The role of parents in digital media use by preschool-age children in Greece

Anastasia Psalti
University of Macedonia, Greece

Kostas Zafiropoulos
University of Macedonia, Greece

Abstract
Purpose: The use of digital media by very young children has attracted the interest of many researchers over the last decade. However, very few studies worldwide have focused on the use of digital media by children below 5. Furthermore, the framework of parental mediation that is used to understand the strategies that parents employ to manage their children's use of digital media is limited to evidence based mainly on studies on TV viewing. As children, even young ones, seem to prefer touchscreen devices, especially tablets, because they are portable, easy to use 24/7, and provide autonomy of choice and use, research on parental mediation strategies for these devices should be conducted. This study aimed at exploring: (a) which type of mediation strategies parents of preschool-age children (3 to 5) employ to manage their children's digital media use, and (b) the effect of digital media use by parents and parental mediation strategies on children's digital media use in the context of the modern greek family.
Methods: 103 parents of 3-5 year old children from all over Greece participated in this study by completing a questionnaire based on developmentally appropriate tools with good psychometric properties.
Results: The results highlighted the decisive role played by Greek parents in shaping the digital experience of very young children. Parents' habits and practices regarding the use of digital devices, both for personal use and as a parenting tool, were found to be the most influential factor in young children's use of digital devices.
Implications: This finding has important implications for the formulation of guidelines and policies regarding digital media use by children under 5 years of age.

Keywords: *digital media, preschool children, parents, parental mediation*

JEL Classification: *I26*

Corresponding author: Anastasia Psalti, psalti.an@uom.edu.gr

1 INTRODUCTION

Young children grow up in a 'media-saturated world' (Feld, 2012), as computer-based technology is present in most aspects of daily life. According to Burns & Gottschalk (2019), there is an increasing number of younger children worldwide who use digital devices. The age of first use is dropping fast (Hooft Graafland, 2018) and is now below the age of two (Chaudron, Di Gioia & Gemo, 2018). Shortly after the introduction of the iPhone in 2007, the term 'digitods' made its appearance to describe the children born after that year whose parents are usually avid users of digital media themselves (Holloway, Green, & Stevenson, 2015; Leathers, Summers, & Desollar, 2013). Young children use a variety of devices, but they seem to prefer touchscreen devices,

especially tablets, because they are portable, easy to use 24/7, and provide autonomy of choice and use (Chaudron, Di Gioia, & Gemo, 2018).

It is widely acknowledged that digital technologies have changed the daily life of families worldwide (Benedetto & Ingrassia, 2020). Especially during the COVID-19 pandemic and the consequent lock-downs, the use of digital media at home skyrocketed - overall digital device usage increased by 5 hours (Pandya & Lodha, 2021) - as digital media provided the only way for families to stay connected with relatives and the outside world, to be entertained and educated, and to even retain some form of 'sanity' during these unprecedented circumstances (Benedetto & Ingrassia, 2020). For example, a recent study (Eales, Gillespie, Alstat, Ferguson, & Carlson, 2021) showed that the use of non-school-related Screen

Media by children aged 2-11 in the USA increased from an average 2.5 hours per day pre-pandemic to 3.3 hours per day post-onset. In the same study, parents reported concerns over their children's increased screen time during the pandemic and after it ends, "wondering how they would get back to a 'normal' amount of screen time" (p. 12).

The role of parents: Parents, as the primary socialization agents of their children (Maccoby, 2007), have a direct influence on young children's digital media use, screen time and content (Shin & Huh, 2011; Shin & Li, 2017), as they act as models for children both in terms of their digital attitudes and behaviors (Nikken, 2017).

Parents' media use: Various studies have indicated the positive relation between parental screen time and younger children's screen time (Coyne, Radesky et al., 2017; Jago, Sebire et al., 2013; Kaya, Mutlu-Bayraktar, & Inan-Kaya, 2022; Lauricella, Wartella & Rideout, 2015; Lusted & Joffe, 2018; Nikken, 2017; Wang et al., 2019). The study by Wartella et al. (2014) with parents of 0 to 8-year-old children in the USA distinguished between media-centric, media-moderate, and media-light families depending on the family's use of media. In media-centric families, that is families in which parents themselves used screens on an average 11 hours per day, children spent almost four and a half hours per day in front of a screen, almost three hours more than the children of media-light parents did. Parents' use of digital devices has also proved to be a strong predictive factor for the use of any screen device by children (Lauricella, Wartella & Rideout, 2015).

Parental mediation: Parents are also the persons who mediate their children's use of digital media, as they are responsible for integrating digital devices into the family routine (Benedetto & Ingrassia, 2020; Chiong & Shuler, 2010; Lim, 2016), ensuring at the same time their children's safety and well-being, both online and offline (Global Kids Online, 2019; Livingstone & Helsper, 2008; Nathanson, Eveland, Park, & Paul, 2002). 'Parental mediation' was the term used to describe the strategies parents employ to manage and regulate their children's media experiences (Clark, 2011; Nikken & Schols, 2015). These mediation practices have a dynamic nature (Symons et al., 2017b in: Lopez & Haddon, 2018), as parents adjust the practices they employ to the changing nature of the internet and mobile technologies and their changing family circumstances.

2   THEORETICAL FRAMEFORK

Parental mediation theory has been utilized as a framework to understand how parents "try to manage and regulate their children's experiences with the media" (Livingstone, Mascheroni, Dreier, Chaudron, & Lagae, 2015, p. 7). According to Clark (2011), the roots of parental mediation theory can be traced in information-processing theories and media effects as well as in interpersonal communication theories. Parental mediation practices were first studied as factors that may influence children's use of television and video-games (Benedetto & Ingrassia, 2020).

Several mediation styles have been proposed by researchers over the years. Early on Nathanson (1999) proposed three strategies of parental mediation related to television viewing: active, restrictive, and co-viewing, while Shin and Huh (2011) introduced three types of parental mediation for video-games: co-playing, game-rating checking, and stopping game playing. These strategies were used with conventional media. New media use has turned into a private activity for all members of the family due to the increase in 'bedroom culture', which refers to the variety of media found in children's bedrooms allowing them to lead a life separate from other family members (Bovill & Livingstone, 2001). This, in turn, makes parental mediation strategies challenging, as the practice of active and co-use mediation is quite impossible (Nikken & Jansz, 2006). Mediation styles that integrate other technologies (tablets and smartphones) have not yet been incorporated into the theory (Kodie, 2020). Mediation consists of different parenting styles, ranging from not being involved with the child's media behavior to mediating very actively. Studies on television viewing and video gaming have generally distinguished three mediation styles: (1) active or instructive mediation, which involves explaining and discussing the media content children access; (2) restrictive mediation or setting rules about where, when, for how long and what to access, and applying consequences when these rules are not followed; and (3) co-using or co-viewing (co-presence and non verbal communication), which comprises all kinds of shared media activities by parents and children (Valkenburg et al., 1999; van der Voort et al., 1992; Nikken and Jansz, 2006). Specific characteristics of internet use give rise to two additional mediation styles. The technology allows (4) monitoring, that is checking children's online activities afterwards; and (5) restricting online content or time spent online by applying technical bans or filters (Livingstone & Helsper, 2008; Nikken & Jansz, 2014; Sonck, Nikken, & deHaan, 2013). Nikken & Jansz (2014) also added supervision or keeping an eye on children as they use the digital media. More recently, Zaman and his associates (2016) conducted a qualitative mixed-method study with 24 parents and 36 children 3 to 9 years of age and proposed a new typology consisting of restrictive mediation, co-use, participatory learning and distant mediation. In short, as Lopez & Haddon (2018) suggest "there is no single consensus about a typology of parental mediation of the Internet" (p. 6). For this study, five parental mediation strategies will be explored: active mediation, restrictive mediation, supervision, co-use, and technical restrictions based on the typology proposed by Nikken & Jansz, 2014).

