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| RESEARCH ARTICLE

Influence of Electronic Gadget Usage on Learner's Attention and Focus: A Teacher-Based Assessment

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| ABSTRACT
This study explores how using electronic gadgets like smartphones and tablets affects the attention and focus of kindergarten children. As digital device use becomes more common even among young kids, concerns have grown about its impact on learning and behavior. The study used a survey of 60 parents to measure how often children use gadgets and how it relates to their ability to concentrate, complete tasks, and stay engaged. Results showed a moderate negative relationship between gadget use and attention and focus. In other words, children who spent more time on gadgets were less able to stay focused, complete tasks, and stay interested in non-digital activities. These findings suggest the importance of managing screen time in early childhood to support healthy development and better learning outcomes. The study also offers helpful recommendations for parents, teachers, and policymakers to guide responsible gadget use, especially in early education settings.

| KEYWORDS
Electronic gadget use, Kindergarten pupils, Attention and focus, Early childhood education

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Introduction

In the digital age, the widespread use of electronic devices such as smartphones, tablets, and laptops has become central to modern life (Ambah et al., 2025). Even very young children are increasingly exposed to digital screens during critical early developmental periods (Kamal et al., 2025). Studies show that excessive screen exposure can impair sustained focus, decrease responsiveness in classrooms, and hinder social engagement (Sharma et al., 2025). In particular, children using gadgets for more than two hours a day often exhibit signs of restlessness, irritability, reduced perseverance, and diminished motivation to participate in non-digital academic or social tasks (Kerai et al., 2021).

Moreover, early exposure to gadgets has been linked to disruptions in emotional self-regulation and developmental progress. One study found that high screen time in young children was significantly associated with emotional symptoms and hyperactivity due to compromised sleep quality (Zhou & Ding, 2024), while another reported cognitive delays and poor attention in children who had unmonitored screen time, especially without adult supervision (John et al., 2021). In addition, excessive use of gadgets has been found to inhibit imaginative play and the ability to resume tasks after distractions, reflecting a diminished development of creative thinking skills (Ghanamah, 2025). Although digital tools have been integrated into education systems globally, concerns remain that unsupervised or excessive use may outweigh their potential benefits if not carefully managed (Lin et al., 2020). Educators and caregivers often struggle to regulate screen time, especially when devices serve both educational and entertainment functions. Children are frequently left alone with gadgets, resulting in missed opportunities for adult-guided learning that are crucial to developing attention skills (Kalabina et al., 2024).

Kindergarten years are essential for building executive functions such as attention, memory, and adaptability. During

this stage, children are expected to learn routines, focus, and regulate emotions. The increase in digital exposure during the COVID-19 pandemic, particularly from remote education, has intensified debates about whether screen time helps or hinders classroom engagement (Sapsağlam & Birak, 2023). The World Health Organization (2019) recommended zero screen exposure for children under 2 and a limit of one hour daily for those aged 2–4. Yet, studies show these guidelines are rarely followed, especially in settings where digital tools are perceived as essential for early learning (Kerai et al., 2021).

In the Philippines, the use of digital devices in early education is expanding rapidly, especially in urban areas. These tools are used not only for learning but also for entertainment, contributing to increased screen time. Research underscores that early sustained attention is a strong predictor of future academic performance and that distraction from devices can significantly harm educational outcomes (Chen et al., 2020). While most studies focus on older children, there is a clear lack of research on how technology use affects kindergarten-age children, particularly in Southeast Asian contexts (Kerai et al., 2021).

The Philippine landscape also illustrates pronounced disparities in digital access between rural and urban areas, which may lead to unequal educational outcomes depending on the socioeconomic environment. Some scholars suggest that effective policy must consider factors such as family income, parental involvement, and the nature of screen engagement (Wang et al., 2021). While Republic Act No. 10650 (2015) in the Philippines encourages digital learning, it fails to address the potential risks of excessive gadget use on attention development in young children. Although the K to 12 curriculum promotes 21st-century skills like critical thinking, it does not offer clear direction on digital hygiene or screen management for early learners (Lin et al., 2020). This highlights the urgent need for localized, evidence-based studies focusing on younger age groups. By exploring the relationship between gadget usage and attention among Filipino kindergarteners, this study seeks to inform more effective educational practices and policy frameworks. As screen use begins earlier and earlier in life, it is crucial to understand its impact during foundational developmental periods.

