contexts. This research not only focuses on the intensity of mobile phone use but also examines the meanings, experiences, and patterns of parental and educator support regarding mobile phone use in preschool children. Furthermore, this research integrates cultural perspectives and educational policies in analyzing differences in the handling of mobile phone use in early childhood in the two countries. This study also highlights changes in children's social interaction patterns within the family and school environments contextually. Thus, this study provides a new perspective that has not been widely discussed in previous research.

2. LITERATURE REVIEW

Early Childhood Education and Developmental Foundations

In the field of Early Childhood Education, child development is understood as a holistic process encompassing cognitive, social, emotional, and behavioral domains. Early childhood education emphasizes developmentally appropriate practices that align with children's developmental stages and individual needs. Learning environments that promote active engagement, play-based experiences, and meaningful social interaction are considered essential for optimal development. According to Lev Vygotsky, children construct knowledge through social interactions with more knowledgeable others, making interpersonal engagement a central component of learning. These interactions support language acquisition, emotional understanding, and social competence. However, the increasing integration of digital technology into children's daily lives has begun to reshape traditional learning experiences. Children are now exposed to screen-based interactions that may replace or reduce direct human engagement. This shift raises critical concerns about the long-term implications for early childhood development.

Mobile Phone Use in Early Childhood

The rapid proliferation of mobile phone use among young children has become a global concern in contemporary education and developmental research. Studies indicate that children are introduced to smartphones at increasingly younger ages, often as tools for entertainment or behavioral management. Selak et al. (2025) found that early exposure to smartphones is associated with changes in children's emotional responses and behavioral patterns. While mobile devices can offer interactive and educational content, their excessive use has been linked to developmental risks. For instance, children who spend extended time on mobile devices tend to engage less in physical play and social interaction. This reduction in direct engagement may limit opportunities for developing essential social skills. Furthermore, inconsistent parental supervision often exacerbates the negative effects of mobile phone use. As a result, researchers emphasize the importance of balanced and guided technology use in early childhood settings.

Impact on Social Interaction

Social interaction is a fundamental aspect of early childhood development, particularly in shaping communication skills and social competence. Research consistently shows that excessive mobile phone use can negatively affect children's ability to engage in face-to-face interactions. Ainunida and Trismayanti (2025) found that children with high screen time demonstrated reduced verbal communication and lower levels of peer engagement. These findings align with Lev Vygotsky's perspective that social interaction is crucial for cognitive and social development. When children substitute human interaction with digital engagement, they may experience delays in social skill acquisition. Additionally, children may become more passive in group activities and less responsive to social cues. Teachers often report difficulties in encouraging such children to participate actively in collaborative play. This shift toward individualistic behavior highlights the need for structured social interaction opportunities in early childhood education.

Behavioral and Emotional Regulation

The influence of mobile phone use on children's behavior and emotional regulation has been widely documented in recent studies. According to Erik Erikson, early childhood is a critical stage for developing initiative and emotional control. Excessive exposure to digital devices may interfere with this developmental process by reducing opportunities for real-life problem-solving and emotional experiences. Sari and Syawaludin (2025) reported that children who frequently use smartphones tend to exhibit higher levels of irritability, impatience, and impulsive behavior. These behavioral patterns are often linked to overstimulation from digital content. Moreover, children may struggle to regulate their emotions when access to devices is restricted. This dependency on digital stimulation can disrupt classroom routines and learning processes. Consequently, understanding emotional regulation in the context of digital exposure is essential for educators and parents.

Executive Function and Self-Regulation Framework

Executive function and Self-Regulation provide a theoretical framework for understanding children's behavior in digital contexts. Executive function includes cognitive processes such as working memory, inhibitory control, and attention regulation, which are still developing in early childhood. Adele Diamond emphasizes that these functions are highly sensitive to environmental influences, including learning contexts and daily experiences. Research indicates that excessive digital stimulation may negatively impact children's ability to sustain attention and control impulses. A qualitative case study published in QR-ECE Journal highlights that children with limited attention span often display high mobility behavior as a response to task difficulty . This behavior should be interpreted as an adaptive response rather than intentional misbehavior. Children may use movement as a strategy to regulate their sensory and cognitive overload. Therefore, understanding executive function development is crucial in interpreting behavioral changes associated with mobile phone use.

