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EVALUATION OF THE LEVEL OF KNOWLEDGE OF PARENTS OR GUARDIANS ABOUT THE IMPACTS OF EXCESSIVE USE OF SCREENS BY CHILDREN AGED 2 TO 10 YEARS IN THE CITY OF CAMPO GRANDE, MATO GROSSO DO SUL

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ABSTRACT

The present study aims to identify the degree of knowledge of parents or guardians about the negative impacts of excessive use of screens by children aged 2 to 10 years, specifically tablets and cell phones, in Campo Grande, Mato Grosso do Sul. In line with the guidelines of the Brazilian Society of Pediatrics (SBP), which establish exposure time limits by age group, we sought to assess whether these recommendations are adhered to in practice. The research also aimed to analyze the level of supervision of parents or guardians about the use of screens and their awareness of the adverse effects of this habit. The collection of information was carried out in children aged 2 to 10 years, collecting samples at the Center for Medical Specialties (CEMED) of the Anhanguera University UNIDERP and at the Medicine course of the same, in Campo Grande. A questionnaire was applied to parents to elucidate the time of exposure and supervision of children to screens. The sample was of significant size to ensure statistical representativeness. The main findings demonstrate a discrepancy between the recommended exposure time and practice, as well as an underestimation of adverse effects by caregivers. The clinical significance lies in the need for parental awareness and education about the risks of excessive screen use in childhood, while the statistical significance is determined by analyzing the differences between demographic and supervisory groups. Potential limitations include sample selection bias and biased responses from participants.

Keywords: Pediatrics. Development. Screens.

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INTRODUCTION

In the contemporary context, technology plays a fundamental role in various spheres of society, significantly influencing the way we interact, learn, and communicate. However, the increasing use of electronic devices, especially screens such as mobile phones and tablets, has raised growing concerns about the potential negative impacts, particularly when it comes to child development. Studies have warned of the risks associated with excessive screen use in childhood, highlighting implications for children's mental, behavioral, and physical health (Barnett et al., 2018; Lacerda, 2021; Rocha et al., 2022).

An especially relevant concern is the impact of excessive screen time on children's health and development, with implications ranging from behavioral problems to obesity risks and impaired academic performance (Madigan et al., 2020; Brazilian Society of Pediatrics, 2016). Despite the recommendations established by the SBP regarding the maximum time of exposure to screens for different age groups, it is assumed that there is a gap between these guidelines and practice, evidencing the need to investigate the knowledge and behavior of those responsible for these guidelines, due to several factors, including the influence of socioeconomic and cultural factors, as well as by the level of education of the parents (Smith et al., 2010; Janssen et al., 2020).

Several international studies corroborate these concerns, indicating that excessive screen time is associated with adverse outcomes in children's physical and mental health, including increased sedentary behaviors, increased body mass index (BMI), and higher levels of anxiety and depression (Domingues-Montanari, 2017; Stiglic and Russell, 2019). There is evidence that interaction with electronic devices can replace activities that are fundamental for healthy development, such as outdoor play and face-to-face interactions with family and friends (Twenge and Campbell, 2018). Additionally, exposure to inappropriate content can have additional negative effects, influencing aggressive behaviors and increasing the risk of emotional problems (Belton et al., 2021).

In view of this scenario, the purpose of this research emerges: to evaluate the level of knowledge of parents or guardians about the negative impacts of excessive use of screens in childhood, with a specific focus on the age group of 2 to 10 years. The underlying hypothesis is that a significant portion of caregivers will have a low level of knowledge about the potential harms associated with excessive screen use by children in this age group. This study aims to fill a gap in the understanding of screen exposure and supervision patterns by caregivers, providing consolidated information to guide interventions and policies aimed at promoting a healthy and balanced environment for child development.