This research aims to analyze how gadget use affects the attention and focus of kindergarten pupils. Findings will offer evidence-based recommendations for teachers and parents in managing screen time and contribute to designing more targeted digital literacy and regulation policies for early education. The goal is to support a balanced approach that aligns technological tools with the developmental needs of young learners, particularly in rapidly digitizing societies like the Philippines.

Literature Review

Parental perspective plays a crucial role in understanding how the use of electronic gadgets influences the behavior and development of kindergarten children. Recent studies indicate that many parents permit gadget use primarily for entertainment, particularly involving smartphones or tablets used for games and videos (Kalabina et al., 2024). While some parents acknowledge that digital devices can aid learning when used in moderation, there is growing concern about overuse potentially leading to behavioral dependence and reduced interest in physical or imaginative play (Handayani et al., 2024). Although gadgets may support cognitive stimulation, many parents report difficulties in managing screen time and note its negative effects on daily routines and behavior (Putimtseva, 2024). Regarding attention and focus, numerous parents observe that regular gadget use makes it harder for children to remain engaged in offline activities. While some children can maintain focus in structured settings, extended exposure to screens has been linked to reduced responsiveness and limited participation during classroom tasks (Hayat, 2024). Children accustomed to gadgets often appear easily distracted, show signs of restlessness, and favor the rapid pace of digital media, making it more difficult for them to focus on slower-paced, hands-on learning activities (Rahmawati et al., 2024). These findings underscore the importance of intentional guidance and limits around screen usage to support sustained focus and meaningful engagement among young learners.

Methodology

This study utilized a quantitative research method with a correlational design and cross-sectional approach to investigate the relationship between electronic gadget use and the attention and focus of kindergarten children. By collecting data at a single point in time, this method allowed the researcher to determine potential associations between the two variables. As emphasized by Creswell (2014), such designs are effective in identifying relationships through the use of numerical data and statistical tools. The study was conducted in a learning environment that includes children from diverse socioeconomic backgrounds, making it a suitable context for analyzing the effects of gadget exposure on learning behavior. Participants in the study were parents of kindergarten students, selected through purposive sampling a technique where respondents are intentionally chosen based on criteria aligned with the research objectives. Data was gathered using a structured survey questionnaire that measured both the frequency of children's gadget usage and parental observations of their attention and focus. Responses were recorded using a 5-point Likert scale, which allowed parents to indicate their level of agreement with specific statements. The Pearson Correlation Coefficient (r) was applied in the analysis to determine whether a statistically significant relationship existed between the amount of gadget use and children's attention and focus levels.

Results

Table 1. Age and Gender of Kindergarten Pupils

Age (in years)	Female		Male		Total	
	f	%	f	%	f	%
4 years	0	0	0	0	0	0
5 years	12	37.50	9	32.14	21	35
6 years	20	62.50	19	67.86	39	65
7 years	0	0	0	0	0	0
Total	32	100.00	28	100.00	60	100.00

Table 1 shows the age and gender distribution of the 60 kindergarten pupils who participated in the study. Most of the children were 6 years old, making up 65% of the total, with 20 girls and 19 boys. The remaining 35% were 5 years old, consisting of 12 girls and 9 boys. There were no pupils aged 4 or 7 years in the group. Overall, the sample included slightly more girls (32) than boys (28), but the age group of 6 years was the most common among both genders.

