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Parental Attitudes on Preschool Children’s Mobile Device Use and Parent-Child Relationship

Abstract

Mobile devices bring new solutions and opportunities as well as challenges for family relationships. We examined the association between parents’ attitudes towards preschool children’s mobile device usage habits (PAT) and parent–child relationship (PCRI) and tested whether this association is dependent on parent characteristics. The results showed that there is no correlation between the total scores of PAT and PCRI. On the other hand, PCRI was moderately correlated with three subscales of PAT (the subscales of Distraction, Control, and Information). Further, we found out the potential influence of parent sex on parental attitude and parental educational level on the parent-child relationship.

Keywords: *preschool child, parental attitude, mobile learning, parent-child relationship*

Introduction

The term “media use” covers a wide range of different activities such as watching TV, using computers or the Internet, playing online/offline games, playing video games, communicating via voice or text on mobile devices, listening to music, as well as reading books, newspapers, or magazines (Lauricella & Cin-

gel, 2020). Screen time refers to the time spent in front of any screen, such as a TV, computer, smartphone, or tablet, including wearable technologies (Ponti, 2023). The American Academy of Pediatrics (AAP) recommends that families should avoid screen time for children under 18 months of age except for video chatting. Children between 18-24 months of age should watch only quality programs with their parents. Screen time for children aged 2-5 years should be limited to one hour per day of quality programs. Families should be consistent in screen time for children aged 6 years and older, and care should be taken not to interfere with the child's sleep and physical activities (Council on Communications and Media, 2016). Despite these recommendations of AAP, Rhodes (2017) found that children between the ages of 0-2 are exposed to media devices for an average of 14 hours per week, while this rate reaches 26 hours per week for children between the ages of 2-5. In another study examining the screen time of 24-, 36-, and 60-month-old children, it was reported that children were exposed to screens for 17, 25, and 11 hours per week, respectively (Madigan et al., 2019).

Many studies have shown that screen time is associated with various health problems (Zhang et al., 2022). Research results emphasised that in addition to the negative effects of media on child development, such as aggressive behaviour, obesity, and sleep disorders (Hinkley et al., 2014), theft, murder, extortion, and war-themed games negatively affect children's psychological development (Polman et al., 2008). Moreover, preschool children's low abstract thinking skills may cause physical and mental damage due to their inability to perceive the images and content they watch correctly due to low abstract thinking skills (Radesky & Christakis, 2016). The American Academy of Child and Adolescent Psychiatry (AACAP) (2020) states that too much screen exposure to children can cause sleep, weight and mood problems, lower school achievement, and poor body and self-image. AACAP also warns parents that because they cannot always know what their children are watching or how much screen time they are spending, they may be exposed to negative situations such as violence, sexual content, cyberbullying, and misleading or false information. However, as mobile devices such as smartphones and tablets have become an indispensable part of our lives, screen time is becoming the most common sedentary behaviour and a central component of daily life for adolescents and adults (Wang et al., 2019). 90% of Americans own smartphones (PEW Research Center, 2024). These rates are similar to statistics and data on mobile device use in Türkiye. According to the Global Mobile Consumer Survey results conducted in 28 countries on 6 continents, 90% of adults aged 18-50 own a smartphone and 59% own a tablet (Deloitte, 2019). Unlike traditional media tools, the portabil-

ity of these devices, the Wi-Fi connection and the different services they offer may lead parents to spend more time in front of the screen than recommended.

