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DIGITAL PARENTING IN THE EARLY YEARS: A NEEDS ASSESSMENT FOR PARENTAL INTERVENTIONS

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Abstract: This study aims to assess the needs of parents of preschool-aged children in managing digital technology use. This analysis serves as a preliminary step in developing a parental intervention program designed to foster healthy digital habits in children from a young age. A convenience sample was used, and both quantitative and qualitative research methods were utilized. The developed questionnaire measures dimensions of digital parenting, socio-demographic factors, and parents' perceptions of the importance of digital parenting. The results of this study provide a relevant starting point, in accordance with parental needs, for optimizing future parental interventions.

Key words: digital parenting, parental intervention program, needs assessment.

1. Introduction

In today's digital age, children's exposure to technology is inevitable. Recent research has highlighted both the benefits and risks (Muppalla et al., 2023; Rocha & Nunes, 2020; Small et al., 2020; Kerai et al., 2022) associated with excessive or inappropriate use of digital devices. Therefore, it is essential for all those involved in a child's education, primarily the parents or tutors, to adopt a preventive approach, focusing on developing healthy habits from a young age to protect children's well-being.

1.1. The importance of a needs assessment

Studies indicate that parents play a crucial role in ensuring children's safe navigation of the digital landscape (Rodideal, 2019; Kalmus et al., 2022). Active parental involvement in children's digital lives can have beneficial effects, safeguarding them from the potential risks associated with excessive technology use. In this context, understanding

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parents' perceptions of their own digital habits, their self-assessment of digital competence, as well as the strategies they adopt to mediate children's technology use, and the challenges they face, is a crucial preliminary step in developing a parental intervention program. Moreover, expressing parents' expectations and needs for such a program ensures optimal development tailored to their specific requirements, supporting them in providing a safe digital environment for their children.

It has been shown that employing a needs assessment is a necessary step in order to ensure an intervention program that is efficient and relevant for the target group. Such an example is provided by Hamid et al. (2018) where CyberSecurity Malaysia developed a program to educate parents about internet safety for children of different ages. The program provides training materials and is tailored to local needs, using a needs assessment and also comparing the efficiency of their program with others on the market.

1.2. Digital dimensions

To gain a comprehensive understanding of children's digital experiences, it is crucial to examine the digital habits of their primary role models: their parents. By analyzing parental digital behaviors, we can better comprehend the factors that influence children's engagement with technology.

Despite Romania's high digital accessibility, digital literacy remains low among the population (DESI, 2022). Parents' digital skills often pose the biggest challenge (Rodideal, 2019). To address this, parental intervention programs should focus on improving digital literacy, particularly in online safety. Choy et al. (2024) support this, emphasizing the need for research on parental education and training. A recent study showed that the amount of time parents spent on digital devices and their engagement with digital media were linked to the amount of time their preschoolaged children spent on screens (Cahyati et al., 2024). Furthermore, parents' digital habits significantly influence their children's, and excessive parental use can lead to fewer restrictions on children's screen time (Yadav & Chakraborty, 2021). Thus, examining parents' digital habits seem paramount, and consequently, this study will examine parental digital dimensions, including time spent online, device ownership, perceived risks, and digital proficiency.

1.3. Digital parenting

The term "parenting" refers to the behaviors that parents adopt to raise, support, and foster the socialization of their children throughout their lives (Nomaguchi & Milkie, 2020). However, in today's context, where the online environment and the use of digital technologies have become an integral part of daily life, the behaviors and strategies that parents adopt in their children's use of digital technologies are essential to ensure their optimal development and well-being. Tosun & Mihci (2020) define digital parenting as a set of dimensions that a parent considers concerning their child and in managing and moderating the use of digital technologies, such as the level of competence in using

information and communication technologies (ICT), awareness of their rights and responsibilities, and a routine of correct ICT use. Additionally, parents have become increasingly concerned about their children's well-being in the digital environment and strive to provide balanced digital experiences, using effective ways to set limits on the use of digital technologies, especially on phones (Cao & Li, 2022; Zhao, 2023). All of these are necessary to prepare a safe and healthy digital environment for their children. Numerous studies have been conducted on digital parenting and its effects on adolescents' technology use (Nesi et al., 2020; George et al, 2018; Magis-Weinberg et al., 2021; Qi &Yang, 2024; Singh et al., 2021), but the preschool age has been less explored (Sonck et al., 2014; Stoilova et al, 2021). Therefore, this preliminary study lays the foundation for research aimed at investigating this age group through the perspective of parents of preschoolers, aiming to provide support in the form of a parental intervention where they acquire knowledge and strategies for digital parenting.