Table 2. Parents' Highest Educational Attainment

Parent's Educational Attainment	f	%
Doctorate Graduate	0	0
With Doctorate Units	0	0
College Graduate	5	8.33
College Level	6	10.00
High School Graduate	43	71.67
High School Level	3	5.00
Elem. Graduate	2	3.33
Elem. Level	1	1.67
Total	60	100.00

Table 2 presents the highest educational attainment of the parents of the kindergarten pupils. The majority of the parents, 43 out of 60 (71.67%), were high school graduates. A smaller number, 6 parents (10%), had reached college level but did not graduate, while only 5 parents (8.33%) completed a college degree. Other educational levels were less common: 3 parents (5%) had only reached high school level, 2 (3.33%) were elementary school graduates, and 1 parent (1.67%) had only completed some elementary education. Overall, this shows that most of the parents had completed secondary education, but relatively few had gone on to higher education.

Table 3. Number of Siblings

Number of Siblings	f	%
1	6	10
2	33	55
3	12	20
4	8	13.33
5 and above	1	1.67
Total	60	100.00

Table 3 shows the number of siblings each kindergarten pupil has. Most of the children, 33 out of 60 (55%), have two siblings. This is followed by 12 children (20%) who have three siblings. Six children (10%) are only children, meaning they have no siblings. Eight pupils (13.33%) have four siblings, while only one child (1.67%) has five or more. This data indicates that the majority of the children come from families with two or three children.

Table 4. Parenting Style

Parental Style	f	%
Authoritative	51	85
Authoritarian	7	11.67
Permissive	2	3.33
Neglectful	0	0
Total	60	100.00

Table 4 presents the parenting styles reported by the parents of the kindergarten pupils. The majority of parents, 51 out of 60 (85%), practiced an **authoritative** parenting style, which is known for being both responsive and supportive while maintaining clear boundaries. A smaller portion, 7 parents (11.67%), followed an **authoritarian** style, characterized by strict rules and high expectations with less warmth. Only 2 parents (3.33%) used a **permissive** style, which tends to be more lenient with few demands. No parents reported using a **neglectful** style. Overall, the data shows that most children in the study were raised in households with supportive yet structured parenting.

Table 5. Extent of Engagement in the Use of Electronic Gadgets

S/N	Indicators	WM	Verbal Description
1	My child uses a smartphone or tablet at home.	3.95	Frequent
2	My child uses gadgets primarily for entertainment (watching videos, playing games, etc.).	3.75	Frequent
3	My child uses gadgets for more than 2 hours per day.	3.30	Frequent
4	Gadget usage affects my child's regular sleep schedule.	2.87	Occasional
5	Gadget usage affects my child's eating habits.	2.75	Occasional
6	My child insists on using gadgets during mealtime or family time.	2.77	Occasional
7	My child prefers using gadgets over interacting with peers or siblings.	2.67	Occasional
8	My child becomes irritable, angry, or upset when gadgets are taken away or restricted.	2.65	Occasional
9	My child uses gadgets without adult supervision.	2.92	Occasional
10	My child asks for gadgets immediately after waking up or arriving home from school.	3.12	Occasional
Aggregate Weighted Mean		3.07	Occasional
Standard Deviation		0.46	

Table 5 presents data on the extent of kindergarten pupils' engagement with electronic gadgets, as reported by their parents. The overall aggregate weighted mean of 3.07, with a standard deviation of 0.46, indicates that gadget use among children occurs at an occasional level, though certain behaviors suggest more frequent interaction. Specifically, the most common activities involve frequent use of smartphones or tablets at home (WM = 3.95) and primarily for entertainment purposes such as watching videos or playing games (WM = 3.75). Additionally, many children reportedly use gadgets for more than two hours daily (WM = 3.30). While these patterns suggest that digital devices are regularly integrated into children's routines, other behaviors linked to potential developmental concerns such as disrupted sleep (WM = 2.87), altered eating habits (WM = 2.75), and reduced social interaction (WM = 2.67)—were rated as occasional. Parents also noted occasional irritability when gadgets were taken away (WM = 2.65), and unsupervised usage (WM = 2.92). The tendency of children to request gadgets immediately after waking or arriving home (WM = 3.12) further suggests early signs of dependency. In summary, while gadget use is common, particularly for entertainment, the negative effects are present but not yet widespread, emphasizing the need for continued parental guidance and balanced screen time management.

