Original Paper

Traditional Parenting Styles and Online Parental Mediation in Spain: Cross-Sectional Study

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Abstract

Background: The expansion of digital technologies has transformed the family environment, requiring parents to adopt new strategies to guide and protect their children's internet use. While the literature has extensively examined parental mediation, few studies have investigated how traditional parenting styles are related to online parental mediation (OPM) strategies and how parents' age moderates these relationships.

Objective: This study aims to examine the associations between 3 traditional parenting styles—inductive, rigid, and indulgent—and 6 OPM strategies, considering the moderating role of parents' age.

Methods: A cross-sectional analytical study was conducted with 672 parents, of whom 564 (83.9%) were mothers of children aged 9 to 14 years from 29 schools in 10 Spanish regions. Participants completed the Scale of Rules and Demands and the EU-Global Kids Online Parental Mediation Questionnaire. Using 18 moderation models via the PROCESS macro in SPSS software (version 28; IBM Corp; model 1 with 5000 bootstrap resamples), we examined the associations between inductive, rigid, and indulgent parenting styles (predictors) and 6 OPM strategies—active mediation of internet use (AMIU), active mediation of internet safety (AMIS), child-initiated support (CIS), parental monitoring (PM), technical control (TC), and restrictive mediation (RM)—with parents' age as the moderator and child age included as a covariate.

Results: Inductive parenting was positively associated with all OPM strategies, and parents' age moderated four of these associations, with stronger effects among younger parents. Specifically, the associations with AMIU (B=.53; *P*<.001), AMIS (B=.82; *P*<.001), and RM (B=.26; *P*<.001) were significantly stronger among younger parents, whereas TC (B=.12; *P*<.001) was positively associated with inductive parenting only among younger parents. In contrast, indulgent parenting was negatively associated with 5 OPM strategies (AMIU, AMIS, PM, TC, and RM), whereas rigid parenting was not significantly associated with any OPM strategy. Parents' age moderated only the association between indulgent parenting and CIS; however, the conditional effects for younger and older parents were not statistically significant (*P*=.22 and *P*=.07, respectively).

Conclusions: The findings are consistent with the proposed global parenting framework, which conceptualizes offline parenting styles and OPM as interconnected dimensions of parenting rather than as independent domains, without proposing a new psychological construct. Specifically, the findings suggest that inductive parenting is consistently associated with parenting practices across offline and online contexts, particularly among younger parents. These results also suggest that future family-based interventions may benefit from promoting inductive parenting practices while supporting parents' digital competence, especially among those who may experience greater challenges in supervising their children's online activities.

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Keywords: parenting styles; parental mediation; global parenting framework; parents' age; moderation analysis

Introduction

Background

The family is one of the main socialization contexts, playing an essential role in children's and adolescents' psychosocial development. Parents play a crucial role in fostering the development of the values and competencies that children need for successful social integration across different areas of daily life [1-4]. In this socialization process, they transmit to their children the norms, customs, and values of their society, as well as certain rules, standards, and patterns of coexistence specific to each family, using different parenting styles. Thus, they can use different parenting practices to teach and regulate their children's behaviors and thereby promote compliance with the rules and norms necessary for appropriate coexistence in the children's family context and other social environments [5].

Traditional Parenting Styles

Although each family has its own guidelines and coexistence rules, the classic research of Baumrind [3,6] established 3 major parenting styles. Based on the different strategies parents use to control their children's behavior, Baumrind [3,6] proposed 3 parental educational styles: authoritarian, permissive, and democratic. Parents with an authoritarian style value the child's obedience above all and believe that it is important to restrict and limit their autonomy. At the opposite extreme, permissive parents exercise virtually no control over their children and grant them a high degree of autonomy with little or no supervision. Finally, parents with a democratic style are somewhere in between, trying to control their children's behavior based on reason rather than by imposition. These parents, unlike authoritarian parents, reason and argue with their children about family rules without trying to impose them by force [7,8]. This classic model is still an important point of reference for a substantial body of recent research [9-13].

A relevant contribution building on Baumrind [6] is the work by Bersabé et al [10] on parental rules and expectations. In their research, these authors, as well as Baumrind [6], distinguish among three styles that parents can use to establish rules in the family environment and demand their children's compliance: inductive/democratic, rigid/authoritarian, and indulgent/permissive. For these authors, the inductive style is characterized by dialogue, negotiation, and the search for balance between the children's autonomy and their respect for family rules. Parents use discipline that encourages rational and interactive strategies and reasoning to explain the norms and rules to their children. Thus, parents explain the reasons for the family rules and promote their children's critical thinking and responsibility [10,12]. By contrast, parents using a rigid style do not explain the reasons for the norms and rules but instead impose them strictly without any discussion. This parenting style does not promote negotiation or dialogue between parents and children because it is based on coercive discipline, with strict patterns of interaction with children that grant considerable importance to obedience and the use of punishment [13,14]. Unlike the inductive style, indulgent parents avoid imposing strict rules or limits, prioritizing their children's wishes and freedom. This limited parental supervision and involvement may afford children greater autonomy but may also provide insufficient support for the emotional and social regulation of their behavior [15].

Overall, inductive parenting may be considered a more adaptive and enabling style, as it combines warmth, bidirectional communication, and clear rule-setting, thereby promoting guided autonomy, self-regulation, and more positive psychosocial outcomes in children and adolescents. In contrast, rigid styles, focused on coercive control, and indulgent styles, characterized by inconsistent limits, may be less functional, as they have been associated with poorer self-regulation, lower academic adjustment, and greater behavioral risk [3,6].

Online Parental Mediation and the Global Parenting Framework

Over the past 2 decades, parents and legal guardians have increasingly had to manage not only face-to-face family interactions but also their children's behavior in digital contexts [2,16,17]. Undeniably, the rapid expansion of information and communication technologies has transformed households in almost every country worldwide [18-20]. This transformation has altered both access to virtually unlimited online information and the ways in which social relationships are established and maintained, thereby influencing minors' personal and social identity development [16,21]. Parents play a decisive role in this because although the online world offers great opportunities for learning and creating interpersonal and group relationships [22], it also presents enormous risks and challenges for developing children [17,20,23].