By investigating the knowledge of guardians about the impacts of screen use in childhood, this research aims to evaluate the level of knowledge about the negative impacts of excessive screen use by children between 2 and 10 years old, analyze the compliance of guardians with the recommendations of the Brazilian Society of Pediatrics regarding the time of exposure of children to screens, to identify factors associated with the knowledge and behavior of parents or guardians in relation to the use of screens by children and to provide subsidies for the development of educational interventions and public policies aimed at promoting a healthy and balanced use of screens during childhood. These objectives guide the methodology, the analysis of the results and the conclusions of this research, aiming to contribute to a more comprehensive understanding of the patterns of exposure and supervision of screens by parents or guardians and to the implementation of effective measures to promote healthy child development.

METHODOLOGY

This study used a quantitative field study approach, with a descriptive characteristic, with a convenience sample, to investigate the knowledge of parents or guardians about the impacts of excessive use of screens by children between 2 and 10 years old in the city of Campo Grande, Mato Grosso do Sul. The questionnaire was developed using the *Google Forms* platform and contained objective questions related to the presence of supervision of children in relation to exposure to screens, especially cell phones and tablets, and to the knowledge of guardians about the adverse effects of excessive use of screens. This questionnaire was answered in person by the participants through the link to the form on the researchers' tablets.

The research was conducted at the Center for Medical Specialties (CEMED) of the Anhanguera University UNIDERP and at the Medicine course of the same university, both located in Campo Grande, Mato Grosso do Sul. The participants were parents or guardians of children aged 2 to 10 in the city. Regarding data collection at CEMED, the research was carried out with patients, receptionists, physicians, and medical students. The study was approved by the Research Ethics Committee of Universidade Anhanguera UNIDERP, CAAE 78785923.1.0000.0199, granted on 04/08/2024. All participants were informed about the objectives and procedures of the research and were included only after signing the free and informed consent form.

The data collected were analyzed in relation to the recommended values of limitation to the use of screens by the Brazilian Society of Pediatrics. A descriptive statistical analysis

of the results was performed using Python software to identify patterns and associations between the variables.

The results were presented in a clear and concise manner, using tables and graphs where appropriate, and were interpreted in light of the study objectives.

RESULTS

The study obtained 52 participants, who received previous guidance about freedom when answering each question, and answers could be left blank. Therefore, there were some elements with fewer responses than the total sample of participants obtained in the full survey.

