

THE IMPACT OF SCREEN TIME AND PARENTAL VERBAL STIMULATION ON SPEECH AND LANGUAGE DEVELOPMENT IN PRESCHOOL CHILDREN

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Abstract: In recent years, the amount of time young children spend in front of screens has increased significantly, raising concerns about its effects on speech and language development during early childhood. At the same time, the role of parents as the main source of verbal stimulation remains crucial for fostering communication and linguistic growth. The present study aimed to examine the relationship between children's screen time, the quality of parental verbal stimulation, and indicators of speech and language development in preschool-aged children. **Methods:** The study included a sample of 440 parents of children aged 3 to 6 years. A structured questionnaire was designed to collect data on: daily screen exposure across different devices (television, computer, tablet, mobile phone); household rules regarding media use; and the quality of verbal communication between parents and children. Data were analyzed using descriptive statistics and the chi-square test (χ^2) to determine associations between variables. **Results:** Findings revealed that 48.0% of children spent up to three hours per day in front of a screen, 43.0% between five and eight hours, and only 7.7% less than one hour daily. This pattern indicates a high level of exposure to electronic media even in early childhood. Furthermore, 71.6% of parents reported maintaining appropriate verbal communication with their child, whereas 28.4% did not. A statistically significant association was found between the lack of adequate verbal stimulation and the presence of speech or language difficulties ($\chi^2 = 43.029$; $p < 0.001$). **Discussion:** The results align with current international findings suggesting that excessive screen exposure reduces opportunities for real-life verbal interaction. Parents who consciously limit screen time and engage in frequent conversations with their children tend to foster stronger speech, vocabulary, and syntax development. These findings emphasize the importance of family-based interventions aimed at improving parental communication skills and establishing healthy media routines. **Conclusion:** Excessive screen time represents a significant risk factor for reduced verbal stimulation during the sensitive period of early childhood. However, the quality and frequency of parental verbal interaction can partially mitigate these negative effects. Parent education programs promoting balanced media use and daily verbal engagement are essential to support optimal speech and language development in preschool children.

Keywords: screen time; parental verbal stimulation; speech and language development; preschool children; family communication.

Field: Humanities.

1. INTRODUCTION

Speech and language development during the preschool years represents a key foundation of children's cognitive, social, and emotional growth. The most intensive period for acquiring linguistic skills occurs before the age of six, when children require rich and varied verbal stimulation through interaction with adults and peers (Hoff, 2013; Kuhl, 2018). However, in contemporary society, electronic media increasingly occupy a central place in children's daily routines, often replacing direct communication and limiting opportunities for spontaneous language experiences (Christakis, 2023).

Recent evidence demonstrates that excessive screen exposure is linked to delayed language development, reduced vocabulary, and difficulties in communication and comprehension (Madigan et al., 2020; Tomopoulos et al., 2021; den Boer et al., 2023). These concerns are particularly relevant for children aged three to five years—a sensitive developmental period in which the quality and frequency of verbal stimulation are essential for later academic and social outcomes (Neumann, 2020; Petersen et al., 2023).

In addition to screen time, the quality of the home communication environment plays a crucial role. Limited or inconsistent verbal interaction between parents and children, combined with elevated media exposure, may further restrict opportunities for linguistic input and interactive learning (Dallacker et al., 2021; Mendelsohn et al., 2021). Conversely, high-quality parental communication—including

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conversation, shared reading, and joint media engagement—represents a protective factor that may mitigate the negative effects of media use (Domoff et al., 2020; WHO, 2019).

In light of these findings, the present study examines two key determinants of early language development: (1) the amount of time preschool children spend in front of screens, and (2) the quality of parental verbal stimulation in the home environment. Investigating these factors may provide valuable insight for developing preventive and early-intervention strategies.

2. MATERIALS AND METHODS

To obtain a comprehensive overview of preschool children’s media habits and family communication patterns, a cross-sectional study was conducted with 440 parents of children aged 3–6 years, enrolled in public and private preschool institutions. Convenience sampling was used, and participation was voluntary and anonymous.

Data were collected using a structured questionnaire developed specifically for this research. The instrument consisted of four components:

1. Socio-demographic characteristics (child’s age and sex, parental education and occupation);
2. Average daily screen time on weekdays and weekends;
3. Types of devices used by children (television, tablet, mobile phone, computer, gaming console);
4. Mode of media use (independent use or with adult supervision) and family rules regarding screen-time limits.

