



## RESEARCH ARTICLE

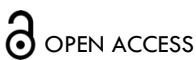
# Families' perception of the psychological effects of screen use in the COVID-19 pandemic and post-pandemic in the age group of 4 to 12 years age group in Asunción, Paraguay

Peggy Martínez Stark<sup>1</sup>; Bernardita Stark<sup>2</sup>; Robledo Rocío<sup>3</sup>

<sup>1</sup> Social and Educational Development Programs Consultant, Paraguay

<sup>2</sup> Universidad San Carlos de Asunción, Paraguay

<sup>3</sup> Center for the Development of Competitiveness, Paraguay



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**ABSTRACT**

Nowadays, screens have a preferential place in families, and the time spent in front of them is a reality in family life, occupying a space that limits interactions and communication. During the pandemic, the use of cell phones, notebooks, and computers intensified significantly, especially in fulfilling work functions and school homework and as a means of entertainment at the family's service. Today, in the post-pandemic period, there is an increase in consultations by families with children between 4 and 12 years old referred for evaluations and treatment in psychopedagogy and psychology. These referrals came from educational institutions or health services specializing in pediatrics, neurology, and child psychiatry. The most frequent reasons for consultations refer to attention deficit, constant irritability, mood swings, hyperactivity, depression, fears, difficulties in school performance, and the quantity and quality of nighttime sleep.

Access to devices from an early age, increased during the pandemic and installed in the post-pandemic, leads to an exploratory study, without statistical representation, about parents' perception of the effects generated by devices on children's emotional well-being and the family atmosphere. For this study, researchers applied a closed questionnaire to parents of families whose children attended psychological and psychopedagogical consultations between 2023 and 2024 about their perception of the issue. Parallel interviews with Expert Groups about the use of screens and the psychological effects on the child population in question triangulated parents' perceptions.

The study results suggest that early exposure to screens without control can generate disorders in family relationships and children's maturing, social, and learning development, considering the high use of screens in children and early exposure to them registered. Results also suggest the need for parents' reflection on the use of electronic devices in family interaction, considering this time as the basis of neural development and fundamental functions such as language, motor skills, and the relationship with their young children. It would also be convenient to look for alternative activities to reduce screen use and set rules to establish limits to using those devices.

**Keywords:** screen time, children, electronic devices, families, psychological effects.

## Introduction

The ongoing effects of the pandemic continue to raise urgent concerns about the emotional well-being of children, prompting increased consultations on mental health and learning disorders.

In this sense, the use of screens, starting with the appearance of cinema, had an exponential increase, with wide availability of audiovisual media based on the Internet and the accessibility to mobile devices, causing new habits in terms of communication, work, education, and leisure time occupation, among others<sup>1</sup>.

This trend raises significant concerns about the potential risks to individuals, particularly children. For instance, Zimmerman's study<sup>2</sup> found that 90% of the parents surveyed admitted to exposing their children under two to electronic media. This exposure was linked to increased emotional dependence, delayed mental maturity, sleep disturbances, and a rise in childhood obesity<sup>3</sup>.

In Argentina, a study conducted as early as 2016 by Waisman et al.<sup>4</sup> mentioned that 99% of the 160 households surveyed had television and smartphones. As a study result, 80% of children under 2 years of age watched television and 37% used touchscreens with assistance, while between the ages of two and four, 39% used screens without assistance. According to the National Institute of Statistics and Census (INDEC), 81% of Argentine children over the age of four use cell phones<sup>5</sup>. On the other hand, a study carried out in Turkey<sup>6</sup> shows similar results, since exposition to a mobile device was in 76% of 422 children five years of age or younger. Notably, 21% of these children were under 12 months of age, and 31% were "owners" of a mobile device (two-thirds tablets). As for parents, 60% of them let their children use these devices to dedicate themselves to daily tasks or household chores. Interestingly, 91% of parents in the study said they have yet to receive information from a doctor about the potential effects of these devices on children.

The COVID-19 pandemic has led to a surge in digital device usage, with screens becoming a crucial part of daily life. This shift has redefined family dynamics and the distribution of daily activities. According to a study carried out in 2021, for every hour of screen time, 25 minutes were dedicated to leisure. This finding underscores the need for a balanced approach to screen use, as excessive screen time can lead to negative consequences. The interesting thing is that this large amount of time spent by children is only three minutes longer than parents<sup>7</sup>.

