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SCREEN TIME AS A DETERMINANT OF LANGUAGE SKILL ACQUISITION OF PRESCHOOL CHILDREN IN NORTH CENTRAL NIGERIA

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Abstract

The study investigates screen time as a determinant of language skills acquisition of preschool children in North Central, Nigeria. The study had four specific purposes, two research questions, and four hypotheses. A descriptive research design of correlation type was adopted. The population comprised all preschool children in North Central Nigeria. A multistage sampling technique was used to select a sample of 384 pupils. Three research instruments titled: Rating Scale on Preschool Screen Time (RSPST), Rating Scale on Preschool Language Skills Acquisition (RSPLSA), and Inter-rater Proforma Guide were used respectively, and the instruments' reliability coefficients were 0.92, and 0.76respectively using Pearson product-moment correlation (PPMC). Percentage and mean were used to answer the research questions. Hypothesis one was tested using linear regressions; hypotheses two and three were tested using independent samples t-testall at 0.05 level of significance. The findings revealed that preschool children spend a significant amount of time daily watching screens. language skills acquisition of preschool children washigh. Screen time significantly determined language skill acquisition ($F(1, 382) = 222.748$, $p < 0.05$). There were no significant differences in screen time, and Language skill acquisition based on gender. Based on the findings, it can be explicitly stated that preschool children spend their highest timedailywatching screens. Language skill acquisition of preschool children in North Central Nigeria was high.

It was recommended among others that parents should supervise and restrict their children's daily screen time to one hour or less, while also establishing clear limits on the duration of their engagement with screen-based activities.

Keywords: Language skill acquisition, Screen time, Preschool children

Introduction

In the preschool years, children develop various habits and attitudes in addition to learning fundamental skills and actions. Children's future life quality is likely to improve through meaningful learning and healthy growth at this time. The availability of effective learning throughout this period ensures that issues are resolved without great trouble. Preschoolers' developmental domains typically include cognitive, language, motor, socio-emotional, and self-care development. All these developmental domains are interconnected, as one developmental area influences the others.

The significance of language skill acquisition in Nigeria remains critical. However, the growing insecurity in the country poses a serious concern for the well-being of children, potentially affecting their educational opportunities and language development. In recent years, Nigeria has faced numerous security threats, including prolonged crises involving non-state armed groups in the Northern regions and a rise in domestic criminal activities across the country.Since 2009, there has been a widespread perception of insecurity across Nigeria, which also affects preschool-aged children. In particular, an estimated 1.3 million children in Northern Nigeria have been dealing with a security crisis since 2021.In 2021, there were 25 reported attacks on schools, during which 1,440 children were abducted, and 16 lost their lives. These incidents led to the closure of 618 schools across six Northern states, causing prolonged learning disruptions. As a result, children's holistic development, particularly their language skill acquisition, was negatively affected due to the trauma and instability experienced in these regions (UNESCO, 2021).

Language skills, on the other hand, involve the capacity to comprehend and express thoughts, feelings, and ideas using verbal and non-verbal communication. These two domains are intricately connected because language serves as a vital tool for socio-emotional skill acquisition. Language enables individuals to express their emotions, establish connections with others, and develop empathy through effective communication. Conversely, socio-emotional skills provide the foundation for language acquisition, as emotional awareness, social interactions, and perspective-taking contribute to the development of vocabulary, pragmatics, and comprehension skills. Ultimately, the acquisition of language skills mutually reinforces each other, enhancing individuals' abilities to form meaningful relationships, express themselves, and navigate the complexities of social interactions (Ahmed et al., 2020). Language is the ability to acquire and articulate complex systems of communication through the accumulation of signs and symbols based on tacit agreement within a speech community (Babalola & Ogunlade, 2015).

There is a popular belief that females are more advanced in language development than males. There seems to be no end to the debate over gender differences, especially in relation to language acquisition. There has been much attention to studying male and female differences in acquiring language skills, showing solid arguments that females consistently outperform males in multiple aspects of language skill acquisition (Wyk, 2016). The fact that males and females have a unique ability to learn more than one language is a well-established fact, and females tend to have more emotional feelings for their parents and other family members than male children (Wyk, 2016).

However, most parents who have little or more education tend to expose their children to devices with screens than parents without Western education.