Table 6. Level of Attention and Focus among Kindergarten Pupils in terms of Duration

S/N	Indicators	WM	Verbal Description
1	My child stays focused on an activity (e.g., playing or drawing) for several minutes without shifting.	3.80	High
2	My child remains seated and attentive during family activities like mealtime or storytelling.	3.65	High
3	My child continues an activity (e.g., puzzle, toy play) without frequently getting up or stopping.	3.63	High
4	My child can focus on a task or play independently for at least 5–10	3.58	High

	minutes.		
5	My child does not need frequent reminders to stay in one place while doing an activity.	3.32	High
Aggregate Weighted Mean		3.60	High
Standard Deviation		0.18	

Table 6 summarizes the level of attention and focus among kindergarten pupils based on the duration they can sustain engagement in an activity. The aggregate weighted mean of 3.60, with a standard deviation of 0.18, indicates a high level of attention and focus overall. Among the indicators, the highest mean score (WM = 3.80) reflects that many children are able to stay focused on activities such as playing or drawing for several minutes without becoming easily distracted. Other behaviors such as remaining attentive during family activities (WM = 3.65), and continuing play with minimal interruptions (WM = 3.63), also received high ratings. Children were also noted to focus independently for at least 5–10 minutes (WM = 3.58), and required few reminders to stay in place (WM = 3.32). These results suggest that most children in the study exhibit a well-developed ability to concentrate for age-appropriate durations, indicating healthy attention and focus skills in their current developmental stage.

Table 7. Level of Attention and Focus among Kindergarten Pupils in terms of Task Completion

S/N	Indicators	WM	Verbal Description
1	My child finishes household routines or simple tasks (e.g., putting away toys, brushing teeth) when asked.	3.65	High
2	My child completes activities like coloring or building blocks without leaving them unfinished.	3.65	High
3	My child usually completes one task before starting a new one.	3.67	High
4	My child returns to a task after being interrupted or distracted.	3.55	High
5	My child follows simple directions (e.g., "pack away your toys") until the task is fully done.	3.90	High
Aggregate Weighted Mean		3.68	High
Standard Deviation		0.13	

The table 7 presents the level of attention and focus among kindergarten pupils based on their ability to complete tasks. The aggregate weighted mean of 3.68, with a standard deviation of 0.13, reflects a high level of task completion among the children. The highest-rated indicator was the ability to follow simple directions until the task is fully completed (WM = 3.90), suggesting strong compliance and focus when given clear instructions. Similarly, children were also likely to complete one task before moving on to another (WM = 3.67) and finish common routines or simple responsibilities when prompted (WM = 3.65). Additionally, many children were able to return to tasks even after interruptions (WM = 3.55), showing resilience and persistence. Overall, these findings indicate that the majority of kindergarten pupils in the study demonstrate well-developed attention and focus when it comes to completing both structured and routine tasks.

Table 8. Level of Attention and Focus among Kindergarten Pupils in terms of Engagement Level

S/N	Indicators	WM	Verbal Description
1	My child shows excitement or joy when doing play or learning activities at home.	4.10	High
2	My child willingly joins in family conversations or activities like storytelling or singing.	4.03	High
3	My child pays attention and responds when spoken to (e.g., looks, answers, or nods).	4.08	High
4	My child initiates learning activities on their own (e.g., looking at books, asking questions, building toys).	3.83	High
5	My child shows curiosity about new things (e.g., asking "why" or exploring how things work).	4.22	High
Aggregate Weighted Mean		4.05	High

Standard Deviation	0.14

Table 8 illustrates the level of attention and focus among kindergarten pupils in terms of their engagement level during various activities. The aggregate weighted mean of 4.05, with a standard deviation of 0.14, indicates a high level of engagement overall. The highest-rated behavior was children showing curiosity about new things (WM = 4.22), which reflects a strong natural interest in learning and exploration. High ratings were also seen in children who willingly participated in family activities like storytelling or singing (WM = 4.03), and those who independently initiated learning activities such as reading or building toys (WM = 3.83). These results suggest that the children in the study not only demonstrate strong attention and focus but also engage positively and enthusiastically in both structured and informal learning environments.