Digital entertainment at a very early age offers parents a *low-cost caregiver*. It dramatically impacts the biopsychosocial development of children, which refers to the integrated development of biological, psychological, and social aspects, limited by poor interaction with adults in conversations, games, and family recreations. Excessive use of screens significantly impacts interpersonal communication, and a reduction in the time spent with the family stands out as a consequence of these with an increase in intergenerational conflicts and a particular obstacle in the exercise of child-rearing<sup>8</sup>. On the one hand, the disconnection between family members and the

related misunderstandings directly impacted family relationships. On the other hand, isolating family members from each other reduces personal and family connections<sup>7</sup>.

Considering the above, the concern about changes in parental relationships and coexistence, in general, indicates the need to deepen the relationship established with technology and interference in coexistence, generated by the term 'technofence' or 'technointerference.' This term combines technology and interference, referring to the daily interruptions in face-to-face interactions caused by technological devices<sup>9</sup>. In the family, the manifestations of technofence are: constant review of telephone messages and prompt response to calls or messages during moments such as meals, playtime or routine activities with children<sup>10</sup>.

Technology thus serves as a refuge for parents who must deal with challenging childhood behavior. It deprives parents of opportunities to provide meaningful emotional support and give positive feedback to their children, causing them to display or activate more problematic behaviors such as tantrums, anger, irritability, lack of sleep, and fears. These behaviors increase parents' stress levels, and they take even more refuge in technology<sup>11</sup>. Early childhood development requires continuous and quality interaction between mother and child for timely neural development, and a family and social environment that contributes positively to physical and mental health throughout the life cycle<sup>12</sup>.

In this way, when adults constantly connect with the digital world, they create barriers that interfere with family socialization processes, substantially impacting their role as parents, as there is neglect in the care of their children, disfavoring stimulation and company, later reflecting in language acquisition, reading, and writing, in many cases in the retention of numbers and letters. Lately, consultations in the psychological and psychopedagogical office registered a greater number of children with difficulties in language acquisition and, above all, in the retention of numbers and letters necessary for reading, writing and arithmetic. They also show less autonomous development to solve everyday situations typical of age<sup>9</sup>.

On the other hand, studies carried out at the French National Institute of Health and Medical Research, about the time spent on the recreational consumption of screens, show that there is an enormous heterogeneity of situations: between the ages of eight and twelve, exposure ranges from consumption of less than one hour, which occurs in 19%, up to six hours or more in 20% of cases, contrasting the myth of a uniformly hyperconnected population<sup>13</sup>. Mobile device tracking and daily use of young children were to average at 2 hours per day in 2018-2019<sup>14</sup>, and they anticipated that media use during the COVID-19 pandemic will likely be even higher<sup>15</sup>.

Along these lines, a study by the World Health Organization<sup>16</sup> during the pandemic period, included 113 adults between the ages of 27 and 52, of which 70.5% were women whose children were between 3 and 12 years old. As a result, 69.6% of parents indicated that

their children had negative emotional reactions, 31.3% stated that their children had sleep problems and 24.1% behavioral problems. They concluded that children who do little physical exercise used screens or technological equipment more frequently and had greater disorders, than children whose parents used safety measures, did physical activity, and had limits with schedules for television, Internet or video games-

In reviews to check the extent to which it affects screen use in minors and the introduction of screens in the bedroom, they found effects such as more sedentary behaviors, greater psychological alertness, deficient verbalization of needs, more significant delay in language acquisition, and less time spent playing, moving and socializing.<sup>17-19.</sup>

This study considers Paraguayan society, specifically in the capital city, Asunción. The population of Paraguay as of 2023 is 7,554,796 inhabitants. By 2024, half the population will be approximately 28 years old<sup>20</sup>. With a significant young population, there is a growing concern about the psychosocial development of children, whose disorders affect their development in school and in family and social relationships, which has intensified with the use of technology in school.

This situation was-generalized in the pandemic, when the world went virtual, and even in the post-pandemic, when the use of technology at school and outside of it, as a tool for learning, has facilitated access to information but also as a growing entertainment option, with the danger of alienation and permanent psychological disorders, due to the constant interference of electronic devices in interpersonal relationships.

In this context, there is a growing demand for consultations in the psychopedagogical and psychological cabinet, and the reasons for seeking consultations are changing. In most cases, they are

hyperactivity, irritability, and disruptive behaviors in the classroom, accompanied by impulsivity that requires analysis and research.