Screen time" refers to the amount of time spent using any device with a screen, including phones, video games, televisions, computers, laptops, and tablets (Ponti et al., 2017). Additionally, "screen time" can be categorized as either active or passive screen time (Sweetser, Johnson, Ozdowska, & Wyeth, 2012).Active screen time involves a child's cognitive or physical engagement in digital activities (Sweetser et al., 2012). In contrast, passive screen time consists of inactive screen-based activities or the passive consumption of digital information (Sweetser et al., 2012).It is important to distinguish between active and passive screen time, as it will assist in understanding the specific effects of screen time (for example, either positive or negative).

In this study, the researcher seeks to investigate screen time as a determinant of language skill acquisition of preschool children in North Central Nigeria. It has been observed from the literature that a study of this type has never been carried out in North Central Nigeria to the best of the researcher's knowledge and information available to the researcher. Therefore, this is meant to fill the gap, requiring empirical evidence with regard to screen time as a determinant of language skill acquisition of preschool children in North Central Nigeria.

Statement of the Problem

Screen time is becoming more common among preschool children, leading to growing concerns about its potential impact on their language skill acquisition. In North Central Nigeria, the widespread use of smartphones and tablets has led to children being exposed to screens at an earlier age and for extended periods. This increased screen time can result in children becoming isolated from their immediate social environment, which can negatively affect their holistic development. language development, crucial for cognitive growth, may be limited by screen time, affecting listening, speaking, reading, and writing skills.

Given the limited research in North Central Nigeria, investigating screen time as a determinant of language skill acquisition is essential. Understanding the impacts of screen time on children's development can help policymakers, educators, and parents make informed decisions about screen time guidelines, ultimately supporting the healthy development of children. The region's heterogeneous nature allows for generalization across similar contexts. While global research on language skill exists, empirical evidence specific to screen time in this context is scarce. This study aims to fill that gap by examining screen time as a determinant of language skill acquisition of preschool children in North Central Nigeria.

Purpose of the Study

The main purpose of this study was to investigate screen time as a determinant of language skill acquisition of preschool children in North Central, Nigeria. Specifically, the purposes were to find out:

1. the amount of time preschool children spent watching screens in North Central, Nigeria.
2. the level of preschool children's language skills acquisition in North Central, Nigeria.
3. differences in screen time of preschool children based on gender in North Central, Nigeria.
4. differences in Language skill acquisition of preschool children based on gender in North Central, Nigeria.

Research Questions

The following research questions were raised to guide the study.

1) What is the amount of time preschool children spend watching screens in North Central, Nigeria?
2) What is the level of preschool children's language skills acquisition in North Central Nigeria?

Research Hypotheses

The following research hypotheses were tested at 0.05 level of significance.

$H_0$1: Screen time does not significantly determine language skill acquisition of preschool children

$H_0$2: There is no significant difference in the level of Screen time of preschool children based on gender.

$H_0$3: There is no significant difference in Language skill acquisition of preschool children based on gender.

Methodology

A descriptive research design of correlation type was adopted for the study. The population comprised all preschool children in North Central Nigeria. A multistage sampling technique was used to select a sample of 384 pupils. Three research instruments titled: Rating Scale on Preschool Screen Time (RSPST), Rating Scale on Preschool Language Skills Acquisition (RSPLSA), and Inter-rater Proforma Guide were used respectively, and the instruments' reliability coefficients were 0.92, and 0.76respectively using Pearson product-moment correlation (PPMC). Percentage and mean were used to answer the research questions. Hypothesis one was tested using linear regressions; hypotheses two and three were tested using independent samples t-testall at 0.05 level of significance.

RESULTS

Research Question One: What is the amount of time preschool children spent watching screens in North Central, Nigeria?

Table 1: The amount of time preschool children spent watching screen in North Central, Nigeria.