Table 1 - Distribution of Data of Guardians

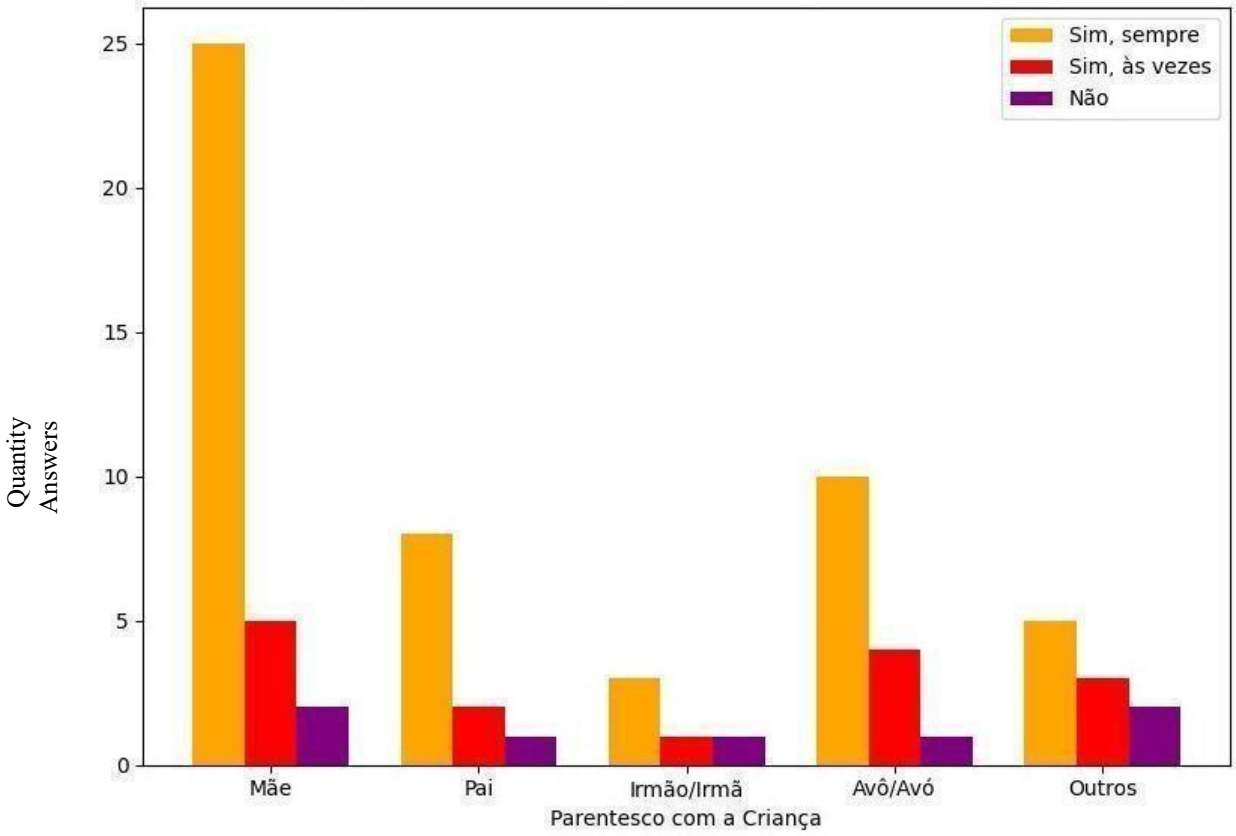
CATEGORY	OPTION	QUANTITY
Marital status	Married	24 (46,15%)
	Single	21 (40,38%)
	Divorced	6 (11,54%)
	Widower	1 (1,92%)
Sex	Female	41 (78,85%)
	Male	11 (21,15%)
Children's Age	2-5 years	24 (46,15%)
	6-10 years	28 (53,85%)
Degree of Kinship	Mother	33 (63,46%)
	Grandfather/Grandmother	9 (17,31%)
	Father	4 (7,69%)
	Other	4 (7,69%)
	Brother/Sister	2 (3,85%)

Table 2 - Distribution of Children's Data

CATEGORY	OPTION	QUANTITY
Age	2 years	2 (3,85%)
	3 years	4 (7,69%)
	4 years	6 (11,54%)
	5 years	12 (23,08%)
	6 years	10 (19,24%)
	7 years	4 (7,69%)
	8 years	4 (7,69%)
	9 years	3 (5,77%)
	10 years	7 (13,47%)
Sex	Female	22 (42,31%)
	Male	30 (57,70%)
Attend school	Yes	51 (98,08%)
	No	1 (1,93%)

