

Digitally Mediated Parenting: A Review of the Literature

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Abstract: The field of digital parenting is an emergent and dynamic area of research. This paper presents a structured literature review of research papers published between 2016 and 2021 which report empirical studies of parenting in the online space. Studies were sourced from Scopus and Web of Science using combinations of parent*/father/mother AND engage*/involve*/participat* AND online/digital*/virtual. A corpus of 144 papers were subjected to a first round of analysis, which resulted in the identification of two main clusters: Digital Parenting (Digi-P) and Digital Parental Involvement in Schooling (Digi-S). The first of these, constituting 92 papers, was the focus of a thematic analysis which is reported in this review. This review analysis is informed by theories of mediation in general, and parental mediation specifically. It finds that restrictive mediation was the most commonly reported parental approach to managing children's online activities; that child age, gender, and vulnerability and parents' ICT knowledge and experience impact on parents' mediation practices; that children and parents have different perspectives and knowledge about children's online activities; that parents' online activities also impact on their children; and that parenting at a distance is supported by digital tools.

Keywords: parenting; digital; online; mediation



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1. Introduction

Becoming a parent and supporting a child's development in these times is a project in which digital technologies are intertwined. Parents search for information and receive support online, are recruited into and establish social media networks with other parents, purchase digital devices and network access for their children, monitor children's online activities, and interact with children's services in the online environment [1–3]. The emergence of the 'datified child' and the intensification of digital parenting have been noted as issues of concern, even before the ongoing pandemic raised the stakes considerably [4]. The imposition of home-based online learning in response to the ongoing global pandemic situation has created an inescapable obligation for parents to engage with digital technology to a greater extent than ever before.

The field of digital parenting is an emergent and dynamic area of research [5,6]. As researchers in this field, we identified a need for a thorough and up-to-date review of recent empirical studies. Understanding such a complex subject requires resources from across disciplines, theoretical perspectives, and methodological approaches. The structured literature review presented in this paper is inclusive of empirical research from across the disciplinary spectrum, published between 2016 and 2021.

The approach taken to analysing this literature is integrative and employs mediation as a connecting concept. Taking mediation as a focus enables us to analyse a diverse corpus of literature and arrive at a rich picture of digitally mediated parenting that is coherent and evidence based. We begin with an introduction to theories of mediation and parental mediation before presenting the methodology for this literature review. The findings section is organised in terms of themes arising from the analysis: parents mediating children's online activities; perception and experience gaps of parents and children; parents and children interacting through social media; and the role of technology in parenting at a

distance. The concluding discussion considers the multi-dimensional nature of digitally mediated parenting, as it emerges from the research review, and lays out the elements of an integrated model for digitally mediated parenting. This model incorporates children as mediators and the role of media itself in social identities and relationships.

Conceptualising Digitally Mediated Parenting

The impacts of digital and online technologies on parenting and parent–child relationships have given rise to an interdisciplinary body of scholarship. Efforts to describe, understand and measure this complex phenomenon have generated a range of models and frameworks. In introducing the conceptual terrain, we will look at how the concept of mediation is taken up, defined, and elaborated in relation to the concept of parenting. Towards this aim, it is helpful to consider mediation as a social phenomenon more generally.

The concept of mediated interaction was developed to explain changes to communication practices associated with the spread of mass communication media technologies [7,8]. It preceded the emergence of personal computing as a widespread social phenomenon and reflects views about traditional media, such as print journalism and television. In the mid-90s, an influential three-part typology of mediated interaction was proposed by Thompson [7]. This model distinguishes between *face-to-face* co-present interaction, *person-to-person mediated interaction* (e.g., telephone conversations, emails), and *mass media interactions*, such as between a television production and its audience. Mediated interaction involves the use of technical tools to transmit ‘information or symbolic content ... to individuals who are remote in space, or time, or both’ (p. 83, [7]).

In distinguishing between non-mediated (face-to-face) and mediated interactions, this theory embedded assumptions about private and public worlds, with implications for the place of the home and family. This is clear from Thompson’s statement suggesting that, although ‘early processes of socialization in the family’ remained formative for children’s development, the media is ‘a major new arena ... for the process of self-fashioning’ (p. 43, [7]). Compared to the embodied, home-based arena of family life, this new media arena was ‘severed from the spatial and temporal constraints of face-to-face interaction’ (p. 43, [7]).