1.4. Parental intervention program

The final part of this study explored parents' attitudes towards participating in a parental intervention program. Such a program involves one or more structured sets of activities in which parents are directly involved and focused on the benefit of their children. "Parents learn a range of skills to respond effectively to children's needs, thereby contributing to their optimal development" (David & David, 2024, p. 110). Bierman et al. (2019) illustrate the importance of implementing parental intervention programs for children's well-being. For this reason, the present study aimed to analyze parents' needs regarding such a program to ensure the development of a program optimized to current trends and parental demands.

2. Objectives and Hypotheses

This study aimed to explore parents' needs regarding a parental intervention program in digital parenting. The following research hypotheses were formulated:

- (1) There is a statistically significant association between parents' digital dimensions (digital habits, digital skills, awareness of risks) and their interest in participating in a parental intervention program (level of interest and perceived importance).
- (2) There is a statistically significant association between parents' perceptions of digital parenting (importance of parental role, perceived parental effectiveness) and their interest in participating in a parental intervention program (level of interest and perceived importance).
- (3) There is a difference between the levels of parents' and children's use of digital technologies concerning previous participation in other digital parenting programs.

From a qualitative perspective, the study sought to identify (4) What are the most relevant topics for parents in a parental intervention program? and finally, (5) What challenges do parents face in managing their preschoolers' use of digital technologies?

3. Method

3.1. Participants

In the present study, 93 parents participated in the study, in which socio-demographic variables were examined, the highlights of digital dimensions, digital parenting dimensions as well as the emerging themes regarding the struggles parents face with their children's digital use, and more importantly, the topics parents wish to be included in a parental intervention program. After eliminating statistical aberrations, the sample remained at N=89.

Participants were predominantly female (94,38%) of urban provenience (88.8%) from Braşov (59.6%) county, Ilfov and Bucharest capital (16.8%), Argeş (7,9%) and others. Most respondents have higher education studies (88.76%), aged between 31-58 (M = 36.85), and with one preschool child aged between 2-6 years (85.39%). Parents reported using from 1 to 7 digital devices (M = 2.79).

3.2. Materials and Instruments

This study aimed to explore the needs of parents regarding a parental intervention program in digital parenting. A convenience sample of 93 respondents, all parents of preschoolers, participated in the study. A questionnaire titled "Digital Devices in the First Years of Life: A Needs Analysis for Parents of Preschoolers" was developed for this needs analysis using Google Forms. The questionnaire consisted of 19 items, divided into 4 sections. Firstly, the sociodemographic variables (6 objective items) section collected data on participant demographics such as age, gender, educational level, place of origin, county of residence, and number of children.

Secondly, the parental digital dimensions section assessed parents' digital habits, including time spent on devices, comfort level with technology, and perceived risks associated with digital technology. It consisted of 4 objective items, out of which two were measured on a 5-point Likert scale, for example "How familiar are you with using digital technologies?" (1- not at all familiar to 5-extremely familiar), "How aware do you consider yourself to be regarding the risks in the digital environment?" (1- not at all aware, 5-extremely aware) and 1 subjective item – "What difficulties do you face in managing your child's/children's use of digital technologies?")

Thirdly, the digital parenting section explored parents' current strategies for managing their children's screen time, perceived effectiveness of these strategies, and awareness of online risks. It consisted of4 objective items, out of which 2 were measured on a 5-point Likert scale, for instance "To what extent do you consider your efforts in managing your child's/children's use of digital technologies to be effective?"(1-no at all effective, 5-extremely effective), "How important do you consider the role of parents to be in mediating their child's interaction with digital technologies?"(1-not at all important, 5-extremely important) Lastly, the parental intervention section assessed parents' interest in a parental intervention program, their perceived needs, and their prior experiences with such programs. It consisted of 4 objective items, out of which 2

were measured on a 5-point Likert scale, and 1 subjective item – "What specific topics would you like to be included in a digital parenting intervention program?".

The questionnaire was distributed online through social media to encourage a diverse sample of respondents and to provide a comprehensive overview of parental needs.

4. Results

4.1. Descriptive statistics

Regarding parental digital efficiency (M = 3.91), most parents reported they are very familiarized with digital technologies (very versatile in using digital devices and can learn new functions quickly), or are quite familiarized (can use devices for a variety of tasks such as email, social media, applications) with digital technologies.

In respect to parents' awareness of risks within the digital environment (M= 4.38), results show they perceive themselves to be quite aware (have the ability to recognize the most prevalent risks and take appropriate measures) and very aware (very knowledgeable of all types of online risks and have implemented strong security measures of the risks).