Earlier studies concerning television use indicated that active mediation followed by co-viewing were the most common type of parental mediation in the USA (Austin et al., 1999), while in the Netherlands co-viewing was less frequently used than active and restrictive mediation (Valkenburg et al., 1999). In general, studies provide some contradictory results regarding the popularity of the various mediation styles. Active mediation continues to be the most popular mediation style (Piotrowski, 2017), especially among families of younger (below 9) children (Chaudron, Di Gioia & Gemo, 2018; Nikken & Janz, 2014; Sonck, Nikken, & deHaan, 2013). In a qualitative study of families with very young children in 21 European countries (Chaudron, Di Gioia &

Gemo, 2018), results showed that parents with very young children who are digitally knowledgeable, reside in Northern European countries and Malta, and belong to medium or high SES groups usually employ active mediation. A year before Coyne, Radesky, Collier et al. (2017) reported the same results and pointed out that parental mediation changes over time, as parents use active mediation mostly with younger children while they increase the use of restrictive mediation with some co-use in middle childhood and decrease it again in adolescence. The study by Livingstone et al. (2017) yielded the opposite results by showing restrictive mediation to be the most used method employed by parents of younger children. However, another study (Chaudron, Di Gioia & Gemo, 2018) indicated that parents of younger children do use restrictive mediation often but they apply it in an inconsistent manner, as touchscreen devices frequently play the role of a babysitter or punishment/reward for behavior. The use of restrictive mediation also declines with age (Livingstone, Haddon, Görzig, & Ólafsson, 2011; Padilla-Walker, Carlo, Christensen, & Yorgason, 2012). According to the classification of various European countries in terms of parental mediation styles by Helsper, Kalmus, Hasebrink, Sagvari, & de Haan (2013), restrictive mediation is most common among parents from most Western, Central and Eastern European countries. A more recent study by Global Kids Online (2019) in 11 countries worldwide showed that parents of younger children from middle income countries use restrictions on their children's internet use.

Supervision was another widely-used strategy in families of very young children (Eichen, Hackl-Wimmer et al., 2021; Nikken & Jansz, 2014; Sonck, Nikken, & deHaan, 2013), preferred mostly by mothers (Nikken & Schols, 2015). However, as digital devices become more personalized and portable, this strategy is proved less effective and parents tend to employ it less often (Haddon & Vincent, 2014; Mascheroni & Ólafsson, 2014).

Co-use/co-viewing, monitoring, and technical restrictions are the least popular mediation styles. Both monitoring and co-viewing are employed by parents of very young children (Connell, Lauricella, & Wartella, 2015; Nikken & Janz, 2014; Sonck, Nikken, & deHaan, 2013). Co-viewing is particularly used by parents of medium or high SES who possess digital skills and come from North Europe and Malta (Chaudron, Di Gioia & Gemo, 2018). The amount of time a parent is at home seems to predict parental co-use of most digital devices (Connell, Lauricella, & Wartella, 2015). Its use also decreases with age. Finally, most studies show that technical restrictions are the least favorable mediation strategy (Livingstone & Helsper, 2008). In particular, the European study of Chaudron, Di Gioia & Gemo (2018) indicated that strategies which impose limits and control children's access to digital devices are favored by the parents of modest SES who also have limited digital skills.

Outcomes of parental mediation strategies: Research results on the impact of different parental mediation strategies on children's "digital diet and behavior" have been inconclusive. Some early studies, mostly on the effects of tv viewing, reported a reduction in children's exposure to media risks (Nathanson, 1999; Lee & Chae, 2012; Lwin, Stanaland, & Miyazaki, 2008) due to the use of restrictive mediation.

However, some other studies (Shin & Ismail, 2014; Shin & Kang, 2016) showed a positive association between online risks and restrictive mediation. It appears that when parents employ very restrictive strategies, children's aggression increases (Clark, 2011), as restrictive mediation produces a forbidden fruit effect (Nathanson, 2001). On the other hand, early research on the use of active mediation showed an increase in desirable media effects (Huston & Wright, 1994) and a decrease in undesirable ones (Nathanson, 2004). Active mediation was also shown to be the most effective among other mediation strategies, especially in terms of the development of children's critical skills (Buijzen, Rozendaal, Moorman, & Tanis, 2008; Buijzen & Valkenburg, 2005; Fujioka & Austin, 2003; Lee & Chae, 2007).

Three meta-analytic studies in recent years (2016-2019) provide detailed information about the effects of the various mediation strategies employed by parents. First, Collier et al. (2016) found that the use of restrictive mediation resulted in a decrease in the time children spent on media and their exposure to inappropriate content; this was not the case for active mediation. However, restrictive mediation had no direct impact on aggression or substance use, while active mediation appeared to be a protective factor against media-related negative effects and to be associated with less aggression. On the other hand, co-viewing resulted in increased aggression and time spent on media.

A year later, in their meta-analysis Coyne et al (2017) showed that both restrictive and active mediation resulted in a reduction of negative media impact, with co-viewing having the opposite effect. Furthermore, they found that when parents use active mediation with young children, this results in positive effects regarding their learning and language exposure as well as media comprehension.

Finally, Chen & Shi (2019) conducted a meta-analysis of 52 related studies published between 1987 and 2016. Their results were as follows: (a) Active mediation strategies function as protective factors against media-related risks, more in Eastern than in Western countries, (b) the use of restrictive mediation can result in a decrease in media use and in media-related risks more so than active mediation can-especially in the use of TV and the internet, but it does not produce the same results for video-games and social media. In addition, this strategy seems to associate with increased media addiction, and (c) co-viewing can also protect children from media risks.

Parental mediation in Greece: Very few studies on parental mediation of digital media have been conducted in Greece despite the extended use of digital technologies by greek families. Kremantala (2018) studied the attitudes and views of 300 parents with children 2.5 to 4 years of age from a city in Southern Greece regarding the use of mobile digital media. All participating families reported that digital devices such as laptops, smartphones, and tablets were quite prominent in their daily life. Parents themselves used these devices for approximately 60 minutes every day and held a positive attitude toward the use of a smartphone or a tablet by their children fro 30 minutes per day. Results indicated that both restrictive and active (didactic) mediation strategies were employed by these parents to ensure their children's safety and at the same time the development of the children' digital

skills which will allow them to use the digital devices on their own in the future. Another study by Kassimidou (2018) produced similar results. 149 parents of preschool-age children from a city in Northern Greece completed a questionnaire. Participating parents showed high levels of both parental support (active mediation) and parental control (restrictive mediation) with the former being slightly higher than the latter, while they used technical controls at a lesser degree. Results also showed no statistically significant differences in the level of parental mediation of the children's use of various digital devices with the exception of the use of restrictive mediation in the use of smartphones. Parents with low levels of restrictive mediation allowed their children to use a smartphone more often on a daily basis that parents with high levels of restrictive mediation did.