The current landscape is one in which ubiquitous, Internet-connected digital devices are bringing digital networks into private spaces. A reconfiguration of mediation theory has been called for in response to this development [8,9]. Significantly, the nature of childhood in contemporary society has featured prominently in this argument. In addressing the International Communication Association as president, Sonia Livingstone (2009) argued that childhood itself had become mediated. Children’s play and adolescents’ self-expression can no longer be considered separate from global media culture:

the intersection of youthful literacies and technological affordances is resulting in the mediation of identity and social relationships. (p. 9, [9])

The field of media studies had shifted from separating private and public domains, to a single networked landscape of mediation. However, in the field of parenting and family studies, this shift had already occurred. The impact of mass communication on children is not a new topic in the field of parenting. Concerns about ‘screen time’ were initially prompted by the entry of television sets into family living rooms [10]. In this context, parental mediation referred to strategies for regulating children’s engagement with television, including the quantity of screen time, the quality of content viewed, and the nature of parent–child interactions [11]. Television was seen as bringing outside influences into the family home that impact on children’s socialisation and identity formation [12].

The concept of mediation, in relation to parenting, is concerned with ways in which parents manage their children’s relationship with the media which they are consuming. Parental mediation theory is concerned with *how* this is achieved. The key distinction relates to how parents exercise control, whether control is overt and compliance focused, or whether it employs reason and negotiation. These two modes are referred to as *restrictive* and *instructive* (or sometimes ‘active’) mediation [10]. A third mode, co-viewing, is also

often included in the model, reflecting the findings of research into family television viewing habits. This three-part model has exercised a strong influence on the design of studies into parental mediation, as our literature review will show.

A fourth type of mediation, referred to as ‘participatory learning’, was added by Clark [13]. This addition reflected a shift in the relationship between children and parents relative to digital media. The pace of technological change was challenging parental expertise and leading to the phenomenon of children as ‘digital natives’, taking the role of teaching and supporting parents [14,15]. Observations that children were ‘providing digital media guidance’ to parents challenged a model based on parental power (p. 31, [16]). The addition of co-learning to the mediation model is in part a reflection of this new role for children.

The large project EU Kids Online elaborated mediation in terms of five dimensions [2]. *Restrictive* and *active* mediations were retained in this typology and three additional types were added: *technical*, *monitoring*, and *risk management*. The separation of monitoring from restriction reflected the reported experience of parents, which indicated that monitoring children’s online activities was a necessary part of making decisions regarding whether to act. In our analysis of the literature, we incorporated five categories of mediation, which align with what studies have reported: *restrictive*, *instructive*, *monitoring*, *technological* and *collaborative*.

2. Materials and Methods

A structured literature review (SLR) is a systematic method of defining, collating and analysing a corpus of papers [17]. An SLR establishes a field of study by defining its boundaries in terms of what will be included and excluded. An explicit account is given of the search process, including sources, scope, and methods of analysis of the literature. SLRs may involve a statistical meta-analysis of the findings of the literature but this is not the approach we have taken, owing to the methodological diversity of the reviewed research.

Some SLRs exclude all research that does not adopt the so-called ‘gold standard’ of randomised controlled trial intervention studies, while other reviews are inclusive of studies utilising a range of methodological approaches [18]. We have taken the latter course, including studies that adopt quantitative and qualitative methods. Together, these studies enable us to present patterns across the corpus of studies, as well as illustrate these with relevant details from cases. We have also been careful that a rigid application of English language writing standards did not result in the exclusion of valid and interesting studies from across the globe.