When examining digital parenting tendencies in respondents, the strategies most employed by parents to mediate the use of digital technologies in children were: establishing clear rules, followed by the selection of age-appropriate content for their children, respectively promoting alternative activities (playing outdoors, board games, storytelling).

4.2. Correlations between parents' digital dimensions and interest of participation in a digital parenting program

Regarding hypothesis (1), it seems that the levels of digital risks awareness are negatively correlated with the time of digital technologies use in children (rho = -0.25, p = .017, p < .05), suggesting that the more parents are aware of risks of use of digital technologies, the less their children spend time using digital technologies (Table 1).

In order to assess whether the time used by parents using digital technologies as part of digital habits is associated with the child's use, Spearman's Rho was employed and showed no significant results, as opposed to what was expected and shown in studies such as Lauricella et al. (2015). The other variables showed no significant associations.

Table 1
Parents' digital dimensions and their interest in participating in a parental intervention
program (values represent Spearman's rho)

Variable		1	2	3	4	5	6
1. No. of devices	rho						
	р						
2. Time using digital technologies -	rho	-0.008	_				
parent	р	0.938	-				
3. Time using digital technologies	rho	-0.056	0.165	-			
-child	р	0.605	0.123	_			
4. Digital skills	rho	0.303	-0.093	-0.089	_		
	р	0.004	0.388	0.409	_		
5. Digital risks awareness	rho	0.138	-0.074	-0.253	0.402	_	
	р	0.198	0.491	0.017	< .001	_	
6. Level of interest in participating in	rho	0.003	0.106	0.091	-0.066	-0.062	_
a parental program	р	0.981	0.323	0.395	0.542	0.561	_
7. Level of importance of such a	rho	0.046	-0.121	0.022	0.081	0.168	-0.112
program perceived by parents	р	0.670	0.257	0.837	0.449	0.116	0.294

Upon examining the results, there seems to be a significant link between parents' perceived digital skills and digital risks awareness (rho = 0.402, p < .001), as well as digital parenting efficiency (rho = 0.27, p < .01), meaning that the higher the level of skills parents might have, the more aware they seem towards risks of digital technology use and the more efficient they assess their digital parenting. However, there were no other significant links in this respect.

When considering parents' perceptions of digital parenting and their interest in participating in a parental intervention program, there were no significant associations to be noted. Interestingly, there seems to be a link between the perceived parental role importance and digital parenting efficiency, which might suggest that the more importance parents attribute to their role as parents managing their children's digital habits, the more efficient they perceive themselves to be.

Table 2
Parents' perceptions of digital parenting and their interest in participating in a parental
intervention program

Variable		1	2	3
1 Parental role importance	rho*	-		
	р	-		
2 Digital parenting efficiency	rho	.288	-	
	р	.006	-	
3 Level of interest in participating in a parental program	rho	.050	.010	-
	р	.643	.923	-
4 Level of importance of such a program	rho	.147	.067	112
perceived by parents	р	.170	.530	.294

^{*}Values represent Spearman's rho

4.2.1.Previous participation in digital parenting programs and time using digital technologies – parent and child

In order to investigate whether there are differences between the time using digital technologies in both parents and children according to parents' previous participation in digital parenting or digital education programs (hypothesis 3), we conducted a Mann-Whitney U test. Results show there are no significant differences in the time parents and children spend using digital technologies between groups, as shown in Table 3.

Table 3

Differences in time using digital technologies – parent and child according to parent's previous participation in digital parenting programs

	U*	Z	р	Parent's previous participation in a digital parenting program	M	SD	SE	Mean Rank
Time using digital	410.00	-0.97	.32	Yes	98.53	48.24	13.38	38.53
technologies - parent	410.00	0.57	.52	No	126.18	75.45	8.65	46.10
Time using digital	424.00	-0.81	.39	Yes	57.76	44.32	12.29	39.61
technologies – 42 child)	424.00	-0.81	0.01 .59	No	67.97	43.57	4.99	45.92

^{*} Values represent Mann-Whitney's U test

4.2.2. Qualitative analysis

The qualitative analysis consisted of examining the difficulties parents struggle with their preschool children connected to the use of digital technologies (H4) and what specific topics they consider relevant in a parental intervention program (H5). From the responses given, there were 3 main themes: (1) Strategies used in digital parenting, with the subthemes (1a) Strategies related to managing screen time, (1b) Strategies related to managing content, (1c) Children's reactivity towards digital parenting. Interestingly, there was a high number of respondents declaring not facing any struggles, which created the theme number (2). The third theme identified was (3) Family dynamics with subthemes (3a) Digital parental mediation consistency within the extended family and (3b) Parents' digital habits.