S/N	Items	Mean	Remarks
1	The average daily duration my child spends on television, computer systems, smartphones, iPads, or tablets is	2.70	High level
2	The number of hours per day that my child spends watching cartoon animation shows or videos is	2.11	Low level
3	The number of hours my child spends using electronic devices with screens before bedtime is	2.93	High level
4	The duration for which my children use a tablet or television as a reward for good behaviour is	3.77	Very high level
5	My children have access to television for a period of	2.15	Low level

6	Parental controls are used on the television set to prevent my child from accessing devices for some hours	2.79	High level
7	My child spends many hours per day playing games on electronic devices	2.10	Low level
8	Hours are set as specific time limits for my child's daily screen time	2.92	High level
9	My child utilizes screens during meals for specific hours	3.08	High level
10	My child spends some time on screens before I notice changes in his/her behaviour due to prolonged screen time usage	3.00	High level
11	My child expresses frustration or irritability when screen time is limited or stops for some hours	2.85	High level
12	My child prefers screen-based activities over other forms of play for specific hours	3.00	High level
13	My child exhibits signs of restlessness or impatience while engaging in screen time activities for specific hours	1.93	Low level
14	My child utilizes electronic devices such as smartphones, computers, and iPads throughout a typical day	3.13	High level
15	My child spends some hours in solitary screen activities	2.24	Low level
16	My child engages in interactive and creative play on screens for specific hours	3.76	High level
17	I set Specific hours, rules, or guidelines for screen time use in my household	2.06	Low level
18	I spend some hours discussing the potential risks and benefits of screen time with my child	3.24	High level
19	When my child uses electronic devices, an adult person supervises her for some hours	2.94	High level
20	My child spends some hours on screen time with siblings or peers	2.06	Low level
	Mean	**2.74**	**High level**

Decision rules: VLL (1.00-1.74), LL (1.75-2.49), HL (2.50-3.24), VHL (3.25-4.00)

Table 1 shows the amount of time preschool children spent watching screen. The Preschool children spent below 1 hour daily in doing the following: The duration for which my children use a tablet or television as a reward for good behaviour is (3.77), My child engages in interactive and creative play on screens for specific hours (3.76), The Preschool children spent 2-3 hours daily in doing the following: The average daily duration my child spends on television, computer systems, smartphones, iPads, or tablets is (2.70), The number of hours my child spends using electronic devices with screens before bedtime is (2.93), Parental controls are used on the television set to prevent my child from accessing devices for some hours (2.79), Hours are set as specific time limits for my child's daily screen time (2.92), My child utilizes screens during meals for specific hours (3.08), My child spends some time on screens before I notice changes in his/her behaviour due to prolonged screen time usage (3.00), My child expresses frustration or irritability when screen time is limited or stops for some hours (2.85),

My child prefers screen-based activities over other forms of play for specific hours (3.00), My child utilizes electronic devices such as smartphones, computers, and iPads throughout a typical day (3.13), I spend some hours discussing the potential risks and benefits of screen time with my child (3.24), When my child uses electronic devices, an adult person supervises her for some hours (2.94), The Preschool children spent 4 hours and above daily in doing the following: The number of hours per day that my child spends watching cartoon animation shows or videos is (2.11), My children have access to television for a period of (2.15), My child spends many hours per day playing games on electronic devices (2.10), My child exhibits signs of restlessness or impatience while engaging in screen time activities for specific hours (1.93), My child spends some hours in solitary screen activities (2.24), I set Specific hours, rules and guidelines for screen time use in my household (2.06), My child spends some hours on screen time with siblings or peers (2.06), The weighted mean is 2.74 which is a numeric indicator that preschool children spent 2-3 hours daily in watching screen. This means that, on average, preschool children spend around 2-3 hours per day watching screens.

Research Question Two: What is the level of preschool children's language skills acquisition in North Central Nigeria?

Table 2: Table showing the level of preschool children's language skills acquisition in North Central Nigeria

No	Items	Mean	Remarks
	The Child:		
1	Recognizes and names some letters of the alphabet	3.19	High level
2	Demonstrates interest in books and reading	3.47	Very high level
3	Engages in turn-taking during conversations.	2.87	High level
4	Identifies and produces rhyming words	3.00	High level
5	Expresses feelings and needs verbally	3.37	Very high level
6	Uses age-appropriate words to describe simple concepts	3.15	High level
7	Mentioned basic color and shape names	2.83	High level
8	Names common objects	3.32	Very high level
9	Maintains eye contact and appropriate body language while communicating	2.93	High level
10	Responds appropriately to yes/no questions	3.07	High level
11	Engages in basic storytelling, and describing events in sequential order	2.78	High level
12	Initiates short conversations with peers or adults	3.28	Very high level
13	Recognizes and names some letters of the alphabet	3.08	High level
14	Expresses needs and wants using simple sentences	3.49	Very high level