Research Methodology

Research Background

Parents' behaviour and parent-child relationship significantly shape the child's development (Zimmer-Gembeck et al., 2017; Blum et al., 2022; Zhong et al., 2023). The development of preschool children is closely related to the attitudes and behaviours of parents. Children in this age group (3-6 years) undergo rapid physical, social, psychological, and cognitive development in which they begin to lay the foundations of their personality traits (Bartan, 2021). While parents' behaviours towards their children shape their personal identities and values (Saltuk & Erciyes, 2020; Özel & Zelyurt, 2016), they also play an important role in mediating media use, especially among young children (Lee et al., 2022). Attitude refers to a positive or negative reaction or tendency towards a situation or event that cannot be directly measured. It has a directive and influential power on individuals' feelings and behaviours towards events because of their experiences. Recent studies showed that parents' positive attitude towards digital media use strongly predicts children's digital media use (Chia et al., 2022; Lee et al., 2022; Brauchli et al., 2024). As mentioned, some studies have shown that mobile device use negatively impacts children's affective, cognitive and social development, depending on the amount of screen time. This situation can directly or indirectly affect the parent-child relationship, weakening the bond and damaging the relationship. However, the parent-child relationship is a strong ground of communication and interaction that can help children understand and critically evaluate media use. Parents spending quality time with their children, doing activities together and guiding them in choosing media content will enable children to develop a more conscious and critical attitude towards the media (Torjinski & Horwood, 2023; Hamilton et al., 2016; Coyne et al., 2017). Parents can minimise negative influences on their children by monitoring and regulating their children's screen time and the content of the media they use (Halpin et al., 2021; Ponti, 2023). A healthy parent-child relationship can help children use media properly and cope with online threats. Therefore, parental attitudes are important in limiting, guiding, and supervising children's use of mobile devices.

To the best of the authors' knowledge, no research examines the association between parental attitudes and preschool children's mobile device use and parent-child relationships. In order to better understand the relationship between

parental attitudes towards the use of mobile devices and parent-child relationships, we hypothesised that (a) parental attitudes towards preschool children's mobile device use are positively associated with parent-child relationships, (b) parental attitudes towards preschool children's mobile device use differ according to the parent characteristics (i.e., parent sex, age, educational level, parents with/without child over 6 years old). (c) Parent-child relationships differ according to the parent's characteristics (i.e., parent sex, age, educational level, parents with/without child over 6 years old).

Participants

Parents with preschool-age children took part in the research. A hundred thirty-seven parents of children aged between 3 and 6 years completed a questionnaire between April 2023 and May 2023 through an online survey by researchers. Of the participants, 44.5% had at least one child over six years old, 76.6% were mothers, and 23.4% were fathers. About half of the participants (58.4%) were under the age of 34 years. The average age for parents was 34.1 (SD±4.61) years. Concerning the educational level, 54.7% of the parents have undergraduate and graduate degrees.

Instruments and Procedures

The questionnaire includes three parts. The first part identifies the characteristics of parents and children. The second part assesses the parental attitudes towards mobile device usage habits, and the last part focuses on parent-child relationships. The following section describes the measures used in this paper.

Parental Attitudes Towards Mobile Device Use: Parental attitudes towards preschool children's mobile device use habits were assessed using the Parental Attitudes Scale (ATT) developed by Urfa (2020). The construct validity of the scale was tested with exploratory (EFA) and confirmatory factor analysis (CFA). *Principal component analysis.* The Varimax rotation method was used as a factorisation method. As a result of the analysis, it was found that the factors affecting parents' attitudes towards their preschool children's tablet/phone usage habits consisted of four dimensions: distraction (9 items), utility (5 items), control (7 items) and information (3 items). The scale consists of 24 items in total. The construct validity of the scale was tested with CFA, and it was found that the instrument had acceptable fit indices (GFI=0.857, CFI=0.906, RMR=0.080, RMSEA=0.066). To determine the scale's reliability, item-total correlations and Cronbach's Alpha internal consistency coefficient were analysed. The internal consistency coefficients of the scale are between 0.785 and

0.903. Within the scope of this study, the reliability analysis for the overall scale was repeated. The Cronbach's Alpha internal consistency coefficients for the subscales are between 0.817 and 0.922. The higher scores indicate the more positive attitude of parents.

Parent-Child Relationship: To assess the relationship between parents and their target child, we used the Türkiye version of the Parent-Child Relationship Inventory (PCRI) (Bartan & Tezel Şahin, 2012). It is a parent self-report measure of parenting skills and attitudes toward parenting and their children. The Scale yields scores on 7 subscales. We only used the dimensions of the scale measuring the parent-child relationship. The other subscales, notably those measuring the relationship between the parents themselves, were not included in the present study. It includes 15 items and consists of four subscales, including limit setting (7 items), autonomy (5 items), involvement (6 items) and communication (7 items). It is a self-report instrument, and each item ranges from 1 (strongly disagree) to 4 (strongly agree). Limit setting measures the disciplinary problems parents had with the child and the parent's emotional state. Autonomy measures whether the respondent leaves his/her child independently or whether there is someone who excessively monitors and controls his/her child's behaviour. The involvement scores show that the subject is interested in what her child is doing behind her back and is keeping an eye on her movements. The communication subscale represents parents' awareness of how well they communicate with their children in various situations, including simple conversation. Higher scores indicate a more positive parenting. Cronbach's alphas of subscales were between 0.543 and 0.846 in this study.