Rationale and Objective of the study: In light of the aforementioned literature review, it appears that there is no consensus regarding the popularity and effectiveness of parental mediation strategies, as research produces contradictory results. One possible explanation might be that culture plays a significant role in formulating family practices and parental mediation strategies are no exception. We lack information about the way parents manage their children's media use in the greek context, but even more so about the impact of greek parents' mediation strategies on young children's digital media use. This study aims to provide this information.

Furthermore, parental mediation theory has been formulated based on studies mainly on the use of TV. We need, as Lim (2016) so eloquently phrased it to "adopt a more encompassing approach that captures the high connectivity and persistent media consumption environment that families and young people increasingly inhabit" (p. 38). We require more information about the use (if any) and frequency of parental mediation strategies as well as about the impact these strategies have on children's use of digital media, taking into consideration the characteristics of the new digital devices (portability, constant connection, easy-to-use). In this study, mediation strategies which greek parents adopt to manage the use of various types of digital devices by very young children will be explored.

Finally, there is an extremely limited numbers of related studies on young children below 5, as the vast majority of studies have focused on adolescents and pre-teens. It is, therefore, crucial to fill the gap on how younger children engage with technology (Burns & Gottschalk (2019). Parents often underestimate the influence that media has on children, especially when their children are very young (Clark, 2011), as they often think that very young children make a limited use of digital devices (Chaudron, Beutel, Černikova et al., 2015). Furthermore, parents receive contradictory recommendations from experts and non-experts, which sometimes 'demonize' and sometimes 'idolize' digital technologies (Mavoa, Gibbs, & Carter, 2017). The former are based on studies of passive television viewing, which is considered disastrous, while the latter are offered by experts in education and app development who claim that digital skills are essential for future citizens (Holloway, Green, & Stevenson, 2015). Even the American Pediatrics Society (AAP Council On Communications and Media, 2016)

recently modified its instructions to parents and instead of limiting or even restricting screen media for very young children, parents are encouraged to co-use media with children and adolescents (Connell, Lauricella, & Wartella, 2015). Today parents need solid, evidence-based recommendations on how to manage their young children's media use so that they can lay the foundations of a 'balanced media diet' later when their children begin to use digital media on their own.

To summarize, the objective of this study is to explore: (a) the types of mediation strategies that greek parents of 3 to 5-year-old children employ to manage their children's digital media use, and (b) the impact of parents' use of digital media and parents' mediation strategies on children's digital media use.

Based on the literature review, the following hypotheses are formulated:

Hypothesis 1 (H1): Active mediation, restrictive mediation, and supervision will be the most popular mediation practices used by greek parents.

Hypothesis 2 (H2): Digital media use by parents will be positively related to children's media use.

Hypothesis 3 (H3): Restrictive mediation will result in a decrease in children's media use. There are no conclusive data regarding the other types of parental mediation strategies, so no hypotheses can be formulated.

3   METHOD

Participants: 103 parents with children aged 3-5 from various places in Greece, participated in this study. The vast majority were women (92.2%) between the ages of 31 and 40 (73.8%) who were married (95.1%) and had a higher education degree (75%). Most families were dual-worker families (72%) with one (38.8%) or two children (52.4%).

Instrument: After three pilot studies, the research team developed a questionnaire based on widely-used instruments that were administered after the necessary permissions were obtained by their original developers. The final instrument consisted of four sections:

Section I. Use of Digital Media: It included seven questions that focused on access to and use of media types at home, children's digital media activities, children's skills in media use, and parents' media use as a parenting tool (Nikken & Schols, 2015; Nikolopoulou, Gialamas, & Batsouta, 2010; Common Sense Media, 2013).

Section II. Parents' Views about Children's Use of Digital Media: Two scales are used in this section: Parental Attitudes About Media for Children and Parental Mediation, both developed by Nikken and his colleagues (Nikken & Jansz, 2014; Nikken & Schols, 2015).

Section III. Social-Emotional Skills of Young Children: the Devereux Early Childhood Assessment for Preschoolers-second edition (DECA-P2) to measure children's social-emotional skills (Devereux Foundation, 2006-2012) and an empathy scale, 'Griffith Empathy Measure,' developed by Dadds and his colleagues (2008) were used in this section.

Section IV. Demographic Information: Parents provided the following demographic information: gender, age, type of employment, education, country of birth, marital status, primary language spoken at home, and number and gender of children.

All items and scales used were originally in English (except for two which were in Dutch and translated into English by their developers); these were translated into Greek by two bilingual researchers using both forward and backward translation procedures. The scales had good psychometric properties which appear to match those of the original scales. This paper reports on the results from only a few of these scales: (a) two items from Section I. Use of Digital Media which measured digital media use by children (children use) and by parents (parent use) and (b) the Parental Mediation scale from Section II. Parents' Views about Children's Use of Digital Media which reported on the various mediation strategies employed by parents to manage their children's use of digital media. A detailed description of the different variables that were constructed from these items follows in the Results section of this paper.

Procedure

The questionnaire was administered both online using the Lime surveyTM and as a paper-and-pencil questionnaire between July 2017 and December 2018. For the web-based survey, an invitation was posted through social media, especially in parenting groups and sites. For the paper-and-pencil-based survey, parents were approached through the first researcher's personal contacts with early childhood educators and parents. All participants were informed about the purpose of the study via an information sheet included in both versions of the questionnaire. Their participation was exclusively voluntary.

4   RESULTS

Descriptive statistics: Parents were asked to report on the amount of time their children and themselves spent on digital devices per day as shown in Table 1. Results are reported only for the three mostly-used devices.

Table 1
Use of digital media devices by parents and children

Use of digital devices by children %			
	TV	Computer (desktop or laptop)	Touch screens (smartphones or tablets)
0 hours	6.8	41.7	33.0
Less than an hour	30.1	37.9	35.0
1 hour	26.2	9.7	16.5
2 hours	20.4	3.9	7.8
3-4 hours	10.7	2.9	2.9
5 or more hours	5.8	3.9	4.9

Use of digital devices by parents %			
	TV	Computer (desktop or laptop)	Touch screens (smartphones or tablets)
0 hours	17.5	23.3	8.7
Less than an hour	22.3	30.1	26.2
1 hour	21.4	14.6	25.2
2 hours	22.3	15.5	24.3
3-4 hours	9.7	7.8	12.6
5 or more hours	6.8	8.7	2.9

According to Table 1, more than one third of the children watched TV (36.9%) for more than 2 hours daily, while 1 in 10 children (10.7%) used a computer and 15.6% used a touch screen for more than 2 hours a day, according to their parents. Parents themselves reported that they watched TV (38.8%), used a computer (32%) and a touchscreen (39.8%) for more than 2 hours per day.

Parents also reported on the frequency of the mediation strategies that they used (Table 2). The most popular parental mediation strategy was supervision followed by restrictive mediation. The least popular mediation strategy was technical restrictions.

Table 2
Popularity of parental mediation strategies

Mediation strategies	Mean (SD)
Co-use	2.6* (0.80)
Supervision	4.3 (1.13)
Active mediation	2.94 (1.08)
Restrictive mediation	3.08 (1.15)
Technical restrictions	2.83 (1.49)

* 1= Never to 5= Always

PLS modelling using SmartPLS v.3.3.3 was implemented (Hair et al, 2017; Hair et al, 2018; Ringle, Wende, & Becker, 2015). In PLS, partial regression models are used which allow:

1.   Smaller samples to be used, while classical covariance methods in SEM require large samples.

2.   Regression models almost in all cases converge.

3.   PLS can use both reflective and formative constructs.

4.   In SmartPLS, discriminant validity may be checked through a variety of methods, which include: the Fornell and Larcker criterion, the cross-loadings criterion, and the heterotrait-monotrait ratio of correlations criterion (HTMT).

