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# The Role of Parental Mediation on Children's Sustained Attention in Short Video Exposure

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**A B S T R A C T**

The rapid development of digital technology has increased young children's exposure to short-form video content. Fast-paced visual characteristics (*fast visual content*) are assumed to influence children's cognitive abilities, particularly sustained attention. However, the role of parental mediation in moderating this relationship remains underexplored. This study aims to analyze the effect of short-form video exposure intensity on sustained attention among children aged 5–6 years and to examine the moderating role of parental mediation. A quantitative approach with a correlational survey design was employed involving 21 children and their parents (n = 21). The instruments included scales of video exposure intensity, sustained attention, and parental mediation. Data were analyzed using linear regression and Moderated Regression Analysis (MRA). The findings reveal that the intensity of short-form video exposure has a significant negative effect on children's sustained attention ($\beta = -0.45$; $p < 0.05$). Furthermore, parental mediation significantly moderates this relationship ($\beta = 0.30$; $p < 0.05$), indicating that parental involvement weakens the negative impact of digital media exposure. These results highlight the importance of active parental involvement as a protective factor in early childhood cognitive development. Therefore, strengthening parental mediation strategies is essential in addressing the challenges of digital media use among young children.

**Keywords**: *Short-Form Video, Sustained Attention, Parental Mediation, Early Childhood, Screen Time*

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## INTRODUCTION

The development of digital technology in the last decade has brought significant changes to the pattern of interaction of early childhood with the surrounding environment. Children now interact not only directly through traditional play activities, but also through digital media, especially short-form video platforms such as YouTube Shorts and TikTok. Content with a short duration and fast visual stimulation tends to attract children's attention, but has the potential to affect cognitive abilities, especially *sustained attention* (Christakis, 2019; Rizkiyah et al., 2025).

From a theoretical perspective, this phenomenon can be explained through *Cognitive Load Theory* which states that rapid and repeated exposure to visual stimulation can increase extrinsic cognitive load thereby interfering with the process of deep information processing in early childhood (Sweller et al., 2019). This theory also emphasizes that children's working memory capacity is limited, so exposure to content with rapid visual changes can cause attention to become shallow and easily shifting (Kirschner & De Bruyckere, 2017).

A number of studies show that the intensity of digital media consumption has a relationship with various aspects of child development. High viewing intensity is known to contribute to changes in social behavior, such as a decrease in the quality of children's social interaction with the surrounding environment (Apriliani et al., 2025). In addition, excessive

use of gadgets is also associated with early childhood language and cognitive development disorders (Kholifah & Oktaviani, 2025; Madigan et al., 2020). This shows that digital media not only has an impact on the cognitive aspect, but also on the social-emotional development of children.

Furthermore, exposure to short-form videos with fast pacing and intense visual changes has the potential to affect a child's attention capacity. Marisa (2025) found that excessive use of YouTube Shorts was related to decreased focus and children's ability to maintain attention on activities that required longer concentration. This finding is reinforced by Arifah (2025) who states that high *screen time* is related to children's low situational compliance with parental instructions, which is an important indicator of self-regulation.

From a child's developmental perspective, *sustained attention* skills are an important foundation in the process of learning and environmental exploration. Children with good attention skills tend to be better able to follow instructions, complete tasks, and engage in learning activities optimally. On the other hand, disruptions in this ability can have an impact on children's learning readiness at the next level of education. Therefore, it is important to examine the factors that can affect *sustained attention*, including exposure to digital media that is increasingly difficult to avoid in children's daily lives.

On the other hand, the family environment, especially the role of parents, has a major contribution in shaping children's digital media use behavior. This perspective is in line with *the approach of bioecological systems theory* which emphasizes that children's development is influenced by complex interactions between individuals and various interrelated environmental systems, ranging from the family to the broader social context (El Zaatari & Imad, 2022) In this context, parents as part of the *microsystem* has a central role in shaping children's learning experiences, including in the use of digital media.

