

Parental mediation and digital skills of adolescents in the Community of Madrid: skills and performance

Mediación parental y habilidades digitales de los adolescentes de la Comunidad de Madrid: competencias y desempeño

María Cruz López-de-Ayala. Universidad Rey Juan Carlos. Spain.

mariacruz.lopezdeayala@urjc.es

[CV]     

Cristina Ponte. Universidade NOVA de Lisboa. Portugal.

cristina.ponte@fsh.unl.pt

[CV]    

Rebeca Martín-Nieto. Universidad Rey Juan Carlos. Spain.

rebeca.martin@urjc.es

[CV]    

New Scenarios of Digital Vulnerability: Media Literacy for an Inclusive Society Program PROVULDIG2-CM (H2019/HUM-5775) and the national project "Social networks, adolescents and youth: media convergence and digital culture" (CSO2016-74980-C2-2-R).

The English translation of the manuscript was funded by FCT - Foundation for Science and Technology (Portugal) under project Ref: UIDB / 05021/2020.

How to cite this article / Standard reference

López-de-Ayala, M.C., Ponte, C., Martín-Nieto, R. (2021). Parental mediation and digital skills of adolescents in the Community of Madrid: skills and performance. *Revista Latina de Comunicación Social*, 79, 111-132. <https://www.doi.org/10.4185/RLCS-2021-1523>

ABSTRACT

Introduction: A positive use of the internet and social media, taking advantage of its opportunities and coping with its dangers, requires digital skills. Parental mediation is considered a critical factor for children and adolescents to acquire digital knowledge and skills, performing them in daily behavior. **Methodology:** Controlling variables such as sex, age, time of use, and age of initiation in social networks, this article examines the relationship between different forms of parental mediation reported by Spanish adolescents, on the one hand, and their digital skills and performance, on the other. Using data from a survey of a representative sample of 524 pupils from 1st to 4th year of Compulsory Secondary Education (from 12 to 16 years) in the Autonomous Region of Madrid (Spain). **Results:** We found that both restrictive mediation and active mediation oriented towards safety and well-being impact the online skills of adolescents, albeit weakly: restrictive mediation limits the development of digital skills, while forms of active mediation strengthen those skills. However, age and time of use influence more their implementation. **Conclusions:** The results

suggest that, for adolescents' digital performance, either restrictive parental practices or parental practices warning about risks and advising good online uses are not more relevant than factors related to age and experience of use.

KEYWORDS

Parental mediation; digital skills; digital performance; digital knowledge; adolescents; Internet; social networks.

RESUMEN

Introducción: Un uso positivo de internet y de los medios sociales, aprovechando sus oportunidades o afrontando sus peligros, requiere de habilidades digitales. La mediación parental es considerada un factor crítico para que los adolescentes adquieran estos conocimientos y habilidades digitales, adoptándolos en su comportamiento cotidiano. **Metodología:** A partir de los datos de una encuesta a una muestra representativa de 524 alumnos matriculados en Educación Secundaria Obligatoria (12-16 años) de la Comunidad de Madrid (España) y aplicando análisis de regresión lineal jerárquica por pasos, este artículo examina las relaciones entre las diferentes formas de mediación parental reportadas por los adolescentes, por un lado, y sus competencias digitales y desempeño, por otro. **Resultados:** El análisis mostró que tanto la mediación parental restrictiva como la mediación parental orientada hacia el bienestar de los menores impactan, aunque débilmente, en las competencias online de los adolescentes: La primera limita el desarrollo de competencias digitales, mientras que la segunda las favorece. Sin embargo, la edad y el tiempo de uso influyen más en la puesta en práctica de competencias digitales. El co-uso guiado por los padres no se manifiesta como una práctica autónoma de la mediación para asegurar el bienestar, ni parece tener impacto sobre competencias y desempeño digital. **Conclusiones:** Los resultados sugieren que las prácticas parentales restrictivas y las prácticas familiares orientadas a advertir y aconsejar a los menores sobre los riesgos y buenos usos online no son más relevantes que los factores relacionados con la edad y la experiencia de uso en el desempeño digital.

PALABRAS CLAVE

Mediación parental; habilidades digitales; desempeño digital; conocimiento digital; adolescentes; Internet; redes sociales.

CONTENT

1. Introduction. 2. Objectives. 3. Methodology. 4. Results. 5. Discussion. 6. Conclusions. 7. References 8. Curriculum Vitae

Translation by **Paula González** (Universidad Católica Andrés Bello, Venezuela)

1. Introduction and literature review

1.1. Digital skills: uses and risks

The relationship of adolescents with the Internet and digital technologies is a field that has attracted the attention of researchers, who have been particularly interested in the risks and possible vulnerabilities to which minors may be exposed. Likewise, it has been researched what factors condition this exposure and how to face these situations, with parental mediation gaining prominence. In Spain, data on digital use support this interest: 94.5% of adolescents between 12 and 15 years old regularly access the Internet (INE, 2020); 71.5% between 12 and 13 years old use social

networks, 78% of them with their own profile (AIMC, 2018); Between 14 and 16 years of age, the percentage with their own profile on social networks amounts to 92% (Ballesteros and Picazo, 2018).

The spread of mobile devices has led to a qualitative leap in this online use, significantly advancing the age of access (Garmendia et al., 2016), and subsequently deriving it towards social networks and instant messaging (Pastor-Ruiz et al., 2019). The early and habitual consumption of connected devices does not imply that users know how to function adequately online (Livingstone et al., 2011), although they expose themselves to more risks as their exposure increases (Ólafsson et al., 2013) and make more private use away from the supervision of parents or teachers.

To make positive use of the Internet, avoiding or adequately facing its dangers, and taking advantage of the benefits it offers, certain skills are required to facilitate participation and safe use of the Internet (Rodríguez-de-Dios and Igartua, 2016; Festl, 2020), with media and digital literacy gaining relevance. Leung and Lee (2012) argue that adolescents with greater digital literacy perceive that they are more prepared to avoid the risks of the Internet. Jeong et al. (2012) confirm that media literacy interventions reduce risky or antisocial behaviors and increase self-efficacy to avoid them. Boyd and Hargittai (2010) have verified its correlation with the configuration and management of online privacy. Other studies, however, do not find a relationship between digital skills and risks (Cabello-Hutt et al., 2017) or show a positive relationship between both (Rodríguez-de-Dios et al., 2018).

A recent systematic review of 110 studies published in English in the last ten years, using quantitative methods and directly related to the digital skills of 12 to 17-year-olds, presents strong evidence that children's digital skills improve with age, although it is questioned whether it is due to the development of cognitive and social skills or accumulated experience; Although gender differences are inconsistent, there is a positive correlation between the child's academic performance and their digital skills; children with positive attitudes towards ICT have higher digital skills (Haddon et al., 2020). Besides noting the lack of consensus regarding the definition of digital skills, the report also underscores the need to distinguish “demonstrated or claimed digital skills from digital self-efficacy” (Haddon et al., 2020: 5): whereas the former is revealed through performance tests or self-report surveys that ask direct and factual questions, the latter are subject to desirability biases.