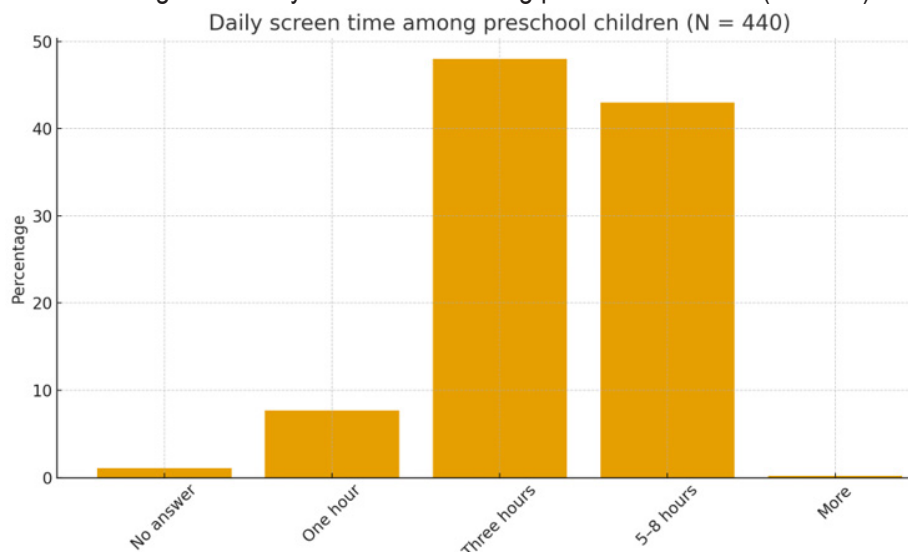
A dedicated section assessed parental verbal stimulation, based on the premise that extensive screen exposure may reduce opportunities for direct adult–child interaction — a critical factor in early language acquisition.

Descriptive statistics (frequencies and percentages) were used to identify patterns of media use and examine potential associations with parent–child verbal interaction and children’s speech-language development (Creswell & Creswell, 2018).

3. RESULTS

Analysis of the data provided by the 440 participating parents revealed distinct screen-use patterns among preschool children. Nearly half of the children (48%) spent up to three hours per day in front of screens, while an additional 43% were exposed for five to eight hours daily. A smaller proportion (7.7%) spent up to one hour per day, and only 0.2% exceeded eight hours of daily screen exposure. These findings indicate that a large share of children surpass recommended pediatric guidelines, potentially reducing opportunities for verbal interaction essential for language development (WHO, 2019; American Academy of Pediatrics, 2016).

Figure 1. Daily screen time among preschool children (N = 440)

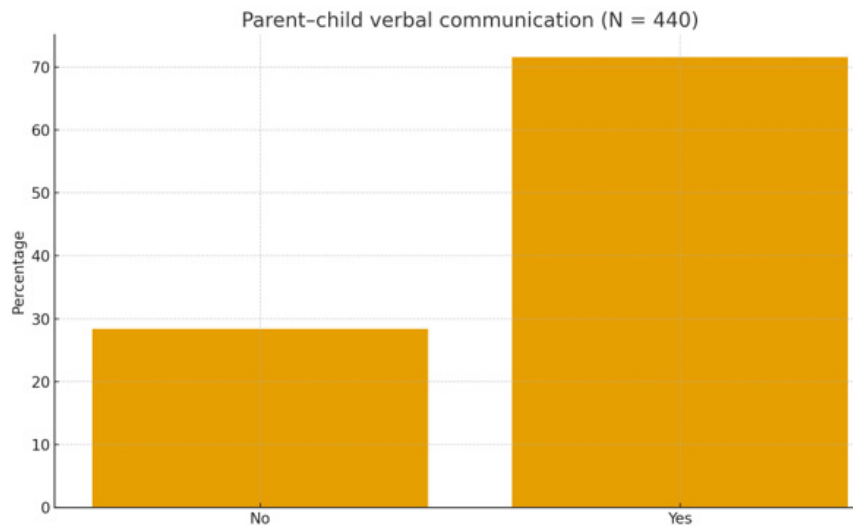


Source: Authors’ research

Parental verbal communication

The quality of parent–child verbal communication was also assessed. Most parents (71.6%) reported frequent and appropriate verbal interaction with their child, whereas 28.4% did not. A statistically significant association was found between insufficient parent–child communication and reported speech–language difficulties ($\chi^2 = 43.029$; $p < 0.001$), indicating that reduced verbal stimulation may increase the risk of developmental language challenges.