Therefore, this study's results analyze families' perceptions about the psychological effects associated with the use of screens in children from 4 to 12 years old, a generalized situation due to the context of the COVID-19 pandemic with consequences in the post-pandemic period. It seeks to better understand the use of screens and its effects on the psychological well-being of children from the perspective of families in Asunción, Paraguay. It also gives some recommendations for alternative activities to reduce screen use and set rules to establish limits to the use of those devices.

### Materials and Method

The case study methodology is utilized in various fields, such as medicine, psychology, and law, to examine uncommon phenomena for which little or no information is available. The foundations for its development are rooted in the studies of Marx and Weber on capitalism, Durkheim's sociological research, and Freud's work in psychiatry.<sup>21,22</sup>. The present case study describes a problematic situation in terms of a logic focused on a primary analysis of the subject/object of study, with the purpose of illustrating an emerging problem with important social and health consequences for the child population<sup>22,23</sup>.

To collect the information, we consulted the parents of families with children between 4 and 12 years old, between 2023 and 2024 referred by educational institutions or health professionals for psychological and psychopedagogical evaluation of behavior and learning. Therefore, in this first stage, an exploration of the perception of families and Expert Groups about the use of screens and the psychological effects on the child population referred to is proposed.

### Research objectives

Main Research Question	General objective
What psychological effects do screens have on children aged 4 to 12 in the post-pandemic era, as perceived by families and health and education professionals?	To understand how screens are associated with the psychological effects on the lives of children aged 4 to 12 years in the post-pandemic era, from the parents' perception and the teaching and health personnel accompanying the learning process.
Articulating questions	Specific objectives
<p>How do families perceive the effects of screen use on their children ages 4 to 12?</p> <p>According to school's psychologist and psychopedagogue what are the effects of using screens with children aged 4 to 12?</p> <p>What are the effects of using screens according to the medical references that evaluate the behaviors of these children from 4 to 12 years old?</p> <p>What behaviors emerged as a positive or negative response to this use of screens in families?</p> <p>What proactive measures can be taken to mitigate these impacts?</p>	<ul style="list-style-type: none"> <li>To explore parents' perceptions of the psychological effects of screen use on the lives of children aged 4 to 12 years in the post-pandemic era.</li> <li>To survey the perceptions of psychologists and educational psychologists from educational institutions on the psychological effects caused by the use of screens in children from 4 to 12 years of age in the post-pandemic.</li> <li>To survey the perceptions of medical referents about the psychological effects caused using screens in children from 4 to 12 years of age in the post-pandemic.</li> </ul>

<p>What are the activities that replace the daily use of screens?</p>	<ul style="list-style-type: none"> <li>• To explore the behaviors that emerged as a positive or negative response to this use of screens in families' daily routine in the post-pandemic.</li> <li>• Make recommendations on preventive measures and alternative activities for the use of screens.</li> </ul>
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**PARTICIPANTS**

**Parents**

This study included 70 parents who took their children to psychological and psychopedagogical consultations between 2023-2024. Of these, 63 responded, and mothers and 8% of fathers gave 92% of the responses. The sample's age varies from 35 to more than 55 years, of which 8% are 35 years old, 65% between 35 and 45 years old, 24% between 46 and 55 years 15, and 3.2% over 55 years old.

Of the 63 participating families, 27 have two children (42.9%), and 18 have one child (28.6%); 18 families have between 3 and 4 children, of which 9 have three children and 12 have four children.

**Group of experts**

The selection criteria for the two groups of experts were their specialty and competence in the study's subject.

On the one hand, professionals belonging to psychopedagogy cabinets of 4 educational institutions, who refer the most significant number of patients to the consultation, have a complete school cycle of 6 years and have between 250 and 700 students of Basic School Education, distributed between 2 and 4 sections of 25 children each.

The group included:

- Four (4) school psychologists from educational institutions, one male and three female.
- Two (2) pedagogues belonging to the psychopedagogical office of the selected educational institutions.

On the other hand, the medical professionals selected are in charge of caring for children with disorders in these educational institutions.

The selected professionals were:

- One (1) pediatrician who practices in the private and public sectors.
- One (1) child and adolescent psychiatrist with professional practice in the public and private sectors.

- One (1) neurologist with professional practice in the private sector.