Data Analysis

Data was analysed using Jamovi statistical software. There were no missing values. Shapiro-Wilk tests indicated that the data were not normally distributed. To test the first hypothesis, we calculated Spearman correlation coefficients to examine the associations for the whole scales and subscales and descriptive statistics (e.g., means, standard deviations). Coefficients lower than .20 were considered weak, those between 0.20 and 0.50 were considered moderate, and those greater than 0.50 were considered strong. To test the second and third hypotheses, Mann-Whitney U tests were performed.

Results

Correlation Between Parental Attitudes and Parent-Child Relationship

Cronbach's alpha, descriptive statistics, and bivariate correlations are given below in Table 1. To test the first hypothesis, the Spearman correlation coefficient was calculated to examine the association between parental attitudes and the parent-children relationship. The results showed that parental attitudes towards preschool children's mobile device usage habits were not positively associated with parent-child relationships ($r = -0.035$, $p > 0.05$).

Table 1. Descriptive analysis and correlation test of scale scores

	α	M (SD)	Skewness	Kurtosis	IQR	1	2
PAT	0.801	61.3 (12.8)	0.812	3.27	15.00	1	-
PCRI	0.859	81.1 (10.4)	-0.555	0.508	14.00	-0.035*	1

PAT: parental attitudes towards mobile device usage habits; PCRI: parent-child relationship inventory.

*: $p > 0.05$.

The objective of this study was to evaluate the association between parental attitudes towards preschool children's mobile device usage habits and parent-child relationship, so similar analyses were performed between total scores and subscale scores to better understand the association between these two variables. Spearman correlation coefficient test results are given in Table 2.

Table 2. Correlation tests of whole scale and subscale scores

	1	2	3	4	5
PCRI	-	-	-	-	-
PAT-Distraction	-0.324**	-	-	-	-
PAT-Profit	0.030	0.363	-	-	-
PAT-Control	0.434**	-0.419	-0.092	-	-
PAT-Information	-0.226*	0.166	0.290	-0.061	-
	1	2	3	4	5
PAT	-	-	-	-	-
PCRI-Communication	-0.037	-	-	-	-
PCRI-Limit setting	-0.033	0.312	-	-	-

	1	2	3	4	5
PCRI-Autonomy	0.052	0.383	0.520	–	–
PCRI-Involvement	-0.020	0.411	0.522	0.531	–

PAT: parental attitudes towards mobile device use habits; PCRI: parent-child relationship inventory.

** $p < 0.001$, * $p < 0.05$

The results showed that there is no significant correlation between PAT total scores and PCRI subscale scores ($p > 0.05$), whereas PCRI total scores were moderately correlated with PAT-Distraction ($r = -0.324$, $p < 0.001$), PAT-Control ($r = 0.434$, $p < 0.001$) and PAT-Information subscales ($r = -0.226$, $p = 0.008$). PAT-Distraction and PAT-Information of these correlations are negative, while PAT-Control is positive.

Parent Characteristics, Parental Attitudes Towards Mobile Device Use and Parent-Child Relationship

Mann-Whitney U tests were conducted to test the second and third hypotheses and to investigate whether parental attitudes towards preschool children’s mobile device usage habits and parent-child relationship differed according to four basic demographic variables, namely sex of parent, age, educational level, and having children older than 6 years of age.

Table 3. Differences in the PAT and PCRI scores by characteristics of parent

Measure	Parent Sex			Age (in Years)		
	Mean (SD)		<i>p</i>	Mean (SD)		<i>p</i>
	Mother (n=105)	Father (n=32)		≤ 34 (n=80)	≥ 35 (n=57)	
PAT	59.7 (11.61)	66.6 (15.0)	0.005*	60.7 (11.72)	62.0 (14.1)	0.277
PCRI	81.4 (9.69)	79.9 (12.4)	0.710	82.2 (9.57)	79.5 (11.3)	0.221
Measure	Educational Level			Parents with/without		
	Mean (SD)		<i>p</i>	Mean (SD)		<i>p</i>
	High school or below (n=62)	University or above (=75)		With children ≥ 6 years old (n=61)	Without children ≥ 6 years old (n=76)	
PAT	61.4 (15.3)	61.2 (10.24)	0.626	60.3 (12.19)	62.1 (13.2)	0.640
PCRI	78.3 (11.2)	83.4 (9.08)	0.015*	80.4 (9.58)	81.7 (11.0)	0.470

