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Family mediation of preschool children's digital media practices at home

Fiona Louise Scott 🔟

School of Education, The University of Sheffield, Sheffield, UK

ABSTRACT
Although much parental mediation literature discusses restrictive mediation, less nuanced consideration has been given to the diverse nature of positive or instructional active mediation. The present study suggests family mediation of preschool children's digital media practices at home includes a more diverse range of positive or instructional strategies than previously acknowledged. Two novel mediation practices are identified. 'Extending' refers to family members drawing on a child's media interests to engage them in new (media or non-media) activities. 'Relating' refers to family members drawing a child's attention to a connection between their media or non-media interests and something else (digital or non-digital). The study highlights that family members are often unaware of the extent to which they support children in developing competencies in relation to media texts and devices. Findings are based on rigorous analysis of ethnographic video observation and interview data generated in a qualitative study in the United Kingdom.

Introduction

In the Northern hemisphere, most children's everyday lives now feature regular access to digital texts and devices. Steady increases in internet access in the global South are bringing internationally universal digital access increasingly closer (Byrne et al. 2016). Children's relationships with digital texts and devices are, increasingly, a matter of global importance. Many of these digital engagements, particularly for the youngest in our societies, take place in the context of the home. Young children's digital learning environments, then, consist not only of formal educators in early years childcare settings, but also of family members. Historically, the study of the social contexts of children's digital engagements at home has tended to focus on parents and on their roles as mediators, mitigating perceived harms. There is a lack of consensus on the meaning of mediation. Warren (2001) offered: 'any strategy parents use to control, supervise or interpret content' (212). The present study paid particular attention to the positive or instructional active roles that social actors including, but not limited to, parents may play in children's engagements with digital texts and devices at home.

Parental mediation studies have often limited their scope to specific forms of media, particularly television (e.g., Valkenburg et al. 1999). More recently, the focus has diversified, to include internet use (Nikken and Jansz 2014; Livingstone and Helsper 2008) and video games (Nikken and Jansz 2006). Zaman et al. (2016) took a broader outlook. The present study considered children's

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engagements with all digital media, devices and texts. This definition includes, but is not limited to, children's use of television, film, internet accessed on any device, video games, tablet or smartphone apps and games and all associated artefacts (e.g., books, toys or physical games relating to television characters or media brands). Since children bring together various aspects of their daily experiences in their play, creating a layered web of signifiers (Marsh and Bishop 2014), it is helpful to examine family mediation practices that occur across a broad range of digital media, devices and texts. Such an approach stands to make visible a broader range of family mediation practices than those specific to a single platform or context, and to reveal whether some practices are common across a range of media. Indeed, it is increasingly argued that the embeddedness of the digital in everyday life is such that it is no longer feasible to distinguish between the intertwined digital and non-digital (Jaye-manne, Apperley, and Nansen 2016). Nonetheless, different media have different affordances that may shape mediation. As such, there is a need both for studies (such as the present one) that research mediation holistically and those which are device-specific.

Mediation has tended to be researched through self-report survey (e.g., Nathanson 1999) and/or interview (e.g., Valkenburg et al. 1999). The present study considered mediation in terms of practices (Bourdieu 1977) and researched them observationally in addition to conducting family interviews. Many existing parent mediation frameworks were devised in relation to the families of children older than 7 (e.g., Livingstone and Helsper 2008; Nathanson 1999). The available literature on adult mediation of younger children's digital engagement is scarce (Zaman et al. 2016) and, as such, amendments to existing frameworks may well be needed.

Defining mediation

The term 'parental mediation' has long been used to describe the way parents manage the relation between children and media, both in terms of minimising perceived disadvantages and maximising perceived advantages (Livingstone and Helsper 2008). Some examples include minimising TV-induced aggressive tendencies (Nathanson 1999), engagement in risky forms of activity online (Livingstone and Helsper 2008) or risks to children's physical health (Nikken and Jansz 2006) or maximising access to technologies parents perceive as beneficial to later schooling or employment (Chaudron et al. 2018). This work is vital, not least because parents express a desire for support and advice on how digital devices should fit into a broader picture of good parenting (Livingstone et al. 2018).