Initially, seven constructs were used using the items of the questionnaire as indicators. Five of them are reflective in the sense that they reflect the constructs they represent and this is implemented in such a way that arrows to associate constructs with their relative indicators, start from the constructs and head to the indicators. Two constructs, Parent use and Children use, are formed from indicators which measure frequency of use of digital media devices. Because these two constructs are formed by the relative indicators and do not reflect the indicators (as the other constructs do), they are inserted in the model as formative constructs. Here the arrows start from the indicators and head to the constructs. All tests of significance were performed using the Bootstrap method with 5,000 replications.

Reliability and validity

Construct reliability and validity were examined using Cronbach's alpha, rho_A, Composite Reliability, and Average Variance Extracted (AVE). For Cronbach's alpha, rho_A, Composite Reliability the threshold in order for a scale to be considered reliable is 0.70, while for AVE the threshold for a scale to be valid is 0.50.

A first implementation of the method revealed that values of these indexes for Active mediation and Technical mediation constructs are lower than the threshold value of 0.70 and 0.50 respectively, so these two constructs are removed from the

analysis. For Parent use and Children use, three items measuring use of other digital media are reported as being hardly used by both parents and children, so they were not entered in the analysis in the first place. So initially the rest three indicators were used for each construct: use of TV, use of touchscreen devices, and use of computer. Within the formative constructs of use of digital media by parents and use of digital media by children, the use of computer in both had low and non-statistically significant outer loadings. In formative models lack of high values of out loading (being less than 0.50) along with lack of statistical significance in both outer loadings and out weights, make the indicators unsuitable to enter.

After this initial exploration of the properties of the indicators and the constructs within the proposed framework, five constructs were eventually used. Parent use and children use are formatively constructed from two indicators each: the use of touchscreen devices and TV.

Table 3 presents the reliability statistics which are measured for the reflective constructs, as they are produced by SmartPLS. Composite reliability is over 0.70 for all constructs, and AVE is over 0.50 for all constructs. Cronbach's alpha is smaller than 0.70 and rho_A is smaller than 0.70 for restrictive mediation and supervision. But in general, because values that are lower than 0.70 are not so remote from this threshold value on the one hand, and because Composite reliability is well over 0.70 for these constructs on the other, it was decided to keep them and consider them to be reliable measures and valid.

Table 3
Reliability and Validity indexes

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
co-use	0.677	0.739	0.801	0.507
restrictive mediation	0.606	0.606	0.781	0.545
supervision	0.598	0.625	0.830	0.710

Discriminant validity can be verified using three criteria: the Fornell-Larcker criterion (Fornell & Larcker, 1981), the cross-loadings criterion and the heterotrait-monotrait ratio of correlations (HTMT) criterion (Farrell, 2010; Henseler, Ringle, & Sarstedt, 2015). For the Fornell-Larcker criterion the correlation matrix of all the constructs is calculated. For discriminant validity the correlations should be smaller than the square root of AVE for every construct. Table 4 presents the correlation matrix. In this table the diagonal elements are the AVE. All correlations are smaller than the square roots of AVE for the reflective constructs.

Table 4
Fornell-Larcker criterion for validity

	children use	parent use	co-use	restrictive mediation	supervision
parent use	0.616		0.200		
co-use	0.293		**0.712**		
restrictive mediation	0.314	0.148	0.496	**0.738**	
supervision	-0.183	-0.097	0.175	0.213	**0.843**

For the cross-loadings criterion the loadings of the indicators that reflect a construct should be higher than the loadings that these indicators have with any other construct. This should hold for each set of indicators that reflect each construct.

Table 5 presents the loadings. It is clear that the criterion is met.

Table 5
Cross-loading criterion

	co-use	children use	parent use	restrictive mediation	supervision
co-use1	**0.720**	0.212	0.162	0.524	0.235
co-use2	**0.589**	0.112	0.134	0.113	0.136
co-use3	**0.871**	0.281	0.226	0.287	0.054
co-use4	**0.637**	0.183	0.015	0.454	0.115
cu1	0.229	**0.903**	0.573	0.197	-0.236
cu4	0.267	**0.719**	0.415	0.366	-0.017
pu1	0.099	0.563	**0.914**	0.092	-0.139
pu4	0.276	0.295	**0.478**	0.165	0.063
res.med1	0.385	0.290	0.157	**0.745**	-0.102
res.med2	0.383	0.207	0.038	**0.790**	0.285
res.med3	0.316	0.166	0.117	**0.674**	0.452
supervision1	0.208	-0.132	-0.076	0.380	**0.797**
supervision2	0.102	-0.172	-0.087	0.027	**0.886**

For the heterotrait-monotrait ratio of correlations (HTMT) criterion, the average correlations of indicators measuring the same construct relative to the average correlations of indicators across constructs measuring different phenomena, is calculated. When values are less than 0.85 (conservative threshold) or 0.95 are considered to provide evidence of discriminant validity. From Table 6 it is evident that HTMT criterion discriminant validity is evident.

Table 6
HTMT criterion discriminant validity

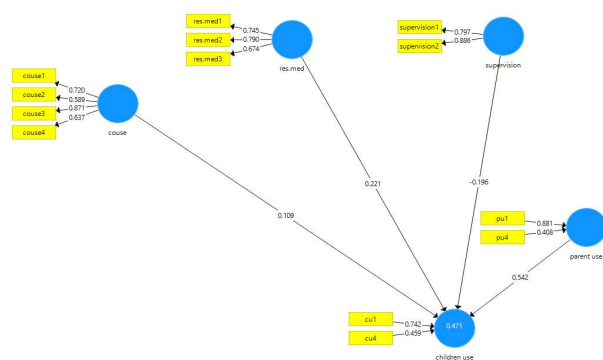|	co-use	restrictive mediation
co-use		
restrictive mediation	0.739	
supervision	0.314	0.693

For the formative constructs, outer weights and outer loadings are presented in Table 7. These are used to ensure that constructs are properly formed by the indicators. Outer weights should have values over 0.5 and if they do not, outer loadings should be high and statistically significant. All outer eights except the weight Pu4 are over 0.50 and they are statistically significant. The loading of Pu4 is 0.478 very close to 0.50. All outer loadings are statistically significant. Overall, formative constructs are properly formed.

Table 7
Outer weights and outer loadings for the formative constructs, parent use and children use

	Outer loadings	
	children use	parent use
cu1	0.903 (p=0.000)	
cu4	0.719 (p=0.000)	
pu1		0.914 (p=0.000)
pu4		0.478 (p=0.001)
	Outer weights	
	children use	parent use
cu1	0.742 (p=0.000)	
cu4	0.459 (p=0.001)	
pu1		0.881 (p=0.000)
pu4		0.408 (p=0.003)

Model evaluation: Figure 1 presents the path diagram that describes the framework of the study. The diagram presents the constructs, the effects on each arrow, and the R2.