PAT: parental attitudes towards mobile device usage habits; PCRI: parent-child relationship inventory.

p-value was obtained using the Mann-Whitney U test, *($p \leq 0.05$)

First, analyses were conducted to determine whether there were significant differences in PAT scores. The table above indicated that there were significant differences in PAT scores by sex of parent ($p=.005$). The mean scores of fathers ($M=66.6$, $SD=15.0$) are significantly higher than mother scores ($M=59.7$, $SD=11.61$). No significant results were found for age, educational level, and parents with or without children over 6 years old. Then, the same analyses were conducted on PCRI scores. Contrary to our hypothesis, no significant results were found for sex of parent, age, and parents with or without children over 6 years old. However, significant results were found for educational level ($p=.015$). PCRI scores of those with higher educated parents (university or above) ($M=83.4$, $SD=9.08$) were significantly higher compared with lowly (high school or below) educated ($M=78.3$, $SD=11.2$).

Based on the results, we investigated PAT and PCRI subscale scores according to the significant differences mentioned above. Table 4 shows each subscale's mean scores and Mann-Whitney U test results.

Table 4. Differences in the PAT and PCRI subscale scores by parent sex and educational level

	Parent Sex				Educational Level		
	Mean (SD)		<i>p</i>		Mean (SD)		<i>p</i>
PAT subscales	Mother (n=105)	Father (n=32)		<i>p</i>	PCRI subscales	High school or below (n=62)	
Distraction	17.70 (7.97)	22.81 (11.78)	0.085	Communication	21.6 (4.84)	22.6 (3.72)	0.417
Profit	9.11 (4.20)	11.44 (5.41)	0.038*	Limit Setting	22.7 (4.65)	24.6 (3.56)	0.019*
Control	27.86 (7.13)	26.75 (7.37)	0.375	Autonomy	15.6 (2.75)	16.2 (2.14)	0.313
Information	4.98 (2.83)	5.59 (3.20)	0.238	Involvement	18.4 (3.19)	19.9 (2.59)	0.003*

PAT: parental attitudes towards mobile device usage habits; PCRI: parent-child relationship inventory.

p-value was obtained using the Mann-Whitney U test, *($p \leq 0.05$)

Results revealed a significant difference between profit subscales scores of PAT and parent sex ($p=0.038$). The mean scores of fathers ($M=11.44$, $SD=5.41$) are significantly higher than mother scores ($M=9.11$, $SD=4.20$). Finally, we found significant and relevant differences that emerged from the PCRI-sub-scales "limit setting" ($p=0.019$) and "involvement" ($p=0.003$). Our results showed that the mean scores of highly educated parents in the current study are significantly higher than lowly educated parents for both subscales.

Discussion

Given the lack of research exploring the relationship between parental attitudes toward preschool-aged children's mobile device use and parent-child relationship, this study first characterised these associations. Our analysis determined no direct relationship between parental attitudes and parent-child relationships. However, our results revealed that parent-child relationships have a significant moderating correlation on distraction, control, and information subscales of parental attitude, which is why we conclude our hypothesis H1 is partially confirmed. Two of these correlations (distraction and information) are negative, which shows that a decrease in the quality of the parent-child relationship contributes to an increase in these two factors. While the distraction attitude has a negative effect on social development, fine motor development and language development, information attitude positively affects the rough motor development of children (Urfa, 2020). The majority of participants were mothers. Regarding the participants and family characteristics, the number of participants in both groups is comparable in terms of age, educational level, and parents with or without children.