Figure 2. Parent–child verbal communication (N = 440)



Source: Authors' research

Interpretation of findings

These results reinforce existing evidence that frequent, meaningful verbal interaction — including conversation, shared reading, and play — serves as a strong protective factor in early language development and may buffer the effects of excessive screen use (Neumann, 2020; Mendelsohn et al., 2021). Conversely, limited parental communication and high media exposure appear to create a dual-risk environment for language delay.

Furthermore, the statistically significant relationship between speech–language pathology and the absence of appropriate verbal communication suggests that children lacking consistent verbal engagement at home may be at greater risk for developing or exacerbating language difficulties. Similar associations have been identified in recent European population-based studies, which consistently link limited verbal stimulation in early childhood with poorer vocabulary and comprehension outcomes (Dallacker et al., 2021; Mendelsohn et al., 2021).

4. DISCUSSION

The present study examined the association between screen exposure and parental verbal stimulation in preschool-aged children, highlighting two critical determinants of early language development: the amount of time spent in front of screens and the quality of parent–child verbal interaction. The findings demonstrated that nearly half of the children spend up to three hours daily in front of screens, while an additional 43% are exposed for five to eight hours per day. These results indicate that a substantial proportion of preschool children in the sample exceed recommended daily screen time guidelines, which advise limiting screen use in early childhood to one hour of high-quality content per day, accompanied by co-viewing and interaction (WHO, 2019, AAP, 2016).

In addition to screen time, this study assessed parental verbal stimulation and found that 71.6% of parents engaged in appropriate communication with their children, while 28.4% did not — a significant risk pattern consistent with global and European findings (Dallacker et al., 2021; Mendelsohn et al., 2021; Neumann, 2020; Domoff et al., 2020).

Such elevated screen exposure is concerning, given evidence that early and prolonged digital media use is associated with reduced opportunities for linguistic input, diminished conversational turns, and delayed speech–language milestones (Madigan et al., 2020; Tomopoulos et al., 2021). Research suggests that passive screen consumption and solitary media use displace rich social interaction, which is

essential for vocabulary growth, auditory-processing development, and conversational skills (Neumann, 2020; Christakis, 2023).

In addition to screen time, this study assessed parental verbal stimulation and found that 71.6% of parents reported engaging in appropriate verbal communication with their children, while 28.4% did not. The statistically significant association between insufficient parent-child interaction and the presence of speech-language difficulties underscores the importance of linguistic input and responsive communication in the home environment. This aligns with previous studies demonstrating that frequent, meaningful parent-child interaction serves as a robust protective factor for language development, particularly when coupled with shared book reading and face-to-face communication (Mendelsohn et al., 2021; Dallacker et al., 2021).

Conversely, children who receive inadequate verbal input are at greater risk of delayed expressive and receptive language, a pattern consistently reported in both global and European contexts (Domoff et al., 2020; Neumann, 2020). The current findings strengthen the argument that environmental language richness remains a significant contributor to developmental outcomes, even as digital media becomes an increasing part of children's daily lives.

Taken together, the findings emphasize the need for parental guidance and early intervention programs targeting both reduction of excessive media exposure and promotion of rich verbal interaction. Interventions should focus on supporting parents in establishing structured screen-use practices, co-viewing and discussing content when media is used, and prioritizing daily conversational routines that reinforce language acquisition. Future research should consider longitudinal designs and objective measures of media exposure and language use, to better isolate causal pathways and explore moderating variables such as socio-economic status, parental education, and media content type.

5. CONCLUSION

This study demonstrated that a considerable proportion of preschool-aged children exceed recommended screen-time guidelines, with most children in the sample spending several hours daily engaged with digital media. Such exposure appears to limit opportunities for direct verbal interaction—an essential element of early language development. Simultaneously, almost one-third of parents reported insufficient verbal communication with their children, and this variable was significantly associated with reported speech-language difficulties.

These findings indicate that both excessive screen time and limited parental verbal engagement function as relevant risk factors for early language development. Conversely, consistent, responsive communication from caregivers represents a protective mechanism that can support language skills and potentially buffer the negative influence of digital media.

To promote healthy language development, it is important to encourage balanced and developmentally appropriate media use, family co-viewing routines, frequent verbal interaction, and shared literacy activities. Policymakers, educators, and pediatric professionals should continue advocating for parental education and support in establishing screen-use boundaries and enriching everyday communication practices.

Further research should continue refining evidence-based guidelines and interventions by examining diverse populations, media contexts, and longitudinal developmental trajectories.

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