On the other hand, it is also convenient to differentiate between digital competencies and performance, since the knowledge and technical skills that allow better management of digital resources can be acquired, but not for different reasons. Although digital competence and performance are clearly linked, the former being the basis of the latter, Trultsch-Wijnen (2020) emphasizes that the transfer from one to the other does not happen directly, but rather that there are various individual and environmental factors that shape this relationship.

Taking into account the competencies and performances reported by adolescents, this study aims to examine the influence of mediation modalities on digital skills.

1.2. Parental mediation and digital skills

Parental mediation can be understood as the parents' management of their children's relationship with the media (Livingstone and Helsper, 2008), including parent-child interactions (Sasson and Mesch, 2019) to control, supervise, and interpret the content of the media.

The literature on online parental mediation was based on the classification used with television, which distinguishes three strategies: restrictive, active/instructive/evaluative, and co-use (Valkenburg et al., 1999). The first refers to rules and prohibitions regarding time and access to content, the second is linked to the discussion of content, and the third involves joint use without discussion. However, in its application to the Internet, it was valued that digital media does not favor shared use without discussion (Livingstone and Helsper, 2008), and either co-use is obviated or is included in active mediation as a unique strategy (Troseth, et al., 2016).

In this sense, active mediation is understood, mainly, as the dialogue of parents with their children about risks and digital uses, offering them advice and guidance (Sonck et al., 2013). However, it is reasonable to think that warning children of online risks does not always imply dialogue and can have very different effects than joint learning.

While some studies explore the effectiveness of parental mediation seeking a simplification of strategies (see Symons et al, 2017), active mediation proposals continue to appear (see Zaman et al., 2016; Glatz et al., 2018) that may result more effective. It is worth highlighting participatory learning, which involves the interaction and joint learning of parents and children through digital technologies (Clark, 2011), or requests for parental support initiated by children (Livingstone et al., 2017).

However, we must not lose sight of the influence of the age and gender of minors on parental performance. Eastin et al. (2006) concluded that parents spend more time and establish more restrictions with their male and younger children; Bartau et al. (2020) detect a tendency to combine different mediation strategies with older children, without adhering to a specific one, and a greater active mediation of male parents with their daughters.

Although some longitudinal studies examine the variations in parental mediation according to the age of the minors, the existing studies suggest that before pre-adolescence, supervision and co-use are mainly applied (Eastin et al., 2006), progressively orienting themselves towards active and restrictive mediation (Nikken and Schols, 2015; Beyens et al., 2019); later, parental intervention relaxes among mature adolescents (Sonck et al., 2013; Chen and Chng, 2016; Glatz et al., 2018, Ponte and Batista, 2020), when resistance to parental supervision increases and control tasks become complicated (Livingstone et al., 2017).

Other studies have explored variables related to the age of the minors, such as the parental perception of the level of use that their children make of the Internet (Nikken and Schols, 2015), of their online skills and competencies (Livingstone et al., 2017), self-control (Li et al, 2019), or children's reactions (Haddon, 2015).

International studies have shown how parental mediation is also shaped by the sociocultural context. The recent EU Kids Online report shows that Spanish parents are more inclined to suggest ways for their children to use the Internet safely (65%) and help them when something bothers them (55%) than to encourage them to explore and learn things with the Internet (47%), where they are well below the average for all European countries (Smahel et al., 2020). In other words, we are faced with a culture of protection, especially with girls (Martínez et al., 2020), instead of training for skills and performance.

Parental intervention has been shown to affect online risks and opportunities (Smahel et al., 2020). Restrictive mediation reduces the online activity of minors, limiting online risks and opportunities (Duerager and Livingstone, 2012). This strategy reduces its effectiveness with advancing

adolescence because it can be understood as an intrusion into privacy and a lack of trust (Erickson et al., 2016). Empirical studies show less consistent results of the effects of active mediation on risks (Soh et al., 2018; Bartau et al., 2018).

Although parents are attributed the responsibility of keeping their children safe in their relationship with the media, it is often overlooked that parents can also guide their children in their online exploration and improve their digital literacy (Sánchez-Valle et al., 2017). This is especially so if we take into account that the incorporation of parents into the digital world and social media means that they are becoming more digitally trained mediators to support and promote their children's digital skills (López-de-Ayala et al., 2019). However, few studies have examined the effect of this intervention on the digital skills of minors (Rodríguez-de-Dios et al., 2018) and the results are not conclusive.

The few studies that analyze how parental mediation influences the digital skills of their children (Rodríguez-de-Dios et al., 2018) conclude that restrictive mediation reduces the abilities of minors (Sánchez-Valle et al., 2017; Glüer and Lohaus, 2018; Rodríguez-de-Dios et al., 2018). Erickson et al. (2016) add that restrictions on online interactions in adolescents (13-17 years old) may limit the opportunity to develop skills to face and solve problems. However, the results regarding active mediation are not conclusive. Recently, Livingstone et al. (2017) point out that the enabling mediation strategy is used to a greater extent by parents and younger children with more digital skills; this is a strategy in which the active mediation of Internet use and safety has a strong weight, but also with an important component of technical control and supervision. Cabello-Hutt et al. (2017) found a positive but weak association between active mediation and digital skills in children aged 9 to 17 years, and Rodríguez-de-Dios et al. (2018) found no link between the two in Spanish high school students (12-18 years old). The review of international research shows that enabling mediation is associated with better digital skills, although some studies find no relationship (Haddon et al., 2020: 6).

Therefore, more studies are required to clarify the relationship between digital skills and forms of parental mediation, taking into account the new proposals for active mediation and factors such as accumulated online experience or the development of responsibilities in adolescence, as a phase of life that includes the task of achieving emotional independence from parents and other adults (Havighurst, 1972). More specifically, our objective is to test the explanatory nature of the joint use of social networks guided by parents, as an emerging (López de Ayala et al., 2019) and differentiated practice of active mediation that is based exclusively on dialogue, to provide minors with skills that allow them to face various situations, some conflictive, on these platforms.

2. Objectives

According to the above, this work analyzes the influence of parental mediation on the acquisition of digital skills in adolescents, distinguishing between three forms of active mediation (ensuring well-being; co-use oriented to parent-guided learning; and mediation requested by the children) and restrictive mediation. From this general objective, the following objectives are derived:

1. Identify the demographic and digital use characteristics that influence the types of mediation.
2. Analyze how the different types of active mediation and restrictive mediation influence the competencies and digital performance of minors.
3. Identify if parent-guided co-use constitutes a differentiated practice of mediation, to ensure well-being based on dialogue; examining whether the first and child-initiated mediation influence digital skills and performance.

3. Methodology

3.1. Sample

The analyzed data comes from a survey of a representative sample of 524 students enrolled in Compulsory Secondary Education in the Community of Madrid, one of the seventeen autonomous communities that make up the Spanish State and which is home to the capital of Spain. Its estimated population as of January 1st, 2019 is 6,641,648 inhabitants (14.15% of the population residing in Spain) (INE, 2020). A multistage stratified sampling was used (ownership of the center -public, private, or subsidized-, and Madrid capital and the rest of the municipalities) by conglomerates (educational centers). In the first stage, 16 educational centers were randomly selected and, in the second stage, classrooms were selected. The questionnaires were administered in the centers, using the computer-assisted personal interview system. Previously, the authorization of the educational centers and the informed consent of parents (<14 years) and staff (equal or older than 14 years) had been obtained, after informing them of the characteristics of the research. The fieldwork was carried out between October 24th to December 19th, 2019. After eliminating those over 16 years of age (7 cases), the final sample was 517 (A age = 13.53, SD = 1.19). 48.6% were girls. The distribution by grade was 27% from 1st year, 27% from 2nd year, 25% from 3rd year, and 21% from 4th year of Compulsory Secondary Education. Finally, 33% of the students came from public centers, 44% from subsidized centers, and 23% from private centers.

