

YOUNG CHILDREN AND SCREEN-TIME: SPANISH RESEARCH GAP AND FUTURE INVESTIGATIONS PROPOSALS

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Abstract

Nowadays, technology and digital screens have become an essential part of our routine. At the same time, young children are being exposed to these screens at an earlier age. Literature suggests that there is a digital gap between those children who have been trained to use technology critically and effectively and those who have not. Considering the relevance of the topic in developed societies, we will analyze the current national (Spain) and international literature on the issue. The objective of the study is to recognize the needs and weaknesses of Spanish research with the aim to offer an effective data collection tool for future research. The literature review reveals that as a result of COVID-19 pandemic, several new articles have been produced with the aim of analyzing the situation, anticipating possible consequences and providing action strategies and healthy routines for families and schools. On the international scene, during the last 10 years the number of studies about experts' recommendations, health concerns and the benefits of educational Apps has increased consistently. Focusing on national research, most Spanish studies exclude young children (0-6 years) and those who include them, focus on a specific field or analyze a small sample. To cover the research gap from 0-6 years old, we have designed two surveys, one for caregivers and one for preschool teachers. Some semi-structured interviews are also being considered to complement the quantitative data with qualitative information related to the perceptions, experiences, beliefs and practices of parents and teachers. The sample is divided into the main caregivers of young children and early education tutors of preschools in the Metropolitan Area of Barcelona. To include different socioeconomic status (SES), should be conducted in at least 30 preschool education centers distributed as follows: 10 schools located in low-income neighborhoods, 10 schools located in middle-income neighborhoods and 10 schools located in high-income neighborhoods.

Keywords: *Young children, preschool, screen-time exposure, caregivers' perceptions.*

1. Introduction

Today children are often used to using digital devices (smartphones, game consoles, televisions, tablets, etc.) in everyday activities. For example, many children play with their tablets while eating dinner or watch videos while traveling on public transport. Despite the fact that young children were born into a digitized world, there is a gap between those who have been trained to use technology critically and effectively and those who have not (Granado Palma, 2019). That situation highlights the need to create some strategies in order to supervise and support children's media use (Montoya et al., 2018). Parents, caregivers and educators are the key axis to support young children's interactions in a healthy, constructive and safe way.

According to Jiménez-Morales et al. (2020) the socioeconomic situation of parents influences their digital mediations. In particular, the research establishes a relation between low-income environments and excessive use of digital devices by children. Moreover, educators are another important influence on children's digital behaviors. Digitized classrooms could become interactive learning environments where students are at the center of the teaching and learning process (Latorre-Coscolluela, 2018). However, according to García Aretio (2019), the simple fact of equipping the classroom with digital devices is not enough to promote a useful use of the digital media. To achieve this purpose, it's necessary to support the use of digital devices with actions focused on scaffolding children's learning process and digital literacy.

According to the Instituto Nacional de Estadística (2019) 91'4% of Spanish families have access to the internet. Also, Spanish households are equipped with, at least, one of the following devices: 99'1% of households have a television, 98'5% have a mobile phone, 80'9% have a computer, 56'8% have a tablet and 25% have an e-book reader. These data reflect the high percentage of digitalization in Spain and the importance of further research on screen time.

2. Method

For the present study we will analyze, by a literature review, the current literature on the issue from two different fields of study: health sciences and social sciences. We are comparing the differences between international literature -mostly written in English- and national literature. For the literature review we used the database Scopus with the keywords "preschool" OR "young children" and "screens" for the English search and "educación infantil" (preschool education) OR "niños" (children) and "TIC" (Information and Communication Technology) OR "pantalla" (screen) for the Spanish search. These words have been chosen as a result of a previous analysis of the most commonly used terms in each language. Furthermore, we selected those documents that included these words in the title or in the keywords.

Based on the literature review, we will design a qualitative and quantitative data collection instrument that may be used in future research. The questions in these surveys are based on the reference literature such as Zabatiero et al. (2018), American Academy of Pediatrics (2019).

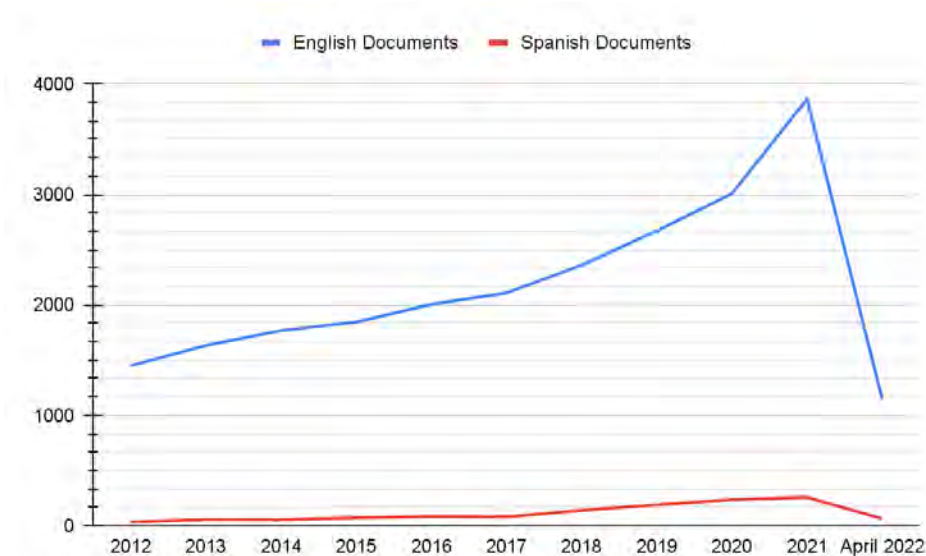
The two main objectives of the literature review are:

- 1- To identify the current state of the art.
 - 1.1- To establish the main differences between national and international literature on the issue.
 - 1.2- To detect those ambits that require further research in Spain.
2. Create a data collection instrument based on the detected research requirements.

3. Results

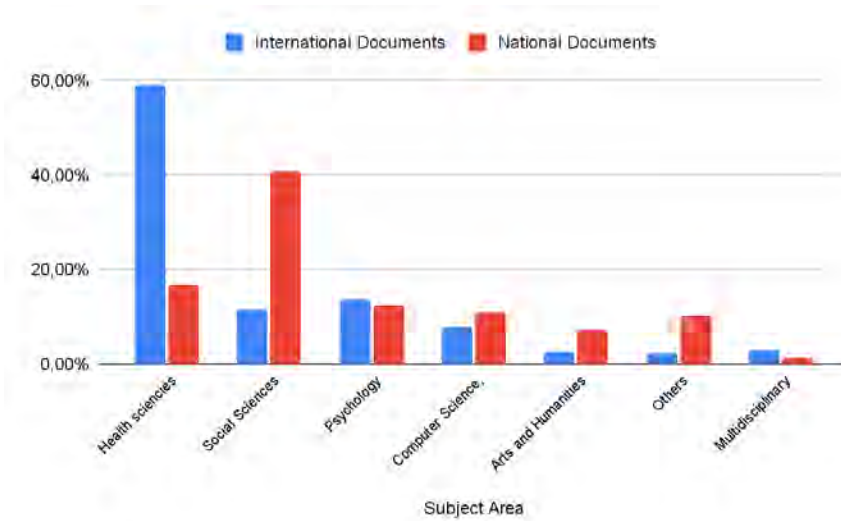
The keyword search shows that the volume of documents has been rising quite consistently. However, in recent years, literature on these issues has experienced a faster growth after 2020, especially in the international context (see Figure 1).

Figure 1. Document volume evolution.



Regarding the distribution by field of study, there is a great difference between the most common fields in the national and international literature. On the one hand, in Spain, research from the social sciences and humanities prevails. On the other hand, internationally, the research studies from the health sciences prevail. However, in both cases, the multidisciplinary approach is in the minor (see Figure 2).

Figure 2. Distribution of National and International articles by field of study.



Two surveys have been designed to understand in more detail the perceptions, experiences, beliefs and practices of parents and teachers. One questionnaire is addressed to main caregivers of children (0-6) (see Table 1) and a second questionnaire is addressed to early childhood education tutors (see Table 2). These instruments include two types of questions: On the one hand, quantitative questions that attempt to obtain objective data, for example, what type of digital devices children have in their bedrooms. On the other hand, qualitative questions that attempt to obtain subjective details, for example, the general opinion of teachers on the use of screens in early childhood education.

Table 1. Household survey.

	Theoretical background	Items
Background		SES (socioeconomic status)
		Age
Hours of digital devices	American Academy of Pediatrics (2019), Canadian Paediatric Society (2017)	Hours of use of digital devices on weekdays
		Hours of use of digital devices during weekends
Hours of physical activity	Ministerio de Sanidad, Servicios Sociales e Igualdad (2015), World Health Organization. (2019)	Weekday physical activity (non-school hours)
		Physical activity on weekends
Home use of digital devices	American Academy of Pediatrics (2019) Canadian Paediatric Society (2017)	Devices on or off when not in use
		Devices located in the infant's bedroom
		Types of content consumed
		Moments of devices' use
		Use of devices to calm the child
Digital parenting	Australasian Journal of Early Childhood (Zabatiero et al., 2018), American Academy of Pediatrics (2019), Canadian Paediatric Society (2017) Radesky, J. & Rosenblum, K. (2019)	Shared or individual use of devices
		Going to orientation sessions on digital parenting
		Searching for information about digital parenting
		Guidelines for device use
		Supervising the use of technology
		Need for early introduction of technology
		Age-appropriateness of device use
Use of devices by adults		

Table 2. School survey.