Scopus and *Web of Science* were searched during the period 26 September 2021 and 8 October 2021. Three sets of search terms were derived. The first identified the key participants of interest, namely, parents. The second focused on parenting practices defined as involvement. The third identified the digital domain as the context for studies of parental involvement. This resulted in the following structure for combinations of keywords:

```
parent*/father/mother
AND
engage*/involve*/participat*
AND online/digital*/virtual
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The filters applied were (1) peer-reviewed journal articles only and (2) English language publication. The time parameters were set as 2011–2021.

The initial search yielded a very large set of 18,281 abstracts. The first stage of reduction was to remove duplicates and papers in which the term ‘parent’ did not refer to a human participant, but to an unrelated concept in the field of study. We excluded studies of parenting focused on prenatal and infant care, as this is a specialist area beyond the scope of this review. A significantly smaller corpus of 1392 studies was the outcome.

The second stage of reduction identified studies in which an online survey of parents was conducted, yet the focus of the study was not related to digitally mediated parenting. The use of online surveys has, due to necessity, increased during the pandemic, but for

this review only studies directly related to parents' engagement with digital tools or in the digital realm were selected. Additionally, at this stage, studies that did not report empirical research (such as book reviews) and those with fewer than three participants were excluded. At this point, we examined year-by-year publication figures. In effect, articles published between 2011 and 2015 accounted for only 21% of the 326 articles assembled at this stage (see Figure 1). We also identified that there was a significant upsurge in publication intensity from 2016 onwards (see Figure 2). Thus, we decided to focus the scope of the review on the period 2016 to 2021.

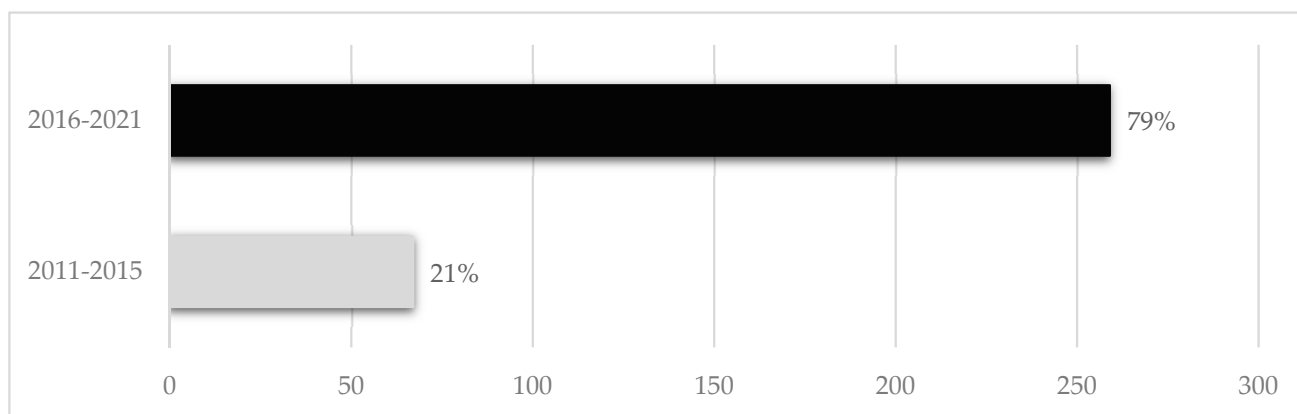


Figure 1. Difference in the percentage of publications.

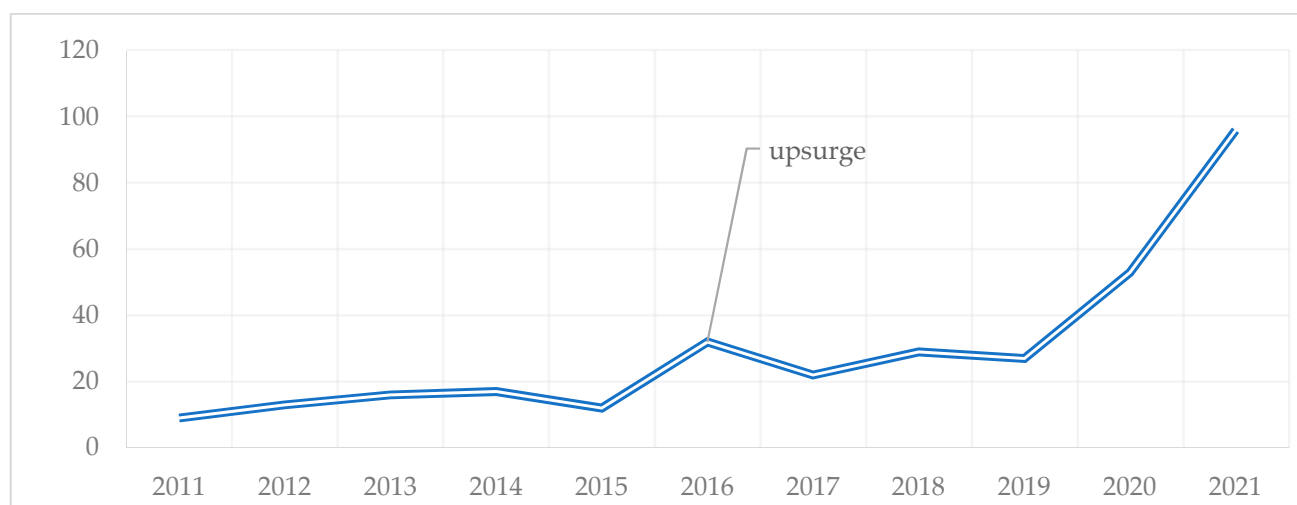


Figure 2. Upsurge in publications from 2016.

Following this process, a corpus of 215 articles was identified for closer examination and a final round of exclusions were applied. We decided to exclude studies located in the prior-to-school period and limit the review's scope to parenting of school-age children and adolescents. A few articles for which the full texts were inaccessible through our university subscriptions were also excluded. A few more studies in languages other than English were also found. A final corpus of 144 papers was identified.

The next stage of analysis examined the full text of these papers to identify topics and sub-topics, methods, participants, and findings. Four main groups of papers were created based on themes which we titled *digital risks*, *digital parenting*, *digital culture* and *digital schooling*. The initial thematic analysis was followed by a process of consolidating the corpus into two main sub-groups. We tested the proposition that the 'digital schooling' thematic group was distinctive enough to be separated from the other three thematic groups (digital culture, risk, and parenting). To investigate this possibility, we undertook corpus-

level analyses of three dimensions of the reported research: the discipline/field, focus and participants. The results of this analysis substantiated the distinction and reinforced the rationale for separating the corpus into two sets, which we will refer to as Digital Parenting (Digi-P) and Digital Parent Involvement in Schooling (Digi-S).

Discipline/field was established by the journal in which the paper was published. The Digi-P set was significantly more diverse, with a greater representation of communication and media studies, psychological and behavioural sciences, family studies, gender studies, health and marketing. The Digi-S set is primarily constituted by publications in two fields: educational studies and educational technology.

An analysis of keywords in the title and abstract revealed differences in the topics and foci of the two sets. Issues related to digital risks and parental mediation of these risks was prominent in the Digi-P set, whereas issues related to learning were prominent in the Digi-S set (see Table 1).

Table 1. Topics in the digital parenting and digital schooling sub-corpus.

Topic Keywords	Digi-P (%)	Digi-S (%)
Risk #	40	9
Mediation +	39	15
Learning	12	61.5
Parenting	16	7.7

risk/y or specific risks, e.g., cyberbullying, gambling, sexting + mediation, monitoring, control as terms for parental practices.

In social research, the selection of participants largely determines the perspectives available to the researchers. The subject of digitally mediated parenting is inherently concerned with the child–parent relationship; thus, perspectives of both children/youth and parents are important. The involvement of children and adolescents was significantly greater in the Digi-P set than the Digi-S set (see Table 2).

Table 2. Participant groups as % of the Digi-P and Digi-S sub-corpus.

Participants	Digi-P % (n = 92)	Digi-S % (n = 52)
Children only	31.5	4
Parents only	25	50
Children and parents	37	32.6
Other	6.5	13.4

Both sets included a similar percentage of studies which included both children and parents, enabling both perspectives to be considered. However, the parent perspective was more strongly represented in the Digi-S group while the child/youth perspective was more strongly represented in the Digi-P group.