Despite this, the mediation frameworks that academic researchers have available to them tend to be focused in a more substantive way on the former category, i.e., parental moves to minimise the perceived disadvantages of children's relations with media (e.g., Austin 1993; Nathanson 1999). Whilst many studies acknowledge that positive or instructive mediation exists, this dimension is under-explored. There is a need for more research focusing on the diverse practices and motivations of family members and children 'interacting together with and through digital media' (Clark 2011, 323). Livingstone and Helsper (2008) previously emphasised some existing theorisations of parental mediation as a means of reproducing family values (e.g., Goodman 1983) and constructing shared interests (e.g., Fujioka and Austin 2002). Chaudron et al. (2018) found that parents of young children positively mediated their children's technology use by providing access to technologies they felt would be beneficial (e.g., for future schooling or employment). The present study aimed to extend this body of work.

The relative lack of attention to positive or instructive mediation within mediation literature is at odds with the considerable body of work attending to positive or educational adult roles in other fields that is not framed as parental mediation. A range of literature has already yielded insight into the ways that social actors including teachers (Yelland and Masters 2007) and parents (Flynn and Richert 2015) support learning with computers. Plowman and Stephen (2007) drew on the notion of 'guided interaction' (14) to explore how children's interactions with ICT were actively supported by practitioners in preschool settings, later applying their ideas in home settings (Plowman, McPake, and Stephen 2008). Neumann (2018) explored parental scaffolding of young

children's learning with tablet devices, whilst Lauricella, Barr, and Calvert (2014) found that parent engagement with computer storybooks was a significant predictor of children's story comprehension. There is a growing body of literature framed as the study of 'joint media engagement' (Anderson and Hanson 2017; Stevens and Takeuchi 2011; Connell, Lauricella, and Wartella 2015). Stevens and Penuel (2010) coined the term to attend to what happens when people learn with media together, although their definition risks excluding non-simultaneous practices. Much work in this field does not focus on the specific content or quality of engagement (Padilla-Walker et al. 2020). There is, then, a need to bring a more nuanced understanding of the nature of positive or instructional roles family members play in children's full range of digital media practices at home to the field of mediation literature.

Active mediation and co-use

A tripartite model of parental mediation has been well established in the field since the establishment of frameworks such as Valkenburg et al.'s (1999) television mediation scale. This model is still influential, with more recent works (Livingstone and Helsper 2008; Zaman et al. 2016) retaining the fundamental categories of restrictive mediation, active mediation and co-use. A review of literature suggests that less nuanced consideration has been given to the two latter categories. Co-use and active mediation are also difficult to disentangle and the terms have been used in slightly different ways in the literature.

Definitions of active mediation have tended to focus on conversations between adults and children, serving different purposes. Valkenburg et al. (1999) defined active (or 'instructive', 54) mediation as discussing aspects of programmes with children. Chaudron, Di Gioia, and Gemo (2018) reported little active mediation of young children's digital technology use, although their definition focused on parents helping children to understand what to do when confronted with a technical or content issue. Active mediation has, however, sometimes been assumed to serve the same purposes as restrictive mediation, that is, to mitigate potential harms (e.g., Nathanson 1999). Other sources have recognised a dual role for active mediation: to mitigate potential harms and to foster positive or instructional outcomes (e.g., Gentile et al. 2012). Examples of positive outcomes are discussed, but these have not been extended into a typology. Some have mentioned outcomes that might today be referred to as critical digital literacies (Marsh 2015), e.g., understanding that certain shows are unrealistic (Valkenburg et al. 1999), scepticism towards TV news (Austin 1993) and endorsing non-traditional gender roles (Corder-Bolz 1980). Some have emphasised enhanced comprehension and learning from television (e.g., Desmond et al. 1987). Zaman et al. (2016) differentiated between instructive and evaluative forms of conversation in active mediation. Instructive approaches, they suggested, aimed at an educational outcome, whilst the evaluative approach related to a 'normative' (3) outcome such as expressing disapproval. However, their data analysis uncovered predominantly the latter: 'discussions to negotiate or justify their, typically restrictive, mediation practices' (11).