12% of adolescents said they do not use social networks, compared to 28% who do it continuously, 25% who do it every day, and 21% for a while every day; the rest do it 3-4 days a week (5%), once a week (3%), or less frequently (5%). Finally, 50% of the interviewees started on social networks at 11/12 years old; 27% did so with more than 12 years of age; 16%, at 9/10 years old; 4.4, at 7/8 years old; and only 2% did so before the age of 7.

3.2. Measuring instruments

The analyzed variables were: grade (1st to 4th year of Compulsory Secondary Education) (which is used as an indicator of age), gender (1=man and 2=woman), time of use of social networks (I do not use it-continuously; 1-7), age of initiation in social networks (before the age of 7-over the age of 12, 1-5), digital skills (skills and performance), as well as parental mediation strategies.

Online skills were analyzed with their own scale that incorporated a double dimension of knowledge and application, asking to what extent they knew and carried out actions such as "Block access of a person who I do not like on social networks", "Change privacy settings in the social network", "Clear the history in the browser", "Block unwanted content", "Distinguish a secure page on the internet", "Add a page to favorites", "Browse incognito or private", "Put or change the access password of the mobile phone/Smartphone", "Install apps", and "Report online abuse". The response options were: "I do it frequently", "I do it sometimes", "I know how to do it, but I have never done it", "I don't know how to do it", and "I don't know what it is/I don't understand it".

The responses were recoded into dummy variables, separating digital competencies (I know how to do it=1; I don't know how to do it=0) and performance (I have never done it=0; I do it sometimes=1), and the results were added for each variable: digital skills (range 1-10; A=8.07 SD=2.55; Cronbach's alpha= .857, N=517) and digital performance (range 1-10; A=5.87 SD=2.57; Cronbach's alpha= .758, N=517).

The items for the identification of parental mediation strategies are based on an adaptation of the classifications of Livingstone et al. (2011 and 2017) of the analysis of social networks and in the

results of a qualitative study with interviews with parents by López-de-Ayala et al. (2019). Parental mediation to ensure well-being was measured with the items: "They warn you of the dangers of social networks"; "They tell you what to do if something or someone bothers you"; "They give you advice on how to behave." Parent-guided co-use with: "You see or do things together"; "They teach you to use some apps and services and give you advice on how to use them"; "They talk to you while you learn to do things together." The response scales for these items range from 1 to 5: from "never" to "continuously". The parental mediation requested by children included the items: "When something happens to me that bothers me on social networks, I tell my parents or ask for their help"; "I often ask my parents questions about the information or content that I can upload to social networks"; and "I ask my parents for help to use apps or services." The answer possibilities include four options ranging from "does not apply to my case" to "fully applies to my case"). Restrictive mediation was calculated by adding the number of parental prohibitions related to the use of social networks reported by the interviewees, and which include: "Being online too long"; "Talking to strangers"; "Having a profile on any social network"; "Having a profile on some social networks"; "Posting personal photos or videos"; and "Giving personal information". The four scales reached Cronbach's Alpha levels ranging from 0.76 to 0.82; indicating an adequate internal consistency (these results can be consulted in section 3.1. and table 3).

3.3. Data analysis

The data has been analyzed with the SPSS statistical program (v.26), and the level of statistical validity has been established for $p < .05$ ($p < .01$ ** and $p < .05$ *).

The use of different parental mediation strategies for the digital use of adolescents was described by percentages. Next, to confirm the structural validity of the parental mediation scale relative to active mediation styles, exploratory factor analysis was carried out, forcing three dimensions or factors according to the theory (Table 3). The objective was to verify the validity and reliability of the scale in its application to students in the Community of Madrid, identifying to what extent parent-guided co-use can be identified as an independent strategy of active mediation, specifically, of parental mediation to ensure well-being.

The statistical test to study the differences by gender and grade, as well as by the time of use and age of initiation in social networks, of the different forms of active mediation was MANOVA, which allows the assessment of these differences when the dependent variables are related, limiting the type I error, and which has proven to be a robust test against non-compliance with the parametric assumptions (Bisquerra, 1989). And this is because the variables mediation to ensure well-being, parent-guided co-use, and mediation requested by children maintain a certain degree of correlation between them (.646** for the first and second, .503** for the second and third, and .431** for the first and third).

The MANOVA results, which indicate whether there are significant differences for each analyzed variable when the different mediation modalities are taken together, are reported at the bottom of Tables 2 and 3. These data include the F value (which indicates the discriminant power of that variable) and its statistic to test the null hypothesis of equality, knowing that the higher the value of the F and the lower its significance, the more likely there are significant differences between the groups that make up the categories of that variable. Furthermore, the Wilks lambda (λ Wilks) is included, which assesses the statistical significance of the multivariate differences between the groups, and the effect's size with partial eta squared (partial η^2).

Subsequently, univariate ANOVA tests were applied, with Bonferroni post-hoc tests for each dependent variable, which were evaluated at an alpha level of .025. The data related to these tests are reported in the statistics section inside the tables in reference to each variable.

To study the differences in restrictive mediation by gender, the Student's t statistic (t-test) or Welch's test was used, depending on whether or not the variances were equal, calculating Cohen's d (d) to indicate the size of the effect (<0.20=very small; 0.20-0.50=small; 0.50-0.80=medium; >0.80=strong) (Cohen, 1988); Spearman's correlation coefficient (rs) has been used with the grade, time of use, and age of initiation in social networks, which also indicates the direction and size of the effect.

To know the influence of parental mediation on skills and performance, hierarchical linear regression analysis was applied by steps, and predictor variables related to forms of parental mediation were included; as well as two additional blocks with sociodemographic variables (grade and gender), and about the experience of adolescents with social networks (time of use and age of initiation).

The stepwise regression model performs a continuous reevaluation of the predictors included in the model, eliminating those regressors that are explained by the rest (because they lack their own specific contribution), and avoids problems of collinearity with the excluded variables.

4. Results

4.1. Parental mediation: prevalence and exploratory factor analysis

The most common practices reported by adolescents correspond to parental mediation to ensure well-being, with percentages higher than 44% of those surveyed indicating that their parents perform them continuously or quite often. While parent-guided co-use practices are all below this proportion, with around 29% of adolescents reporting that their parents teach them to use apps and services and give them practical advice on how to use them and/or talk to them as they learn to do things together with that frequency (table 1).