In this paper, we focused on the Digital Parenting set only. This was necessary for two reasons. Firstly, we wanted to explore the models, insights and recommendations arising from this body of research in greater depth and thereby do justice to the contribution of each set of studies to our understanding of digitally mediated parenting. Secondly, we needed to sufficiently elaborate on the themes that emerged from the corpus analysis.

3. Results

The analysis of the Digi-P corpus yielded rich findings. The following sub-sections discuss (1) parents' mediation of children's online activities; (2) influences on parents' approaches to mediation; (3) perception and experience gaps between parents and children; (4) parents' and children's interactions through social media; and (5) the role of technology in distance parenting.

3.1. Parents Mediating Children's Online Activities

Twenty-nine studies described specific mediation practices used by parents in relation to their child's online activities. Most of these studies categorised mediation approaches in terms of an established typology, particularly distinguishing between restrictive and instructive (or active) mediation. Others described specific actions undertaken by parents but without assigning these actions to types. Our analysis scheme identifies five types of mediation reported in this corpus: restrictive, instructive/active, monitoring, technological, and collaborative. A sixth group, 'other', includes strategies not fitting into any of these types. Table 3 summarises the mediation categories reported in these studies.

Table 3. Types of parental mediation strategies reported in the reviewed literature.

Mediation Type	% Reporting
Restrictive	69%
Instructive	55%
Monitoring	49%
Technological	25%
Collaborative	19%
Other	26%

A recurrent finding was the predominance of attempts to limit children's online activities by imposing restrictions. Aeirbe et al. reported that 'control strategies' were most common [19] and similarly Desimpelaere et al. state that mediation was 'mainly' restrictive [20]. Hayes et al., while giving examples of all five kinds of mediation strategies, stated that parents' mediation was primarily restrictive [21].

Instructive approaches, particularly involving discussing risks with a child, were also well represented and in some cases were the most common approach. For instance, Kalinina et al. report that 68% of parents discussed risks with their children, while just under half employed some form of restrictive strategy [22]. Gimenez et al. report that asking questions to elicit information from children regarding their online activities was the most common strategy used by parents [23].

It was common for multiple mediation strategies to be reported in a single study. Since few studies adopted a parent-centred approach to analysis, it was rarely possible to identify which combinations of strategies were preferred by parents. However, where in-depth interviews with parents were utilised, insights were provided into the adaptive and strategic manner in which mediation strategies could be selectively applied. An example is Pigué et al., who identify a range of restrictive and facilitate strategies that could make up a parent's toolkit [24]. On the restrictive side, these included time regulation, usage restriction, rule setting, and device confiscation. On the facilitative side, parents adopted rule negotiation, the empowerment of choice, and support for non-digital pursuits to balance the online activities. Steinfeld, similarly, reports that parents 'employ different combinations of ... methods to regulate, raise awareness and guide their children' (p. 1909, [25]).

3.2. Influences on Parents' Approaches to Mediation

In 26 papers, consideration was given to the reasons why parents implemented particular approaches to mediation. In some papers, the relationship was reported directly, whereas in other cases, inferences can be made from reported comparisons between different groups of participants. For instance, some studies compared mediation strategies for different ages [26] or genders of children [27]. This allowed us to infer that age, or gender, was a factor in parents' choice of mediation strategies. Others reported how individual parent participants explained their motivations for responding to children's online activities in particular ways.

In analysing the literature, we first identified all associations made with parents' mediation approaches and then grouped these into three categories: child-focused, parent-focused, and technology-focused categories. Of these, child-focused aspects were most commonly reported. These aspects included age, gender, vulnerability, problematic behaviour, and the child's relationship with the parents.

3.2.1. Child-Focused Influences

As children move into adolescence, there is evidence that parents' mediation practices change. Shin and Lwin's survey of 746 children aged 12 to 18 years investigated both parental and peer mediation, as experienced by youth [26]. As predicted, parental mediation lessened and peers became more important influences on youths' online activities as the child's age increased. Steinfeld investigated the relationship between parental mediation and the age of children [25]. Two cohorts of children were recruited: 156 participants aged 9 to 11 years and 357 adolescents aged 12 to 18 years. Following surveys, semi-structured interviews were held with a small group of children, parents and teachers. This study found that as children get older, there is a shift 'from restrictions and boundary-setting to mediation and discussions' (p. 1911, [25]). Mediation, in this sense, refers to negotiation.