Main topics	Theoretical background	Items
Background		SES (socioeconomic status) Grade
Hours of digital devices	American Academy of Pediatrics (2019), Canadian Paediatric Society (2017)	Hours of educational use of devices
Hours of physical activity	Ministerio de Sanidad, Servicios Sociales e Igualdad (2015), World Health Organization. (2019)	Physical activity during school hours
School use of digital devices	American Academy of Pediatrics (2019), Canadian Paediatric Society (2017)	Individual or collective use of devices Types of content consumed Situations in which devices are used
Perceptions about digital devices and education	Australasian Journal of Early Childhood (Zabatiero et al., 2018), American Academy of Pediatrics (2019), Canadian Paediatric Society (2017)	The need to introduce technology at an early age Training offered by the school Opinion on the use of technology with children Suitability of device use for their age Feeling prepared to use technology with infants

4. Discussion and conclusion

The results show a significant progressive increase in the number of documents discussing the issue of screens and preschoolers in both the national and international literature. In the last two years, the impact of the pandemic has also resulted in an explosion of current research exploring the role of Information and Communication Technology (ICT) in education. This exceptional situation has highlighted the weaknesses of educational environments and the need for further research to maximize the benefits and minimize the risks.

The main difference between the international and national literature lies in the distribution by field of study. International literature tends to approach the issue from a medical perspective, this type of research tends to be highly rigorous but not always consider social realities. This makes it difficult to obtain flexible solutions that can be adapted to the needs of families and schools. However, Spanish literature tends to approach the problem from a social and educational perspective. For this reason, it is considered necessary to develop future research using a methodology that combines health and social science approaches. This will provide qualitative and quantitative data that will allow us to offer realistic recommendations adapted to the current issue.

As mentioned above, it is relevant to obtain a holistic point of view regarding the use of technology by young children (0-6). For this purpose, the designed instrument allows us to collect data related to different experiences and perceptions of families and educators. Also, question the reasons behind the use of technology they express (lack of time; the belief that children have to start using technology gadgets at an early age; lack of digital literacy, or skills by parents or teachers).

References

- American Academy of Pediatrics (2019). Hábitos saludables para el consumo mediático de los bebés y los niños en edad preescolar. <https://www.healthychildren.org/spanish/family-life/media/paginas/healthy-digital-media-use-habits-for-babies-toddlers-preschoolers.aspx>
- Bartau-Rojas, I., Aierbe-Barandiaran, A., & Oregui-González, E. (2018). Parental mediation of the internet use of primary students: Beliefs, strategies and difficulties. *Comunicar. Media Education Research Journal*, 26(1). <https://doi.org/10.3916/C54-2018-07>
- Blum-Ross, A., & Livingstone, S. (2016). Families and screen-time Current advice and emerging research. Retrieved from: <http://blogs.lse.ac.uk/mediapolicyproject/>

- Canadian Paediatric Society, Digital Health Task Force. (2017). Screen time and young children: Promoting health and development in a digital world. *Paediatrics & Child Health*, 22(8), 461-468. <https://doi.org/10.1093/pch/pxx123>
- García Aretio, L. (2019). Necesidad de una educación digital en un mundo digital. doi: <https://doi.org/10.5944/ried.22.2.23911>
- Granado Palma, M. (2019). Educación y exclusión digital: los falsos nativos digitales. *Revista De Estudios Socioeducativos. ReSed*, 7, 27-41. <https://revistas.uca.es/index.php/ReSed/article/view/4404>
- INE. (2019). España en Cifras 2019. Instituto Nacional de Estadística. (p.26). https://www.ine.es/prodyser/espa_cifras/2019/20/
- Jiménez-Morales, M., Montaña, M., & Medina-Bravo, P. (2020). Uso infantil de dispositivos móviles: Influencia del nivel socioeducativo materno. *Comunicar*, 28(64), 21-28. <http://dx.doi.org/bibliotecadigital.uic.es:9000/10.3916/C64-2020-02>
- Latorre-Coscolluela, C., Liesa-Orús, M., & Vázquez-Toledo, S. (2018). Escuelas inclusivas: Aprendizaje cooperativo y TAC con alumnado con TDAH. *Magis*, 10(21) doi:<http://dx.doi.org/bibliotecadigital.uic.es:9000/10.11144/Javeriana.m10-21.eatt>
- Ministerio de Sanidad, Servicios Sociales e Igualdad. (2015). *Actividad Física para la Salud y Reducción del Sedentarismo. Recomendaciones para la población. Estrategia de Promoción de la Salud y Prevención en el SNS*. https://www.msbs.gob.es/profesionales/saludPublica/prevPromocion/Estrategia/docs/Recomendaciones_ActivFisica_para_la_Salud.pdf
- Montoya, Y. D. V., Castro, J. C., & Bonilla, M. H. (2018). Más allá del control parental: redefiniendo a la familia digital.
- Radesky, J.S., and Rosenblum.K. (2019). A Relationship-Based Framework for Early Childhood Media Use. *International Journal of Birth & Parent Education*, 6 (4): 7–12. EBSCOhost, <https://search.ebscohost.com/login.aspx?direct=true&db=asn&AN=138333454&site=ehost-live>
- WHO. (2019). *Guidelines on physical activity, sedentary behaviour and sleep for children under 5 years of age*. World Health Organization. <https://apps.who.int/iris/handle/10665/311664>
- Zabatiero, J., Straker, L., Mantilla, A., Edwards, S., & Danby, S. (2018). Young Children and Digital Technology: Australian Early Childhood Education and Care Sector Adults' Perspectives. *Australasian Journal of Early Childhood*, 43(2), 14–22. <https://doi.org/10.23965/AJEC.43.2.02>