In both groups, the experts consulted are between 40 and 70 years old, all with a professional practice time of 10 and 40 years.

**Instruments**

Two instruments were used for the study, namely: The first instrument used with parents was a questionnaire of 19 items organized in two different sections, applied through a Google Form to parents who consented to participate in the study. The first part comprises the respective sociodemographic data, collecting information on sex, age, and number of children. In the second part, closed questions guide selecting one or more answers from an established list of the use of technological devices in the family environment.

The second instrument, applied to the Group of Experts, is an open questionnaire, carried out as a semi-structured interview that comprises two parts: the first collects information on sex, age, length of professional practice, and the sector where they work. In the second part, there were six open questions with one differentiated question orientated mental health professionals, such as psychologists in educational institutions, and experts who provide services in private practices, such as child psychiatrist, pediatrician, and neurologist. This differentiated question corroborates the reason for more consultation in children from 4 to 12 years old. The remaining questions referred to the situations found in the questionnaire to parents, especially about emotional disorders, disruptive behaviors, and family conflicts that arose during the pandemic and then, in the post-pandemic period, to prolonged screen exposure.

**Results**

First, an initial part of the questionnaire administered to the parents gathered ethnographic data. Secondly, the questionnaire asked about the use of technology within the family, regarding the following responses:

Table N° 1. Use of devices by family members

	PARENTS	MOTHERS	CHILDREN	N° of appliances in the house/cases
Cell phone	55	62	38	1 to 3/44
Television	45	48	73	1 to 3/50
Notebook	42	40	23	1 a 3/50
Computer	15	13	12	1 a 3/14
Video console	6	0	27	1 a 3/25
Tablets	7	7	38	1 a 3/27
Lector e-book	0	4	0	1 a 3/6

They also referred about reasons for devices 'use.

Table N° 2. Reason for use

	<b>PARENTS</b>	<b>MOTHERS</b>	<b>CHILDREN</b>
<b>To organize the home daily</b>	14	42	
<b>Remote work</b>	37	37	
<b>Communication in networks</b>	37	53	
<b>Communication and school control</b>	17	52	45
<b>Sending homework in case of children</b>			
<b>Communication with friends</b>	43	55	19
<b>Communication with the partner</b>	42	48	
<b>Games</b>	--	--	43
<b>Films</b>	--	--	61
<b>Videos de YouTube</b>	--	--	34
<b>Reading and listening to stories</b>	--	--	25

Likewise, parents were consulted regarding the time they use screens per day.

Table N° 3. Screen time per day by parents

<b>Screens</b>	<b>1 to 3 hours</b>	<b>3 to 6 hours</b>	<b>6 to 11 hours</b>	<b>Weekends only</b>	<b>Almost never</b>
<b>Television</b>	<b>40</b>	<b>18</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>Cellular</b>	<b>22</b>	<b>13</b>	<b>5</b>	<b>2</b>	<b>2</b>
<b>Notebook</b>	<b>12</b>	<b>7</b>	<b>2</b>	<b>1</b>	<b>6</b>
<b>Computer</b>	<b>10</b>	<b>no</b>	<b>1</b>	<b>1</b>	<b>5</b>
<b>Game console</b>	<b>12</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>4</b>
<b>Tablet</b>	<b>15</b>	<b>5</b>	<b>none</b>	<b>4</b>	<b>4</b>
<b>e-book</b>	<b>2</b>				

There was a question regarding screens during family hours.

Table N° 4. Use of screens during family living hours

	<b>mother</b>	<b>father</b>	<b>children</b>
<b>Night, when returning from work</b>	46	42	39
<b>Mornings and afternoons</b>	34	30	19
<b>During meals</b>	8	12	
<b>Weekends</b>	9		22
<b>Nights</b>	7	4	4

Finally, they answered about children's exposure to screens according to their age.