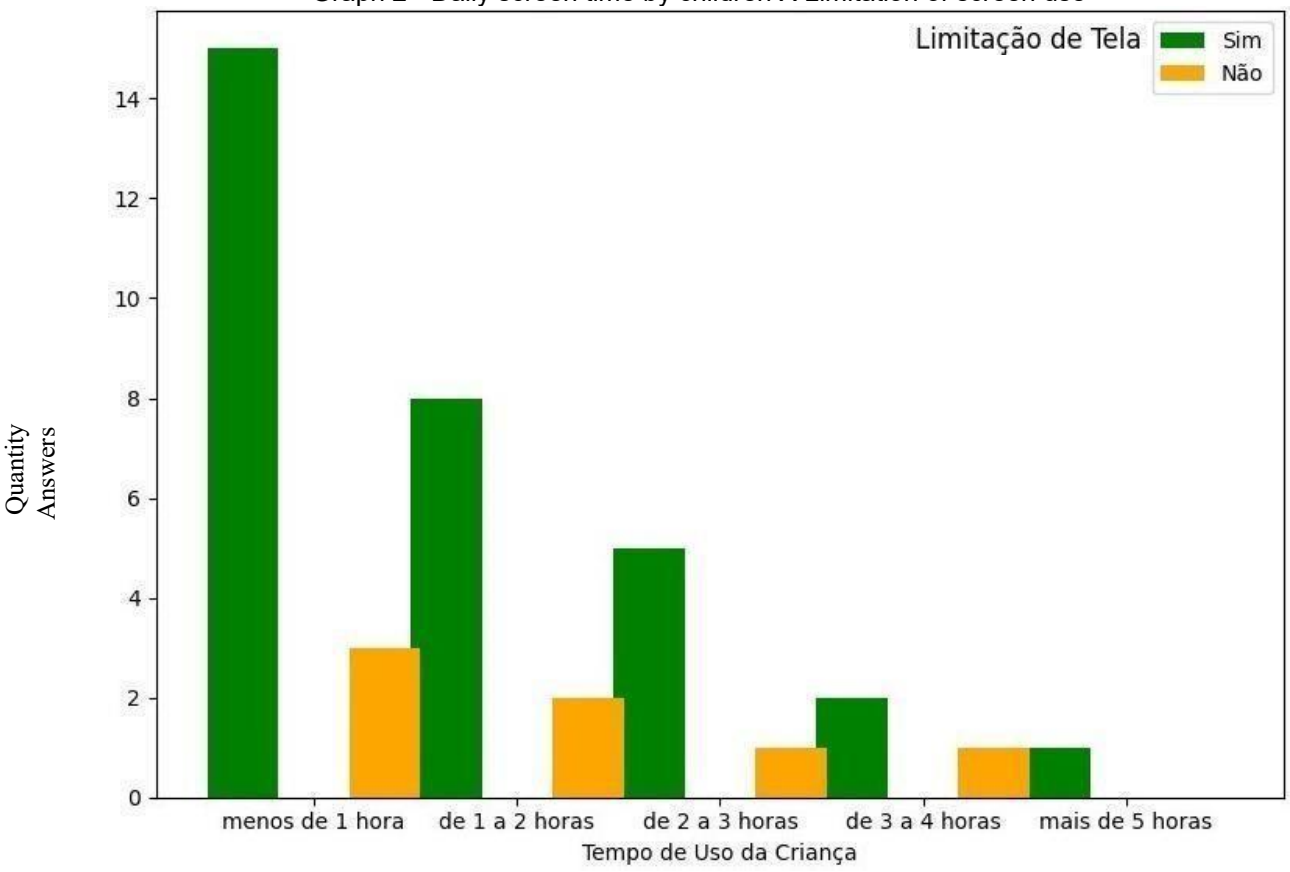
Regarding the degree of kinship of the guardian with the child and whether there is supervision of the content consumed:

Graph 1 - Kinship with the child X Supervision of the content consumed



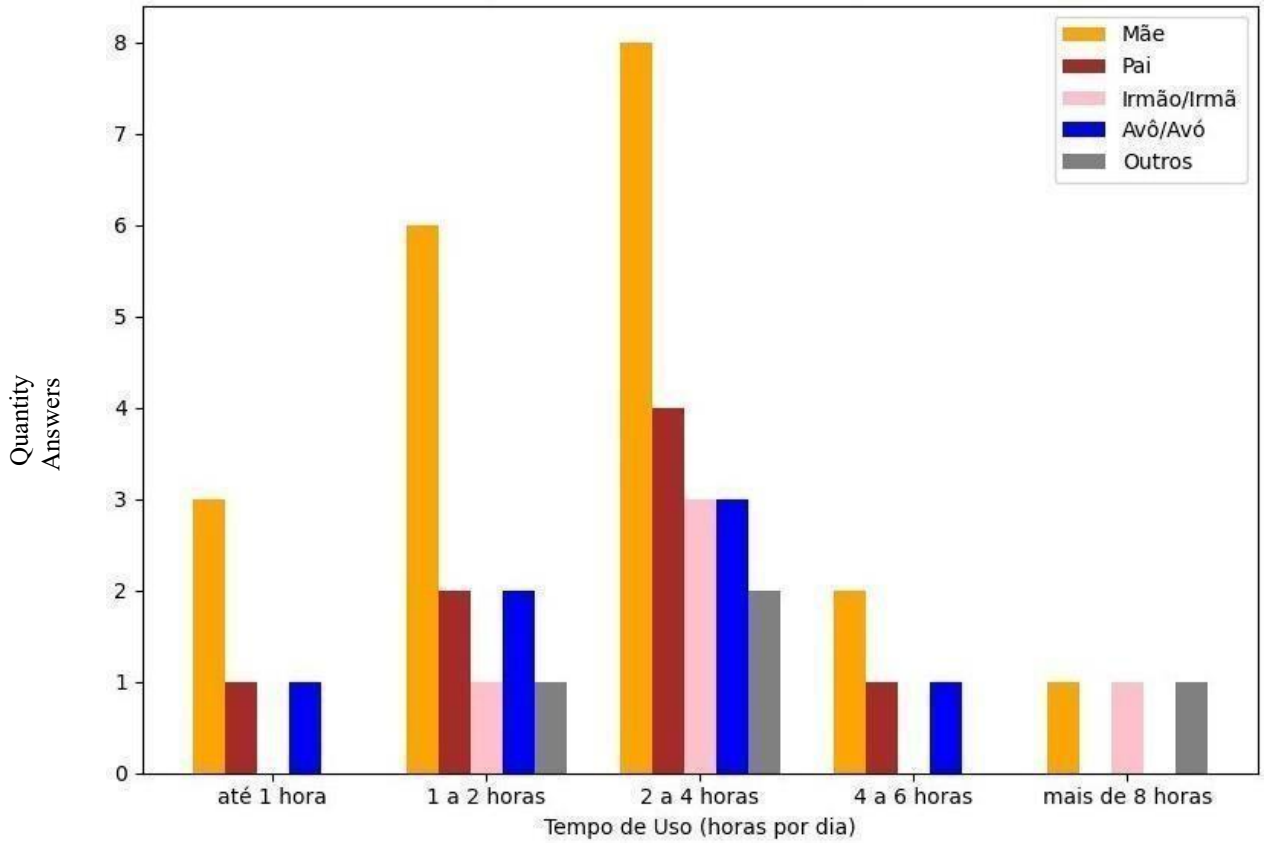
Regarding the time of daily use of screens by children and if there is a limitation of this use by guardians:

Graph 2 - Daily screen time by children X Limitation of screen use



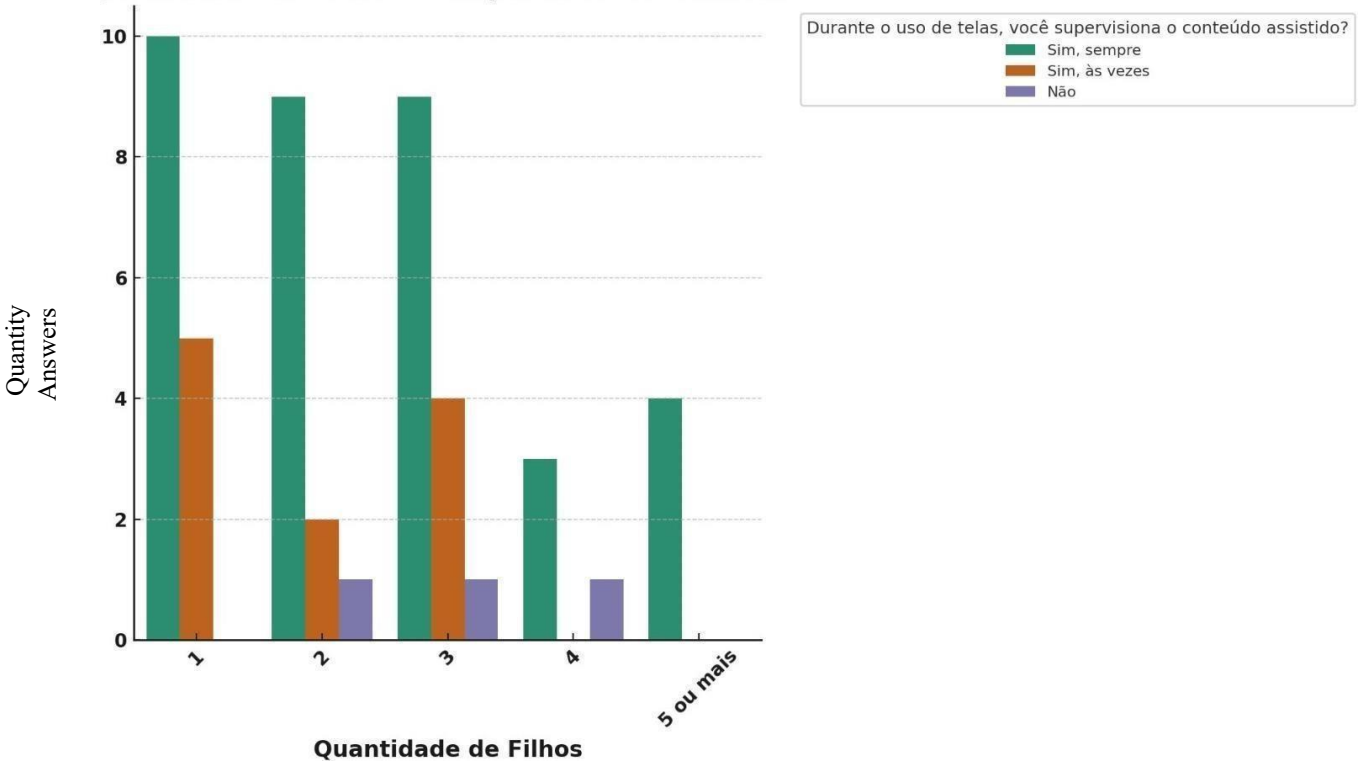
Regarding the relationship between the time of daily use of screens by children and the degree of kinship with them:

Graph 3 - Daily screen time by children X Degree of kinship with the child



Regarding the comparison between the number of children the guardian has and whether there is supervision of the content consumed by the children:

Graph 4 – Number of children X Supervision of the content consumed



Regarding leisure activities outside of screens, 2 (3.85%) do not do any activity; 4 (7.70%) practice only 1; 16 (30.77%) perform 2 activities; 16 (30.77%) practice 3 activities; and 14 (26.93%) make 4 or more.

The results showed that 51 (98.08%) of the parents or guardians consider the risks of using screens important, while only 1 (1.93%) participant found that they did not find it of great relevance. Among the answers, most report knowing at least 3 risks of using screens, the best known being anxiety, irritability and aggressiveness.

DISCUSSION

The study presents a predominantly female sample, as shown in Table 1, as well as 46.15% of the parents or guardians are married, 40.38% are single, 11.54% are divorced and 1.92% are widowed, which may generate a potential bias in data collection. References such as the studies by Domingues-Montanari (2017) and Bentol et al. (2021) highlight that the profile of caregivers can influence the norms of technology use and care practices, suggesting that a more diverse sample could offer a more comprehensive view of care practices. Also according to the profile of each guardian, Graph 3 showed that, when under the supervision of the mother, children spend less time using screens, followed by the shorter time of use when with father and grandparents.

Regarding the theme of content supervision, in Graph 1, it was noted that mothers are the ones who most supervise the content accessed by children, followed by grandparents and fathers. Studies by Rocha et al. (2022) and Stiglic and Russell (2019) reinforce the idea that supervision and limitation of excessive screen use are essential for protecting children's health, helping to mitigate their negative effects. According to Graph 4, it can be seen that the fewer children the guardian needs to take care of, the more he supervises the content accessed by the children.

According to table 2, high school attendance indicates an appreciation of education. Lacerda (2021) and Madigan et al. (2019) highlight the quality of family life and educational support as crucial for the development of an environment that favors child well-being, often impacted by technological practices.

Regarding the encouragement of extracurricular activities, the present study reveals that, despite the incentives for off-screen practices, 30 of the children get involved in 3 or more than 4 activities. The work of Barnett et al. (2018) discusses the need to promote physical and recreational activities as a way to counterbalance sedentary behaviors, emphasizing the importance of engaging in diversified activities for child well-being.