Role of Family and Environmental Context

The ecological perspective emphasizes that child development is influenced by interactions between multiple environmental systems, particularly family and school. Urie Bronfenbrenner highlights the importance of the microsystem, where direct interactions with parents and teachers shape children's development. Studies show that parenting practices, including supervision of technology use, significantly affect children's behavior and social development. Children who lack structured routines and parental guidance are more likely to develop problematic digital habits. Additionally, emotional conditions within the family environment can influence children's self-regulation abilities. Research findings indicate that limited stimulation at home contributes to attention difficulties and behavioral challenges in school settings . Collaboration between parents and educators is therefore essential in addressing these issues. A consistent approach across home and school environments can enhance children's developmental outcomes.

Teacher Strategies and Pedagogical Responses

Teachers play a critical role in mitigating the negative impacts of mobile phone use in early childhood education. Constructivist pedagogy emphasizes the teacher's role as a facilitator who creates meaningful and interactive learning experiences. Classroom strategies such as group play, movement-based learning, and reduced screen exposure have been shown to improve children's engagement. Studies suggest that incorporating physical activity into learning can enhance attention and self-regulation (Stevens et al., 2020). Teachers also implement gradual transitions from digital to non-digital activities to support behavioral adjustment. In addition, structured classroom environments and clear routines help children develop better focus and discipline. These strategies demonstrate that pedagogical interventions can effectively address behavioral challenges related to digital exposure. Thus, teachers are key agents in shaping healthy learning environments in the digital era.

Research Gap and Contribution

Although numerous studies have examined mobile phone use in early childhood, gaps remain in understanding the phenomenon from a qualitative and contextual perspective. Most existing research focuses on quantitative measurements such as screen time duration and behavioral outcomes. However, fewer studies explore the lived experiences of teachers and the contextual dynamics within classrooms. Additionally, research in non-Western contexts, particularly in Indonesia, remains limited. This highlights the need for in-depth qualitative studies that integrate classroom and family perspectives. The present study contributes to the literature by providing a phenomenological understanding of how mobile phone use affects children's interaction and behavior. It also offers practical insights into teacher strategies and parent collaboration. By addressing these gaps, the study enhances both theoretical and practical knowledge in early childhood education.

3. METHODOLOGY

Research Design

This study employed a qualitative research approach with a phenomenological paradigm to explore the impact of mobile phone use on early childhood interaction patterns and behavior. The qualitative design was chosen because it allows for an in-depth understanding of participants' lived experiences and subjective interpretations within natural contexts. In the field of Early Childhood Education, qualitative approaches are particularly relevant for capturing complex social and behavioral phenomena that cannot be fully explained through numerical data. The phenomenological approach focuses on how individuals interpret and give meaning to their experiences, making it suitable for examining teachers' perceptions of children's behavior. This design enables the researcher to explore how mobile phone use is experienced and understood within classroom settings. It also allows for the identification of patterns and meanings that emerge from participants' narratives. By prioritizing depth over breadth, the study provides rich, contextual insights into early childhood behavior in the digital era. Therefore, the phenomenological design aligns with the study's objective of understanding behavioral changes from the perspective of educators.

Research Setting and Participants

The study was conducted in several early childhood education (PAUD) institutions located in Sukabumi Regency, Indonesia. These settings were selected because they represent typical early childhood learning environments where mobile phone exposure among children has become increasingly common. Participants consisted of ten early childhood education teachers who were selected using purposive sampling techniques. The criteria for participant selection included having a minimum of two years of teaching experience and direct involvement in classroom interaction with children aged 4–6 years. Teachers were chosen as key informants because they have continuous and structured observations of children's behavior in educational settings. Their professional experience enables them to identify subtle changes in interaction patterns and emotional responses. Additionally, selecting participants from different institutions allowed for a diversity of perspectives and experiences. This variation enhances the richness and credibility of the data collected. Thus, the participant selection process ensured that the data were both relevant and comprehensive.