Table 1. *Adolescents reporting parental mediation to ensure well-being and parent-guided co-use (in horizontal percentages)*

	Continuously	Quite often	Sometimes	Rarely	Never
Parental mediation to ensure well-being					
1. They warn you of the dangers of social networks	35,5	28,7	21,6	4,6	9,5
2. They tell you what to do if something or someone bothers you	22,3	22,4	25,9	12,7	16,7
3. They give you advice on how to behave	28,3	27,6	17,8	11,1	15,3
Parent-guided co-use					
1. You see or do things together	19	23,8	28,6	13,7	15
2. They teach you how to use some apps and services and give you tips on how to use them	12,9	15,7	23,1	18,7	29,6
3. They talk to you while you learn to do things together on the internet	10,7	18,4	24,9	20,7	25,3

Source: Self-made

In the parental mediation requested by children (table 2), 44% of adolescents admit that turning to their parents when something bothers them on social networks can be fully or fairly applied to their situation, and about a third say so for inquiries about what to upload to social networks or request their help to use apps or services.

Table 2. Parental mediation requested by children informed by the adolescents. In horizontal percentages

	It fully applies to my case	It fairly applies to my case	It applies to my case a bit	It does not apply to my case
Parental mediation requested by the children				
1. When something that bothers me happens to me on social media, I tell my parents or ask for advice	21,1	23,1	23,2	32,7
2. I often ask my parents questions about the information or content that I can upload to social networks	15,7	19,6	23,4	41,3
3. I ask my parents for help to use apps or services	14,7	17,7	29,7	37,9

Source: Self-made

Regarding restrictive mediation, around two-thirds indicate that their parents forbid them to speak with strangers (65%) or give personal information (62%). Something less common is that they are prohibited from being online for too long (58%), followed at a great distance by posting personal photos or videos (38%); and less than a quarter indicate that they are prohibited from having a profile on some social networks (24%) or any social network (21%).

The exploratory factor analysis with three dimensions (table 3) resulted in the following factors: parental mediation to ensure well-being (F2= items 1, 2, and 3), parent-guided co-use (F3= items 4, 5, and 6), and mediation requested by children (F1= items 7, 8, and 9). The eigenvalue of parent-guided co-use is less than 1, which indicates that this strategy continues to be associated to some extent with mediation to ensure well-being and that it is routinely recorded in the literature as active mediation. However, this three-factor classification was maintained to test the extent to which parent-guided co-use could be favoring the development of digital skills in minors.

Table 3. Exploratory factor analysis of active mediation modalities, and average and standard deviation of each item

	Average	SD	Mediation to ensure well-being	Mediation requested by children	Parent-guided co-use
1. They warn you of the dangers of social networks	3,76	1,25	,780		
2. They tell you what to do if something or someone bothers you	3,21	1,37	,788		
3. They give you advice on how to behave	3,42	1,40	,779		
4. You see or do things together	3,18	1,31			,775
5. They teach you how to use apps/services and give you advice	2,64	1,38			,619
6. They talk to you while you learn to do things together	2,68	1,32			,789
7. When something bothers me, I tell my parents or ask for their advice.	2,33	1,14		,796	
8. I often ask my parents questions about the information/content that I can upload	2,10	1,11		,863	

9. I ask my parents for help to use apps or services	2,09	1,07		,790	
Eigenvalues			4,358	1,322	,773
Explained variance			24,94	24,82	21,94
Range			1-5	1-4	1-5
Average			3,47	2,17	2,68
SD			1,14	0,95	3,28
Cronbach's alpha			,804	,819	,755

Extraction method: main component analysis. Rotation method: Varimax with Kaiser normalization. The solution converged in 5 iterations and explains 71.7% of the explained variance. Significant Bartlett's sphericity test (1928,152; $gl=36$, Sig.=.000), and indicator of the adequacy of the adequate Kaiser-Meyer-Olkin sample size (.873).

Source: Self-made

4.2. Personal factors and online experience associated with mediation strategies

Analyses of each parental mediation strategy showed that age matters more than gender (see Table 4). Girls report greater initiative than boys in requesting parental mediation and experience greater restrictive mediation, but the effect is small. On the other hand, students in lower grades state that they request more parental mediation and experience more restrictive mediation: both decreases as the grade progresses, although the effect is stronger in restrictive mediation. In fact, the restrictive mediation indicators in the fourth grade, with older adolescents, are approximately half of the values in the first grade. No significant differences are observed in the rest of the forms of active mediation based on the analyzed variables.

Table 4. Parental mediation strategies according to gender and grade

	Mediation to ensure well-being	Parent-guided co-use	Mediation requested by children	Restrictive mediation
Gender				
Man	A=3,36, SD=1,17	A=2,77, SD=1,09	A=2,03**, SD=0,93	A=2,42**, SD=1,89
Woman	A=3,58, SD=1,09	A=2,90, SD=1,09	A=2,32**, SD=0,94	A=2,96**, SD=1,94
Statistical	ANOVA: F(1,54)=4,123, $p=,043$, partial $\eta^2=0.008$	ANOVA: F(1,54)=,439, $p=,508$, partial $\eta^2=0.001$	ANOVA: F(1,54)=11,743, $p<,01$, partial $\eta^2=0.022$	t(515)=-3,16, $p<,001$, $d=-0,28$
Grade				
1°	A=3,48 SD=1,14	A=2,89, SD=1,11	A=2,38, SD=0,99	A=3,69**, SD=1,70
2°	A=3,51 SD=1,17	A=2,91, SD=1,13	A=2,67**, SD=1,00	A=2,73**, SD=1,80
3°	A=3,52, SD=1,16	A=2,74, SD=1,10	A=2,10**, SD=0,82	A=2,22**, SD=2,01
4°	A=3,33, SD=1,07	A=2,78, SD=1,02	A=1,86**, SD=0,88	A=1,86**, SD=1,68
Statistical	F(3,53)=-,188, $p=,905$, partial $\eta^2=0.001$	F(3,53)=-,987, $p=,399$, partial $\eta^2=0.006$	F(3,53)=6.348, $p<,001$, partial $\eta^2=0.035$	$r_s=-0.346$, $p<,001$

Notes. **significant difference for $p<.01$ and *for $p<.05$. MANOVA (mediation to ensure well-being, parent-guided co-use, and mediation requested by children) for gender, F (3,524)=5,183, $p<.01$; λ Wilks=0.971, partial $\eta^2=0.029$; and grade: F (9,16)=3.122, $p<.01$; λ Wilks=0.948, partial $\eta^2=0.018$

Source: Self-made

Regarding the differences in the applied forms of mediation according to the experience of adolescents in social networks (table 5), significant differences are observed in restrictive mediation according to the time of use (children who use them less frequently report higher values of restrictive mediation). However, this variable does not seem to influence the rest of the parental mediation modalities.