Hayes et al. suggest there may be an interaction between parents' understandings of child development, their views of risk, and their choice of mediation strategy [21]. The study involved interviews regarding engagement with social networking with children aged 7 to 12 years, their parents, and teachers. Parents who took a restrictive approach were more inclined to voice concern regarding children's level of maturity. Both parents and teachers 'associated responsibility with age' and saw social media as a zone in which responsibility was required (p. 9, [21]). However, parents who took a collaborative approach to mediation tended to emphasise the potential benefits for their children of digital engagement.

The gender of a child may also impact parents' approaches to mediation. Findings are mixed and suggest an interaction between the type of online activity, child gender, and parental mediation strategies. Giménez reported that more girls than boys were supervised during online activity and questioned about their activities [23]. Pardeep and Sriram noted that both girls and younger adolescents were subjected to greater parental control of social network engagement [27]. However, Aierbe et al.'s study of digital gaming found that parents restricted boys more than girls [19].

Girls and boys have different patterns of activity in cyberspace, and parents may be responding to this. Boys on average are more engaged with sexually explicit material (SEM) than girls [28–30]. In none of the studies do parents make specific reference to this type of material; however, parents' comments about 'privacy' may be veiled references to a sensitive topic [25]. The avoidance of conversations about SEM may contribute to reduced monitoring of boys.

Gender also interacts with children's involvement in cyberbullying and parental mediation. Evidence for this comes from Baldry et al., who reported that male cyberbullies and female cyberbullying victims experienced different parental mediation approaches [31]. When asked whether or not parents monitored their online activity, more male cyberbullies answered that they were not monitored (41.5%) than female victims (28.8%). Greater levels of monitoring for female victims may be a response to their victimisation.

A child's challenging behaviour can also influence the parents' approaches to mediation. The phenomenon of 'reactive restriction' describes a parent's tightening of rules in response to a problem, such as compulsive gaming, which is linked to online activity [32] (p. 627). Declining academic performance can also promote reactive restriction, driven by the view that online activity is competing with study [23].

Parents of children with intellectual and learning disabilities (LD) are particularly concerned about the risks of online activity. Agren et al.'s study compared the views of parents of teens with an intellectual disability (ID) and those whose adolescent children were neurotypical (NT) [33]. Limiting access to digital devices is one mediation strategy for parents of ID adolescents: while 100% of their NT peers owned a smartphone, 75% of

ID teens did so. Restricting the use of social media is another strategy: only 50% of ID teens used social media compared to 95% of their NT peers. The vulnerability of LD and ID children to online exploitation is likely a key reason for restrictive mediation. Both Raghavendra [34] and Caton and Landman [35] reported that parents were concerned about their children communicating with strangers online.

3.2.2. Parents' Digital Knowledge and Experience

Eight studies identify parents' knowledge and experience of digital technology as a factor influencing their approaches to mediation. Specifically, when knowledge and experience were limited, there appeared to be a higher likelihood of either minimal mediation or restrictive mediation. Durak and Kagin surveyed 341 parents of children in 5th and 6th grades to investigate their mediation practices [36]. Data were collected on parents' internet experience and usage, and education levels, amongst other factors. In considering the relationship between these parent factors and their mediation practices, the authors included all types of mediation in the one score, indicating the level of mediation in which the parent engaged. Parents with over seven years of experience using the internet had the highest mediation scores and those with between one and three years' experience had the lowest.

An interaction between rurality and parents' internet skills was found by Chang et al. [37]. This study was undertaken in China where significant differences in educational opportunity and resourcing between rural and urban regions have existed. Based on large-scale surveys of rural and urban students and parents, the authors found that rural youth and their parents had lower internet skills, and rural parents intervened less in their children's online activities than their urban counterparts.

3.3. Perception and Experience Gaps of Parents and Children

A total of seventeen (17) papers in the corpus reported significant differences in the perspectives of parent and child participants. An analysis of this group of studies yielded three sub-themes: (1) perception–reality gaps, (2) secrecy and non-disclosure, (3) differences in risk management priorities/strategies or conflicts between freedom/autonomy and protection/surveillance. These findings were either derived by comparing the perspectives of parent and child participants (sometimes in the same family) or by asking child participants' views about their parents' perspectives compared to their own. In the majority of these studies, the child participants were adolescents.

3.3.1. Perception–Reality Gaps