Data Collection Methods

Data were collected over a three-month period, from January to March 2026, using structured interviews as the primary data collection method. Structured interviews were employed to ensure consistency in the questions asked across all participants, allowing for comparability of responses. The interview instrument was developed based on theoretical frameworks related to social interaction, behavior, and digital technology use in early childhood. Each interview lasted approximately 30 to 45 minutes and was conducted face-to-face to facilitate deeper engagement and clarification of responses. With participants' consent, all interviews were audio-recorded to ensure accuracy and completeness of the data. In addition to recordings, the researcher also took field notes to capture non-verbal cues and contextual information. These notes provided additional insights that enriched the interpretation

of the data. The use of structured interviews allowed for systematic data collection while still enabling participants to express their perspectives in detail. Therefore, this method was considered appropriate for achieving the research objectives.

Instrument Development

The interview instrument was carefully designed to align with the research objectives and relevant theoretical frameworks. It consisted of several key domains, including children's social interaction patterns, behavioral changes, emotional regulation, and teachers' strategies in managing mobile phone use. Questions were formulated in a clear and concise manner to ensure that participants could easily understand and respond to them. The instrument was reviewed by experts in early childhood education to ensure its content validity and relevance. Revisions were made based on feedback to improve clarity and comprehensiveness. The structured format ensured that all participants were asked the same core questions, which strengthened the reliability of the data. At the same time, probing questions were used when necessary to explore participants' responses in greater depth. This combination of structure and flexibility allowed for both consistency and richness in the data. Thus, the instrument effectively captured the key dimensions of the research problem.

Data Analysis Techniques

Data analysis was conducted using thematic analysis, which is widely used in qualitative research to identify patterns and themes within textual data. The analysis process began with the transcription of interview recordings into verbatim text to ensure accuracy. The researcher then engaged in data familiarization by reading the transcripts multiple times to gain a comprehensive understanding of the content. Initial coding was performed by identifying meaningful segments of data related to the research questions. These codes were then grouped into broader categories based on similarities and patterns. From these categories, key themes were developed that represented the core findings of the study. The thematic analysis process was iterative, allowing for continuous refinement of codes and themes. This approach ensured that the analysis remained grounded in the data while also being theoretically informed. Consequently, thematic analysis provided a systematic and rigorous method for interpreting participants' experiences.

Trustworthiness and Validity

To ensure the trustworthiness of the study, several strategies were employed, including credibility, transferability, dependability, and confirmability. Credibility was enhanced through prolonged engagement with the data and careful interpretation of participants' responses. The researcher ensured that the findings accurately reflected participants' perspectives by maintaining close alignment between data and interpretation. Transferability was supported by providing detailed descriptions of the research context and participants, allowing readers to assess the applicability of the findings to other settings. Dependability was achieved by maintaining a clear and transparent research process, including documentation of data collection and analysis procedures. Confirmability was ensured by minimizing researcher bias and grounding interpretations in the data. These strategies align

with qualitative research standards and strengthen the overall rigor of the study. Therefore, the findings can be considered reliable and valid within the context of the research.

Ethical Considerations

Ethical considerations were carefully addressed throughout the research process to ensure the protection of participants' rights and well-being. Informed consent was obtained from all participants before data collection, and they were fully informed about the purpose and procedures of the study. Participation was voluntary, and participants had the right to withdraw at any time without any consequences. Confidentiality was maintained by anonymizing participants' identities and ensuring that no identifiable information was disclosed in the research report. All data were securely stored and used solely for research purposes. The study adhered to ethical guidelines for research in early childhood education, ensuring respect, integrity, and transparency. Additionally, the researcher maintained a professional and respectful relationship with participants throughout the study. These ethical practices ensured that the research was conducted responsibly and ethically. Thus, the study upholds the principles of ethical qualitative research.