Finally, with regard to caregivers' knowledge of the risks associated with screen use, most are aware of the risks associated with excessive screen use, but some seem to lack clarity about their consequences. Studies such as those by Rocha et al. (2022) and Stiglic and Russell (2019) emphasize the importance of raising awareness among parents about the negative impacts of screen use, connecting this issue to the current study, which suggests a real need for education for guardians.

FINAL CONSIDERATIONS

The comparative analysis between the present study and others on the same theme indicates that there is a strong interconnection between the use of technology, parenting practices and child health. The results of the current work, together with the references used, reinforce the need for education and awareness regarding the impacts of excessive screen use, and suggest paths for future research focused on family structure and interventions that promote a healthy and beneficial balance for child development in relation to the increasing excessive use of screens today.

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ATTACHMENTS

Chart 1: Questionnaire to be applied to those responsible for their personal data.

1. Sex

☐ Masculine

Feminine

2. Marital status

P

P Single

P

☐ Married

Widower

P

Divorced

3. Number of children

1

2

3

4

4. Number of people in the residence

2

3

4

5

5. Degree of relationship/kinship with the child

Mother

Good

Brother/Sister

And/Ano

Chart 2: Questionnaire to be applied to guardians in relation to the child's personal data

1. Age

- [ ] 2 years
- [ ] 3 years
- [ ] 4 years
- [ ] 5 years
- [ ] 6 years
- [ ] 7 years
- [ ] 8 years
- [ ] 9 years
- [ ] 10 years

2. Sex

- [ ] Masculine
- [ ] Feminine
- [ ] Other

3. Does this child live with you?

- [ ] Yes
- [ ] No

4. Does the child attend school?

- [ ] Yes
- [ ] No

5. Has the child ever received warnings from school for failing to do schoolwork?

- [ ] Yes
- [ ] No

8. Has the child or guardian been called to receive guidance on the use of screens at school?

- [ ] Yes
- [ ] No

9. How much time per day do you spend in direct contact with the child, giving them focused attention?

- [ ] 1 to 3 hours
- [ ] 4 to 6 hours
- [ ] from 7 to 10 hours
- [ ] from 10 a.m. to 1 p.m.
- [ ] from 1 to 4 p.m.
- [ ] from 4 pm to 12 am

P

8. How much time does the child spend with cell phones and tablets per day?

- less than 1 hour
- 1 to 2 hours
- 2 to 3 hours
- 3 to 4 hours
- 4 to 5 hours
- more than 5 hours
- I don't know how to answer

9. At what age did the child start using cell phones and tablets?

- less than 6
- months 6 months
- 1 again
- 2 years
- 3 years
- 4 years
- 5 years
- 6 years or more
- I don't know

responder

10. Do you encourage your child to do activities away from screens?

- Yes, always
- Yes, sometimes
- Yes, rarely
- No

11. Which of the following consequences of excessive screen use in children do you know?

Anxiety
Irritability
Aggressiveness
Insomnia
Obesity
Sedentary lifestyle Social introspection
Visual problems

Ko

- [ ] None
- [ ] Others: _____

12. Do you consider the adverse effects of excessive screen use to be significant and of relevant importance?

- [ ] Yes
- [ ] No

13. When using screens, do you supervise the content being watched?

- [ ] Yes, always
- [ ] Yes, sometimes
- [ ] No

14. Do you limit your child's screen time?

- [ ] Yes
- [ ] No

15. If you limit your child's screen time, how many minutes/hours is that limit? so?

- [ ] up to 1 hour
- Ko 1 to 2 hours
- [ ] 2 to 4 hours
- [ ] 4 to 6 hours
- [ ] 6 to 8 hours
- [ ] more than 8 hours

16. How many leisure activities does the child do? (Sports, outdoor or outdoor games) fabrics, music, languages, etc.)

- [ ] No activity

Co1

Co2

Ko 3

- [ ] 4 or more

17. Does the child have a good relationship with other children?

- [ ] Yes
- [ ] No

18. Does the child show interest in activities/games outside of screens?

- [ ] Shows a lot of interest
- [ ] Shows little interest

Ko Does not show interest

19. Does the child carry out activities outside of the screens of their own free will? (Without any pressure from the guardian)

Ko

Yes

No