Thus, in addition to traditional (offline) educational styles, the scientific literature suggests that in the current online context, parents can also use different parental mediation strategies to control and regulate their children's behavior on the Internet [24,25]. A relevant contribution is Subrahmanyam and Šmahel's [26] theory of the coconstruction of reality. These authors argue that reality is constructed through the interaction between offline and online contexts; both are interconnected and mutually influence each other, resulting in a complex form of reality that is more than the sum of its parts [21,27]. From this perspective, traditional (offline) parenting styles are expected to be related to parenting practices adopted in online contexts. Rather than conceptualizing offline and online parenting as independent domains, the notion of global parenting proposes that parenting practices across face-to-face and digital contexts form part of a coherent relational system in which communication, supervision, affect, and regulation operate in an interconnected manner. Thus, parenting behaviors expressed in offline family interactions may also shape how parents supervise, guide, and regulate their children's online activities. In this sense, global parenting is not understood as the mere

coexistence of offline and online parenting practices, but rather as an integrative framework in which both contexts may be interconnected in parental communication, supervision, regulation, and emotional support. Beyond the coconstruction theory's general account of connections between offline and online experience, the global parenting framework applies this perspective specifically to parenting by proposing testable associations between offline parenting styles and distinct online mediation strategies.

Online parental mediation (OPM) is defined as the parents' efforts to maximize opportunities and minimize the risks of their children's internet use. This mediation comprises a set of parental practices and strategies to supervise, guide, and accompany their children in responsible and safe internet use [20,25]. Livingstone et al [25] identify 6 types of OPM strategies, all but the last of which are considered enabling (ie, they promote more effective use of digital technologies among children): (1) active mediation of internet use (AMIU), which refers to parental strategies aimed at promoting children's appropriate and autonomous use of digital technologies through dialogue, information, and explanation; (2) active mediation of internet safety (AMIS), which includes parental practices intended to foster safe and healthy internet use; (3) child-initiated support (CIS), which encompasses situations in which children take the initiative in seeking support or guidance regarding internet use; (4) parental monitoring (PM), defined as strategies used by parents to monitor and regulate their children's online activities; (5) technical control (TC), which involves the use of technological tools and settings to supervise and control children's digital activities; and (6) restrictive mediation (RM), which refers to the limitation or restriction of children's access to and use of digital devices and online resources.

An important consideration in OPM is the potential digital divide between parents and children, which may vary with parents' age [28]. Along these lines, the literature suggests that younger parents have a narrower digital gap with their children and are more competent and more aware of cyberspace risks [29,30]. These parents take a more proactive approach with their children and have more digital skills to engage with and support their children's digital learning and ensure their online safety [29,31]. By contrast, due to their lower digital literacy and lack of digital skills, older parents are less likely to monitor and control their children's online behavior actively, adopting a more indulgent style for its regulation [29,30]. Parental mediation also tends to be more frequent and effective during late childhood and early adolescence (aged 9-13 y) [24,31,32].

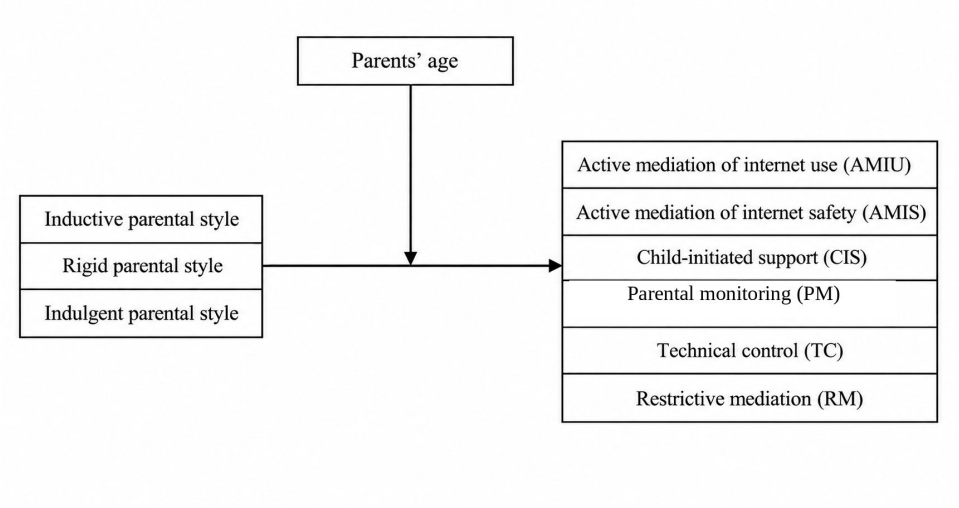
Given the speed with which digital technologies change and their impact on families, there is growing interest in the scientific literature in understanding the relationship between traditional parenting practices and new OPM strategies. However, the results are not conclusive. From this perspective, Banić and Orehovački [33] found that the traditional democratic style is associated with more AMIU, whereas the rigid style is associated with greater use of RM. In this work, the authors also found that the indulgent style is related to a lack of active supervision of children's digital behavior, leaving them more exposed to online risks. Similarly, Young and Tully [34] found that parents with a rigid parenting style may withdraw access to digital media as a punishment for inappropriate behavior. In line with this, Hwang et al [35] concluded that the rigid parenting style predicts RM, which regulates children's online exposure to content and behaviors with no room for flexibility or constructive dialogue with the parents. Previous literature has produced inconsistent findings regarding rigid parenting styles. While some studies associate rigid parenting with more RM strategies and stricter digital supervision [33,35], other studies suggest that rigid parenting may be linked to lower levels of constructive mediation, communication, and supportive online guidance [34].

The Present Study

The main purpose of this study was to examine the associations between the 3 traditional parenting styles (inductive, rigid, and indulgent) and the 6 OPM strategies proposed by Livingstone et al [25], as well as the possible moderating role of parents' age. To our knowledge, no previous study has simultaneously examined the associations between traditional (offline) parenting styles and all enabling and restrictive OPM strategies while considering parents' age as a moderator. The present study may contribute to advancing current knowledge regarding the relationships between offline and online parenting practices. Specifically, this study proposes the global parenting framework as an integrative theoretical perspective suggesting that offline parenting styles and OPM represent interconnected dimensions of parenting rather than independent domains.