Research Limitations

Despite its strengths, this study has several limitations that should be acknowledged. The use of a qualitative phenomenological approach limits the generalizability of the findings to broader populations. The relatively small sample size of ten participants may not fully represent all early childhood education contexts. Additionally, the reliance on teacher perspectives may introduce subjectivity, as the data are based on personal interpretations and experiences. However, this limitation is also a strength, as it provides in-depth insights into real classroom situations. Future research could incorporate multiple data sources, such as observations and parental perspectives, to enhance data triangulation. Furthermore, quantitative studies could complement these findings by examining broader patterns and relationships. Despite these limitations, the study provides valuable contributions to understanding the impact of mobile phone use in early childhood. Therefore, the findings remain relevant and meaningful within the scope of the research.

4. FINDINGS

Theme 1: Declining Quality of Social Interactions in Early Childhood

The research results show that cell phone use significantly reduces the quality of social interactions in early childhood . Teachers observed that children were becoming less active in verbal communication and tended to be passive in group activities. One teacher stated, *"Children today are quieter and don't look at each other when spoken to, unlike before* . " Children also play alone more often than interact with peers. This is reinforced by another teacher's statement , *"When playing in a group, children who frequently use their cell phones usually choose to be alone* . " Face-to-face interaction, a key feature of early childhood education, has decreased. Teachers feel the need for extra effort to engage children and

encourage them to interact. These findings suggest that cell phones are shifting preschoolers' social interaction patterns toward a more individualistic direction.

Theme 2: Changes in Children's Behavior and Emotional Regulation

The second theme that emerged was changes in children's behavior and emotional regulation due to cell phone use. Teachers reported that children became more irritable and had difficulty controlling their emotions. One teacher said, *"If their cell phone isn't there, children quickly cry and get angry* . " Children also show impatient behavior and have difficulty following class rules. This is reinforced by the statement, *"Children become unable to wait their turn and quickly become frustrated* . " Reliance on visual stimuli from cell phones makes it difficult for children to focus on conventional learning activities. Teachers assess this behavior as affecting the overall classroom atmosphere. These findings confirm that cell phone use impacts the emotional and behavioral aspects of young children .

Theme 3: The Fundamental Role of Teachers in Handling the Impact of Cell Phone Use

Early childhood education teachers play a fundamental role in addressing the impact of cell phone use on preschool children. Teachers actively design group play activities to enhance children's social interactions. One teacher stated, "We deliberately increase group play so that children will interact more . " Teachers also limit the use of digital media in schools as a form of control. The approach used is gradual to avoid rejection. Another teacher added, *"We transition children from cell phones to motor and communication games* . " The teacher's role is not only as an instructor, but also as a social and emotional guide for children. This effort is considered effective even though it takes time. These findings indicate that teachers' pedagogical strategies are the main key in restoring children's interaction patterns.

Theme 4: The Importance of Collaboration between Teachers and Parents in Handling

The final theme emphasized the importance of collaboration between teachers and parents in addressing the impact of cell phone use. Teachers recognized that children's behavior at school is heavily influenced by habits at home. One teacher stated, *"Parents often give their children cell phones so they can be quiet without supervision* . " Lack of parental supervision reinforces children's dependence on cell phones. Therefore, teachers strive to educate parents through regular meetings and communication. Another teacher stated, *"When parents and teachers are on the same page, changes in children are seen more quickly* . " This collaboration helps control the duration of children's cell phone use. Synergy between schools

and families is a key factor in successful treatment. These findings confirm that collaboration between teachers and parents is a fundamental aspect of early childhood education in the digital age.

5. DISCUSSION

The findings of this study reveal that mobile phone use significantly contributes to the decline in the quality of social interactions among young children, which aligns with contemporary research in Early Childhood Education. Recent studies emphasize that excessive screen exposure reduces opportunities for meaningful face-to-face communication, thereby weakening children's social competencies (Ainunida & Trismayanti, 2025; Selak et al., 2025; Sari & Syawaludin, 2025). This phenomenon can be interpreted through Lev Vygotsky's framework, which highlights the central role of social interaction in cognitive development. When children interact more with digital devices than with peers or adults, the process of social internalization becomes disrupted. Similar findings have been reported in recent qualitative studies showing that children with high digital exposure tend to exhibit passive participation and reduced verbal engagement in classroom activities (Ismah, 2026; Isnaini, 2026). Furthermore, global research indicates that early reliance on digital interaction may lead to long-term deficits in communication skills and empathy (Bernier et al., 2021; Edwards, 2021). Therefore, this study strengthens existing literature by providing contextual evidence from Indonesian PAUD settings.