Table 5. Parental mediation strategies according to time of use and age of initiation in social networks

	Mediation to ensure well-being	Parent-guided co-use	Mediation requested by children	Restrictive mediation
Time of use				
Continuously	A=3,29, SD=1,22	A=2,62, SD=1,09	A=2,04, SD=0,99	A=1,83**, SD=1,66
Several times a day	A=3,51, SD=1,07	A=2,93, SD=1,14	A=2,07, SD=0,85	A=2,54** SD=1,78
A while every day	A=3,71, SD=1,05	A=2,99, SD=1,11	A=2,36, SD=0,90	A=2,69**, SD=1,83
3-4 days a week	A=3,82, SD=0,91	A=3,04, SD=0,93	A=2,26, SD=0,84	A=3,25**, SD=1,61
Once a week	A=3,38, SD=0,73	A=2,81, SD=0,61	A=2,48, SD=1,18	A=3,10**, SD=2,43
Less frequently	A=3,30, SD=1,08	A=2,92, SD=1,00	A=2,01, SD=0,92	A=3,76**, SD=1,89
I do not use it	A=3,31, SD=1,33	A=2,76, SD=1,12	A=2,31, SD=1,03	A=4,11**, SD=1,84
Statistical	F(5,432)=,820, $p=,536$, partial $\eta^2=0.009$	F(5,432)=,820, $p=,536$, partial $\eta^2=0.009$	F(5,432)=,815, $p=,539$, partial $\eta^2=0.009$	$r_s=-,393$, $p<,01$
Age of initiation				
Before 7 years old	A=2,46**, SD=1,38	A=2,40, SD=1,49	A=1,93, SD=1,38	A=0,86, SD=0,78
7 to 8 years old	A=3,17, SD=1,07	A=2,23, SD=1,32	A=2,21, SD=0,89	A=2,17, SD=1,34
9-10 years old	A=3,43, SD=1,07	A=2,81, SD=1,14	A=2,05, SD=0,94	A=2,44, SD=1,87
11-12 years old	A=3,56** SD=1,12	A=2,89, SD=1,04	A=2,22, SD=0,94	A=2,50, SD=1,87
+ 12 years old	A=3,54** SD=1,04	A=2,93, SD=1,04	A=2,14, SD=0,87	A=2,53, SD=1,84
Statistical	F(4,432)=3,792, $p=,005$, partial $\eta^2=0.034$	F(4,432)=1,959, $p=,100$, partial $\eta^2=0.018$	F(4,432)=2,046, $p=,087$, partial $\eta^2=0.019$	$p=,197$

Notes. Significant difference at the level $p<.01^{**}$ and for $p<.05^*$. MANOVA mediation to ensure well-being, parent-guided co-use, and mediation requested by children) for time of use, $F(15,1187)=1.122$, $p=.331$; λ Wilks=0.962, partial $\eta^2=0.013$; and age of initiation of the use of social networks, $F(12,1137)=2.459$, $p=.004$; λ Wilks=0.935, partial $\eta^2=0.022$

Source: Self-made

On the other hand, it is observed that those who started in social networks before 7 years of age show the lowest values of mediation to ensure well-being. However, the same does not happen with the rest of the forms of mediation, including restrictive mediation, where no significant differences are observed.

In summary, restrictive mediation is lower among boys, among students in more advanced grades, and among those who use social networks for longer. The mediation requested by children is also affected by the gender and grade of the adolescents, in the same sense as the restrictive mediation: it is higher among women and decreases as the grade progresses. Mediation to ensure well-being only shows significant differences according to the age of initiation in social networks: those who started later on these platforms experience this form of mediation more, which takes the form of advice and warnings. Finally, parent-guided co-use does not show significant differences for any of the independent variables considered.

4.3. Digital skills: competencies and performance

The next step was to evaluate the influence of the different types of mediation on the children's digital skills and performance. Two hierarchical linear regression analyzes were performed by steps in social networks, to control intermediations or interactions of other variables that affect parental mediation. Three blocks were included in the analysis: one with the forms of mediation (model 1); a second one with the sociodemographic variables (model 2); and a third with the variables referring to the experience of minors in social networks (model 3).

The results of the regression analysis (table 6) for digital skills show that the forms of mediation (models 1 and 2) hardly explain the variance in digital skills: 3% (adjusted R²=.033), which is insignificant. When the block of sociodemographic variables is included, the explanatory capacity of model 3 rises to 9% (adjusted R²=.086). The variables related to the experience of adolescents in social networks (time of use and age of initiation) are excluded from the model because they are not significant.

Table 6. *Influence of parental mediation strategies on digital skills*

	R square	Adjusted R squared	Change in R ²	F (g.l.)	Significance change in F
Digital skills					
Model 1	,022	,020	,022	9,804 (1,439)	,002
Model 2	,038	,033	,016	7,225 (2,438)	,007
Model 3	,092	,086	,052	26,008(3,437)	<,001
Digital performance					
Model 1	,028	,026	,028	12,556(1,439)	<,001
Model 2	,093	,089	,065	22,492(2,492)	<,001
Model 3	,120	,114	,027	19,912 (3,437)	<,001

Note: the adjusted completion coefficient (adjusted R²) indicates the percentage of the dependent variable (skills and performance) explained by the regression. The change in R² indicates the gain in the variance explained by including a new block of variables. The significance of the change in F indicates whether it is worth including a new block (<.05).

Source: Self-made

Within the block of parental strategies, only mediation to ensure well-being and restrictive mediation explain the digital skills of minors (see table 7). Restrictive mediation maintains a negative association with digital skills: as restrictive mediation increases, the digital skills of minors decrease. Mediation to ensure well-being, on the contrary, favors the acquisition of digital skills.

Of the sociodemographic characteristics (model 3), only the course is significant. By including this variable, part of the explanatory burden of restrictive mediation is removed, although it continues to be statistically significant. However, the effect of mediation to ensure well-being, although low, remains largely intact.

Table 7. *Influence of parental mediation strategies on digital skills*

Variables	Regression parameters		
	Standardized beta	T	Sig.
Model 1			
Restrictive mediation	-,148	-3,131	,002
Model 2			
Restrictive mediation	-,187	-3,807	,000
Mediation to ensure well-being	,132	2,688	,007
Model 3			
Restrictive mediation	-,117	-2,357	,019
Mediation to ensure well-being	,129	2,704	,007
Grade	,243	5,100	,000

Note. Appropriate collinearity statistics: tolerance and VIF with values close to 1, condition index below 10. The beta coefficients (number of units that the dependent variable will increase for each unit that the independent variable increases) have been standardized to determine which variables are more influential when different scales are used.

Source: Self-made

In conclusion, no variable of digital experience influences digital skills. The influence of mediation to ensure well-being and restrictive mediation is very limited (standardized beta of -.117 and .129, respectively), while the grade (age) shows a moderate predictive power of digital skills (standardized beta=.243).

The results of the regression that analyze the factors that predict digital performance are (table 4): model 1, with the forms of parental mediation, barely explains 3% of the variance in performance (adjusted $R^2=.026$). In model 2, which includes the block of adolescents' sociodemographic variables, the predictive capacity increases to 9% (adjusted $R^2=.089$). And in model 3, which incorporates the time of use and year of initiation in social networks, an explanation of 11% is reached (adjusted $R^2=.114$).

In model 1 (table 8), only restrictive mediation shows to have effects: performance decreases when mediation increases. In model 2, the grade shows an influence on digital performance: as the grade progresses, performance increases. Furthermore, it nullifies the influence of restrictive mediation, which is no longer significant. Finally, in model 3, the time of use shows statistically significant effects, and the grade continues to show a moderate influence on digital skills.

In short, the variables that explain digital performance in decreasing order are: grade (age), with a moderate effect on performance (standardized beta=.259), and time of use of social networks, with a weaker effect (standardized beta=.172). In other words, age and experience measured in time spent on social networks would be the only variables that predict digital performance, while the forms of family mediation show no effect.