Table 9. Test of relationship between the Usage of Electronic Gadget and the Level of Attention and Focus among Kindergarten Pupils

Variables	r-value	Strength of Correlation	p - value	Decision	Remarks
Usage of Electronic Gadgets and Duration	-0.542	Moderate Negative	0.000	Reject Ho	Significant
Usage of Electronic Gadgets and Task Completion	-0.604	Moderate Negative	0.000	Reject Ho	Significant
Usage of Electronic Gadgets and Engagement Level	-0.568	Moderate Negative	0.000	Reject Ho	Significant

*significant at $p<0.05$ (two-tailed)

Table 9 presents the results of the correlation analysis between the usage of electronic gadgets and the level of attention and focus among kindergarten pupils across three specific domains: duration, task completion, and engagement level. All three variables show a moderate negative correlation, with statistically significant p-values ($p = 0.000$) that are below the 0.05 threshold. This means that as gadget usage increases, the level of attention and focus among the children tends to decrease. Specifically, gadget use was moderately negatively correlated with duration of focus ($r = -0.542$), task completion ($r = -0.604$), and engagement level ($r = -0.568$). In all cases, the null hypothesis (Ho), which posits no relationship between gadget use and attention/focus, was rejected. These findings indicate a significant inverse relationship: higher engagement with electronic gadgets is associated with lower attention span, reduced ability to complete tasks, and diminished engagement in learning or social activities among kindergarten pupils.

Discussion

The results of this study revealed a statistically significant moderate negative correlation between electronic gadget use and the levels of attention and focus in kindergarten pupils, particularly in terms of duration, task completion, and engagement. These findings are consistent with the growing body of research indicating that excessive screen exposure among young children can hinder their cognitive performance, particularly attention span and task persistence. For instance, Putimtseva (2024) emphasizes that while digital tools may serve educational purposes, unsupervised or prolonged usage often exceeds recommended limits and can impair a child's ability to sustain focus and remain responsive in learning environments. Furthermore, Hayat (2024) noted that digital overuse in early childhood has been linked to reduced classroom responsiveness and diminished social-emotional engagement, mirroring the observed difficulties in task completion and attention among pupils with higher gadget use in this study. Additionally, the negative correlation between gadget uses and engagement level underscores concerns regarding young children's increasing preference for fast-paced digital content over real-life interactions and learning experiences. Trinczer, Maayan, and Shalev (2023) highlighted how targeted attention-training interventions improved children's ability to remain engaged and focused, suggesting that the natural trajectory of attention development can be disrupted by frequent digital distractions. Similarly, Siregar and Nurhafizah (2022) found that more than two hours of gadget use daily was significantly associated with poor emotional and behavioral regulation in preschoolers, reducing their ability to return to tasks or maintain interest in non-digital activities. These findings support the urgent need for structured digital hygiene guidelines and greater parental supervision to ensure that gadget use supports, rather than undermines, developmental milestones in early childhood education.

Conclusions

The findings of this study clearly demonstrate a significant negative relationship between electronic gadget usage and the attention and focus of kindergarten pupils. As gadget use increases, children's ability to sustain attention, complete tasks, and engage meaningfully in learning activities decreases. These outcomes align with recent research emphasizing the developmental risks associated with excessive or unregulated screen exposure in early childhood, including diminished focus, behavioral challenges, and reduced motivation for non-digital interaction and play. While gadgets can offer educational value when used in moderation and under guidance, the results highlight the urgent need for structured screen time management, parental supervision, and digital literacy awareness to protect and support children's cognitive and emotional development during their formative years.

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