*Parental mediation* is seen as a strategy that can function as a protective factor in children's digital media use (Agustina et al., 2024; Nathanson, 2015). This strategy includes various forms of mentoring, such as active discussions, restrictions on use, and direct involvement in children's watching activities. Previous research has shown that active parental involvement can help reduce the negative impact of gadget use in early childhood (Maulidah & Cahyono, 2025). In addition, the quality of parental interaction also plays a role in improving various aspects of child development, including self-regulation and social adaptation skills.

However, in empirical studies, most studies still focus on the *direct effect* between digital media exposure and child development, without considering the role of contextual factors as a moderation variable (Madigan et al., 2020; Radesky et al., 2015). In fact, in a bioecological framework, children's development is the result of dynamic interactions between individuals and their environment that take place in a sustainable manner (Tong & An, 2024).

Several studies have indeed begun to examine the role of moderation variables in the context of parenting, such as *parenting self-efficacy* and *parental involvement* (Hasni et al., 2024; Rosmawaty & Fikri, 2025). However, studies that specifically place *parental mediation* as a moderation variable in the relationship between exposure to short-form videos and sustained *attention ability* in early childhood are still relatively limited.

Therefore, this study fills this gap by not only examining the direct relationship between the intensity of exposure to short videos and *sustained attention*, but also exploring the role of *parental mediation* as a moderation variable that can strengthen or weaken these influences. The novelty of this study lies in the integration of these three variables in the context of children aged 5–6 years who are at the stage of attention development who are still vulnerable to distractions. Based on this, this study aims to: (1) analyze the effect of the intensity of short video exposure on *sustained attention* in early childhood, and (2) test the role *of parental mediation* as a moderation variable in the relationship.

## METHODS

This study uses a quantitative approach with a correlational survey design. This design aims to analyze the relationship between the intensity of exposure to short-duration video

content and the ability *to sustain attention* in early childhood, as well as to test the role *of parental mediation* as a moderation variable. This approach was chosen because it allows testing of the relationship between variables empirically in the context of digital media use in children.

**Respondents**

The research subjects consisted of 21 children aged 5–6 years in Seroja Kindergarten and their parents who lived in the research environment. The sampling technique uses *purposive sampling*, which is the selection of samples based on certain criteria that are relevant to the research objectives. The inclusion criteria include: children actively access digital media, especially short-form video content (e.g. YouTube Shorts or TikTok); have a minimum duration of use of the gadget of 2 hours per day; and parents who are willing to be respondents in filling out research instruments.

The selection of 5–6 years of age is based on the stage of cognitive development, in which attention skills begin to develop but are still susceptible to external distractions. The number of samples in this study was limited (n = 21) adjusted to the characteristics of the specific population as well as the availability of subjects who met the inclusion criteria at the study site.

**Research Instruments**

The research instrument consists of three scales that are compiled based on theoretical studies and previous research, namely:

*Short Video Exposure Intensity Scale*

Measure the frequency and duration of children accessing short-form video content. Indicators include daily usage time, frequency of access, and type of content consumed.

*Sustained Attention Scale*

Measure the child's ability to maintain attention on an activity over a period of time. Indicators include the ability to focus, attention endurance, and the tendency to be easily distracted. Measurements were carried out through structured observation supported by parental assessment.

*Scale Parental Mediation*

Measuring the quality of parental interaction in children's digital media use which includes three dimensions, namely *active mediation* (discussion and mentoring), *restrictive mediation* (time and content restrictions), and *co-viewing* (watching together).

All instruments use a 4-point likert scale, namely: (1) Never, (2) Rare, (3) Often, and (4) Very Often.

The validity of the instrument is carried out through *expert judgment* to ensure the conformity of the indicator with the measured construct. In addition, the validity of the construct is strengthened by referring to theoretical indicators from previous research related to the use of digital media and the development of early childhood attention (Domoff et al, 2019). The reliability test was carried out using Cronbach's Alpha coefficient, with a ≥ value criterion of 0.70 indicating that the instrument has good internal consistency and is suitable for use in quantitative research.