We propose the following objectives: (1) to examine the associations between the 3 traditional parental socialization styles (inductive, rigid, and indulgent) and the different OPM strategies (AMIU, AMIS, CIS, PM, TC, and RM); and (2) to examine whether parents' age moderates the associations between traditional parenting styles and the different OPM strategies. Accordingly, the models shown in Figure 1 examine the associations between each of the 3 parenting styles (inductive, rigid, and indulgent) and each of the 6 OPM strategies, while testing the moderating role of parents' age. Based on previous literature, we proposed the following hypotheses: (1) the inductive parenting style would be positively associated with enabling OPM strategies; (2) the indulgent parenting style would be negatively associated with OPM strategies; (3) the rigid parenting style would be positively associated with RM strategies; and (4) parents' age would moderate the associations between parenting styles and OPM strategies.

Figure 1. Hypothesized simple moderation models examining the relationships between parenting styles and parental mediation strategies, with parental age as the moderator.



Methods

Design and Participants

A cross-sectional and analytical study was conducted across 29 schools in 10 Spanish regions (Castilla la Mancha, Castilla y León, Cantabria, Community of Madrid, Valencian Community, Autonomous Community of Navarre, Galicia, La Rioja, Basque Country, and Asturias). Of the 29 schools, 22 were in urban settings and 7 in rural areas. Nonprobability convenience sampling was used. The sample comprised 672 parents, 564 (83.9%) of whom were mothers; their children were in middle childhood (aged 9-11 y) or early adolescence (aged 12-14 y). The parents' ages ranged from 30 to 60 years, with a mean age of 45.9 (SD 4.89) years.

Families were contacted through the schools' usual family communication platforms. According to information provided by the participating schools, up to 5167 families may have received the invitation to participate in the study. Of these, 1130 initiated the online questionnaire and 714 completed it in full. After applying the data-quality screening criteria, 42 questionnaires were excluded, resulting in a final analytic sample of 672 valid questionnaires.

Thus, the estimated questionnaire initiation rate was 1130 of up to 5167 (22%) families, the completion rate was 714 of up to 5167 (14%) families, and the final valid-response rate was 672 of up to 5167 (13%) families. In addition, 714 of 1130 (63.2%) participants who initiated the questionnaire completed it in full, and 672 of 714 (94.1%) completed questionnaires were retained as valid responses. These rates should be interpreted as approximate estimates because the research team could not verify how many families actually opened or read the invitation distributed through the school communication platforms.

Instruments

The *Escala de Normas y Exigencias* (Scale of Rules and Demands) by Bersabé et al [10] assesses the traditional parenting styles used to educate and raise their children, according to the parents. The scale consists of 28 items, with 5 response options (ranging from 1="never" to 5="always"), which yielded 3 factors: inductive style (eg, "I build trust so he/she will tell me about his or her concerns"), rigid style (eg, "I impose very harsh punishments on him/her so that he/she will not disobey again"), and indulgent style (eg, "I give him/her total freedom to do what he/she wants"). Each parenting-style score was calculated as the mean of its constituent items, with scores ranging from 1 to 5. Higher scores indicated greater use of the corresponding parenting style. The following internal consistency indices were obtained in this study: Cronbach α values of 0.82 for the inductive style, Cronbach α of 0.75 for the rigid style, and Cronbach α of 0.76 for the indulgent style.

The *Cuestionario EU-Global Kids Online de Mediación Parental para Hijos/as y Familias* (EU-Global Kids Online Questionnaire on Parental Mediation for Children and Families) [36] scale comprises 52 items across six dimensions that assess six OPM strategies: (1) AMIU (8 items; eg, "Do shared activities on the Internet"), (2) AMIS (5 items; eg, "Suggest ways to use the Internet safely"), (3) CIS (6 items; eg, "My child asks me when he/she has trouble while surfing the Internet"), (4) PM (6 items; eg, "Check his or her profile on a social network or online community"), (5) TC (10 items; eg, "Use parental controls or other means to keep track of the websites or apps they visit"), and (6) RM (17 items; eg, "Do not allow sharing photos, videos, or music with others online"). Regarding response formats, the first 4 dimensions (AMIU, AMIS, CIS, and PM) are rated on a 5-point Likert scale ranging from 1 ("never") to 5 ("very frequently"). For the TC dimension, 2 response options (yes/no) were used, and the RM dimension was rated on a 3-point Likert scale ("he/she cannot do it," "he/she can do it with permission," and "he/she can do it whenever he/she wants"). This variability in the response scales was established in the original questionnaires (versions of EU Kids Online, Global Kids Online, and Livingstone et al [25]). The internal consistency coefficients obtained in this study were Cronbach α of 0.88 for AMIU, Cronbach α of 0.79 for AMIS,

Cronbach α of 0.73 for CIS, Cronbach α of 0.90 for PM, Cronbach α of 0.88 for TC, and Cronbach α of 0.90 for RM.

Procedure

Families were informed about the study through the schools' online family communication platforms. In the invitation, we explained the study and invited families to participate via the SurveyMonkey platform. Where applicable, the reporting of the online survey followed the CHERRIES (Checklist for Reporting Results of Internet E-Surveys) recommendations [37]. Completion time ranged from 10 to 15 minutes. Several procedures were implemented to detect potentially inattentive or low-quality responses, including completion time, long-string response patterns, person-fit indicators, and a control question [37]. Given that the estimated completion time was approximately 10 to 15 minutes, all questionnaires completed in less than 5 minutes were reviewed, although this criterion did not lead to automatic exclusion. Repetitive response patterns were assessed by identifying questionnaires with 20 or more consecutive identical responses. In addition, very low intraindividual standard deviation within each scale was considered a warning indicator when it suggested highly invariant responding, for example, selecting the same response option across almost all items. Participants who failed the control question were excluded, as this was considered evidence of insufficient attention while completing the questionnaire. Most of the excluded cases were due to this criterion. In the remaining cases, exclusion was applied when several indicators of low-quality responding converged in the same response profile.

Overall, 1130 participants initiated the questionnaire and 714 completed it in full. After applying the data-quality screening criteria, 42 completed questionnaires were excluded, resulting in a final valid sample of 672 participants. Thus, 42 of 714 (5.9%) completed questionnaires were removed during the data-cleaning process.

Ethical Considerations

This study was approved by the Research Ethics Committee of the International University of La Rioja (PI—005-2024). No eligibility-based exclusion criteria were applied; however, completed questionnaires were subject to the data-quality screening criteria described above. Participants were informed that their participation in the research was anonymous and voluntary.