Work in other fields that is not framed as 'parental mediation' literature offers useful directions for understanding the nature of engagement beyond conversation, particularly in terms of scaffolding operational skills. Plowman, McPake, and Stephen (2008) showed that family members support learning by modelling technology use (sometimes unknowingly) or actively showing children how to use devices. Neumann (2018) demonstrated how parents scaffold their children's mastery of tablet devices and tasks within apps.

Many have distinguished co-use from active mediation by emphasising the relative simplicity of the former. Nathanson (1999) defined co-viewing as simply 'watching TV with children' (125). Valkenburg et al. (1999) defined co-viewing as adults and children watching television together without engaging in discussion about the programme. The authors pointed to some social familial benefits of co-viewing. Bryce and Leichter (1983) reported that parents and children felt closer to one another after co-viewing.

Internet mediation research has tended to combine active mediation and co-use, proposing that adult/child internet co-use is a more active form of mediation than television co-use. Livingstone and Helsper (2008) adopted the term 'active co-use'. In this study, the simpler definition of co-use as pertaining to shared experience has been retained from earlier studies. This is firstly for clarity and secondly to gently trouble the distinction between internet and television use. Arguably, co-use of both the internet and television can be relatively straightforward (as in the case of a parent and child watching YouTube videos together on the internet for enjoyment). Similarly, both internet and television co-use frequently lead to more active forms of mediation (as in the case of a parent watching television with a child and beginning a conversation about the content).

Family mediation

Young children learn in the social context of parents, carers, grandparents, siblings, cousins, aunts, uncles, family friends, peers and, indeed, whole communities. The roles of individuals beyond parents are, however, under-explored in existing mediation literature. Past work on sibling co-viewing suggested that co-viewing with an older sibling did not enhance children's comprehension of television (Haefner and Wartella 1987). Such studies perhaps highlight the need for more universal use of the terms co-use and active mediation. Plowman, McPake, and Stephen (2008) paid closer attention to the roles played by family members including siblings and grandparents. Grandparents, they noted, might not be high users of technology, but had more time to share with children, thus were an important source of 'guided interaction'. The authors also highlighted some limitations associated with siblings' positive mediation of children's technology use, suggesting that older siblings sometimes acted as inhibitors of learning by controlling younger children's access to technologies.

Thus, a range of important work on the topic of mediation of children's digital media use at home exists, but there are some limitations. The present study aimed to extend the existing body of work on mediation by examining family mediation of preschool children's digital media practices, with a particular focus on positive or instructional aspects of active mediation. Positive or instructional active family mediation was defined as family members interacting with media content a child is engaged with in a way that is generative of new learning or other, much broader, positive outcomes, to include interactions that take place both while the child is engaging and interactions relating to that content taking place at a later time.

Materials and methods

Research questions

The Economic and Social Research Council funded research project from which this article derives aimed to investigate how preschool children engage with digital media, devices and texts in their homes in the social context of their families and communities. This article focuses in particular on the research question: how do families mediate preschool children's digital media practices at home? Sub-questions include:

(1) What positive or instructional active mediation practices do family members engage in relation to their preschool children's digital media practices at home?
(2) What are the implications of positive or instructional active mediation practices for children?
(3) What roles do family members beyond parents play in the mediation of preschool children's digital media practices at home?