Figure 1
Path diagram of the model using the PLS algorithm

Children use is the dependent variable, and Parent use, Couse, Restrictive Mediation, and Supervision are the independent variables. Children use and Parent use are formative variables.

R2 of the regression model is moderate to high, 0.471 (adjusted R2 equals 0.450). Table 8 presents the path coefficients of the constructs.

Table 8
Path coefficients of the model

	Path coefficient	t	p
co-use -> children use	0.109	1.498	0.134
parent use -> children use	0.542	7.382	0.000
restrictive mediation -> children use	0.221	2.563	0.010
supervision -> children use	-0.196	1.969	0.049

Almost all direct effects are statistically significant with the exception of the effect of co-use. Parent use has the largest effect of children use (β=0.542). Restrictive mediation has a positive effect on children use (β=0.221) which is almost of the same magnitude but with reverse direction as the effect of supervision (β=-0.196).

4. DISCUSSION

Digital media has become an integral part of everyday life and transformed family practices because of the continuous presence of digital media and the exponential increase in their use by younger and younger children. Despite the fact that the age of first use is below 2 (Chaudron, Di Gioia & Gemo, 2018), very few studies worldwide have focused on the use of digital media by children below 5. In addition, the framework of parental mediation that is used to understand the strategies that parents employ to manage their children's

use of digital media is limited to evidence based mainly on studies on TV viewing and needs to be refined in regards to the unique characteristics of the new digital media (Internet and touchscreens). This study aimed at exploring on one hand, the types of mediation strategies that parents of preschool-age children (3 to 5) employ to manage their children's digital media use, and on the other hand, the effect of digital media use by parents and parental mediation strategies on children's digital media use in the context of the modern greek family.

Results indicated that both parents and their children aged 3-5 are frequent users of a wide variety of digital media (mostly TV and touchscreens), with almost 1 in 3 parents watching TV and using a computer or a touchscreen (not for work) for more than 2 hours a day and 1 in 3 children watching TV and 1 in 6 children using a computer or a touchscreen for more than 2 hours daily. Time spent on digital media appears to exceed health experts' recommendations (e.g., AAP, 2016) for screen time. These results are in concurrence with the literature on the use of digital media (e.g., Altun, 2019; Kremantala, 2018; OFCOM, 2016; Palaiologou, 2016) and show that greek families with preschool-age children live in media-driven environments, which in turn affects their daily lives and family practices. It should be noted, however, that the reported amount of time spent on digital media, especially in the case of children, is an underestimation of the actual time spent, as quite often parents tend to offer socially acceptable responses to questionnaires. For example, in the greek study by Papadakis, Alexandraki & Zaranis (2021), the majority of the participating parents of preschoolers reported that their children used a smart device some days per week or even every day of the week. Of course, data for the Papadakis et al. (2021) study was collected during the COVID-19 pandemic when there was an excessive use of digital devices (Eales et al., 2021; Pandya & Lodha, 2021), which is not the case for the present study that was conducted pre-pandemic. To manage their children use of digital media, participating parents reported applying a variety of mediation methods. The most popular parental mediation strategies were supervision and restrictive mediation, while technical restrictions proved to be the least popular strategy. These results partially confirmed Hypothesis 1, as active mediation was not among the mediation strategies that parents mostly used. Supervision and restrictive mediation are two methods that correspond to the parental role of gatekeeper. These results are in agreement with the results of other European studies which show that parents in Southern European countries adopt this particular role in order to regulate their young children's digital media use, while Scandinavian parents can be considered more as scaffolders, since they use mostly active mediation (Chaudron et al., 2015). However, the two greek studies (Kassimidou, 2018; Kremantala, 2018) produced some contradictory results, as active mediation was the first method of choice for parents. One possible explanation could be the different scales used to measure parental mediation strategies and the different typology used by the researchers. It has already been mentioned that there is no consensus about a typology of parental mediation (Lopez & Haddon, 2018). Furthermore, the present study looked into the use of various devices, including TV, while the other two greek studies focused on the parental mediation

strategies adopted to manage the Internet and touchscreens, two types of digital media that are more personalized and less easy to impose restrictions.

Young children's digital media use is affected by various contextual factors. In this study results showed that parents' own use of digital media had the most impact on children's use, thus confirming Hypothesis 2. This finding is in agreement with findings from other studies (e.g., Lauricella, Wartella & Rideout, 2015; O' Mara & Laidlaw, 2011; Roberts-Holmes, 2014), indicating that even very young children mimic their parents and older siblings' digital media use in accordance with the social learning theory (Bandura, 1965).

In addition, two of the parental mediation strategies, restrictive mediation and supervision, the most popular among the strategies parents reported using, had an effect on children's digital media use, the former resulting in an increase in the use of digital media by children while the latter in a decrease. Hypothesis 3 was not confirmed as it was expected that restrictive mediation would result in a decrease of children's digital media use. This means that setting rules about where, when, for how long and what to access, and applying consequences when these rules are not followed is not effective in decreasing time spent on digital media by children in contrast to keeping an eye on children as they use the digital media. As it was pointed out before, restrictive mediation seems to produce a forbidden fruit effect (Nathanson, 2001).

Research has shown that the younger and less competent children are in using digital media, the more parents use the strategy of restrictive mediation (Chaudron et al., 2015; Collier et al., 2016; Livingstone et al., 2014; Chen & Shi, 2019), as they believe that this is how they protect their children from danger. However, touchscreens and the way popular websites like YouTube function expose children to a number of risks, including inappropriate content, exposure to dangerous people and automated product purchase processes. Children may also use their parents' or siblings' accounts (especially when the latter are present) and thus be exposed to age-inappropriate content (Dias, Brito et al., 2016; Marsh et al., 2017). Furthermore, it has been found that the more competent parents feel in using digital media, the more they use strategies that "build" their children's digital literacy practices and empower them to develop resilience (Livingstone et al., 2017; Mascheroni et al., 2016). The study of parents' perceived competence in the use of digital media was beyond the scope of this study, but the dominant theme in informal discussions between the researchers and parents and educators of preschool children was the ignorance of the digital media that many parents expressed and their inability to keep up with the development of their children's digital media skills skills.

In general, it appears that parents' habits and practices regarding the use of digital devices, both for personal use and as a parenting tool, are the factor that exerts the greatest influence on young children's digital media use. This means that special attention should be paid at these young ages to parents' digital media habits and practices (Nikken & deHaan, 2015). Parents need clear, concise and practical guidance on how to help young children use digital media, as the increasing interest of children under 8 in social media and the plethora of digital devices available to children make parents anxious. This anxiety leads to a non-systematic use of appropriate mediation strategies by parents, which in turn makes them feel increasingly inadequate and filled with additional stress and guilt (Seo & S. Lee, 2017).

Furthermore, any guidelines and policies to assist parents in this matter should take into account the role that digital devices play in the life and functioning of the modern family. There is research showing that parents may be reluctant to limit children's use of digital devices as this will cause conflicts, which require time and skills that parents feel they do not have in order to deal with them (Bentley, Turner & Jago, 2016). There is a need for more and more systematic large-scale research on both the use of digital media by parents and children, but also on the role of siblings and the perceived competence of parents to use appropriate mediation strategies. In addition, future research should take into account the limitations of the present research regarding the instruments used themselves possibly due to cultural differences. Moreover, these are self-report questionnaires, which places limitations on the honesty of respondents' responses.

