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# Children and screens: A survey by French pediatricians ${ }^{\star}$ 

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#### Abstract

Introduction: Screens are increasingly prevalent within families. The excessive use of screens by children has negative consequences. To measure the use of screens, we undertook an investigation among children being followed by pediatricians. Methods: An invitation to participate was sent electronically to 1460 private practice pediatricians. They were asked to complete the questionnaire on screen use by children under 12 years of age during a consultation, according to statements made by parents. Results: One hundred and forty-four pediatricians submitted completed questionnaires involving 428 children. Among the 197 children under 3 years of age, 92 had played with an interactive screen for a median duration of 30 min during the preceding week; $29 \%$ of the children were alone at the time. One hundred and thirty-nine children had watched television for a median weekly duration of 75 min . Of the 231 children 3-11 years of age, 108 had played with an interactive screen for a median time of 30 min the day before the consultation, and $50 \%$ of them were alone at the time. One hundred and seventy-two children watched television for a median daily duration of 45 min . There was a correlation between these children's screen time and their mother's ( $r=0.36$ ). The television was on during meals and continuously in $35 \%$ and $21 \%$ of the families, respectively. Conclusions: Children start looking at screens early, too often watching unsuitable programs, and too often without a parent's present. Regardless of the child's age, pediatricians must ask parents how much time their children are viewing screens, advise them accordingly, and warn them of the consequences of excessive use.


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## 1. Introduction

Screens, whether interactive (computers, game consoles, smartphones, and tablets) or not interactive (televisions), are increasingly prevalent within families. The recent advent of smartphones (2008) and digital tablets (2010) has created a deep transformation in screen use. The small size of these devices, their

[^0]easy and often intuitive use, and the existence of specific applications make them ideally suited to please children. Advances in technology, marketing, and the steadily decreasing cost of these devices encourage their spread to a very large number of families.

The number of families owning a tablet has increased considerably, doubling in 1 year [1] and even increasing fivefold in the United States between two identical studies carried out 2 years apart [2]. One-half of the children under 4 years of age in low-income families in Philadelphia not only used, but owned, a television set. Three-fourths of the children owned a mobile device (smartphone, iPod, or tablet). Most children knew how to use these devices without any help [1]. Recent data from the United States reveal impressive figures on screen use. Children 8-10 years of age were spending 8 h per day with media (all types of media
combined) and older children as much as 11 h per day. This means that these children spend more time viewing screens than at school, and "screen time" was the activity occupying the most time, except for sleep [3].

The consequences of electronic device use, positive or negative, within a family depend on how these devices are used. An invasive and excessive media presence can lead to deterioration of family relationships, with each person isolated behind a screen. The time spent by a child viewing a screen is time not spent interacting with other family members, scanning or reading a book, taking part in creative games or physical activities, or even doing nothing, which are all important activities for harmonious child development.

In contrast, families can use media, individually and together, for entertainment or culture, thus increasing family time together and positive interactions.

Many questions arise regarding the consequences of the ongoing use of these devices by young children for their cognitive, social, and emotional development. Experts recommend a limited duration of use that varies according to the child's age [4]. Experts also emphasize that the content must be of good quality and that a parent must be present, even with programs well adapted to the child's age. This parental presence enables rapid intervention in response to any reactions shown by the child $[5,6]$.

Parents who are large media consumers themselves involuntarily set a bad example for their children. Indeed, parents are often disoriented and in need of advice.

Considering all these factors and the absence of data on screen use by children in France, it seemed important to provide a good overview of the current situation. The objective of this study was to obtain quantitative data on screen use by children and their parents.

## 2. Materials and methods

### 2.1. Investigations

A declarative cross-cohort questionnaire was administered to parents consulting a pediatrician who was a member of the Association française de pédiatrie ambulatoire (AFPA) on behalf of their child who was under 12 years of age (not yet in secondary school). Between 1st February and 15th February 2016, an invitation to participate was emailed three times to the 1460 pediatricians who were members of the AFPA. Those physicians who agreed to participate were asked to freely select and include five children less than 3 -years-old and five children older than 3 years; for these children, they were requested to complete a questionnaire on the SurveyMonkey (SurveyMonkey Inc. ${ }^{\circledR}$ ) site during a consultation according to the parents' responses.