Participants and recruitment

An ethnographic study was conducted with 6 families in Sheffield, United Kingdom. Families who consented to further contact in a preceding survey were included in a possible recruitment pool. Families were filtered by their response to the modified Hope-Goldthorpe scale (Seyd 2002). A representative sample of families from manual or skilled manual and professional or technical backgrounds was recruited. Each of the six case study families (1-6) had at least one preschool child aged 3 or 4 at the beginning of the study. Details of the case study families can be found in Table 1. Pseudonyms are used throughout to preserve anonymity.

Procedure

Data collection took place between March 2015 and February 2016. Participating families were visited between 3 and 7 times. The methods mix was flexible (Clark 2004). Most visits included a mixture of observation, filming and informal interviews with parents and children. All case studies produced

Table 1. Profiles of the case study families.

Family no.	Name (pseudonym)	Gender	Age on first visit	Social class of parent(s)	Ethnicity	Other family members in the study
F1	Archie	Boy	3 years, 8 months	Full time parent (Mum)	White British	Grandparents:
				Skilled manual (Dad)		Nanan Siblings: Liam (22) Jenna (20) Nathan (16) Ethan (12) Caleb (9) Kyle (5) Nephews and nieces: Robbie (4) Mason (5) Logan (3) Tyler (2) Ruby (<1)
F2	Niyat	Girl	3 years, 3 months	Full time parent (Mum) Other (Dad)	Black/Black British	Siblings: Joshua (20) Rowena (14)
F3	Olivia	Girl	3 years, 5 months	Unskilled manual (Mum)	Mixed – White and Asian	None
F4	Rosie	Girl	4 years, 7 months	Professional or technical (Mum) Professional or technical (Dad)	White British	Grandparents: Grandma Grandpa Aunts and uncles: Uncle Siblings: Oscar (<1)
F5	Emma	Boy	4 years, 6 months	Skilled manual (Mum) Unskilled manual (Dad)	White British	Grandparents: Nan Nanny Aunts and uncles: Graham (22) Step-siblings: Sam (24) Chloe (18) Jack (15)
F6	John	Boy	4 years, 7 months	Professional or technical (Mum) Professional or technical (Dad)	White British	Grandparents: Grandma Grandad

data to include at least: audio recording of interviews with parents, audio recordings of informal discussions with children, siblings and other family members, video observation and researcher fieldnotes. Visit 1 usually included a semi-structured parent interview. Visit 1 or 2 usually included a child-led guided tour of the house, adapted from Plowman and Stevenson's (2013) toy tours. The approach developed over time from this more structured research into more naturalistic, ethnographic work, varying from family to family. Informed consent was gained by providing adult participants with written information about the study and an opportunity to ask questions before signing a consent form, as well as ongoing invitations to ask more questions on subsequent visits. A casual, but ongoing, model of assent was employed with the child participants.

Data analysis

The study's findings are based on rigorous analysis of ethnographic video observation and interview data. Across 6 families, 48 hours and 45 minutes of audio data were collected, encompassing audio recordings of semi-structured interviews with family members, unstructured discussion and action captured by the researcher and audio recordings produced by the child participants. The fieldwork generated 31 hours and 22 minutes of observational video data, including ethnographic recordings produced by the researcher and child participants. A total of 378 photographs were generated by the child participants and researcher. The majority of the video recordings were collected simultaneously with audio recordings. All of the audio recordings were transcribed and the transcripts uploaded into NVivo software for coding in line with the process outlined in Figure 1. During the process of coding the audio transcripts, continual cross-comparison against the video and photo data took place. Thus, visual detail and action could be coded by studying corresponding moments in the video and photo data.