Data Analysis

First, we calculated descriptive statistics (means and SDs) for the target variables and Pearson bivariate correlations among them. The correlation analysis also included the age variable because the parents' age range was broad (between 30 and 60 y). Given that all variables were obtained through self-report measures, Harman's single factor test was conducted to assess the potential influence of common method variance. The first unrotated factor explained 31% of the variance, suggesting that common method variance was unlikely to bias the findings. Subsequently, we used the PROCESS macro to test different moderation models (model 1). In these models, the 3 traditional parenting styles (inductive, rigid, and indulgent) were included as predictor variables (X), and the different types of OPM (AMIU, AMIS, CIS, PM, TC, and RM) were included as outcome variables (Y). In all the analyzed models, the parents' age was included as a moderating variable (W; Figure 1). Child age was included as a covariate in all moderation models due to its potential influence on parental mediation practices. Given the exploratory nature of the moderation analyses and the conceptual distinction among OPM dimensions, no formal Bonferroni correction was applied. Although estimating multiple moderation models may increase the risk of type I error, applying conservative correction procedures may substantially increase the risk of type II error, potentially obscuring meaningful associations between parenting styles and online parental mediation strategies. In addition to statistical significance, interaction effects were interpreted with reference to confidence intervals, explained variance, and theoretical coherence with previous literature. All moderation models were estimated using 5000 bootstrap resamples, and 95% CIs were reported for all regression coefficients and interaction effects. Continuous variables involved in the interaction terms were mean-centered prior to estimating the moderation models. To interpret the significant interaction effects, we calculated simple slopes at the 16th and 84th percentiles of the parents' age distribution, as implemented in PROCESS, and plotted the corresponding regression lines. All statistical calculations were performed using IBM SPSS Statistics version 28 and the PROCESS macro.

Results

Overview

Table 1 presents the means, SDs, and correlations among the study variables. The data revealed significant positive correlations between the inductive parenting style and all the parental mediation strategies (AMIU, AMIS, CIS, PM, TC, and RM). In contrast, the indulgent parenting style was negatively correlated with all parental mediation strategies except CIS. Finally, the rigid style was not significantly correlated with any OPM strategy. The parents' age correlated negatively with the rigid parenting style (r=–0.10; P=.01), AMIS (r=–0.08; P=.04), and PM (r=–0.13; P<.001).

Table 1. Pearson correlations and descriptive statistics.

Variables	1	2	3	4	5	6	7	8	9	10
1. Inductive style										
2. Rigid style	–0.08									
	(*P*=.03)									
3. Indulgent style	–0.24	0.28								
	(*P*<.001)	(*P*<.001)								
4. AMIU[a]	0.31	–0.03	–0.16							
	(*P*<.001)	(*P*=.43)	(*P*<.001)							
5. AMIS[b]	0.42	0.01	–0.20	0.55						
	(*P*<.001)	(*P*=.76)	(*P*<.001)	(*P*<.001)						
6. CIS[c]	0.27	–0.01	–0.03	0.46	0.52					
	(*P*<.001)	(*P*=.80)	(*P*=.51)	(*P*<.001)	(*P*<.001)					
7. PM[d]	0.28	0.04	–0.21	0.40	0.49	0.30				
	(*P*<.001)	(*P*=.28)	(*P*<.001)	(*P*<.001)	(*P*<.001)	(*P*<.001)				
8. TC[e]	0.12	–0.04	–0.16	0.20	0.31	0.11	0.41			
	(*P*=.002)	(*P*=.33)	(*P*<.001)	(*P*<.001)	(*P*<.001)	(*P*=.007)	(*P*<.001)			
9. RM[f]	0.19	0.01	–0.30	0.26	0.31	–0.08	0.31	0.30		
	(*P*<.001)	(*P*=.80)	(*P*<.001)	(*P*<.001)	(*P*<.001)	(*P*=.04)	(*P*<.001)	(*P*<.001)		
10. Parents' age	–0.01	–0.10	–0.01	–0.05	–0.08	–0.06	–0.13	–0.04	–0.04	
	(*P*=.73)	(*P*=.01)	(*P*=.78)	(*P*=.21)	(*P*=.04)	(*P*=.14)	(*P*<.001)	(*P*=.31)	(*P*=.31)	
Mean (SD)	3.36 (0.46)	1.60 (0.61)	1.69 (0.50)	2.12 (0.63)	2.79 (0.75)	2.79 (0.65)	2.41 (1.04)	0.57 (0.28)	1.09 (0.40)	45.93 (4.89)

[a]AMIU: active mediation of internet use.
[b]AMIS: active mediation of internet safety.
[c]CIS: child-initiated support.
[d]PM: parental monitoring.
[e]TC: technical control.
[f]RM: restrictive mediation.

Tables 2-4 present the results of all models assessing the associations between traditional parenting styles (inductive, rigid, and indulgent) and the different types of online parental mediation (AMIU, AMIS, CIS, PM, TC, and RM), as well as the possible moderating role of parents' age.

Table 2. Results of the models calculated to analyze the direct effects of traditional parenting styles (inductive, rigid, and indulgent) on online parental mediation (AMIU[a] and AMIS[b]) and the moderating effect of parents' age.

	β (SE)	95% CI	*P* value
AMIU			
Inductive style[c]	0.39 (0.06)	0.28 to 0.50	<.001
Parents' age	–0.01 (0.01)	–0.02 to 0.01	.42
Inductive style × parents' age	–0.03 (0.01)	–0.05 to –0.01	.005
Children's age[d]	0.01 (0.03)	–0.05 to 0.07	.71
Rigid style[e]	–0.02 (0.05)	–0.11 to 0.07	.69
Parents' age	–0.01 (0.01)	–0.02 to 0.01	.50
Rigid style × parents' age	0.01 (0.01)	–0.01 to 0.02	.41
Children's age[d]	0.01 (0.03)	–0.05 to 0.06	.81
Indulgent style[f]	–0.22 (0.06)	–0.34 to –0.11	<.001
Parents' age	–0.01 (0.01)	–0.01 to 0.01	.53
Indulgent style × parents' age	–0.01 (0.01)	–0.03 to 0.02	.71
Children's age[d]	0.01 (0.03)	–0.04 to 0.07	.66