Gaps between parents' perceptions of adolescents' online activities and the reported activities of adolescents are reported in several papers. Adolescents believe that parent knowledge of online activities is limited [38], and there seems to be good evidence for this assessment. Agapito and Brito recruited over a thousand teenagers and parents for their survey on risky online behaviours [39]. While 36.2% of parents believed they knew their teens' online activities, only 14% of teens agreed that this was the case. Admittedly, this finding means that 63.8% of parents do not claim to know their teens' online activities, indicating that the majority of parents are aware of this gap.

Annansingh and Veli's study on e-safety compares the perspectives of 271 middle-primary children and their parents (63% mothers and 37% fathers) [40]. They found that many parents were unaware even of the routine online activities of children. One of the most popular online activities for children was talking to friends (73.8%), yet fewer than half of the parents knew that this was happening (46.5%). Only 37.3% of parents were aware that their children were playing games online, whereas 54.2% of children were doing so. Parents underestimated the time their children spent online. While 41% of children used the internet for 11 to 12 h per week, only 3% of parents estimated this usage. This may be because parents were unaware of children's online activities at school. While 94.8% of children used the internet for schoolwork, 74.2% of parents were aware of this.

This perception gap is perhaps more concerning when it comes to problematic behaviour, such as cyberbullying and unsafe interactions. Barlett and Fennel found that parents were aware of only one of four kinds of cyberbullying behaviour their child had engaged in [41]. Caivano et al. found that parents of younger children underestimated the extent to which their child had engaged in aggressive behaviour online, whereas those of older children were more likely to overestimate this behaviour [42].

3.3.2. Secrecy and Non-Disclosure

Contributing to the perception–reality gap are secrecy and non-disclosure regarding online activities. A national survey of over 100,000 Russian adolescents found that only 4% agreed that discussing risks with parents was effective in online risk prevention [22]. Most were satisfied that they had been adequately educated on risk prevention (65% of younger adolescents and 56% of older youth) and many expressed an intention to be cautious about information found online (43% of younger and 34% of older youth). However, 76% of younger adolescents and 81% of older youth would add strangers as friends and a significant number would send personal data to strangers (42% of younger and 40% of older teens).

3.3.3. Differences in Risk Management Priorities/Strategies

Dzoro et al.'s qualitative study sheds light on issues that may be working against youths' disclosure of risks [29]. Ten teens were presented with risk-related scenarios and asked about their responses. Concerns about independence, privacy, and fears of device confiscation were raised as factors influencing their tendency to keep risky online experiences 'under the wraps' by not disclosing to parents or teachers (p. 94, [28]).

Sexual exploration in the online environment appears to be an avoided topic for discussion between adolescents and their parents. Widman et al. surveyed 226 teens about their engagement in three practices (sexting, viewing pornography and online dating) [30]. Engagement was high (89% had experienced at least one of these activities) but communication with parents was low. For instance, 72% of youth had experienced sexting, yet only 18% had discussed this with a parent. However, adolescents were more comfortable discussing 'traditional' sexual topics such as pregnancy; 50% would do so. This suggests that the online space is intensifying the privatisation of adolescent sexual exploration.

3.4. Parents and Children Interacting through Social Media

Social networking sites (SNS) enable individuals to connect, post updates, share text and images, and direct message each other. Of particular interest to this review is the affordance created by SNS for parents to engage in parenting activities in the online space.

3.4.1. Parents Friending Children

Friending refers to the practice of requesting to be added to a contact's list of friends on a SNS [43]. The phenomenon of parents friending their children on social media was reported in several studies. Pradeep and Sriram's study, located in India, found that 59% of girls and 41% of boys aged 13 to 18 years had been friended by parents on their social media accounts [27]. The potential for parent monitoring via social media appeared to impact teens' online behaviour. Girls in particular took a cautious approach to their choice of images, avoidance of stranger contact, and use of privacy settings.

Mesch studied parent–child connections on social media in relation to children's experience of cyberbullying and found that children with parents as friends were less likely to be victimised in the online domain [44]. Children whose parents friended them were also more likely to report that parents were more controlling of their online activity. Mesch suggests that friending a child provides parents with a means of monitoring the child's peer interactions and should be considered a 'new type of parental mediation' (p. 1149, [44]).

This contention is supported by Yaman et al. who designed and tested a set of Digital Parenting Efficacies [6]. This scale assumes that effective parenting includes using social media, monitoring children's social media use, and modelling appropriate behaviour in social media spaces. Amongst its measures are 'valuing children's online posts' (p. 156, [6]).