A process of sociomaterial nexus analysis (Scott 2018), drawing on Barad's (2003) notion of intra-action, was followed to analyse the qualitative dataset. The notion of intra-action, which serves to disrupt the assumed agential centrality of the human, derives from Barad (2003). Intra-action denotes the action that emerges from the co-constitutive relationship between entities. Socio-materiality offered a useful lens to the study, drawing attention to bodies, objects and spaces, the

Filter 1: coding to identify things and members' generalisations				
Parent code (deductive)	Explanation	Examples of coding	Process	Examples of output
Things (observed) *T(0)* Things (reported) *T(R)*	Media texts and devices; other objects; important spatial, physical or biological entities directly observed by the researcher (O) or reported by a family member (R).	CBeebies Playtime app Rosie Rosie's bedroom iPad	Things that mattered in each case summarised in tables.	CBeebies Playtime app Rosie Rosie's bedroom iPad
Members' generalisations (initial of the individual who said it) *MG(i)*	What research participants (normatively) say they do: discourses, attitudes, opinions, explanations.	Rosie's mum, Mary, says she Rosie has never seen Frozen.	Pertinent themes extracted through axial coding across all cases.	Mary tends to articulate that Rosie has niche media interests compared to many children her age and gender.
Filter 2: coding to identify intra-actions				
Intra-action (observed) *I(O)* Intra-action (reported) *I(R)*	What is happening between things, directly observed by the researcher (O) or reported by a family member (R).	Rosie watches In The Night Garden. Rosie-Happy Feet: emotion/anxiety Mum-Rosie-Happy Feet: Mum relates Happy Feet to Rosie's experience at school	Axial coding used to sort intra-actions into broader practices across all cases.	Mary tends to relate aspects of Rosie's media interests to her experiences in other domains.

Figure 1. The qualitative data coding and analysis process.

intra-actions between them and how those intra-actions constituted family practices over time. This four-stage filtering process was adapted from Wohlwend's (2009) process for mediated discourse analysis, which was in turn adapted from Scollon and Scollon (2004). Family mediation practices were identified as part of the coding and analysis process using filters 1 and 2. Filter 1 was used to identify the key bodies (human, animal), objects (digital and non-digital) and spaces (i.e., rooms and places). These were considered 'key' if they played any role, even in an abstract or tangential manner, in children's engagements with digital texts or devices. For example, a Bumbo floor seat was included in the coding because Rosie used it as a pretend helmet to role-play astronauts, which she also liked to watch in cartoons. Filter 1 was also used to identify 'members generalisations' (Scollon and Scollon 2004) i.e., what participants said they do (normatively) in relation to digital texts and devices. Data concerning parents' own attitudes and self-reported strategies and behaviours in relation to mediation of their children's media use emerged mainly from the qualitative interviews during Visit 1. Filter 2 was used to identify and code intra-actions between bodies, objects and spaces, i.e., what was happening between things, as observed by the researcher or reported by a family member. Examples are given in Figure 1. The coding during filter 2 focused on dispositions and observable behaviours. Axial coding was then used to sort these codes into higher level 'practices' across all cases. These practices related to dispositions of perception and thought, as well as embodied ways of doing on the part of all human actors. Parent coding was organised using a broad deductive framework that sought to account for things and members' generalisations. The sub-coding (within these categories) and axial coding were, however, inductive. Five practices (and 8 sub-practices) were inductively coded in relation to adults or peers in the family (Figure 2). These practices have been cross-compared with extant literature in the field.

Family mediation practice	Sub-practices
(1) Scaffolding	(i) Supporting a child to achieve a digital competency beyond their current solo abilities. (ii) Supporting a child to achieve a non-digital competency beyond their current solo abilities, in relation to a media text or platform.
(2) Facilitating	(iii) Facilitating the continuation or deepening of a child's existing engagement with a media text or device (materially or otherwise). (iv) Facilitating a child's (new) engagement with a media text or device on their request (materially or otherwise).
(3) Initiating	(v) Initiating a child's (new) engagement with a media text or device.
(4) Extending	(vi) Drawing on a child's existing media interests to engage them in new, non-media activities. (vii) Drawing on a child's existing media or non-media interests to engage them in new media activities.
(5) Relating	(viii) Drawing a child's attention to a connection between their media interests and something else (digital or non-digital).