In closing, it should be emphasized that the key issue is not whether young children should spend more time in digital or non-digital activities, but how to ensure judicious and balanced use of digital devices by all, children and adults (Guernsey & Levine, 2015 in: Common Sense Media, 2013).

REFERENCES

AAP Council on Communications and Media (2016). Media and Young Minds. Pediatrics, 138(5). https://doi.org/10.1542/peds.2016-2591

Altun, D. (2019). An investigation of preschool children's digital footprints and screen times, and of parents' sharenting and digital parenting roles. International Journal of Eurasia Social Sciences, 10(35), 76-97. ISSN: 2146-1961.

Austin, E.W., Bolls, P., Fujioka, Y., & Engelbertson, J. (1999). How and why parents take on the tube. Journal of Broadcasting & Electronic Media, 43(2), 175-192. DOI: 10.1080/08838159909364483

Bandura, A. (1965). Influence of models' reinforcement contingencies on the acquisition of imitative responses. Journal of Personality and Social Psychology, 1, 589-595. https://doi.org/10.1037/h0022070

Benedetto, L. & Ingrassia, M. (2020). Digital Parenting: Raising and Protecting Children in Media World, Parenting - Studies by an Ecocultural and Transactional Perspective. IntechOpen, DOI: 10.5772/intechopen.92579. Available from: https://www.intechopen.com/chapters/72249

Bentley, G.F., Turner, K.M., & Jago, R. (2016). Mothers' views of their preschool child's screen-viewing behaviour: a qualitative study. BMC Public Health, 16, 718. https://doi.org/10.1186/s12889-016-3440-z

Bovill, M. & Livingstone, S. M. (2001). Bedroom culture and the privatization of media use [online]. London: LSE Research Online. Available at: http://eprints.lse.ac.uk/archive/00000672

Buijzen, M., Rozendaal, E., Moorman, M., & Tanis, M. (2008). Parent Versus Child Reports of Parental Advertising Mediation: Exploring the Meaning of Agreement. Journal of Broadcasting & Electronic Media, 52(4), 509-525. DOI: 10.1080/08838150802437180

Buijzen, M., & Valkenburg, P. M. (2005). Parental mediation of undesired advertising effects. Journal of Broadcasting & Electronic Media, 49, 153–165.

Burns, T. & Gottschalk, F (Eds.) (2019). Educating 21st Century Children: Emotional Well-being in the Digital Age, Educational Research and Innovation. Paris: OECD Publishing. https://doi.org/10.1787/b7f33425-en.

Chaudron, S., Di Gioia, R., & Gemo, M. (2018). Young Children (0-8) and Digital Technology, a Qualitative Study Across Europe. European Union. http://dx.doi.org/10.2760/294383.

Chaudron, S., Beutel, M.E., Černikova, M., Donoso Navarette, V., Dreier, M., Fletcher-Watson, B., Heikkilä, A.-S., Kontríková, V., Korkeamäki, R.-L., Livingstone, S., Marsh, J., Mascheroni, G., Micheli, M., Milesi, D., Müller, K.W., Myllylä-Nygård, T., Niska, M., Olkina, O., Ottovordemgentschenfelde, S., Plowman, L., Ribbens, W., Richardson, J., Schaack, C., Shlyapnikov, V., Šmahel, D., Soldatova, G., & Wölfling, K. (2015). Young children (0–8) and digital technology: A qualitative exploratory study across seven countries. JRC 93239/EUR 27052. Accessed: December 18, 2016 from http://publications.jrc.ec.europa.eu/repository/handle/JRC93239

Chen, L., & Shi, J. (2019). Reducing Harm From Media: A Meta-Analysis of Parental Mediation. Journalism & Mass Communication Quarterly, 96(1), 173–193. https://doi.org/10.1177/1077699018754908

Chiong, C., & Shuler, C. (2010). Learning: Is there an app for that? Investigations of young children's usage and learning with mobile devices and apps. www.joanganzcooneycenter.org. Accessed July 15, 2016 from http://www.joanganzcooneycenter.org/wp-content/uploads/2010/10/learningapps_final_110410.pdf.

Clark, L.S. (2011). Parental mediation theory for the digital age. Communication Theory, 21, 323–343. doi:10.1111/j.1468-2885.2011.01391.x

Collier, K.M, Coyne, S.M, Rasmussen, E.E., Hawkins, A.J., Padilla-Walker, L.M, Erickson, S.E, & Memmott-Elison, Madison K. (2016). Does Parental Mediation of Media Influence Child Outcomes? A Meta-Analysis on Media Time, Aggression, Substance Use, and Sexual Behavior. Faculty Publications. 4021. https://scholarsarchive.byu.edu/facpub/4021

Common Sense Media (2013). Zero to eight: Children's media use in America 2013. Accessed September 25, 2016 from http://www.commonsensemedia.org/file/zero-to-eight-2013pdf-0/download

Connell, S.L., Lauricella, A.R., & Wartella, E. (2015). Parental Co-Use of Media Technology with their Young Children in the USA. Journal of Children and Media, 9(1), 5-21. doi: 10.1080/17482798.2015.997440

Coyne, S.M., Radesky, J., Collier, K.M., Gentile, D.A., Linder, J.R., Nathanson, A.I., et al. (2017). Parenting and digital media. Pediatrics, 140, S112.

Dadds, M., Hunter, K., Hawes, D.J. et al. (2008). A measure of cognitive and affective empathy in children using parent ratings. Child Psychiatry and Human Development, 39(2), 111-122. https://doi.org/10.1007/s10578-007-0075-4

Devereux Foundation. DCRC Resources. 2006-2012. Accessed December 29, 2014 from http://www.centerforresilientchildren.org/home/dcrc-resources/.

Dias, P., Brito, R., Ribbens, W., Daniela, L., Rubene, Z., Dreier, M., … Chaudron, S. (2016). The role of parents in the engagement of young children with digital technologies: Exploring tensions between rights of access and protection, from 'Gatekeepers' to 'Scaffolders.' Global Studies of Childhood, 6(4), 414–427. https://doi.org/10.1177/2043610616676024

Eales, L., Gillespie, S., Alstat, R. A., Ferguson, G. M., & Carlson, S. M. (2021). Children's screen and problematic media use in the United States before and during the COVID-19 pandemic.

Child Development, 00, 1–17. https://doi.org/10.1111/cdev.13652

Eichen, L., Hackl-Wimmer, S., Eglmaier, M. T. W., Lackner, H. K., Paechter, M., Rettenbacher, K., Rominger, C., & Walter-Laager, C. (2021). Families' digital media use: Intentions, rules and activities. British Journal of Educational Technology, 52, 2162–2177. https://doi.org/10.1111/bjet.13161

Farrell, A. M. (2010). Insufficient discriminant validity: A comment on Bove, Pervan, Beatty, and Shiu (2009). Journal of Business Research, 63(3), 324–327. https://doi.org/10.1016/j.jbusres.2009.05.003.

Feld, S. (2012). Foreward. Preschool and Technology: A Balancing Act. In S. Blake, D.L. Winsor & A. Lee (Eds.) Child Development and the Use of Technology: Perspectives, Applications, and Experiences (pp. xiii-xix). Hershey, PA: IGI Global.

Fornell C, Larcker DF. (1981). Evaluating Structural Equation Models with

Unobservable Variables and Measurement Error. Journal of Marketing Research.18(1):39-50. doi:10.1177/002224378101800104.