The possibility that children also monitor parents' social media engagement is raised in an interview study of sixteen mothers and their teenage daughters [45]. All were 'friends' online and aware of each other's social media activity. Girls voiced concerns about their mothers' self-presentation, which they felt should not model poor body image (e.g., by posting about dieting) or be immature (e.g., by acting like a teenager). Mothers were uncomfortable with their daughters' use of make-up, filters, and glamorous poses in posted images. Some mothers reported that they would only 'like' images that showed their daughters in a natural manner. This study suggests that parent-child interactions in the online space involve a complex set of issues around identity, body image, gender, and the mother-daughter relationship [45].

3.4.2. Sharenting

Sharenting is the posting of material related to a parent's family life and children [46]. Prevalence is high; figures reported in the reviewed literature include 78.7% [47] and 82% [48]. The impact on children of their parent's online sharing is raised by several studies. Atwell et al. reported that 44% of parents who shared images did not ask their children's permission, that 34% of children had felt 'embarrassed, anxious or worried' after a parent's post and 27% of parents had been asked to take down a post by their child [49] (p. 47). Girls appear to be more affected than boys. In one study, 21% of girls had asked for a post to be deleted compared to 11% of boys [50]. Girls have claimed that mothers deliberately embarrass them with overly personal posts [45].

The most intensified case of sharenting involves the sub-group of parents who invest heavily in their online identities with the intention of becoming 'influencers'. Social media influencers attempt to turn their identity into a 'personal brand', attracting sponsorship and generating income (p. 19, [51]). One study reveals how influencers' children are co-opted into the project of presenting a positive social media image of parenting and family life [52]. Abidin (2017) followed the social media accounts and analysed the posts of two video blogs on YouTube [52]. Her analysis highlights the extent to which children are recruited into crafting online performances of family life intended to appear authentic.

3.5. Parenting at a Distance: The Role of Technology

Parents cannot always be co-located with their children, and some families are dispersed through immigration, social upheaval, divorce or employment away from the home base. Several studies in this review considered the role of technology in maintaining parental involvement and family connection at a distance. A diverse range of situations are discussed in these papers including, transnational families [53–56], divorced parents [57], and fathers undertaking military service [58].

The use of online digital tools to maintain connections between parents and children is reported in all these studies. Instant messaging appears as a popular tool for communicating with children at a distance. In one study, 77% of 180 Eastern European migrant-worker fathers used messaging apps, with SNS (12%) and phone calls (10.5%) being much less commonly used [53]. Similarly, 80% of 178 divorced parents used instant messaging according to another study [57]. Email (62.5%), in-app audio calls (58.6%), exchanging photos (51%), and co-viewing or video sharing (41.5%) were also used.

In China, the phenomenon of rural parents moving to the city for work and leaving children with a grandparent is relatively common. Liu and Leung investigated the use of mobile phones in distance parenting by a cohort of 378 migrant workers (62.8% mothers) [56]. On a 7-point Likert scale, they were asked how frequently specific digital applications were used. For these parents, calling was the most regular method (mean = 5.71), followed by

WeChat text (4.21) and phone text messaging (4.04). Interestingly, sharing music was also quite common (4.02).

Video conferencing platforms can allow parents to virtually share a child's experience in real time. A case study of military fathers on active service gives the example of a father co-viewing television with his wife and son and virtually attending his son's football matches by asking his wife to video-chat during the game [58].

Digital tools also support connections with the extended family network when it is dispersed. Interviews with 336 families (generally a mother and her children) in immigrant communities found that sustaining transnational communication was a key reason for their investment in digital devices and online connectivity [54]. Mothers were key initiators of digital connection between older family members in Mexico and their children through exchanges of messages and images as well as video conferencing. This phenomenon was also noted in [55].

Children's facility with digital technology can be a resource for transnational families. Gonzalez and Katz describe how 'children broker their parents' connections to devices and platforms' ([54], p. 2698). Kędra's case study of five immigrant families gives an example of ten-year-old cousins setting up a family WhatsApp group and even moderating interactions in this space [55].

4. Discussion: Towards an Integrated Model for Digitally Mediated Parenting

This structured literature review assembled a sub-corpus of 92 studies related to digitally mediated parenting, from a larger corpus of 144. The conceptualisation of parental mediation which was introduced earlier in the paper will now be revisited in the light of the review's findings. We will tentatively advance a proposed integrative model for understanding, and inquiring into, digitally mediated parenting.

We saw that an earlier model of mediation that distinguished it from face-to-face interactions has shifted in response to the massive uptake of networked tools and devices. Networked interactions blur the boundaries between public and private, and between embodied and virtual domains. Earlier mediation models also distinguished between person-to-person-mediated interactions and mass-mediated interactions, which were understood in a limited way as forms of consumption of mass media (e.g., television). The rise of the 'prosumer'—the media consumer who also produces content—has further challenged earlier assumptions about the relationship between media technologies and their users [59].