Table N° 5 Children's exposure time to screens, according to their age

<b>Age (years)</b>	<b>20 minutes</b>	<b>30 minutes</b>	<b>1 hour</b>	<b>2 hours</b>	<b>3 hours</b>	<b>5 hours</b>
<b>3</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>4</b>		<b>1</b>	<b>1</b>			
<b>5</b>		<b>3</b>		<b>2</b>	<b>2</b>	
<b>6</b>		<b>1</b>	<b>2</b>	<b>5</b>	<b>5</b>	
<b>7</b>		<b>5</b>	<b>5</b>	<b>3</b>	<b>4</b>	<b>1</b>
<b>8</b>			<b>1</b>	<b>4</b>	<b>5</b>	<b>2</b>
<b>9</b>			<b>2</b>	<b>6</b>	<b>6</b>	<b>3</b>
<b>10</b>			<b>2</b>	<b>4</b>	<b>7</b>	<b>3</b>
<b>11</b>				<b>2</b>	<b>3</b>	<b>1</b>
<b>12</b>			<b>1</b>	<b>2</b>	<b>5</b>	<b>3</b>

Next, parents responded about their perception of significant behaviors during the time of confinement due to COVID-19.

Table N° 6 Perceptions of the effects on the use of Technology in times of COVID-19

<b>EFFECTS</b>	<b>FATHER</b>	<b>MOTHER</b>	<b>CHILDREN</b>
<b>Anger</b>	8	5	25
<b>Irritability</b>	4	6	40
<b>Fatigue</b>	7	12	14
<b>Rebelliousness</b>	1	1	39
<b>Sadness</b>	0	3	11

EFFECTS	FATHER	MOTHER	CHILDREN
Anxiety	9	14	27
Hyperactivity	1	1	12
Lack of attention	10	7	28
Impulsivity/aggression	1	1	15
Fear	1	4	18
Alert Status	1	6	7
Lack of sleep	9	15	22
Depression	1	2	6
None	4	6	5

These effects during the post-pandemic have continued to manifest themselves, along with exposure to screens, which has been increasing with the permanence of the

virtual modality for children's education, parents' work, and distraction and entertainment activities.

Table N° 7 Perception of the effects of screen use on family life

INCIDENCE	EFFECT	Grade, Quantity
<b>NEGATIVES</b> (disadvantages)	It generates a lack of communication in the couple	Quite a bit, 25
	It generates conflicts in the couple due to excessive use of the cell phone in timeshares	Bit, 18
	It constitutes a barrier in everyday interpersonal communication	Quite a bit, 23
	Fewer children's activities with family members	Quite a bit, 27
	Less outdoor play by children	Quite a bit, 28
	Longer sedentary time in children	Quite, 30
	Frequent cause of argument over sharing devices	Quite a bit, 24
<b>POSITIVE</b> (advantages)	Organize the workday	A lot, 29
	Facilitates remote communication	Quite a bit, 21
	Facilitates children's school follow-up	A lot, 26
	Keeps children calm	Quite a bit, 24
	They learn by themselves	Poco, 21
	It is necessary so that children are not on the margins of technology	Quite a bit, 20
	They allow their parents time to take care of their things	Quite, 30

The preventive and control measures for screen use mentioned were setting an example (both parents) for the proper use of screens, explaining the risks of exposure to screens (38), and establishing limits and an agenda for the use of screens (29).

Another risk prevention measure is reviewing the search history of both parents (17), the mother (22), and the father (9).

On the other hand, another measure mentioned is that one of the parents is closely present to the child when he

uses the Internet, the mother in 23 cases, both parents in 18 cases, only the father in 8 cases, and none in 5 cases.

Preventive measures at home included parents being present to establish a discourse about screen use. However, there was a more significant maternal presence for executive measures such as establishing a usage agenda, reviewing search history, and monitoring interaction.

Next, parents answered about alternative activities to the use of screens.

Table N° 8: Alternative activities to everyday screen use

Family activities	Number of responses	
	With the mother	With the father
Inventing games together	41	37
Reading stories	45	21
Storytelling	39	21
Play football	9	33
Making toys	25	20
Doing puzzles	20	19
Table Games	38	27
Bike rides	20	17
Volleyball Ball Games	8	10

At the same time, the Expert Groups have responded regarding the Emerging Behaviors of using screens in the family routine during the pandemic.

Consultations with Health professionals refer to extreme tiredness, worries, fears, anxiety, deep sadness, feelings of loneliness and abandonment, frustration, helplessness

and anger, and inconclusive grief. In the case of pediatric consultations, the findings correlated to emotional isolation, sadness for not being able to share with their peers, enuresis, overweight, and sleep disorders.

Other reasons for consulting medical professionals were the difficulties of school adaptation to the return of confinement, late detection of learning difficulties, neurodevelopmental disorders, learning disorders, the negative impact of the distance school modality on the socialization process of children at the initial and first-grade level, expressive language difficulties, childhood depression.