15	Differentiate between words and opposites, like big and small, up and down	2.50	High level
16	Begins to use present tense verbs correctly (Example, run, jump, eat)	2.91	High level
17	Uses descriptive words to talk about objects (For example, big, blue, soft).	2.92	High level
18	Verbally interacts with peers	3.40	Very high level
19	Names and recognizes common body parts	3.30	Very highlevel
20	Identifies and names common animals and their sounds	2.95	High level
	Mean	**3.10**	**High level**

Decision rules: VLL (1.00-1.74), LL (1.75-2.49), HL (2.50-3.24), VHL (3.25-4.00)

Table 2 shows the level of preschool children's language skill acquisition. The children sometimes do the following: Recognizes and names some letters of the alphabet (3.19), Demonstrates interest in books and reading (3.47), Engages in turn-taking during conversations (2.87), Identifies and produces rhyming words ((3.00), Expresses feelings and needs verbally
(3.37), Uses age-appropriate words to describe simple concepts (3.15), Mentioned basic color and shape names (2.83), Names common objects (3.32), Maintains eye contact and appropriate body language while communicating (2.93), Responds appropriately to yes/no questions (3.07), Engages in basic storytelling, and describing events in sequential order (2.78), Initiates short conversations with peers or adults (3.28), Recognizes and names some letters of the alphabet (3.08), Expresses needs and wants using simple sentences (3.49), Differentiate between words and opposites, like big and small, up and down (2.50), Begins to use present tense verbs correctly (Example, run, jump, eat) (2.91), Uses descriptive words to talk about objects (2.92), Verbally interacts with peers (3.40), Names and recognizes common body parts (3.30), Identifies and names common animals and their sounds (2.95). The weighted mean is 3.10 which is a numeric.

indicator that the level of preschool children's language skill acquisition was on average. This means that when you combine all the scores together, the average score for preschool children's language skill acquisition is 3.10, indicating ahigh level of language skills overall.

Research Hypothesis One: Screen time does not significantly determine language skill acquisition of preschool children.

Table 3: Table showing screen time as determinant of language skill acquisition of preschool children.

Variables	**n**	**R**	**R Square**	**Adjusted R Square**	**Standardized Coefficient Beta**	**F**	**Sig.**
Screen time Language skill acquisition	384	-.607	.368	.367	-.607	222.748	.001

Table 3 shows screen time as determinant of language skill acquisition of preschool children. The result indicated that there was a negative relationship between screen time and language skill acquisition of preschool children (R = -.607) while the R-Square is .368 which means that the independent variable (screen time) explained 36.8% variation of the dependent variable (language skill acquisition of preschool children). This indicates a good fit of the regression equation. Thus, this is a reflection that screen time significantly determined language skill acquisition of preschool children ($F_{(1,382)} = 222.748$, $p < 0.05$). This implies that there was screen time significantly determined language skill acquisition of preschool children. This means that the amount of time preschool children spent in front of screens had a noticeable impact on how well language skill acquisition take place.

Research Hypothesis Two: There is no significant difference in the amount of Screen time of preschool children based on gender.

Table 4: Table showing difference in the amount of screen time of preschool children based on gender.

Gender	n	Mean	Std. Deviation	T	df	Sig	Remark
Male	171	54.75	1.228	-.454	382	.650	Not Significant
Female	213	54.80	1.111				

Table 4 shows the difference in the amount of screen time of preschool children based on gender. There was no significant difference in the amount of Screen time of preschool children based on gender (t = -.454; df = 382; p > 0.05). The hypothesis is therefore not rejected in the light of the result since the significant value is greater than 0.05. This implies that gender had no significant influence on the amount of Screen time of preschool children. This means that whether a preschool child is a boy, or a girl did not have a noticeable effect on how much time they spent in front of screens.

Research Hypothesis Three: There is no significant difference in language skill acquisition of preschool children based on gender.

Table 5: Table showing difference in language skill acquisition of preschool children based on gender.

Gender	n	Mean	Std. Deviation	t	df	Sig	Remark
Male	171	42.37	4.344	-.443	382	.658	Not Significant
Female	213	42.58	4.564				

Table 5 shows the difference in language skill acquisition of preschool children based on gender. There was no significant difference in language skill acquisition of preschool children based on gender (t = -.443; df = 382; p > 0.05). The hypothesis is therefore not rejected in the light of the result since the significant value is greater than 0.05. This implies that gender had no significant influence on the language skill acquisition of preschool children. This means that

whether a preschool child is a boy, or a girl did not have a noticeable effect on how well they acquired language skills.