Figure 2. Family mediation practices in relation to preschool children's digital media practices at home.

Results

The present study found evidence of many of the previously discussed types of mediation, including restrictive mediation. However, the study sought in particular to identify positive or instructional active mediation. The inductive coding identified five types of positive or instructional active family mediation practices: initiating; facilitating; scaffolding; extending; and relating. Extending and relating are novel practices, previously undiscussed in parental mediation literature.

Initiating

The term 'initiating' was employed to account for a set of parental practices in which family members actively initiated children's engagement with a media text or device. Unlike facilitation, which is discussed next, initiation is characterised by a family member taking the lead in beginning a child's engagement with a media text or device, rather than providing or granting access in response to a child's request or existing engagement. One type of initiation was coded.

Initiation of a child's (new) engagement with a media text or device. Four-year-old John's Father, Matt, introduced John and his brother, James (7) to the Castle Crashers video game, thus initiating a new media interest. Matt was keen to share his own current and childhood media interests with the boys. Mary (a schoolteacher) downloaded a variety of what she perceived as educational apps onto her tablet, which she let her daughter, Rosie (4), have access to. In doing so, she initiated Rosie's engagement with a range of tablet apps.

With some notable exceptions (e.g., Plowman, McPake, and Stephen 2008), there is little recognition that family members may actively initiate children's engagements with digital technologies. Parents are increasingly aware of the potential educational benefits digital texts and devices may provide (Chaudron et al. 2018) and perceived educational value is a motivator for downloading apps for preschool children (Marsh et al. 2015). As in the case of Rosie's Mother, a desire for children to encounter educational benefits was a common motivator for initiation. In the case of John and his family, a range of other motivations for initiating were present, such as nostalgia and a desire to share one's own media passions intergenerationally.

Facilitating

The label 'facilitating' was employed to account for a set of parental practices that emerged from the inductive coding in which family members made children's desired engagement with a media text or device possible. Unlike initiation, facilitation is characterised by a family member responding to a child's request or existing engagement. The data analysis suggested two types of facilitation of a child's media practices at home.

Facilitation of the continuation of, or deepening, a child's existing engagement with a media text or device (materially or otherwise). Three-year-old Olivia was very engaged with the television show, Doc McStuffins. Her Mother, Teresa, bought her a Doc McStuffins branded toy doctor's bag, which contained toy medical instruments such as a syringe. This bag was the basis of much doctor role-play for Olivia.

Facilitation of a child's (new) engagement with a media text or device on their request (materially or otherwise). Three-year-old Archie received an Innotab as a present from his Mother, Beth. Meanwhile, his brothers, Nathan (16), Ethan (12), Caleb (9) and Kyle (5) all received Kindles. Beth related that Archie very quickly wanted a Kindle the same as his brothers, so Beth gave him her own Kindle.

Parental mediation literature has tended to focus on the ways in which parents limit children's use of technology, with less discussion about how family members make this use possible. Past literature has discussed the notion of 'pester power' (e.g., Bandyopadhyay, Kindra, and Sharp 2001). In this study, parent motivations for facilitating their children's media engagements were more complex. Teresa bought Olivia the Doc McStuffins doctor's bag because she was aware that Olivia

was highly engaged with Doc McStuffins as a televisual text. Beth, meanwhile, initially bought Archie an Innotab because she didn't want him to feel left out, but subsequently gave Archie her own tablet because his peers had tablet devices. The facilitation of Archie's tablet use, then, has an emotional dimension consistent not with conflict, but with a desire to treat Archie the same as his brothers (and nephews). In both cases, the facilitation of children's engagement with media texts and devices leads to the development of particular skills or play practices.