	β (SE)	95% CI	*P* value
AMIS			
Inductive style[g]	0.71 (0.06)	0.58 to 0.83	<.001
Parents' age	–0.01 (0.01)	–0.02 to 0.01	.09
Inductive style × parents' age	–0.02 (0.01)	–0.04 to –0.01	.049
Children's age[d]	–0.02 (0.03)	–0.08 to 0.04	.57
Rigid style[h]	0.04 (0.05)	–0.07 to 0.15	.45
Parents' age	–0.01 (0.01)	–0.02 to 0.01	.15
Rigid style × parents' age	0.01 (0.01)	–0.01 to 0.03	.20
Children's age[d]	–0.03 (0.04)	–0.10 to 0.04	.43
Indulgent style[i]	–0.32 (0.07)	–0.46 to –0.19	<.001
Parents' age	–0.01 (0.01)	–0.02 to 0.00	.13
Indulgent style × parents' age	–0.01 (0.01)	–0.03 to 0.03	.97
Children's age[d]	–0.02 (0.03)	–0.09 to 0.05	.58

[a]AMIU: active mediation of internet use.
[b]AMIS: active mediation of internet safety.
[c]$F_{4,667}$=13.09; R^2=0.09; P<.001.
[d]Children's age was included as a covariate in all analyses.
[e]$F_{4,667}$=0.36; R^2=0.01; P=.84.
[f]$F_{4,667}$=3.96; R^2=0.03; P=.004.
[g]$F_{4,667}$=31.44; R^2=0.20; P<.001.
[h]$F_{4,667}$=1.20; R^2=0.01; P=.31.
[i]$F_{4,667}$=6.59; R^2=0.05; P<.001.

Table 3. Results of the models calculated to analyze the direct effects of traditional parenting styles (inductive, rigid, and indulgent) on online parental mediation (CIS[a] and PM[b]) and the moderating effect of parents' age.

	β (SE)	95% CI	*P* value
CIS			
Inductive style[c]	0.38 (0.06)	0.26 to 0.49	<.001
Parents' age	–0.01 (0.01)	–0.02 to 0.01	.36
Inductive style × parents' age	0.01 (0.01)	–0.02 to 0.03	.74
Children's age[d]	0.01 (0.03)	–0.05 to 0.06	.86
Rigid style[e]	–0.03 (0.05)	–0.12 to 0.07	.58
Parents' age	–0.01 (0.01)	–0.02 to 0.01	.32
Rigid style × parents' age	–0.01 (0.01)	–0.02 to 0.01	.46
Children's age[d]	–0.01 (0.03)	–0.06 to 0.06	.98
Indulgent style[f]	–0.03 (0.06)	–0.15 to 0.08	.59
Parents' age	–0.01 (0.01)	–0.02 to 0.01	.36
Indulgent style × parents' age	–0.03 (0.01)	–0.05 to -0.01	.02
Children's age[d]	0.01 (0.03)	–0.06 to 0.06	.74
PM			
Inductive style[g]	0.61 (0.10)	0.42 to 0.80	<.001
Parents' age	–0.03 (0.01)	–0.05 to –0.01	.001
Inductive style × parents' age	–0.04 (0.02)	–0.07 to 0.01	.051
Children's age[d]	–0.04 (0.05)	–0.14 to 0.05	.36
Rigid style[h]	0.11 (0.08)	–0.04 to 0.26	.15
Parents' age	–0.03 (0.01)	–0.05 to –0.01	.003
Rigid style × parents' age	0.01 (0.01)	–0.02 to 0.04	.44
Children's age[d]	–0.05 (0.05)	–0.15 to 0.05	.30
Indulgent style[i]	–0.43 (0.09)	–0.62 to –0.24	<.001
Parents' age	–0.03 (0.01)	–0.05 to –0.01	.001
Indulgent style × parents' age	–0.02 (0.02)	–0.05 to 0.02	.34
Children's age[d]	–0.04 (0.05)	–0.13 to 0.06	.42

[a]CIS: child-initiated support.
[b]PM: parental monitoring.
[c]$F_{4,667}$=9.95; R^2=0.07; P<.001.
[d]Children's age was included as a covariate in all analyses.
[e]$F_{4,667}$=0.41; R^2=0.01; P=.80.
[f]$F_{4,667}$=1.58; R^2=0.01; P=.18.
[g]$F_{4,667}$=13.54; R^2=0.10; P<.001.
[h]$F_{4,667}$=3.39; R^2=0.03; P=.009.
[i]$F_{4,667}$=8.11; R^2=0.06; P<.001.

Table 4. Results of the models calculated to analyze the direct effects of traditional parenting styles (inductive, rigid, and indulgent) on online parental mediation (TC[a] and RM[b]) and the moderating effect of parents' age.

	β (SE)	95% CI	*P* value
TC			
Inductive style[c]	0.07 (0.03)	0.02 to 0.12	.008
Parents' age	–0.01 (0.01)	–0.01 to 0.01	.45
Inductive style × parents' age	–0.01 (0.01)	–0.02 to –0.01	.04
Children's age[d]	–0.01 (0.01)	–0.03 to 0.02	.63
Rigid style[e]	–0.01 (0.02)	–0.05 to 0.03	.62
Parents' age	–0.01 (0.01)	–0.01 to 0.01	.48
Rigid style × parents' age	0.01 (0.01)	–0.01 to 0.01	.10
Children's age[d]	–0.01 (0.01)	–0.03 to 0.02	.62
Indulgent style[f]	–0.09 (0.03)	–0.15 to –0.05	<.001
Parents' age	–0.01 (0.01)	–0.01 to 0.01	.53
Indulgent style × parents' age	0.01 (0.01)	–0.01 to 0.01	.97
Children's age[d]	–0.01 (0.01)	–0.03 to 0.02	.76
RM			
Inductive style[g]	0.17 (0.04)	0.10 to 0.25	<.001
Parents' age	–0.01 (0.01)	–0.01 to 0.01	.11
Inductive style × parents' age	–0.02 (0.01)	–0.03 to –0.01	.01
Children's age[d]	0.01 (0.02)	–0.03 to 0.05	.56
Rigid style[h]	–0.01 (0.03)	–0.06 to 0.06	.97
Parents' age	–0.01 (0.01)	–0.01 to 0.01	.16
Rigid style × parents' age	0.01 (0.01)	–0.01 to 0.01	.92
Children's age[d]	0.01 (0.02)	–0.03 to 0.05	.60
Indulgent style[i]	–0.26 (0.04)	–0.33 to –0.19	<.001
Parents' age	–0.01 (0.01)	–0.01 to 0.01	.14
Indulgent style × parents' age	0.01 (0.01)	–0.01 to 0.01	.95
Children's age[d]	0.02 (0.02)	–0.02 to 0.05	.37

[a]TC: technical control.
[b]RM: restrictive mediation.
[c]$F_{4,667}$=2.84; R^2=0.02; P=.02.
[d]Children's age was included as a covariate in all analyses.
[e]$F_{4,667}$=0.99; R^2=0.01; P=.41.
[f]$F_{4,667}$=3.76; R^2=0.03; P=.005.
[g]$F_{4,667}$=6.86; R^2=0.05; P<.001.
[h]$F_{4,667}$=0.57; R^2=0.01; P=.68.
[i]$F_{4,667}$=13.47; R^2=0.09; P<.001.