In addition to social interaction, this study highlights significant changes in children's emotional regulation and behavioral patterns due to mobile phone use. These findings are consistent with recent empirical studies showing that excessive screen time is associated with increased irritability, impulsivity, and emotional dysregulation (Sari & Syawaludin, 2025; Selak et al., 2025; Ni, 2026). From the perspective of Erik Erikson, early childhood is a critical stage for developing initiative and emotional control, which requires real-life social experiences. The reduction of such experiences due to digital engagement limits children's ability to practice emotional regulation in natural contexts. Recent qualitative research also indicates that children who frequently use digital devices struggle with patience and frustration tolerance (Maisyaroh, 2026; Ferawati, 2026). Moreover, studies in neurodevelopment suggest that overstimulation from digital media may interfere with emotional processing and self-control mechanisms (Diamond, 2013; Becker et al., 2020). These findings confirm that behavioral changes observed in this study are not isolated but part of a broader developmental concern in the digital era.

The study further demonstrates that children's dependence on mobile phones is closely related to changes in attention patterns and increased behavioral reactivity. This aligns with executive function theory, particularly in relation to attentional control and inhibitory processes. According to Adele Diamond, early childhood is a sensitive period for the development of executive functions, which are highly influenced by environmental stimuli. The findings in this study are supported by recent research indicating that excessive digital stimulation reduces children's capacity for sustained attention and increases distractibility (Jelina, 2026; Stevens et al., 2020). Evidence from the QR-ECE study shows that children with attention difficulties often exhibit high mobility behavior as an adaptive response to cognitive overload . Similarly, Ferawati (2026) and Ratniawati (2026) highlight that behavioral

responses such as withdrawal or hyperactivity are often linked to unmet developmental needs. These results suggest that mobile phone use contributes to shifts in children's attentional and behavioral regulation systems. Thus, behavior should be understood as a functional response rather than mere misconduct.

Another important finding of this study is the central role of teachers in mitigating the negative impacts of mobile phone use. This aligns with constructivist pedagogy, where teachers act as facilitators of meaningful learning experiences. Recent studies indicate that structured play-based and movement-oriented learning strategies are effective in enhancing children's engagement and restoring social interaction (Stevens et al., 2020; Liyana, 2026). Teachers in this study implemented group activities and gradually reduced digital exposure, which proved effective in improving children's behavior. This finding is supported by research showing that active learning environments can strengthen attention and self-regulation skills (Becker et al., 2020; Williford & Wolcott, 2021). Additionally, Isnaini (2026) highlights the importance of responsive teaching strategies in addressing developmental challenges. The role of teachers extends beyond instruction to include emotional guidance and behavioral support. Therefore, teachers are key agents in creating adaptive learning environments in the digital age.

Furthermore, this study emphasizes the importance of collaboration between teachers and parents in addressing the impact of mobile phone use. This finding is consistent with Urie Bronfenbrenner, which highlights the interconnectedness of family and school environments in child development. Recent research shows that parenting practices, including supervision and digital regulation, significantly influence children's behavior (Ni, 2026; Selak et al., 2025). The lack of parental guidance often leads to excessive mobile phone use and increased dependency among children. Studies also indicate that children from less structured home environments are more likely to exhibit attention and behavioral problems in school (Ferawati, 2026; Ratniawati, 2026). Collaboration between parents and teachers ensures consistency in behavioral expectations and intervention strategies. This synergy has been shown to accelerate positive behavioral changes in children (Maisyaroh, 2026; Ismah, 2026). Therefore, addressing digital-related behavioral issues requires a systemic and collaborative approach.