Table 8. *Influence of parental mediation strategies on performance*

Variables	Regression parameters		
	Standardized Beta	T	Sig.
Model 1			
Restrictive mediation	-,167	-3,543	,000
Model 2			
Restrictive mediation	-,091	- 1,917	,056
Grade	,267	5,617	,000
Model 3			
Restrictive mediation	-,046	-,945	,345
Grade	,259	5,525	,000
Social media usage time	,172	3,670	,000

Note: The collinearity statistics are adequate: with tolerance and VIF values close to 1.

Source: Self-made

5. Discussion

The results of the relationships between the different forms of parental mediation reported by adolescents who are studying four years of compulsory secondary education (12-16 years of age) and their digital skills and performance, including safety and risk control in social networks, cannot stop being read taking into account the particularities of the relationship with parents at this stage of life, and the development tasks (Havighurst, 1972) associated with it. But they must also be read taking into account the broader context of the country and its culture: in this sense, the results collected among the students of the Community of Madrid are in line with the results of representative samples of Spain, which point to a culture of parental protection, instead of training for skills and performance, as pointed out by Martínez et al. (2020).

Among the restrictive forms of mediation, the first three reveal established concerns about the risks of online exposure: a ban on talking to strangers is reported by almost two in three teenagers, followed by a ban on giving out personal information. Both prohibitions challenge the task of development in adolescence, which is to achieve new and more mature relationships with peers of both genders (Havighurst, 1972), which today goes through social networks and which requires the instrumental and critical management of informational, social, and expressive skills, and the balance between managing privacy and participation (see Helsper et al. 2021). This parental panic illustrates the myth of "stranger danger" and ignores the desire for socialization and peer culture, where the overwhelming majority of new contacts occur with people of the same age and provide great satisfaction (Smahel et al., 2020). Third, there is the concern about excessive time online (58.2%), a concern that the context that would occur (due to the pandemic) will surely reconfigure. Additionally, around a fifth of adolescents denounces the prohibition of parents to have a profile on social networks.

If the results point to the impact of restrictive parental mediation on the digital skills reported by adolescents, this effect is weak and disappears on performance when the grade (age) and time of use are controlled, which are what mark the difference. This restrictive mediation is marked by gender and age and seems to extend from childhood, suggesting a consistent culture of restricting the use of social networks, which extends into adolescence. The more restrictive mediation is felt, the less digital competencies adolescents report, which agrees with the results of Sánchez-Valle et al. (2017), Glüer and Lohaus (2018), and Rodríguez-de-Dios et al. (2018). This result confirms that, if this

mediation can protect against digital risks, by doing so it also does not allow them to know how to deal with them and develop the appropriate skills; such that as suggested by Erickson et al. (2016) or Duerager and Livingstone (2012), among others. That this occurs in an age group marked by a strong peer culture and the desire for autonomy in the face of family pressure and control is a result that deserves to be highlighted.

On the other hand, parent-guided co-use is not presented as an autonomous mediation strategy to ensure well-being. Besides, contrary to expectations and after forcing its separation in the analysis, it is not observed that it impacts skills or digital performance.

Among the three types of active mediation (initiated by parents and oriented to the digital well-being of children; parent-guided co-use; initiated by children), adolescents who started using social networks earlier mentioned less the first, as if their parents had let them explore this new space themselves. Parent initiative is affirmed in recognition of what is important to do. The results regarding the effect of mediation to ensure well-being on self-reported abilities are consistent with those obtained by Cabello-Hutt et al. (2017) with children from 9 to 17 years of age, which resulted in a weak association, compared to the absence of linkage of the results of the study by Rodríguez-de-Dios et al. (2018). However, in our study, none of the active mediation formulas seem to have a direct influence on performance.

In summary, if restrictive parental practices negatively condition digital skills, family practices supported by the initiative of one side or the other are not more relevant than age-related factors. Again, the age group (adolescents) can be a factor of difference, not only concerning skills but also performance.

These results are consistent with studies that indicate that digital skills vary according to age (Haddon et al., 2020): only the grade, which can be equated with age, shows an influence on both digital skills and competencies.

In this work, we started from the premise that forms of parent-guided co-use could make a positive difference in the development of digital skills among adolescents that would allow them to protect themselves from online risks compared to parental mediation to ensure well-being, whose indicators are clearly guided by the guidance and advice of parents (they warn you, they comment, they give you advice...). And dialogic education, which favors the autonomy and training of adolescents, could be related to the greater involvement of parents in social networks that empower them to implement these more committed forms of mediation (López de Ayala, 2019). Ultimately, it was about testing alternative forms of parental mediation suggested in the literature, such as the shared learning proposals suggested by Clark (2011), or the activities initiated by children requesting support and interaction with their parents from Livingstone et al. (2017). In our results, however, it is shown that the association between parent-initiated joint use and dialogue-based mediation is maintained; with lower levels of the first, according to the statements of the minors. Regarding the variables that predict co-use initiated by parents, the analyzes carried out do not allow us to point out significant differences in their application, perhaps due to their low levels of implementation.

These data are in line with those found in EU Kids Online for Spain, which shows a lower incidence of this joint use (Smahel et al., 2020). Neither has an influence of this practice been found on the skills or *de facto* digital performance of minors.

Child-initiated learning shows significant differences by gender and grade: adolescent women and younger children are the ones who most often look to their parents for guidance in online use. As

with the previous mediation, it does not show to affect the development of digital skills and performance.

6. Conclusions

This article sought to examine the relationships between the different forms of parental mediation reported by adolescents who are studying the four years of compulsory secondary education (12-16 years old) and their digital skills and performance, including security and risk control in social networks. The questions were supported by an extensive review of the literature on digital skills, on the one hand, and perspectives on parental mediation, on the other. Following these perspectives, the measurement instruments sought to factually formalize the issues, avoiding the fallacies of self-efficacy. The measurement instruments regarding parental mediation also sought to ensure the comparability of the results with other studies and to formalize new questions.

It should be noted that all the results on parental mediation, safety, and information-seeking skills, and the actions they take or do not take in these situations (their performance), are based on self-reported responses from adolescents. An evaluation of digital performances would best be achieved through responses to specific situations. New works can delve into the subject by combining questionnaires with experimentation in which the *de facto* abilities of adolescents are measured, in line with one of the objectives of the European ySKILLS research project, which seeks to review and reconceptualize knowledge about digital skills (cf www.yskills.eu). As Helsper et al. (2021) point out, functional aspects have been more commonly measured than critical aspects of digital skills, while skills related to communication and interaction, and content creation and production, have been less researched. The same project considers in these processes of acquisition and consolidation of skills the attention to the time factor and how the skills of adolescents evolve. Thus, the need to continue researching the influence of various factors on digital performance is pointed out, not only for the consolidation of scientific knowledge but also for the design of public policies and appropriate guidelines for different audiences, including families.