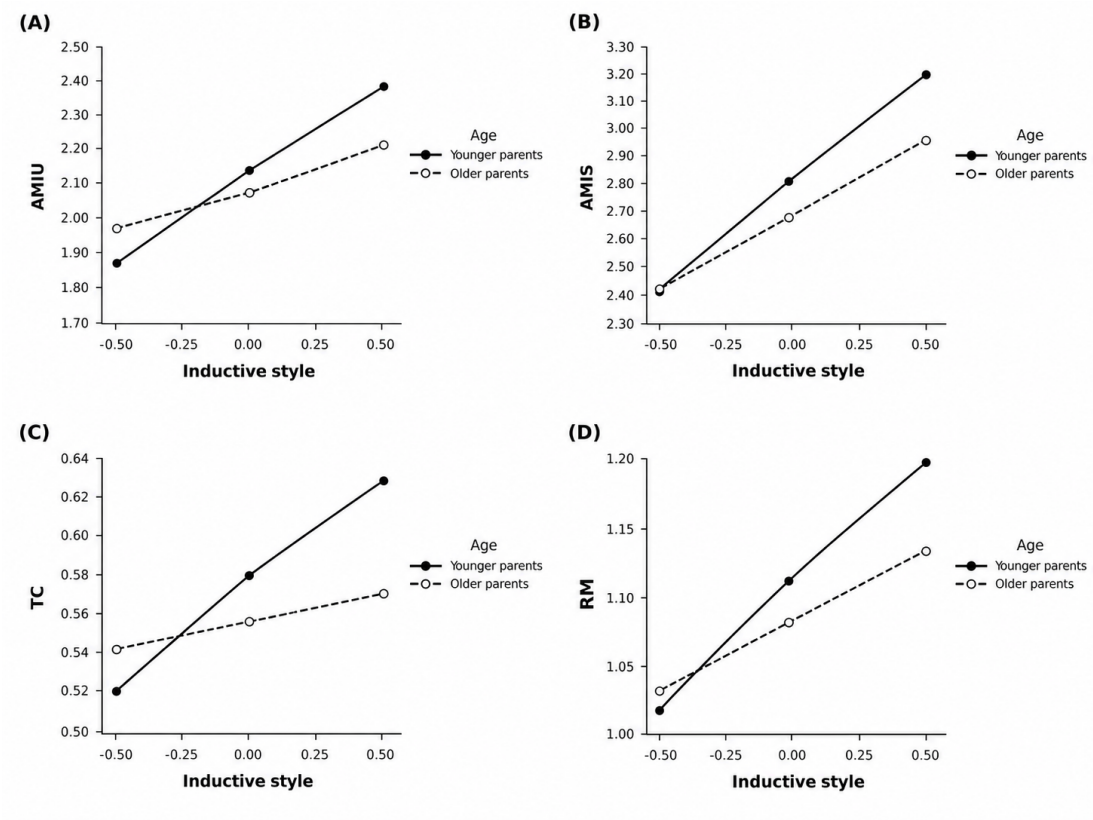
Inductive Parenting Style and Types of OPM

Across the 6 moderation models in which inductive parenting was the predictor and the OPM strategies were the outcomes (Tables 2-4), inductive parenting was positively associated with all 6 OPM strategies (AMIU, AMIS, CIS, PM, TC, and RM).

We also observed a significant interaction between the traditional inductive parenting style and the parents' age in predicting some types of online parental mediation. Specifically, a significant interaction between parents' age and inductive parenting was observed for AMIU (β=–0.03, SE 0.01; P=.005), AMIS (β=–0.02, SE 0.01; P=.049), TC (β=–0.01, SE 0.01; P=.04), and RM (β=–0.02, SE 0.01; P=.01). This moderating effect is illustrated in Figure 2. Figure 2 shows that for both younger and older parents, there was a

positive relationship between the inductive style and 3 forms of online mediation: AMIU (younger parents: β=.53, SE 0.08, 95% CI 0.38 to 0.70, *P*<.001; older parents: B=.26, SE 0.07, 95% CI 0.12 to 0.40, *P*<.001), AMIS (younger parents: β=0.82, SE 0.08, 95% CI 0.64 to 0.99, *P*<.001; older parents: β=0.61, SE 0.08, 95% CI 0.46 to 0.77, *P*<.001), and RM (younger parents: β=0.26, SE 0.05, 95% CI 0.15 to 0.36, *P*<.001; older parents: β=0.10, SE 0.05, 95% CI 0.01 to 0.19, *P*=.045). As the slope was steeper for younger parents, the relationship between the inductive style and these 3 forms of parental mediation (AMIU, AMIS, and RM) was stronger for these parents. Furthermore, in the case of TC, a significant positive relationship was observed with the inductive style only for younger parents (younger parents: β=0.12, SE 0.04, 95% CI 0.05 to 0.19, *P*<.001; older parents: β=0.03, SE 0.03, 95% CI –0.04 to 0.09, *P*=.39).

Figure 2. Moderating effects of parents' age on the associations between inductive parenting style and online parental mediation. AMIS: active mediation of internet safety; AMIU: active mediation of internet use; RM: restrictive mediation; TC: technical control.