The results showed that there was a significant difference in parents' attitudes towards their children's mobile device use habits. The mean PAT scores of fathers were significantly higher than those of mothers. Fathers have a significantly greater positive attitude towards children's mobile device use. There are several potential explanations for these results. In a country like Türkiye, where women are predominantly housewives, fathers may have higher work-related smartphone and tablet use habits and have a more permissive attitude towards their children's use. Second, women are more protective when it comes to their children. According to the study conducted by Russell et al. (1998), mothers adopt more disciplinary attitudes than fathers, while fathers have a more permissive attitude towards children. In a study by Winsler et al. (2005), mothers expressed themselves as more authoritative than their spouses. Çevik (2023) also examined parental attitudes towards tablet use in early childhood and found that the average scores of fathers were higher than those of mothers.

In this study, it was detected that parents' educational level has a significant effect on their relationship with children. As the level of education increased, the level of parent-child relationships also increased. Families with higher levels of education exhibited more democratic attitudes, while perceptions of authoritarian attitudes increased as the level of education decreased (Bornstein & Zlotnik, 2008). Moreover, fathers with undergraduate and higher education

behaved more democratically than fathers with primary school graduates, while fathers with primary school graduates behaved more authoritarianly than fathers with undergraduate and higher education (Sevinç & Garip, 2010).

As a result of the analyses, a significant difference was determined in the discipline and participation sub-dimensions of the Parent-Child Relationship Scale (PCR) scores. The scores of the highly educated parents were significantly higher than those of lowly educated parents. A study by Uzun et al. (2021) concluded that parental education levels were effective in the sub-dimensions of discipline and participation. Our results suggest a more positive parental attitude towards children's mobile device use is significantly associated with parental educational level. Highly educated parents have a more positive attitude towards children's mobile device use than lowly educated parents. Bianchi et al. (2006) emphasised that more educated parents contribute more to child-rearing, supporting this study's results.

Parents give their children mobile devices such as smartphones/tablets to distract them, control negative behaviour, reward them, or support their education (Ateş & Saltalı, 2019). A similar result was found in this study. We identified that the distraction and control sub-dimensions had high average scores. Previous studies found that parents tend to distract and control their children by using technological devices. For example, Genç and Fidan (2017) stated that parents use tablets to keep their children busy and entertained. Günüş and Atli (2018) found that parents use technological tools for purposes such as controlling, feeding, putting to sleep, or calming their babies, and Kızıldaş and Ertör (2018) concluded that parents use smartphones when their children are busy or crying to calm them down or feed them. Kabalı et al. (2015) also reported that parents use technological devices to distract children. Mobile devices are embedded in every aspect of our daily life. Considering the complexities of mobile device use and parental attitudes, one clear guideline for parents is to limit their screen use and consider AAP's recommendations on media use and screen time.

Research Limitations

This research has some limitations that need to be considered. The present study measured the parent-child relationship and parental attitudes with parents' self-reports. Self-report is a widely used method to collect information on behaviours and attitudes, but it also has some weaknesses (e.g., socially desirable responding, acquiescent responding) in measuring psychological constructs (McDonald, 2008). Regarding the research, longitudinal and mixed methods

studies are required to better understand parents' attitudes and behaviours. Most of the participants in the present study are women (76.6%). Women outnumber men, but that does not mean the results are related to mothers. We do not think that the preponderance of one gender in the sample weakens the findings because mothers in our sample have more contact with the child than fathers. Although statistically significant associations were found, we recommend further studies with a larger sample size, including both parents. Future studies should also focus on extraneous variables and parents' familiarity with the technology, which may be an important factor affecting children's mobile device use and parent-child relationships. We also found that the parents' educational level had a significant effect on the relationship with the children. As the level of education increased, so did the quality of the parent-child relationship. Families with higher levels of education showed more democratic attitudes, while perceptions of authoritarian attitudes increased as the level of education decreased.

Conclusions

This study investigated the mediating role of parent-child relationship on the children's mobile device use habits. We also tested the parental characteristics with PCRI and PAT scores. The findings showed that the PCRI was moderately correlated with three PAT subscale scores (distraction, control, and information). In addition, we found out about the possible influence of the parents' gender on parental attitudes and the parents' education level on the parent-child relationship. In this study, most participants were mothers. Mothers have a significantly more negative attitude than fathers towards their children's use of mobile devices. Therefore, it could be said that mothers are more protective than fathers. Fathers believe they benefit from their children's use of mobile devices, and they are more willing for their children to use these devices. Finally, as the level of education increased, so did the quality of the parent-child relationship. Families with higher levels of education showed more democratic attitudes, while perceptions of authoritarian attitudes increased as the level of education decreased.

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