Parental mediation, in the literature, refers to the practice of parents intervening in their children's engagement with media and technology. The historical research shows that this is a recurrent response to a recurrent problem, which can be understood as the penetration into the home and family of influences from society at large. The particular vector for these 'outside' influences changes with each development in mass media technologies.

The focus of parental mediation research has been on identifying, and often measuring and comparing, different mediation approaches and their impacts. This research has made a valuable contribution to our understanding of parental actions and rationalisations, and impacts (or otherwise) on children's online activities and risk status. The outcome of our analysis of this literature is not a consensus regarding a single, effective approach to mediation. Rather, it appears that mediation approaches are influenced by, and/or responsive to, a parent's assessment of their own knowledge and experience, their child's vulnerability, the risks posed by different online activities, and their intensities.

The relational environment in the family emerges as a key element in the negotiation of relationships with technology. The parent-child relationship is dynamic and subject to negotiation, as children grow, develop social relationships, become more independent, and encounter new digital tools. Findings of divergences between adult and child perspectives, particular with teenage children, recur in the reviewed literature. Adolescents value opportunities to explore themselves and others, privacy, and freedom from adult surveillance. Parents share a commitment to ensuring their children's safety, academic achievement, and

maintenance of connections with family. This creates spaces for conflict but also potentially for negotiation and greater mutual understanding.

Research on parent mediation tends to assume that children and parents have separate online lives. Parents appear as outsiders in children's online worlds and their responses are understood as forms of acting upon children, through forms of restriction or support. An exception is studies which include collaborative mediation where parents are co-participants in, for instance, gaming.

The picture changes when we consider parents as participants in the online domain and particularly as users of social media technologies. Some of the studies reviewed reveal that parents' engagements in social media can directly impact their children and in some cases prompt children to attempt their own forms of mediation. An example is a child asking a parent to take down an image that they have posted to social media. Children also can support their family's social connections in cyberspace, for instance, by setting up and moderating a family WhatsApp group or by translating digital texts into the home language.

Finally, although we did not explore this through a detailed analysis, it is evident that the kind of digital tool or platform being used can impact identities, relationships, and parent responses. One element appears to be the potential of the technology for the privatisation of activities. Certain activities which may appeal to adolescents, and which are considered risky by parents, are enabled by the use of personal devices in personal spaces, such as mobile phones in bedrooms. Activities such as access to sexually explicit material, chatting with new acquaintances, cyberbullying and gambling may be easier to engage in without direct supervision. This may be why some studies identify the confiscation of devices as a restriction strategy used by parents and feared by teenagers. The role of technology as a mediator of parent-child interactions was also evident in studies of parenting at a distance.

We suggest, therefore, that a model which focuses only on the parental mediation of children's online activities is too limited a picture of this complex landscape. This is not to criticise studies which focus on this important topic. However, to build a fuller picture, we suggest that three dimensions be integrated:

- Mediation of children's digital activities by parents;
- Mediation of parents' digital activities by children;
- The role of digital media in supporting parent-child (and family) interaction.

In each of these dimensions, consideration should be given to aspects of social identity. In this review, gender has repeatedly appeared as an aspect impacting on the ways in which parents and children engage in digital spaces and relate to each other's online activities. Culture, language, family structure, and immigration status also appear as relevant contextual aspects. Future studies could investigate how the intersection of identities (e.g., age, gender, race, and class) contributes to experiences of mediation across all three dimensions.

5. Conclusions

By way of contributing to the dynamic field of digital parenting, this article presents a structured literature review of papers published between 2016 and 2021. After identifying, a corpus of 144 papers, further analysis led to the discovery of two key clusters: Digital Parenting (Digi-P) and Digital Parental Involvement in Schooling (Digi-S). This paper presented the themes that emerged in connection with the first cluster of Digital Parenting. A follow-up paper will address the themes that have emerged in connection with the second cluster of Digital Parental Involvement in Schooling.

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