Discussion of Findings

The finding emanated from this study, was that preschool children spent 2-3 hours daily in watching screen in North Central Nigeria. This implies that preschool children spend high time watching screen in North Central Nigeria. The finding negates the finding of Arumugam et al (2022) who stated that screen time should not be more than an hour per day for children under the age of five due to public health concerns and guidelines on the amount of time young children should spend in front of screens according to World Health Organization (WHO, 2019), and America Academic of Child and Adolescent Psychiatry (AACAP, 2022). Less than a year old should engage in multiple forms of physical activity throughout the day, with interactive floor play being the most beneficial and screen time is not recommended for 1-year-old, sedentary screen time (such as watching TV or videos or playing computer games) is not recommended for those aged 2 years and older, sedentary screen time should not be more than 1 hour or less is better. Children 3–4 years of age should spend at least 180 minutes in a variety of types of physical activities at any intensity, Sedentary screen time should not be more than 1 hour or less is better.

The findings of this study is consistent with the findings of Zhao et al. (2022) who concluded that majority of children utilized television and overall prevalence of excessive screen time was High. One interesting outcome of this finding is that despite the fact that researchers whose findings were similar to the findings of the current study used different categories of respondents and different locations, the outcomes were very similar. This therefore proved that preschool children spent high time watching screen across board. The findings revealed that the level of preschool children's language skill acquisition was High. However, this finding contradicted Madigan et al. (2020), who reported that children's language skills were at a lower level. Madigan et al. attributed the lower levels to factors such as limited exposure to language-rich environments and inadequate early childhood education. In contrast, our study suggests that children are generally acquiring language skills at a typical rate, potentially due to better support and stimulation. The discrepancy may be due to differences in sample populations, location, research methodologies, or measures of language acquisition used.

The findings of this study revealed that screen time significantly determined language skill acquisition of preschool children ($F_{(1,382)} = 222.748$, $p < 0.05$). This corroborates the findings of Karani, Sher, and Mophosho (2022) indicated that an increase in screen time and an early age of onset of viewing have negative effects on language development, with an older age of onset of viewing showing some benefits. In line with the findings of Veraksa et al. (2021) state that time spent passively with digital devices (watching TV) is negatively related to a child's ability to process verbal information. This implied that excessive screen time can hinder language skill acquisition in preschool children, as the children experience an increase in screen time, they declined in their language skill acquisition.

Furthermore, the finding also revealed that, there was no significant difference in the amount of Screen time of preschool children based on gender. ($t = -.454$; $df = 382$; $p > 0.05$). The hypothesis is therefore not rejected in the light of the result since the significant value is greater than 0.05. this finding supports Foo, Ismail and Arshat (2022) who stated that screen time is significantly correlated with parent-child interaction based on gender. This therefore showed that both male and female alike can have neither negative nor positive engaging in screen time while

dealing with challenges related to screen time. The majority of the findings tend to suggest that male usually report a higher level of screen time than their female counterparts

Findings of this study also revealed thatthere was no significant difference in language skill acquisition of preschool children based on gender ($t = -.443$; $df = 382$; $p > 0.05$). The hypothesis is therefore not rejected in the light of the result since the significant value is greater than 0.05. the finding supports the finding of Ogbeche and Okeke (2022) who's revealed that gender has no significant influence on language skills acquisition among preschool children. Also negates the finding of Dumitrache (2021) that showed that girls have higher levels of language development than boys in all measured dimensions. Also corroborates with the finding of Faruk and Saha (2016) that stated that there is no significant difference between male and female students regarding language learning.

Conclusion

Based on the research findings and all foregoing discussion, it can be explicitly stated that preschool children spent high time daily watching screen in North central Nigeria, language skill acquisition level of preschool children in North central Nigeria were High. There were no significant differences in the amount of screen time, and language skills acquisition of preschool children based on Gender.