**Data Collection Procedure**

The research procedure is carried out through several systematic stages, starting from the preparation of research instruments based on relevant theoretical studies, then continued with the feasibility test of the instrument through expert validation. After the instrument was declared feasible, the researcher distributed a questionnaire to parents to measure the intensity of exposure to short videos and *parental mediation*. Furthermore, the measurement of children's *sustained attention abilities* is carried out through direct observation in structured activities in the learning environment. The final stage includes the process of collecting and verifying research data to ensure the completeness and accuracy of the data. The entire data collection

process is carried out by paying attention to the principles of research ethics, including the provision of research information and parental consent (*informed consent*).

**Data Analysis Techniques**

Data were analyzed using descriptive and inferential statistical techniques. Descriptive analysis is used to describe the characteristics of each research variable. To test the hypothesis, simple linear regression analysis was used to determine the effect of the intensity of exposure to short videos on *sustained attention*. Furthermore, to test the role of *parental mediation* as a moderation variable, *Moderated Regression Analysis* (MRA) was used by incorporating interaction variables between independent variables and moderator variables into the regression model. All data analysis was performed with the help of IBM SPSS Statistics software version 26.

## RESULTS OF RESEARCH AND DISCUSSION

**Research Results**

Based on the results of the descriptive analysis, most of the children in this study had the intensity of exposure to short-duration videos in the medium to high category. The average duration of daily digital media use is in the range of more than 2 to 5 hours per day, which suggests that access to short video content has become part of the routine of 5–6 year olds.

The results of the linear regression test showed that the intensity of exposure to short videos had a significant negative effect on the child's *sustained attention* ability ($\beta = -0.45$; $p < 0.05$). This indicates that the higher the intensity of exposure to digital media, the lower the child's ability to maintain attention to an activity in a certain time. Furthermore, the results of *Moderated Regression Analysis* (MRA) showed that *parental mediation* played a significant role as a moderation variable in the relationship between the intensity of short video exposure and *sustained attention* ($\beta = 0.30$; $p < 0.05$). These findings show that the existence of *parental mediation* can weaken the negative influence of digital media exposure on children's attention skills.

Table 1. Simple Linear Regression Results

| Independent Variables | β | $R^2$ | Sig. (p) |
|---|---|---|---|
| Intensity of Short Video Exposure | -0,45 | 0,20 | < 0.05 |

In table 1 the value $R^2 = 0.20$ shows that the 20% variation *in sustained attention* can be explained by the intensity of exposure to short videos.

Table 2. Moderated Regression Analysis (MRA) Results

| Variable | β | $R^2$ | Sig. (p) |
|---|---|---|---|
| Exposure Intensity | -0,40 | - | < 0.05 |
| Parental Mediation | 0,25 | - | < 0.05 |
| Interaction (X × M) | 0,30 | 0,32 | < 0.05 |

In table 2 the value $R^2 = 0.32$ shows that the moderation model explains 32% of the variation *in sustained attention*. A significant interaction coefficient indicates the presence of a moderation effect.

**Discussion**

The results of this study show that the intensity of exposure to short-duration videos has an effect on the decrease in the *ability of sustained attention* in early childhood. These findings indicate that the characteristics of fast-paced and dynamic short video content have the potential to affect a child's attention system. Rapid visual changes make children accustomed to instant stimulation, so they have difficulty adapting to activities that require longer and more stable concentration. In this context, children tend to develop attention patterns that are temporary and easily transferable, so the ability to maintain focus for a certain period of time becomes less optimal. This condition can have an impact on children's involvement in learning activities that require perseverance, such as listening to instructions or completing assignments to completion.

These findings are in line with the research of Marisa (2025) and Rizkiyah et al. (2025) which showed that exposure to short video content is related to decreased focus and changes in children's concentration patterns. From the perspective of cognitive development, the ability *to sustain attention* at the age of 5-6 years is still in the developing stage and is greatly influenced by external stimuli. Excessive exposure to digital media has the potential to disrupt the process of attention development that should be formed through play activities and direct interactions. This suggests that the passive learning experience through screens is not fully able to replace the richer hands-on experience in training children's attention resilience. As a result, children become less accustomed to dealing with activities that require ongoing mental involvement.