The most significant frequency has occurred in communication difficulties and scarce resources to emotionally contain the discomfort of the other, indicating outbursts by adults or overload in a single caregiver.

In relation to the incidence of screen use in family life today, average exposure to screens during the pandemic has been 8 to 12 hours per day, and currently, in patients with greater use, it is 4 to 6 hours a day, reaching 8 hours on weekends.

In this way, an alteration of routines and habits appears, such as rest and sleep, the consumption of age-inappropriate content, precocity in psychosexual development, and difficulties in interacting with peers. More significant attention difficulties have been verified, from eye contact, worsening behavioral problems, and group conflicts between peers due to belonging to the group that consumes or uses video games and hostile, exclusionary, and combative verbal communication due to playing video games.

Among these alterations, screen use is standard for long hours and comfort on family outings. Both children and parents increased the use of cell phones at mealtime, and in young children, it is a way to entertain them so that they eat. The family does not talk to each other about each one's day.

Regarding Education professionals, institutional pedagogues refer to factors that encountered difficulties in learning in virtual mode, such as the need for more organization of families to meet school demands and adapt home routines to school routines, so some never managed to maintain a systematic connection for online classes. Tensions were due to children's poor use of learning and challenges in setting limits on the use of devices related to children's excessive use of screens to the detriment of learning.

On the other hand, the Expert Groups answered regarding the incidence of the use of screens in family life today. The effects of screens in classrooms concern the changes registered in children, which began during the pandemic and with a progressive increase in daily life.

Psychologists who work in educational institutions mark the effects of screens on the increase in exposure to devices in the age group of 4 to 12 years, influencing the capacity for attention and amazement towards things in the environment, affecting the development of language and motor skills, tolerance to frustration, difficulties in

doing schoolwork that requires a moderate level of concentration, anxiety towards food, little physical activity and little contact with nature.

On the other hand, children have tantrums outside the evolutionary range, aggressiveness and arguments with their parents, poor sleep quality due to sleeping late, and disinterest in sports, which influences sleep quality and affects their classroom learning.

Likewise, there are effects at the behavioral level, with a significant deficit in inhibitory control to regulate their behavior and an increase in sustained lack of attention. At the learning level, they arrive with fewer skills at the linguistic, motor, and executive function levels, influencing daily school actions and activities for academic achievement.

## Discussion

The inquiry into parents' perceptions of the psychological effects of screen use led to information that allows them to visualize that families use screens frequently and have increased their use since the pandemic.

On the one hand, the population studied has high access to all devices with screens. Screens are introduced in all family and work environments, replacing other activities and, most importantly, family and social relationships.

Accompanying this fact, parents report that after the pandemic, they notice alterations in behavior, such as anxiety, followed by fear, lack of sleep, irritability, sadness, states of alertness, fatigue, anger, and depression. In addition, sadness appears in all family members and, in some members, states of alertness.

Supporting these perceptions, mental health professionals confirm the statements of families and express that in children, they frequently see extreme tiredness, worries, fears, anxiety, deep sadness, feelings of loneliness and abandonment, frustration, helplessness and anger, and unfinished grief.

Pediatricians mention similar findings, referring to emotional isolation, sadness for not being able to share with their peers, anxiety, sleep disorders, being overweight, and enuresis. They also perceive more frequently the isolation of parents and children, as well as the difficulty in setting limits on the use of technology by family members, permanent arguments between family members, and the lack of communication between parents and children.

Professional and educational psychologists in educational institutions agree with the above and provide other findings, such as the conflicts of forced coexistence at home, upbringing, work, and household chores, generating a situation in which parents were required to accompany the use of digital technologies to their children, apart from their work and household tasks, demanded of good organization and logistics, added to the worries and fears of contagion, grief, and tensions for not being able to share with other loved ones.

Likewise, parents had to deal with situations derived from the use of screens, such as the early access of children and adolescents to adult materials, going through

situations of grooming, sextortion, sharenting, doxing, and cyberbullying.

All these factors, enhanced by each other, were associated with the creation of difficulty in the bonding between parents and children due to the isolation of one of the parents or neglect of them due to overwork, arguments, and fights in the couple for different reasons such as economic issues, fears concerning health, excessive fears of contracting COVID-19, dealing with setting limits and with the frustration of adolescent children, due to the impossibility of socialization.