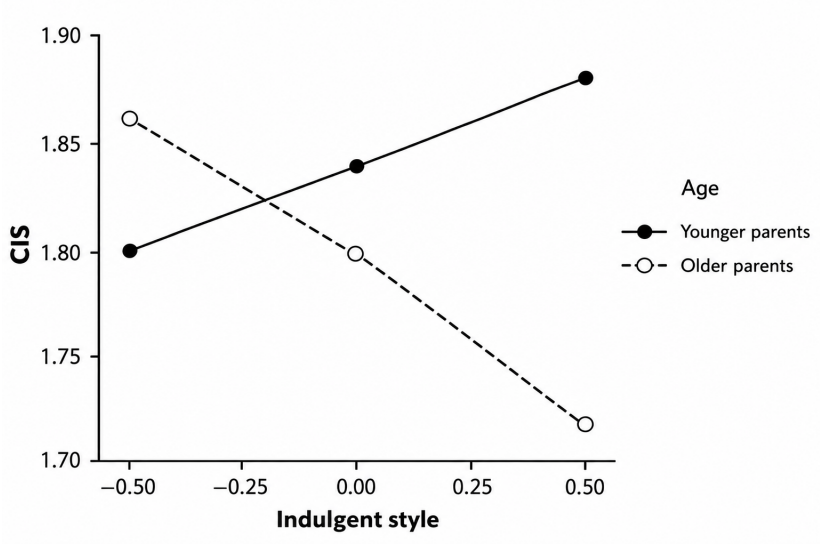
Rigid Parenting Style and Types of OPM

Tables 2-4 present the association between rigid parenting and OPM and the possible moderating role of parents' age. Unlike inductive parenting, rigid parenting was not significantly associated with any OPM strategy, and no interaction with parents' age was significant.

Indulgent Parenting Style and Types of OPM

Finally, indulgent parenting was negatively associated with 5 OPM strategies (AMIU, AMIS, PM, TC, and RM). We also observed a significant moderating effect of parents' age on the relationship between the indulgent parenting style and CIS. Figure 3 depicts this interaction. The relationship between indulgent style and CIS varied significantly depending on parental age, although the conditional effects estimated at specific moderator levels did not reach statistical significance (younger parents: B=.09, SE=0.08, 95% CI -0.06 to 0.25, *P*=.22; older parents: B=–.14, SE=0.08, 95% CI -0.30 to 0.01; *P*=.07).

Figure 3. Moderating effect of parents' age on the association between indulgent parenting style and child-initiated support (CIS).



Discussion

Principal Findings

The present study found that inductive parenting was positively associated with all 6 OPM strategies, whereas indulgent parenting was negatively associated with five strategies and rigid parenting showed no significant associations. Parents' age moderated 4 associations involving inductive parenting and the association between indulgent parenting and CIS, although the conditional CIS effects were not statistically significant.

These findings support interpreting offline parenting styles and online parental mediation as related components of family educational processes. Consistent with the coconstruction perspective [26], parenting practices may extend across face-to-face and digital contexts rather than operating as independent domains. The observed associations are, therefore, consistent with the proposed global parenting framework, while not constituting a direct empirical test or validation of that framework. The global parenting framework remains a provisional conceptual perspective: although the present findings are consistent with it, these cross-sectional, parent-reported associations cannot establish the direction of influence or validate its proposed mechanisms.

Inductive parenting was positively associated with all 6 OPM strategies. Parenting based on warmth, dialogue, reasoning, and negotiated rule-setting may facilitate parents' active involvement in guiding, supervising, and supporting their children's internet use [35,38,39]. Its positive association with RM is not necessarily inconsistent with its dialogical nature: when embedded in an inductive approach, restrictions may represent negotiated protective boundaries that preserve opportunities for autonomy and learning rather than coercive control. Dialogue may also help children understand and accept restrictions perceived as reasonable and protective [39]. Thus, inductive parenting may combine enabling and RM within a coherent educational approach.

Parents' age moderated the associations between inductive parenting and AMIU, AMIS, TC, and RM, with stronger associations among younger parents. Greater familiarity with digital technologies may enable younger parents to translate inductive principles into a broader repertoire of online mediation strategies that combines communication, supervision, and technological regulation [25,35,40]. Conversely, the weaker associations among older parents should not be interpreted as lower commitment; they may reflect uncertainty about rapidly changing platforms and online risks [33,41,42]. Age may therefore function as a proxy for generational differences in digital experience and self-efficacy, an interpretation that should be tested using direct measures of digital competence.

Indulgent parenting was negatively associated with AMIU, AMIS, PM, TC, and RM. The limited rule-setting and supervision characteristic of this style may therefore extend to the digital context, resulting in broad autonomy with less parental guidance regarding online opportunities and risks. This interpretation is consistent with research linking permissive parenting to lower parental involvement across offline and online activities [35,40,43]. The absence of a direct association with CIS suggests, however, that children's willingness to request help may depend on other factors, including trust, perceived parental availability, communication quality, and the child's digital competence.

Parents' age moderated the association between indulgent parenting and CIS, but neither conditional effect was statistically significant. The interaction should therefore not be interpreted as demonstrating greater CIS among younger parents or lower CIS among older parents. It indicates only that the direction of the association varied with parental age and that the estimated simple slopes lacked sufficient precision at the selected moderator levels. Possible explanations involving digital competence, communication expectations, or children's perceptions of parental support remain tentative and require replication in larger samples using direct measures of these mechanisms.

Rigid parenting was not associated with any OPM strategy, despite previous research linking strict parenting to RM and TC [33,35]. This finding suggests that behavioral control in offline family life does not necessarily translate into active management of children's digital experiences. Online mediation requires not only authority and rule-setting but also technological knowledge, communication, and adaptation to children's increasingly autonomous online behavior [25,35,40]. Moreover, highly controlling parenting may encourage adolescents to seek greater privacy, thereby reducing parents' opportunities to monitor or influence their online activities [44,45]. The absence of direct associations should not be interpreted as evidence that rigid parenting is irrelevant; its effects may operate indirectly through disclosure, trust, family communication, or parental digital self-efficacy.

Overall, the contrasting patterns for inductive, indulgent, and rigid parenting refine the proposed global parenting framework. Continuity between offline and online parenting appears to depend not simply on the amount of parental control, but on how regulation is exercised. Communication, reasoning, and shared problem-solving may transfer more readily to digital contexts than either low involvement or authority based primarily on obedience. These findings therefore provide preliminary correlational support for viewing offline parenting and online mediation as interconnected educational processes, while longitudinal research is needed to determine their direction and underlying mechanisms.