This anonymous questionnaire included closed questions on the child's age, the amount of screen time in the previous week for those under 3 years of age, the amount of screen time in the previous day for those 3-11 years of age, and the type of screen viewed, which could be interactive (smartphone, computer, game console, and tablet) or not interactive (television). The parents were also asked about their own screen time at home (see Appendix 1). This study was purely observational and did not attempt to evaluate the consequences of screen use on the children or their families.

### 2.2. Data analysis

None of the questionnaires was excluded, even if incomplete. The analysis was performed on each question using the number of responses available. Because the questionnaire was different for
children under 3 years and over 3 years of age, the analysis was performed using subgroups. Qualitative variables were described using frequencies, percentages, and quantitative variables with the mean and standard deviation or the interquartile median and frequency intervals. The Pearson correlation coefficient between the parents' and children's screen time was also calculated.

All analyses were carried using SurveyMonkey ${ }^{\circledR}$ and Stata software (version $13^{\circledR}$ ).

## 3. Results

The number of pediatricians participating in the study was 144 ( $10 \%$ of the pediatricians contacted). The pediatricians submitted questionnaires on 428 children, of whom 197 (46\%) were under 3 years of age and 231 (54\%) were over 3 years of age.

In the group of 197 children under 3 years of age (Table 1), the average age was 20 months. During the previous week, 92 of these children had played with an interactive screen; in 20 families, the child was sometimes or often permitted to play during meals. Seventy-eight parents ( $44 \%$ of respondents to this question) said that they had sometimes or often loaned their own smartphone or tablet to their child. The main reasons cited were, in descending order, to keep the child busy, in response to the child's request, or to console the child. One hundred and thirty-nine of these children had watched television during the previous week; among the 64 children who had watched a program not appropriate for their age, $61 \%$ had watched televised news reports.

In the group of 231 children over 3 years of age (Table 2), the average age was 6.5 years; $55 \%$ of these children attended preschool. During the previous day, 108 of these children had played with an interactive screen and 172 had watched television. Among the 39 children who watched programs not appropriate for their age, $75 \%$ had watched televised news reports. Twenty children had a television set in their bedroom.

Table 1
Screen use in the last 7 days by the 197 children under 3 years of age and their parents.

| Study variable (frequency available) | Result |
| :---: | :---: |
| Children ( $n=197$ ) |  |
| Average age in months [standard deviation] | 20.1 [9.8] |
| Interactive games | 48\% |
| Median duration [IQR] ( $n=92$ ) | $30 \mathrm{~min} / \mathrm{week}$ [10-70] |
| Parent not present (\%) | 29\% |
| Television | 74\% |
| Median duration [IQR] ( $n=131$ ) | $75 \mathrm{~min} /$ week [20-180] |
| Programing adapted to the child's age (\%) ( $n=187$ ) | 57\% |
| Median duration [IQR] ( $n=101$ ) | $70 \mathrm{~min} /$ week [30-180] |
| Parent not present (\%) ( $n=103$ ) | 17.5\% |
| Programing not adapted to the child's age (\%) ( $n=182$ ) | 36\% |
| Median duration [IQR] ( $n=62$ ) | $27 \mathrm{~min} /$ week [10-60] |
| Parent not present (\%) ( $n=63$ ) | 4\% |
| Televised news programs (\%) ( $n=64$ ) | 61\% |
| Total screen time in minutes (average, [IQR]) $(n=154)$ | $75 \mathrm{~min} /$ week [20-210) |
| Mothers |  |
| Average age [standard deviation] ( $n=173$ ) | 33.1 (5.0) |
| Median daily screen time outside of work (average, IQR) $(n=174)$ | $120 \mathrm{~min} /$ day [60-120] |
| Fathers |  |
| Average age [standard deviation] ( $n=170$ ) | 35.3 (5.6) |
| Median daily screen time outside of work (average, IQR) $(n=167)$ | $120 \mathrm{~min} /$ day [60-180] |
| Both parents |  |
| Median daily screen time outside of work (average, IQR) $(n=175)$ | 210 min/day [120-300] |

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[^0]:    * This study was presented at the "Children and Screens" meeting organized by the General Pediatrics Group of the Société française de pédiatrie on March 31, 2016 (Boulogne-Billancourt) and June 30, 2016 (Lyon).
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