Institutional pedagogues point out family conflicts due to children and adolescents' lack of learning, challenges in setting limits on the use of devices for other purposes, such as chatting or playing, during online classes, and frequent tensions related to the excessive use of screens by children and adolescents to the detriment of learning.

The results of the use of screens in post-pandemic times confirm the lack of limits on the use of screens, both in adults and children. This is especially important for young children, for whom family interaction constitutes the basis of neural development and fundamental functions such as language, motor skills, and bonding relationships.

The professionals consulted, neurologist and child psychiatrist, highlight that in the current consultations of children aged six or older, they have an average exposure to screens of 4 to 6 hours a day, reaching 8 hours on weekends, in some cases. Concerning the negative impact of using devices, professionals first mentioned a sedentary lifestyle in children, followed by fewer outdoor games and activities in family spaces.

Another negative impact of including screens in coexistence is an "absorbing limb" when returning from work at night. There is also a lack of communication in the couple, with screens being a barrier to communication in 23 of the cases consulted.

Another temporary space of coexistence in which the use of devices affects are the mornings and afternoons in which the same behavior occurs, as well as in a shared space for family feeding and during weekends.

The advantages of screens in families at present are relevant because they provide time for parents to take care of their needs, enable remote work, facilitate the school monitoring of children, and enable remote communication.

It is important to note that technology is currently present in a significant percentage of moments of coexistence and family reunion, which indicates that technology is installed in the family and has a high impact on biopsychosocial development, limited by the poor interaction between children and adults in conversations, games, family recreation, and aspects already observed in the consultations of children with language and motor disorders, among other aspects of development.

Thus, although technology as a tool is valid, its use should not be considered a substitute for human interaction between children and parents. Children need to have a

relationship with technological devices that is oriented and intentional rather than passive and risky.

At the same time, educational institutions have an essential concern regarding the changes in behavior registered in children in school coexistence, with the increase in the use of screens, which began during the pandemic and with a progressive increase in daily life. In this regard, mental health professionals, neurologists, and institutional pedagogues point out the effects of screens on the rise in exposure to devices in the age group of 4 to 12 years, and they all agree that students find it challenging to concentrate for reasonable periods.

Regarding the effects of screens in classrooms, the pedagogues consulted daily verified in students that at the behavioral level, there is a significant deficit in inhibitory control to regulate their behavior, with an increase in lack of sustained attention, emotional regulation, initiative, motorization or the ability to undertake an activity without the need for an external stimulus and working memory. The specialists agreed that children reach the initial level with fewer skills and habits and with many difficulties at the linguistic, motor, and executive function levels, all affecting learning and achievement. Deepening the aspects pointed out by professionals and institutions will be valuable in generating responses and actions that improve the deficit.

In this sense, they agreed on the preventive and control measures for screen use, citing both parents' examples of good screen use, which exceeded half of the responses. Another frequent measure is the explanations given by both parents about the risks of exposure to screens by most parents, as well as limits and an agenda for the use of screens, implemented and agreed upon by both parents, to a lesser extent.

Parents can collaborate at home to set preventive measures and discuss screen usage. However, when it comes to executive measures such as setting a schedule for screen time, checking search history, and monitoring interactions, there is usually more involvement from the mother. Although families perceive the effect of screens, only half of the respondents have implemented some preventive measures. Screens in all their forms, including television, computers, and smartphones, can affect children in how they feel, learn, think, and behave. In this sense, the family is the most influential factor in establishing the most coherent limits regarding the use of devices by children in the family, as well as establishing new routines and ways of functioning, which allow technology to be at the service of the child's development.

As for the activities that replace the daily use of screens in shared spaces, both parents are part of the activities, although the mother's participation is greater than that of the father. Of the nine activities listed, six are passive, with mothers' greater participation, and three are active, where the father stands out.

## Conclusion

In conclusion, this exploratory study shows the impact of the pandemic on the use of screens in families and that the behaviors recorded in that period remain and are acquiring increasing influence in today's daily lives.



Families perceive and record the behaviors generated during the pandemic, which are observable today in their children; however, they do not register the relationship of excessive use as a cause of disruptive behaviors in the classroom and at home.

In this context, it is essential to ask what information families have regarding these weaknesses and if they have the necessary tools to face this situation of profound changes with the disruption of technology.

The answers to these concerns are issues for health and early childhood education institutions, generating debate on the subject, which involves parents as subjects subjected to the challenge of educating digital natives.

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