Fujioka, Y. & Austin, E.W. (2003). The Implications of Vantage Point in Parental Mediation of Television and Child's Attitudes Toward Drinking Alcohol. Journal of Broadcasting & Electronic Media, 47(3), 418-434. DOI: 10.1207/s15506878jobem4703_6

Global Kids Online (2019). Global Kids Online: Comparative Report. UNICEF Office of Research – Innocenti.

Haddon, L. & Vincent, J. (Eds.) (2014). European children and their carers' understanding of use, risks and safety issues relating to convergent mobile media. Report D4.1. Milano: Unicatt.

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). A Primer on Partial

Least Squares Structural Equation Modeling (PLS-SEM). 2nd Edition. Thousand Oaks: Sage.

Hair, J. F., Sarstedt, M., Ringle, C. M., & Gudergan, S. P. (2018). Advanced Issues in Partial Least Squares Structural Equation Modeling. Thousand Oaks: Sage.

Helsper, E.J., Kalmus, V., Hasebrink, U., Sagvari, B., & de Haan, J. (2013). Country classification: opportunities, risks, harm and parental mediation. EU Kids Online, The London School of Economics and Political Science, London. Available at: http://eprints.lse.ac.uk/52023/

Henseler, J., Ringle, C.M. & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. J. of the Acad. Mark. Sci. 43, 115–135. https://doi.org/10.1007/s11747-014-0403-8.

Holloway, D.J., Green, L., & Stevenson, K. (2015). Digitods: Toddlers, Touch Screens and Australian Family Life. M/C Journal, 18(5). ISSN 14412616. Accessed January 5, 2020 from http://journal.media-culture.org.au/index.php/mcjournal/article/view/1024.

Hooft Graafland, J. (2018). New technologies and 21st century children: Recent trends and outcomes. OECD Education Working Papers, No. 179. Paris: OECD Publishing. https://dx.doi.org/10.1787/e071a505-en.

Huston, A. C. & Wright, J. C. (1994). Educating children with television: The forms of the medium. In D. Zillmann, J. Bryant, & A. C. Huston (Eds.), Media, family, and children: Social scientific, psychodynamic, and clinical perspectives (pp. 73–84). Hillsdale, NJ: Erlbaum.

Jago, R., Sebire, S. J., Lucas, P. J., Turner, K. M., Bentley, G. F., Goodred, J. K., Stewart-Brown, S., & Fox, K. R. (2013). Parental modelling, media equipment and screen-viewing among young children: cross-sectional study. BMJ open, 3(4), e002593. https://doi.org/10.1136/bmjopen-2013-002593.

Kassimidou, A. (2018). The Use of New Technologies by Preschool-age Children at Home and the Type of Parent Supervision [in greek]. Unpublished Master's Thesis. University of Makedonia. Accessed May 9, 2021 from:

https://dspace.lib.uom.gr/bitstream/2159/22523/4/KasimidouA nastasiaMsc2018.pdf.

Kaya, I., Mutlu-Bayraktar, D., & Inan-Kaya, G. (2022). Digital Media Use of Preschool-Aged Children During the COVID-19 Pandemic: Parent Perspectives. In M. Haoucha (Ed.), Policies and Procedures for the Implementation of Safe and Healthy Educational Environments: Post-COVID-19 Perspectives (pp. 182-202). IGI Global. https://doi.org/10.4018/978-1-7998-9297-7.ch011

Kodie, J.J. (2020). Parental Mediation of Mobile Media: An Exploratory Study. Unpublished Master's Thesis. Department of Graduate and Professional Studies in Education, California State University, Sacramento. Accessed January 23, 2021 from https://scholarworks.calstate.edu/downloads/x920g2954

Kremantala, (2018). Parents' views on the use of mobile digital devices by children aged 2.5-4 years. Unpublished Master's Thesis. Patras: Hellenic Open University.

Lauricella, A., Wartella, E., & Rideout, V. (2015). Young children's screen time: The complex role of parent and child factors. Journal of Applied Developmental Psychology, 36, 11-17. https://doi.org/10.1016/j.appdev.2014.12.001

Leathers, H., Summers, S. & Desollar, A. (2013). Toddlers on Technology: A Parents' Guide. Illinois: Author House.

Lee, S-J. & Chae, Y-G (2012). Balancing Participation and Risks in Children's Internet Use: The Role of Internet Literacy and Parental Mediation. Cyberpsychology, Behavior, and Social Networking, 15(5), 257-262.http://doi.org/10.1089/cyber.2011.0552

Lim, S.S. (2016). Through the tablet glass: Transcendent parenting in an era of mobile media and cloud computing. Journal of Children and Media, 10(1), 21-29.

Livingstone, S., Haddon, L., Görzig, A., & Ólafsson, K. (2011). Risks and safety on the internet: the perspective of European children: full findings and policy implications from the EU Kids Online survey of 9-16 year olds and their parents in 25 countries. EU Kids Online, Deliverable D4. EU Kids Online Network, London, UK.

Livingstone, S., Helsper, E. (2008). Parental mediation and children's internet use. Journal of Broadcasting & Electronic Media, 52, 581-599.

Livingstone, S., Mascheroni, G., Dreier, M., Chaudron, S., Lagae, K. (2015). How Parents of Young Children Manage Digital Devices at Home: The Role of Income, Education and Parental Style. London: LSE (EU Kids Online).

Livingstone, S., Ólafsson, K., Helsper, E.J., Lupiáñez-Villanueva, F., Veltri, G.A., & Folkvord, F. (2017). Maximizing opportunities and minimizing risks for children online: The role of digital skills in emerging strategies of parental mediation. Journal of Communication, 67, 82-105.

López de Ayala López, M.C. & Haddon, L. (2018). The parental mediation strategies of parents with young children. Media@LSE Working Paper Series, 50, 1-26.

Lusted, C., & Joffe, B. (2018). Parent–Child Interactions around Television and other On-screen Content: Considering Communication and Social Skills. Australasian Journal of Early Childhood, 43(2), 43–52. https://doi.org/10.23965/AJEC.43.2.05

Lwin, M.O., Stanaland, A.J.S., & Miyazaki, A.D. (2008). Protecting children's privacy online: How parental mediation strategies affect website safeguard effectiveness. Journal of Retailing, 84(2), 205–217.

Maccoby, E. E. (2007). Historical Overview of Socialization Research and Theory. In J. E Grusec, & P. D. Hastings (Eds.), Handbook of Socialization: Theory and Research (pp. 13-41). New York: Guilford Press.

Marsh, J., Mascheroni, G., Carrington, V., Árnadóttir, H., Brito, R., Dias, R., Kupiainen, R., & Trueltzsch-Wijnen, C. (2017) The Online and Offline Digital Literacy Practices of Young Children: A Review of the Literature. COST ACTION IS1410. Accessed July 7, 2017 from http://digilitey.eu

Mascheroni, G., Livingstone, S., Dreire, M., & Chaudron, S. (2016). Learning versus play or learning through play? How parents' imaginaries, discourses and practices around ICTs shape children's (digital) literacy practices. Media Education, 7(2), 261-280. https://doi.org/10.14605/MED721606

Mascheroni, G. & Ólafsson, K. (2014). Net Children Go Mobile: Risks and Opportunities. 2nd ed. Milano: Educatt. Available at: http://www.netchildrengomobile.eu/wp-content/uploads/2013/07/DEF_NCGM_SecondEdition_Report.pdf

Mavoa, J., Gibbs, M., & Carter, M. (2017). Constructing the young child media user in Australia: a discourse analysis of Facebook comments, Journal of Children and Media, doi: 10.1080/17482798.2017.1308400

Nathanson, A.I. (2004). Factual and Evaluative Approaches to Modifying Children's Responses to Violent Television. Journal of Communication, 54, 321-336. https://doi.org/10.1111/j.1460-2466.2004.tb02631.x

Nathanson, A. I. (2001). Mediation of children's television viewing: Working toward conceptual clarity and common understanding. In W. B. Gudykunst (Ed.), Communication yearbook 25 (pp. 115–151). Lawrence Erlbaum Associates Publishers.