Limitations

The findings of the present study should be interpreted in light of several limitations. First, its cross-sectional design precludes causal inferences regarding the relationships between traditional parenting styles and OPM strategies. Although the proposed global parenting framework assumes continuity between offline and online parenting practices, longitudinal research is needed to examine how these relationships evolve over time and across different stages of children's development. Future research should use longitudinal and multi-informant designs, combining reports from parents and children with observational or behavioral measures of offline and online parenting, to examine how these practices evolve and to reduce reliance on a single source of data.

Second, although the moderation analyses revealed several significant interaction effects, these findings should be interpreted cautiously because 18 moderation models were estimated and some of the observed interaction effects were relatively small. The estimation of multiple models may increase the probability of type I error, whereas the modest magnitude of some effects limits their practical interpretation. Future studies should therefore attempt to replicate these findings in independent samples and examine whether the observed moderation patterns remain stable across different populations and developmental stages.

Third, the relatively low mean scores and restricted variability observed for the rigid and indulgent parenting styles may have reduced the statistical power to detect weaker associations, particularly in the moderation analyses. This limitation may be especially relevant when interpreting the absence of significant associations involving the rigid parenting style. Future research would benefit from including samples with greater variability in parenting practices and from examining these relationships in family contexts in which rigid or indulgent parenting may be more prevalent.

Fourth, the sample was predominantly composed of 564 mothers among 672 (83.9%) participants, which limits the generalizability of the findings to fathers and may have influenced the pattern of results. Given that previous research suggests that rigid or authoritarian parenting tendencies may differ according to parental gender [46-48], caution is warranted when interpreting the absence of significant associations for the rigid parenting style. The present study did not directly compare mothers and fathers, and future research should examine whether parental gender moderates or qualifies the relationships between parenting styles and online parental mediation.

Fifth, all data were obtained through parents' self-reports. Consequently, the findings may be influenced by social desirability and shared method variance, despite the procedural measures adopted during data collection and Harman's single-factor test indicating that common method bias was unlikely to represent a major concern. Future studies would benefit from incorporating multiple informants, including children and adolescents, as well as observational or behavioral measures of family digital practices.

Sixth, the EU-Global Kids Online Parental Mediation Questionnaire uses different response formats across its dimensions. Whereas some OPM strategies are assessed using 5-point Likert scales, TC uses dichotomous response options, and RM uses a 3-point response scale. Although these formats were established in the original instrument, this variability may affect the comparability, variance, and sensitivity of the different OPM measures and should be considered when interpreting differences across mediation strategies.

Seventh, the sample consisted exclusively of Spanish families. Parenting styles and online mediation practices are embedded within broader cultural norms, educational values, and patterns of family relationships. Therefore, caution is warranted when generalizing these findings to other sociocultural contexts. Cross-cultural studies will be essential to determine whether the relationships observed here remain stable across countries characterized by different parenting traditions and levels of digitalization.

Finally, although parents' age was examined as a moderator, other family and contextual variables may also influence the relationship between parenting styles and OPM. Parents' digital competence, digital self-efficacy, socioeconomic status, educational level, family communication patterns, child age, child gender, and children's digital skills may all contribute to explaining variability in online mediation strategies. Examining these factors simultaneously

would provide a more comprehensive understanding of digital parenting and further refine the proposed global parenting framework.

Practical Implications

Despite these limitations, the findings suggest potential practical implications. Future family-support and parent-training research could examine whether strengthening not only children's digital skills but also parents' educational competencies across offline and online contexts may contribute to safer and healthier internet use [38]. More fundamentally, the findings are consistent with the view that digital parenting may be understood not as an isolated set of technological practices but as part of broader family educational processes.

Conclusions

The present study suggests that traditional parenting styles remain highly relevant for understanding parental mediation in digital environments. Consistent with the proposed global parenting framework, the findings indicate that parenting practices developed within offline family relationships are closely associated with the ways parents guide, supervise, and support their children's internet use.

Among the 3 parenting styles examined, the inductive style showed the most consistent and positive associations across all 6 OPM strategies, suggesting that parenting based on warmth, communication, reasoning, and shared decision-making is consistently associated with parenting practices in digital contexts [49,50]. By contrast, indulgent parenting was associated with lower parental engagement across most mediation strategies, whereas rigid parenting showed no direct associations with online mediation, indicating that behavioral control alone may be insufficient for addressing the complexity of contemporary digital environments [51].

The moderating effect of parents' age further suggests that the continuity between offline parenting and online mediation may depend partly on parents' familiarity with digital technologies. One possible interpretation is that younger parents may be better equipped to apply these principles to online mediation because of greater digital experience and confidence.

Taken together, these findings are consistent with the view that parenting in the digital age should not be understood as a fundamentally new form of parenting but rather as an extension of established educational processes into online environments. The findings are consistent with the proposed global parenting framework, which conceptualizes traditional parenting styles and OPM as interconnected dimensions of the same educational system. As digital technologies become increasingly embedded in family life, understanding how traditional parenting principles extend into online environments will be important for informing future developmental research and family-support interventions.

Generative AI Use

The authors declare the use of generative AI (GenAI) in the research and writing process. According to the GAIDeT taxonomy (2026), the following tasks were delegated to GenAI tools under full human supervision: proofreading and editing, reformatting, monitoring compliance with ethical standards, recommendations, and publication support
The GenAI tool used was: Gemini 3.6 Flash.
Responsibility for the final manuscript lies entirely with the authors.
GenAI tools are not listed as authors and do not bear responsibility for the final outcomes.
Declaration submitted by collective responsibility:
Google Gemini 3.6 Flash (Google DeepMind) was used to assist with language editing, manuscript reformatting, checking compliance with ethical and editorial requirements, providing recommendations for manuscript improvement, and supporting the preparation of submission materials. All AI-assisted suggestions were critically reviewed and verified by the authors, who retain full responsibility for the scientific content, accuracy, and integrity of the manuscript.

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Data Availability

The datasets generated or analyzed during this study are available from the corresponding author on reasonable request.

Conflicts of Interest

None declared.

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Abbreviations

AMIS: active mediation of internet safety
AMIU: active mediation of internet use
CHERRIES: Checklist for Reporting Results of Internet E-Surveys
CIS: child-initiated support
OPM: online parental mediation
PM: parental monitoring
RM: restrictive mediation
TC: technical control

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