Recommendations

Based on the result of this study, the following recommendations are made:

1. Parents should supervise and restrict their children's daily screen time to one hour or less, while also establishing clear limits on the duration of their engagement with screen-based activities
2. Parents should engage their children in interactive activities that promote language development.
3. Parents should model positive screen habits by limiting their own screen time when around their children and demonstrating engagement in non-screen activities in order to improve children's language skill acquisition.
4. Parents and teachers should not discriminate between a male and female child on the amount of time spent on-screen activities.
5. Teachers should regularly communicate with parents about their child's progress in language skills and offer suggestions for activities that can be done at home to support this development.
6. Federal, state, and local governments should initiate public awareness campaigns to educate parents and caregivers about the negative impacts of excessive screen time on young children's development and the importance of fostering language skill.

References

Ahmed, I., Binti -Hamzah, A., & Ng Lee Yen Binti Abdullah, M. (2020). Effect of social and emotional learning approach on students' social-emotional competence. *International Journal of Instruction,13*(4), 663–676. https://doi.org/10.29333/iji.2020.13441a

Arumugam C.T., Said M.A., Nik Farid N.D., & Rizal H., (2022) Screen time influence on early childhood social-emotional development. *Health Prob Civil*. 16 (3): 190-198. https://doi.org/10.5114/hpc.2022.118754

Babalola, J.O & Ogunlade, B.O. (2015). Activation of language potential through

instructional technology. *International Journal of Educational Foundations and Management*, Ekiti State reza, Ado-Ekiti, *9* (2): 75-83

Dumitrache, A. M. (2021) Language and aggression in preschool children. Gender differences.

Studia Doctoralia. *Psychology and Educational Science*, 12(2), 123-140. https://doi.org/10.47040/sdpsych.v12i2.135.

Foo, N., Ismail, N., & Arshat, Z. (2022). Relationship between screen time, sleep duration,

parent-child interaction and psychosocial adjustment among preschool children in Selangor, Malaysia. *Journal of Educational and Developmental Psychology*. https://doi.org/10.5539/jedp.v12n2p94.

Karani, N.F., Sher, J., & Mophosho, M. (2022). The influence of screen time on children's

language development: A scoping review. *South African Journal of Communication Disorders*, 69(1), a825. https://doi. org/10.4102/sajcd. v69i1.825

Madigan, S., McArthur, B., Anhorn, C., Eirich, R., & Christakis, D. (2020). Associations between screen use and child language skills: A systematic review and Meta-analysis. *JAMA Pediatrics*. https://doi.org/10.1001/jamapediatrics.2020.0327.

Ogbeche, A. T., & Okeke, C. I., (2022) Effect of edutainment videos on literacy skills acquisition

among preschool children. implications for updating children's audio-visual library" (2022). *Library Philosophy and Practice (e-journal) .7460. https://digitalcommons.unl.edu/libphilprac/7460*

Ponti, M., Bélanger, S., Grimes, R., Heard, J., Johnson Moreau, M., Norris, E., Williams, J.

(2017). Screen time and young children: Promoting health and development in a digital world. *Paediatrics and Child Health, 22* (8), 461–477. https://doi.org/10.1093/pch/pxx123

UNESCO. (2021). *Nigeria Security Report 2021: Final report. UNESCO*.

Sweetser, P., Johnson, D., Ozdowska, A., & Wyeth, P. (2012). Active versus passive screen time

for young children. *Australasian Journal of Early Childhood, 37*(4), 94–98. https://doi.org/10.1177/183693911203700413

Veraksa N., Veraksa A., Gavrilova M., Bukhalenkova D., Oshchepkova E., & Chursina A (2021)

Short- and long-term effects of passive and active screen time on young children's phonological memory. *Front. Educ*. 6:600687. Doi: 10.3389/feduc.2021.600687

World Health Organization. (2019). Guidelines on physical activity, sedentary behaviour and

sleep for children under 5 years of age. *World Health Organization*. https://iris.who.int/handle/10665/311664. License: CC BY-NC-SA 3.0 IGO

Wyk, J.V., Mostert, M.L., & Hui, S.K.F. (2016). The influence of mother tongue and gender

on the acquisition of English (L2): *The case of Afrikaans in Windhoek schools, Namibia. Cogent Education,* 3:1, DOI: 10.1080/2331186X.2016.1210997

Zhao, J., Yu, Z., Sun, X., Wu, S., Zhang, J., Zhang, D., Zhang, Y., & Jiang, F. (2022).

Association between screen time trajectory and early childhood development in children in China. *JAMA pediatrics*. https://doi.org/10.1001/jamapediatrics.2022.1630.