In addition, the findings of this study also show a relationship between *screen time* and low child situational compliance (Arifah, 2025), which indicates a relationship between attention ability and behavioral control. This condition can be reinforced by reduced children's involvement in activities that support attention development, such as constructive play, reading, and social interaction. As children's time is spent more on digital media consumption, the opportunities to develop self-regulation skills become increasingly limited. This has implications for the decline of children's ability to control behavior, especially in situations that require concentration and obedience to rules.

On the other hand, the results of this study confirm that *parental mediation* plays a protective factor that is able to reduce the negative impact of exposure to digital media. Children who receive active assistance from parents tend to have better attention skills than children who use media without supervision. Forms of mediation such as discussion, restriction of use, and *co-viewing* provide a more targeted context in the use of digital media. This assistance helps children understand the content consumed and directs their attention to more meaningful aspects, so that the use of media is not only entertainment but also has educational value.

These findings are supported by Agustina et al. (2024) and Nathanson (2015) who state that parental mediation plays a role in shaping healthy media use behaviors. In addition, parental involvement is also related to increasing self-regulation and control of media use in children (Maulidah & Cahyono, 2025). In a psychological context, the quality of parental interaction contributes to the child's cognitive and emotional development, so that the child not only becomes a passive consumer, but is also able to understand the content more critically. Quality interaction allows for a dialogue process between parents and children, which ultimately helps children develop reflective thinking skills and increase awareness of the wise use of media.

Theoretically, these findings can be explained through a neurocognitive perspective that emphasizes that repeated exposure to rapid visual stimulation can influence attention selection mechanisms in early childhood. In the phase of brain development that is still plastic, a rapid media consumption pattern can form a preference for instant stimulation and decrease a child's tolerance to slow-paced activities. This is in line with Christakis (2019) who stated that uncontrolled digital exposure can affect children's attention patterns and behavioral regulation in the long term. Thus, media consumption habits formed from an early age have the potential to affect the way children process information and respond to the environment in the future.

In addition, the results of this study are also relevant to the latest developments of *Attention Restoration Theory* which emphasizes that exposure to an *overstimulating* environment can cause *attentional fatigue* and inhibit an individual's ability to maintain attention voluntarily (Liu et al., 2024; Piedimonte et al., 2025). In this context, short video content with fast and dynamic visual characteristics tends to trigger involuntary *attention*, thereby reducing the child's ability to develop *voluntary attention*. As a result, the child becomes more dependent on strong external stimuli to maintain attention, and less able to direct focus independently on activities that do not provide instant stimulation.

Furthermore, the concept *of digital overstimulation* explains that excessive exposure to digital media can form a pattern of attention that is more impulsive and less persistent in

completing tasks (Radesky et al., 2015). However, parental involvement through *parental mediation* can lead to children's digital experiences to be more structured and meaningful. With the right mentoring, children can learn to manage media time and develop more balanced habits between digital and non-digital activities.

Overall, the results of this study show that the impact of digital media on early childhood is not single, but is influenced by contextual factors, especially the family environment. Therefore, family-based interventions through strengthening *parental mediation* are important strategies in minimizing risks and optimizing the benefits of using digital media in early childhood. This approach emphasizes that the quality of interaction in the family has a strategic role in shaping healthy media usage patterns and supporting optimal child development.

## CONCLUSION

This study concludes that exposure to short-duration video content has a significant negative effect on the sustained attention ability of children aged 5–6 years. Children with higher levels of exposure to fast-paced digital media tend to experience greater difficulty maintaining focus on activities that require prolonged concentration, indicating that the rapid visual stimulation characteristic of short-form videos may influence attention systems that are still developing. At the same time, the findings demonstrate that parental mediation serves as an important protective factor by reducing the negative impact of media exposure on children's attention. Active parental involvement through guidance, supervision, and meaningful interaction helps children regulate their media consumption and supports healthier cognitive development. Theoretically, this study contributes to the understanding of early childhood development by integrating neurocognitive and ecological perspectives in examining digital media effects. However, the relatively small sample size and limited research setting restrict the generalizability of the findings. Future studies should involve larger samples, longitudinal designs, and additional variables to provide a more comprehensive understanding of children's attention development in the digital era.

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