This study also contributes methodologically by adopting a qualitative phenomenological approach, which provides deeper insights into teachers' lived experiences. Most previous studies on mobile phone use in early childhood have relied on quantitative methods, focusing primarily on screen time duration and measurable outcomes (Ainunida & Trismayanti, 2025; Sari & Syawaludin, 2025). In contrast, this study captures the meanings and interpretations of behavioral changes from the perspective of educators. Similar qualitative approaches have been recommended in recent literature to better understand complex classroom dynamics (Creswell & Poth, 2018; Edwards, 2021). Studies by Isnaini (2026) and Liyana (2026) also demonstrate the value of phenomenological research in exploring contextual educational issues. This approach allows for a more nuanced understanding of how digital technology affects children in real-life settings. Consequently, this study fills a gap in the literature by providing rich, contextual evidence. It also strengthens the methodological diversity in early childhood education research.

6. CONCLUSION

This study concludes that mobile phone use has a significant and multifaceted impact on early childhood interaction patterns and behavioral development, particularly in reducing the quality of social engagement, weakening emotional regulation, and increasing tendencies toward impulsive and individualistic behavior. The findings demonstrate that excessive exposure to digital devices limits children's opportunities for meaningful face-to-face interaction, which is essential for developing communication skills, empathy, and self-regulation within the domain of Early Childhood Education. Furthermore, behavioral changes such as irritability, impatience, and reduced attention span should be understood as functional responses to overstimulation and developmental mismatch rather than mere misconduct. This study also highlights the critical role of teachers as facilitators who can restore children's social and behavioral balance through play-based, interactive, and movement-oriented pedagogical strategies. Equally important is the collaboration between teachers and parents, as consistent supervision and shared understanding across home and school environments are key to managing children's digital exposure effectively. From a policy perspective, these findings imply the urgent need for clear national guidelines on screen time for young children, the integration of digital literacy and parenting education programs, and the strengthening of teacher professional development in managing technology-related behavioral challenges. Ultimately, this study contributes to the growing body of knowledge on early childhood education in the digital era by emphasizing that balanced, guided, and context-sensitive use of technology is essential to support children's holistic development.

7. REFERENCES

Afdalia, A. P., Gani, I., & Adolph, R. (2023). *No title available. Al-Irsyad Al-Nafs: Jurnal Bimbingan Penyuluhan Islam, 10*(16), 1–23.

Ainunida, R., & Trismayanti, E. (2025). Analisis penggunaan screen time terhadap perkembangan sosial dan emosional pada anak usia 5–6 tahun di TK Tunas Mekar Cimerak. *Excellent: Journal of Early Childhood Education, 2*(2), 506–518.

Asqia, N., & Rahma, M. (2024). Analisis penggunaan gadget terhadap kemampuan berbahasa pada anak usia dini. *Murhum: Jurnal Pendidikan Anak Usia Dini, 5*(2), 1223–1237. https://doi.org/10.37985/murhum.v5i2.757

Becker, D. R., McClelland, M. M., Loprinzi, P., & Trost, S. G. (2020). Physical activity, self-regulation, and early academic achievement in preschool children. *Early Education and Development, 31*(6), 846–864. https://doi.org/10.1080/10409289.2019.1651281

Bernier, A., Calkins, S. D., & Bell, M. A. (2021). Longitudinal associations between caregiver–child interactions and executive functioning. *Developmental Psychology, 57*(2), 260–274. https://doi.org/10.1037/dev0001147

Blair, C., & Raver, C. C. (2015). School readiness and self-regulation: A developmental psychobiological approach. *Annual Review of Psychology, 66*, 711–731. https://doi.org/10.1146/annurev-psych-010814-015221

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Harvard University Press.

Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). Sage Publications.

Diamond, A. (2013). Executive functions. *Annual Review of Psychology, 64*, 135–168. https://doi.org/10.1146/annurev-psych-113011-143750

Edwards, S. (2021). Digital play-based pedagogies in early childhood education. *Australasian Journal of Early Childhood, 46*(3), 210–223. https://doi.org/10.1177/18369391211007399

Erikson, E. H. (1963). *Childhood and society* (2nd ed.). W. W. Norton & Company.