Nathanson, A. I. (1999). Identifying and Explaining the Relationship Between Parental Mediation and Children's Aggression. Communication Research, 26(2), 124–143. https://doi.org/10.1177/009365099026002002

Nathanson, A. I., Eveland, W. P., Jr., Park, H.-S., & Paul, B. (2002). Perceived media influence and efficacy as predictors of caregivers' protective behaviors. Journal of Broadcasting & Electronic Media, 46(3), 385–410. https://doi.org/10.1207/s15506878jobem4603_5

Nikken, P. (2017). Parental Mediation of Media. In P. Rössler, C.A. Hoffner and L. Zoonen (Eds.), The International Encyclopedia of Media Effects. https://doi.org/10.1002/9781118783764.wbieme0204

Nikken, P., & de Haan, J. (2015). Guiding young children's internet use at home: Problems that parents experience in their parental mediation and the need for parenting support. Cyberpsychology: Journal of Psychosocial Research on Cyberspace 9(1), article 3. doi:10.5817/CP2015-1-3

Nikken, P. & Jansz, J. (2014). Developing scales to measure parental mediation of young children's internet use. Learning, Media and Technology, 39(2), 250-266. 10.1080/17439884.2013.782038

Nikken, P., & Jansz, J. (2006). Parental mediation of children's videogame playing: A comparison of the reports by parents and children. Learning, Media and Technology, 31(2), 181–202. https://doi.org/10.1080/17439880600756803

Nikken, P., & Schols, M. (2015). How and why parents guide the media use of young children. Journal of Child and Family Studies, 24(11), 3423-3435. http://dx.doi.org/10.1007/s10826-015-0144-4

Nikolopoulou, K., Gialamas, V., & Batsouta, M. (2010). Young children's access to and use of ICT at home. Review of Science, Mathematics and ICT Education, 4(1), 25-40.

OFCOM (2016). Children and Parents: Media Use and Attitudes Report. Accessed December 18, 2016 from https://www.ofcom.org.uk/research-and-data/media-literacyresearch/children/children-parents-nov16!

O'Mara, J., & Laidlaw, L. (2011). Living in the iWorld: Two literacy researchers reflect on the changing texts and literacy practices of childhood. English Teaching-Practice and Critique, 10(4), 149-159.

Palaiologou, I. (2016) Children under five and digital technologies: Implications for early years pedagogy. European Early Childhood Education Research Journal, 24(1), 5-24. https://doi.org/10.1080/1350293X.2014.929876

Padilla-Walker, L.M., Carlo, G., Christensen, K.J., & Yorgason, J.B. (2012). Bidirectional Relations Between Authoritative Parenting and Adolescents' Prosocial Behaviors. Journal of

Research on Adolescence, 22, 400-408. https://doi.org/10.1111/j.1532-7795.2012.00807.x

Pandya, A. & Lodha, P. (2021). Social Connectedness, Excessive Screen Time During COVID-19 and Mental Health: A Review of Current Evidence. Frontiers in Human Dynamics, 3, 684137. doi: 10.3389/fhumd.2021.684137

Papadakis, S., Alexandraki, F. & Zaranis, N. (2022). Correction to: Mobile device use among preschool-aged children in Greece. Education and Information Technology, 27, 7375. https://doi.org/10.1007/s10639-021-10766-y

Piotrowski, J.T. (2017). The Parental Media Mediation Context of Young Children's Media Use. In: R. Barr and D. Linebarger (Eds.), Media Exposure During Infancy and Early Childhood. Springer, Cham. https://doi.org/10.1007/978-3-319-45102-2_13

Ringle, C. M., Wende, S., and Becker, J.-M. (2015). SmartPLS 3. Boenningstedt: SmartPLS GmbH, http://www.smartpls.com.

Roberts-Holmes, G. (2014). Playful and creative ICT pedagogical framing: A nursery school case study. Early Child Development and Care, 184(1), 1-14. https://doi.org/10.1080/030044302013.772991

Seo, H., & S. Lee, C. (2017). Emotion Matters: What Happens Between Young Children and Parents in a Touchscreen World. International Journal of Communication, 11, 561–580. https://doi.org/1932–8036/20170005

Shin, W., & Huh, J. (2011). Parental mediation of teenagers' video game playing: Antecedents and consequences. New Media & Society, 13(60), 945-962.

Shin, W., & Ismail, N. (2014). Exploring the role of parents and peers in young adolescents' risktaking on social networking sites. Cyberpsychology, Behavior, and Social Networking, 17(9), 578-583.

Shin, W., & Kang, H. (2016). Adolescents' privacy concerns and information disclosure online: The role of parents and the Internet. Computers in Human Behavior, 54, 114-123.

Shin, W., & Li, B. (2017). Parental mediation of children's digital technology use in Singapore. Journal of Children and Media, 11(1), 1-19.

Sonck, N., Nikken, P., & deHaan, J. (2013). Determinants of Internet Mediation: A comparison of the reports by Dutch parents and children. Journal of Children and Media, 7(1), 96-113. DOI: 10.1080/17482798.2012.739806

Valkenburg, P.M., Krcmar, M., Peeters, A.L., & Marseille, N.M. (1999). Developing a scale to assess three styles of television mediation: "Instructive mediation," "restrictive mediation," and "social coviewing". Journal of Broadcasting & Electronic Media, 43(1), 52-66. DOI: 10.1080/08838159909364474

van der Voort, T. H., Nikken, P., & Van Lil, J. E. (1992). Determinants of parental guidance of children's television viewing: A Dutch replication study. Journal of Broadcasting & Electronic Media, 36(1), 61–74. https://doi.org/10.1080/08838159209364154

Wang, X., Li, Y., & Fan, H. (2019). The associations between screen time-based sedentary behavior and depression: a systematic review and meta-analysis. BMC Public Health, 19(1), 1–9. https://doi.org/10.1186/s12889-019-7904-9

Wartella, E., Rideout, V., Lauricella, A.R., & Connell, S.L. (2014). Parenting in the age of digital technology: A national survey (Revised) Evanston, IL: Center on Media and Human Development, Northwestern University; 2014. (Accessed November 9, 2016 from http://cmhd.northwestern.edu/wp-content/uploads/2015/06/ParentingAgeDigitalTechnology.REVISED.FINAL_2014.pdf.

Zaman, B., Nouwen, M., Vanattenhoven, J., de Ferrerre, E., & Van Looy, J. (2016). A Qualitative Inquiry into the Contextualized Parental Mediation Practices of Young Children's Digital Media Use at Home. Journal of Broadcasting and Electronic Media, 60(1), 1-22.