Finally, reaching the topics parents would find useful in a digital parenting intervention program, we identified the following themes: (4) Digital parenting strategies, with the subthemes (4a) Strategies related to time use of digital technologies, (4b) Strategies related to managing digital technologies content, (5) Online safety, (6) Impact of digital technologies on children's health and development with the subthemes (5a) Health and

developmental risks, (5b) Benefits of children using digital technology and (7) Ambivalence or uncertainty, consisting in "I don't know" or no answer (using symbols such as ".", "-", "?!"). Topics such as digital parenting strategies, online safety, risks and benefits of digital technologies use were also identified by Tosun & Mihci (2020) as topics to be included within a curriculum for a parental intervention program.

In other words, parents seem to need guidance in implementing strategies that support them in managing screen time and content, while providing a safe digital experience. They are preoccupied with how digital technologies affect their children's health and development and, therefore, are interested in facilitating their well-being while navigating the digital environment.

5. Discussion

5.1. Parental digital habits and skills

The study found no relevant associations between parents' digital behaviors and their interest and intention of participating in a digital parenting intervention program. One of the reasons could be that most parents within the study self-evaluate their digital skills as high and very high, and are aware of digital risks, which are positively correlated. Another explanation could be found in the qualitative analysis, where a significant number of parents declared that they do not struggle with issues or have no concerns. In other words, parents who view themselves as able to efficiently manage digital use in their children might see little relevance in participating in a parental intervention program on this topic, taking into consideration the fact that digital dimensions were self-reported and not measured objectively.

5.2. Parental perceptions of digital parenting

From a digital parenting perspective, the study showed no significant associations with the desire to take part in an intervention parental program on digital parenting, apart from parental efficiency. This might indicate that parents who evaluate their parental role higher in managing children's digital habits view themselves as more efficient in digital parenting.

Regarding the strategies parents in the study adopt, they emphasized the importance of setting limits, selecting age-appropriate content, and promoting alternative activities. However, there was less emphasis on active parental involvement, such as modeling positive digital behaviors and using parental control tools. This suggests that parents may benefit from additional guidance and support in these areas.

The fact that active parental involvement in digital activities, setting an example by employing healthy digital habits and using parental control applications are much less employed, it might be of interest to examine within further studies the reasons for which parents choose one or several options, and do not choose others, in order to clarify whether it should be included in the parental intervention program or not.

There is an important note on the strategies parents reported using. Parents mainly seem to be employing restrictive strategies (limiting the use of digital technologies, applying filters, and banning the use altogether) and less active strategies, such as couse. Although there is no direct association with the children's wellbeing, the fact that there was a notable number of parents affirming they do not struggle with difficulties could have grounds for considering that restrictive strategies for preschoolers are efficient (Fitzpatrick et al., 2023) and should be further explored.

5.3. Parental needs and expectations

The qualitative analysis revealed several key themes related to parents' needs and concerns. Parents expressed a desire for practical advice on managing time as well as content in digital technologies use, protecting their children from online risks, and encouraging healthy digital habits. They also indicated a need for support in navigating the complex digital environment and understanding how digital technologies impact child development and health.

5.4. Limitations

A limitation of this study was the use of an online questionnaire, which may have influenced the accuracy of data related to the parents. Additionally, the study did not include other socio-demographic data such as ethnicity, income, or the specific ages of the children. The limitation of the age category to preschoolers may have prevented the inclusion of respondents with older children (school-aged or adolescents). Another limitation is that the questionnaire relied on a small number of questions to explore parents' digital dimensions and those related to digital parenting. Future studies could consider using validated scales or subscales. Probably the greatest limitation is the small sample size, which does not allow for generalizing the results, which is why triangulation of data could be taken into consideration, such as semi-structured interviews.

5.5. Implications for future research and practice

Based on these findings, future research should explore the long-term impact of early childhood digital experiences on child development. Additionally, further research is needed to develop and evaluate effective parental intervention programs that address the specific needs and challenges identified in this study. By understanding the unique needs and concerns of parents, we can develop targeted interventions that empower parents to create a safe digital environment for their children.

6. Conclusion

By examining the sociodemographic characteristics of parents, their digital habits and skills, along with their strategies for managing their children's screen time, this study made efforts to highlight the specific needs of parents of preschoolers in the digital age. The results of this study provide valuable insights into the digital habits and concerns of parents of preschool children. The findings suggest that while parents are generally aware of the potential risks and benefits of digital technology, they may lack the knowledge and skills to effectively manage their children's digital experiences.

By facilitating parents to adopt efficient strategies, such a program might equip them with the right tools to build a safer digital environment for their children, while encouraging them to adopt healthy and balanced digital habits.

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