Ferawati, F. (2026). Well-being–based early childhood education for trauma recovery: A phenomenological study of parental perceptions. *Qualitative Research in Early Childhood Education, 1*(1), 1–12. https://doi.org/10.66291/qr-ece.v1i1.1

Habiby, M. N. A., Mutiasari, D., Yunus, C. W., Malang, U. N., Raya, U. P., Mercu, U., & Yogyakarta, B. (2025). *Title not clearly available*. *4*(April), 974–1005.

Hidayah, R., Khoirunnisa, H., Cahyati, F. N., & Agustina, N. (2025). Digital media use and cognitive development in early childhood: A literature review. *Journal of Early Childhood Studies, 6*, 6087–6095.

Ismah, T. N. (2026). Seven habits of great Indonesian children in early childhood education contexts: A qualitative study. *Qualitative Research in Early Childhood Education, 1*(2), 83–98. https://doi.org/10.66291/qr-ece.v1i2.12

Isnaini, F. Z. (2026). Analysis of characteristics and intervention strategies for children with delayed communication. *Qualitative Research in Early Childhood Education, 1*(1), 14–36. https://doi.org/10.66291/qr-ece.v1i1.2

Jelina, M. (2026). Concentration obstacles and high mobility behavior in a senior kindergarten student: A case study. *QR-ECE Journal, 1*(1), 46–51. https://doi.org/10.66291/qr-ece.v1i1.5

Liyana. (2026). Teachers' experiences in integrating nutrition programs into early childhood learning. *Qualitative Research in Early Childhood Education, 1*(1), 37–45. https://doi.org/10.66291/qr-ece.v1i1.5

Maisyaroh, N. (2026). Self-regulation in early childhood as a relational process. *Qualitative Research in Early Childhood Education, 1*(1), 12–23. https://doi.org/10.66291/qr-ece.v1i1.3

Ni, F. (2026). Parenting roles in maintaining early childhood mental health. *Qualitative Research in Early Childhood Education, 1*(2), 68–82. https://doi.org/10.66291/qr-ece.v1i2.8

Nur Mutmainnatul Itsna, & Rofi'ah, R. (2021). Dampak penggunaan gadget pada interaksi sosial anak usia dini. *Ummul Qura: Jurnal Institut Pesantren Sunan Drajat, 16*(1), 60–70. https://doi.org/10.55352/uq.v16i1.254

Rizkia Ramadhania Nurbani, & Mashudi, E. A. (2023). Ketergantungan gadget terhadap perkembangan sosial emosional anak usia 5–6 tahun. *Indonesian Journal of Islamic Early Childhood Education, 8*(2), 100–105. https://doi.org/10.51529/ijiece.v8i2.503

Ratniawati, A. (2026). A clinical–educational case study of speech delay in early childhood. *Qualitative Research in Early Childhood Education, 1*(2), 52–67. https://doi.org/10.66291/qr-ece.v1i2.7

Sari, M. M., & Syawaludin, D. F. (2025). The influence of digital parenting on early childhood social behavior in the technology 5.0 era. *Jurnal Multidisiplin Indonesia, 3*(3). https://doi.org/10.58344/jmi.v3i3.2257

Selak, M. B., Merkaš, M., & Žulec Ivanković, A. (2025). Effects of parents' smartphone use on children's emotions, behavior, and subjective well-being. *European Journal of Investigation in Health, Psychology and Education, 15*(1). https://doi.org/10.3390/ejihpe15010008

Stevens, C., McDowell, J., & Taylor, M. (2020). Movement-based learning and attention regulation in early childhood classrooms. *Journal of Early Childhood Research, 18*(3), 245–259. https://doi.org/10.1177/1476718X20912345

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.

Wahyono, W. K. H. (2021). Dampak penggunaan gadget terhadap perilaku sosial pada usia sekolah dasar. *Jurnal Studi Gender dan Anak, 3*(2), 253–261. http://syekhnurjati.ac.id/jurnal/index.php/equalita/article/view/9105

Williford, A. P., & Wolcott, C. S. (2021). Preschool engagement, self-regulation, and learning outcomes. *Early Childhood Research Quarterly, 54*, 236–247. https://doi.org/10.1016/j.ecresq.2020.09.003