7. References

- Asociación para la Investigación de Medios de Comunicación (AIMC) (Noviembre, 7th 2018). “*Más del 40% de los niños ve contenidos televisivos en los dispositivos móviles o el ordenador. Estudio AIMC Niñ@s 2018*” (Nota de prensa). <http://bit.ly/2Sm1Gpe>
- Ballesteros, J.C. y Picazo, L. (2018). *Las TIC y su influencia en la socialización de adolescentes*. FAD. <https://bit.ly/3l30IdC>
- Bartau, I., Aierbe, A. y Oregui, E. (2018). Mediación parental del uso de Internet en el alumnado de Primaria: creencias, estrategias y dificultades. [Parental mediation of the internet use of Primary students: Beliefs, strategies, and difficulties]. *Comunicar*, 54(26), 71-79. <https://doi.org/10.3916/C54-2018-07>
- Bartau, I., Aierbe, A. y Oregui, E. (2020). Mediación parental del uso de Internet desde una perspectiva de género. [Parental mediation of Internet use from a gender perspective]. *Revista Electrónica de Investigación Educativa*, 22, e02, 1-14. <https://doi.org/10.24320/redie.2020.22.e02.2075>

- Beyens, I., Valkenburg, P.M. y Piorowski, J.T. (2019). Developmental trajectories of parental mediation across early and middle childhood. *Human Communication Research*, 45, 226-250. <https://doi.org/10.1093/hcr/hqy016>
- Bisquerra, R. (1989). *Introducción conceptual al análisis multivariable. Un enfoque informático con los paquetes SPSS-X, BMDP, LISREL Y SPAD*. PPU.
- boyd, d. y Hargittai, E. (2010). Facebook privacy setting. Who cares? *First Monday*, 15(8). <https://doi.org/10.5210/fm.v15i8.3086>
- Cabello-Hutt, T., Cabello, P. y Claro, M. (2017). Online opportunities and risks for children and adolescents: The role of digital skills, age, gender, and parental mediation in Brazil. *New Media & Society*, 20(7), 2411-2431. <https://doi.org/10.1177/1461444817724168>
- Clark, L. S. (2011). Parental mediation theory for the digital age. *Communication Theory*, 21(3), 323–343. <https://doi.org/10.1111/j.1468-2885.2011.01391.x>
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed). L. Erlbaum Associates.
- Duerager, A. y Livingstone, S. (2012). *How can parents support children's internet safety?* LSE. EU Kids Online. <http://eprints.lse.ac.uk/42872>
- Eastin, M.S., Greenberg, B.S. y Hofschire, L. (2006). Parenting the internet. *Journal of Communication*, 56, 486-504. <https://doi.org/10.1111/j.1460-2466.2006.00297.x>
- Erickson, L.B., Wisniewski, P., Xu, H., Carroll, J.M., Rosson, M.B. y Perkin, D.F. (2016). The boundaries between: Parental involvement in a teen's online world. *Journal of the Association for Information Science and Technology*, 67(6), 1384–1403. <https://doi.org/10.1002/asi.23450>
- Festl, R. (2020). Social media literacy & adolescent social online behavior in Germany. *Journal of Children and Media*, 15(2), 249-271. <https://doi.org/10.1080/17482798.2020.1770110>
- Garmendia, M., Jiménez, E., Casado, M.Á. y Mascheroni, G. (2016). *Riesgos y oportunidades en internet y uso de dispositivos móviles entre menores españoles (2010-2015)*. Red.es/Universidad del País Vasco. <https://bit.ly/2GnJ31D>
- Chen, V.H.H. y Chng, G.S. (2016). Active and restrictive parental mediation over time: Effects on youths' self-regulatory competencies and impulsivity. *Computers & Education*, 98, 206-212. <https://doi.org/10.1016/j.compedu.2016.03.012>
- Glatz, T., Crowe, E. y Buchanan, C.M. (2018). Internet-specific parental self-efficacy: Developmental differences and links to Internet-specific mediation. *Computers in Human Behavior*, 84, 8-17. <https://doi.org/10.1016/j.chb.2018.02.014>
- Glüer, M. y Lohaus, A. (2018). Elterliche und kindliche Einschätzung von elterlichen Medienerziehungsstrategien und deren Zusammenhang mit der kindlichen Internetnutzungskompetenz [Parents' and children's perspectives of parental mediation strategies in association with children's internet skills]. *Prax Kinderpsychol Kinderpsychiatr*, 67(2), 181-203. <https://doi.org/10.13109/prkk.2018.67.2.181>

- Haddon, L. (2015). Children's critical evaluation of parental mediation. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 9(1), article 2. <https://doi.org/10.5817/CP2015-1-2>
- Haddon, L., Cino, Davide, Doyle, M-A, Livingstone, S., Mascheroni, G. y Stoilova, M. (2020). *Children's and young people's digital skills: a systematic evidence review*. KU Leuven, Leuven: ySKILLS. <https://zenodo.org/record/4274654#.YGD2gS35TC8>
- Havighurst, RJ (1972). *Developmental tasks and Education*. Longman, New York & London (Original: 1948)
- Helsper, E. J., Schneider, L. S., van Deursen, A. J.A.M. y van Laar, E. (2021). *The youth Digital Skills Indicator: Report on the conceptualisation and development of the ySKILLS digital skills measure*. KU Leuven, Leuven: ySKILLS. <http://doi.org/10.5281/zenodo.4608010>
- Instituto Nacional de Estadística (INE) (2020). *Encuesta sobre equipamiento y uso de tecnologías de información y comunicación en los hogares*. <http://www.ine.es/>
- Jeong, S.H., Cho, H. y Hwang, Y. (2012). Media literacy interventions: A meta-analytic review. *Journal of Communication*, 62(3), 454-472. <https://doi.org/10.1111/j.1460-2466.2012.01643.x>
- Li, J., Willems, Y.E., Stok, F.M., Dekovic, M., Bartels, M. y Kinkenauer, C. (2019). Parenting and Self-control across early to late adolescence: A Three-Level Meta-Analysis. *Perspectives on Psychological Science*, 14(6), 967-1005. <https://doi.org/10.1177/1745691619863046>
- Leung, L. y Lee, P.S. (2012). The influences of information literacy, internet addiction and parenting styles on internet risks. *New Media and Society*, 14(1), 117-136. <https://doi.org/10.1177/1461444811410406>
- Livingstone, S. y Helsper, E. (2008). Parental mediation and children's Internet use. *Journal of Broadcasting & Electronic Media*, 52(4), 581-599. <https://doi.org/10.1080/08838150802437396>
- Livingstone, S., Haddon, L., Görzig, A. y Ólafsson, K. (2011). *Risks and safety on the internet. The perspective of European children. Full findings and policy implication form the EU Kids Online survey of 9–16 year olds and their parents in 25 countries*. EU Kids Online. <http://bit.ly/34igdIa>
- Livingstone, S., Olafsson, K., Helsper, E.J., Lupianez-Villanueva, F., Veltri, G.A. y 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, 82e105. <https://doi.org/10.1111/jcom.12277>
- López-de-Ayala, M.C., Martínez-Pastor, E. y Catalina-García, B. (2019). Nuevas estrategias de mediación parental en el uso de las redes sociales por adolescentes. *El Profesional de la Información*, 28(5). <https://doi.org/10.3145/epi.2019.sep.23>
- Martínez, G., Casado, M. y Garitaonandia, C. (2020). Online parental mediation strategies in family contexts of Spain. [Estrategias online de mediación parental en contextos familiares de España]. *Comunicar*, 65, 67-76. <https://doi.org/10.3916/C65-2020-06>

- Nikken, P. y Schols, M. (2015). How and why parents guide the media use of young children. *Journal of Child and Family Studies*, 24(11), 3423–3435. <https://doi.org/10.1007/s10826-015-0144-4>
- Ólafsson, K., Livingstone, S. y Haddon, L. (2013). *Children's use of online technologies in Europe. A review of the European evidence base*. EU Kids Online. <https://bit.ly/WH0wp8>
- Pastor-Ruiz, Y., Martín-Nieto, R. y Montes-Vozmediano, M. (2019). Patrones de uso, control parental y acceso a la información de los adolescentes en la red [Patterns of use, parental control and access to information for adolescents in the network]. *Estudios sobre el Mensaje Periodístico*, 25(2), 995-1012. <https://dx.doi.org/10.5209/esmp.64821>
- Ponte, C. y Batista, S. (2020). Ambientes familiares e mediações digitais. In Ponte, C. (Coord.), *Nós na rede. Ambientes digitais de crianças e jovens*. Almedina & ERC.
- Rodríguez-de-Dios, I. y Igartua, J.J. (2016). Skills of digital literacy to address the risks of interactive communication. *Journal of Information Technology Research*, 9(1), 54e64. <https://doi.org/10.4018/JITR.2016010104>
- Rodríguez-de-Dios, I., van Oosten, J. y Igartua, J.J. (2018). A study of the relationship between parental mediation and adolescents' digital skills, online risks and online opportunities. *Computers in Human Behavior*, 2, 186e198. <https://doi.org/10.1016/j.chb.2018.01.012>
- Sánchez-Valle, M., de-Frutos-Torres, B. y Vázquez-Barrio, T. (2017). La influencia de los padres en la adquisición de habilidades críticas en Internet. [Parent's influence on acquiring critical Internet skills]. *Comunicar*, 53, 103-111. <https://doi.org/10.3916/C53-2017-10>
- Sasson, H. y Mesch, G. (2019). Parental mediation. In R. Hobbs, & P. Mihailidis (Eds.), *The international encyclopedia of media literacy*. Wiley Blackwell. <https://doi.org/10.1002/9781118978238.ieml0177>
- Smahel, D., Machackova, H., Mascheroni, G., Dedkova, L., Staksrud, E., Ólafsson, K., Livingstone, S. y Hasebrink, U. (2020). *EU Kids Online 2020: Survey results from 19 countries*. EU Kids Online. <https://doi.org/10.21953/lse.47fdeqj01ofo>
- Soh, P.C., Chew, K.W., Koay, K.Y. y Ang, P.H. (2018). Parents vs peers' influence on teenagers' Internet addiction and risky online activities. *Telematics and Informatic*, 35, 225–236. <https://doi.org/10.1016/j.tele.2017.11.003>
- Sonck, N., Nikken, P. y de Haan, J. (2013). Determinants of internet mediation. A comparison of the reports by Dutch parents and children. *Journal of Children and Media*, 7(1), 93-113. <https://doi.org/10.1080/17482798.2012.739806>
- Symons, K., Ponnet, K., Emmery, K., Walrave, M. y Heirman, W. (2017). Parental knowledge of adolescents' online content and contact risks. *Journal of Youth and Adolescence*, 46(2), 401-416. <https://doi.org/10.1007/S10964-016-0599-7>
- Troseth, G.L., Russo, C.E. y Strouse, G.A. (2016). What's next for research on young children's interactive media? *Journal of Children and Media*, 10(1), 54-62, <https://doi.org/10.1080/17482798.2015.1123166>

Trultsch-Wijnen, C. (2020). *Media Literacy. Discussing media socialization, agency and the appropriation of media*. Springer

Valkenburg, P.M., Kremer, M., Peeters, A.L. y Marseille, N.M. (1999). Developing a scale to assess three styles of television mediation: Instructive mediation, restrictive mediation, and social co-viewing. *Journal of Broadcasting & Electronic Media*, 4(1), 52-66.
<https://doi.org/10.1080/08838159909364474>

Zaman, B., Nouwen, M., Vanattenhoven, J., de Ferrerre, E. y 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), 11-22.
<https://doi.org/10.1080/08838151.2015.1127240>

AUTHOR/S:

María Cruz López de Ayala López

Doctor in Communication at the Universidad Rey Juan Carlos of Madrid (URJC) (2007), she is an Associate Professor of the area at the Faculty of Communication Sciences at the URJC, and has been Visiting Fellow at the London School of Economics and Political Sciences and at Universidade Nova of Lisbon. Her main lines of research are related to: young audiences and adolescents on the Internet and social networks; minors, parental mediation, and the media. She has participated in different research projects, both competitive and art. 83, published in national and international scientific journals.

mariacruz.lopezdeayala@urjc.es

Índice H: 12

Orcid ID: <http://orcid.org/0000-0002-6989-866X>

Google Scholar: <https://scholar.google.es/citations?user=Hg59Qi4AAAAJ&hl=es>

ResearchGate: https://www.researchgate.net/profile/Maria_Lopez94

Scopus ID: <https://www.scopus.com/authid/detail.uri?authorId=55135803400>

Cristina Ponte

Doctor in Communication Sciences (2002), she is a Full Professor of Media and Journalism Studies at the Faculdade de Ciências Sociais e Humanas at the Universidade NOVA of Lisbon (NOVA FCSH). She is the coordinator of the Portuguese team in the EU Kids Online network, she contributed to the formation of the Kids Online Latin America network. She is currently a coordinating member of the European project ySKILLS (2020-2014). She is vice president of the ECREA Working Group on Children, Youth, and Media (2012-2017) and COST Action IS0906 (2010-2014). She is the coordinator of the projects *Inclusión y Participación Digital* (2009-2011), the UT Austin-Portugal Program, and Children and Youth in the News (2005-2007), funded by FCT. She is the author/editor of 13 books, she has more than 40 articles published in international and national journals.

cristina.ponte@fcs.unl.pt

Índice H: 24

Orcid ID: <https://orcid.org/0000-0002-1534-4784>

Google Scholar: <https://scholar.google.es/citations?user=0X81PjQAAAAJ&hl=es&oi=ao>

ResearchGate: <https://www.researchgate.net/profile/Cristina-Ponte>

Scopus ID: <https://www.scopus.com/authid/detail.uri?authorId=35971390500>

Rebeca Martín Nieto

Doctor in Communication Sciences (2010) and Master in Neurodidactics. Associate Professor at the Faculty of Communication Sciences (URJC). Her main lines of research revolve around communication and education, as well as the radio. She has participated in different research projects related to communication in organizations and the influence of the Internet in childhood and adolescence. She is part of the Solidar&Dar Research Group and the Communication, Society, and Culture Research Group (GICOMSOC).

rebeca.martin@urjc.es

Índice H: 9

Orcid ID: <https://orcid.org/0000-0003-3184-3564>

Google Scholar: <https://scholar.google.es/citations?user=8fJXAEAAAAAJ&hl=es>

ResearchGate: <https://www.researchgate.net/profile/Rebeca-Nieto-2>