Scaffolding

Scaffolding signifies the process through which a child (or novice) is enabled to carry out a task or achieve a goal beyond their current level of unassisted competence. Yelland and Masters (2007) conceptualised teacher's scaffolding of children's learning in technological contexts as falling into three categories: cognitive, affective and technical. Neumann (2018) applied the same model to parental scaffolding of children's tablet use. Unlike facilitating, scaffolding in the present study did not necessarily correspond to making a child's desired engagement with a media text or device possible. Rather, it involved a family member supporting them in relation to a particular task or goal associated with the digital context at hand. Data analysis in the present study suggested two types of family scaffolding across a range of devices, platforms and texts.

Supporting a child to achieve a digital competency beyond their current solo abilities. Archie played the Nina and the Neurons digital game on the CBeebies Playtime app on a tablet. Archie's Mother, Beth, scaffolded Archie's operational digital literacy (Marsh 2015), enabling Archie to master operational tasks in the game with physical and verbal prompts (pointing, speaking, moving Archie's finger on the screen). With Beth's scaffolding, Archie was able to complete the level. Archie also spent a good deal of time watching his brothers play Temple Run and Subway Surfer until he learnt how to play the games for himself.

Supporting a child to achieve a non-digital competency currently beyond their current solo abilities, in relation to a media text or platform. Rosie played with the 'Alphablocks' game on the CBeebies Playtime app. Rosie's Mother, Mary, scaffolded Rosie's traditional literacy development by complementing the action on screen. Mary scaffolded Rosie's learning of new vocabulary (the word 'sagging') with eye contact, verbal prompts and literary elaboration.

This study thus supports previous findings that adults scaffold children's learning with digital technologies (e.g., Neumann 2018). In contrast to previous studies, it considered competencies that were scaffolded beyond operational digital skills or the accomplishment of specific (digital) tasks within apps. The analysis revealed that family members scaffold both digital and non-digital competencies in relation to media texts and platforms. Firstly, families support children to develop digital skills. These included operational digital literacies, as in Archie's case, as well as critical and cultural digital literacies (Marsh 2015). Emma's mother scaffolded her critical digital literacy in supporting her to understand what adverts are on television. However, they also support children to develop a range of other (non-digital) skills in relation to media texts and platforms. Some examples in the present study included traditional oral literacy development, local (community/family) literacies, vocabulary knowledge, using similes, social and emotional skills (e.g., learning about and tolerating difference) and reading print-based text. Archie's mother scaffolded his local literacy in supporting his understanding of phrases used in the family and community whilst playing together using an app, e.g., 'little diddy'. John's dad supported his oral literacy in prompting him to name an animal appearing on screen.

Extending

The term 'extending' was employed to account for a set of practices in which family members built on a child's existing media interests to engage them in new activities. Unlike scaffolding, extending in the present study did not involve supporting a child in achieving a particular task or goal

associated with the digital context at hand. Rather, it involved building on existing interests by moving a child towards completely new activities. Two types of extension were identified.

Extension of existing media interests to engage child in new, non-media activities. Four-year-old John's Grandfather became aware that John, and his seven-year-old brother James, were interested in a video game called Castle Crashers. In Visit 5, John showed me a 3D paper model of the Bear character from Castle Crashers. When I asked him about it, John revealed that the boys' Grandfather had gone online with James and found a 3D net of Bear, which they had printed off and assembled together.

Extension of existing media interests to engage child in new media activities. This type of extension was coded when family members employed knowledge of a child's existing media interests to extend a child's interests to a new media activity. Three-year-old Niyat had an older sister, Rowena (14). Rowena knew that Niyat loved watching (and dancing to) songs on the television screen, for example, to The Dance of the Horns on CBeebies' Tinga Tinga Tales. Rowena showed Niyat song-based videos on her phone, for example hip-hop music videos on YouTube, which Niyat would also dance along to. Similarly, Niyat's Mother (Senait), showed Niyat videos on YouTube of the congregation singing and dancing at their local church. Again, Niyat danced along.

To date, family members extending children's media interests in this way have not been discussed in any detail in parental mediation literature. Methodological constraints may account for this absence. Analysing across interview and observational data highlighted that parents and other family members were often unaware of the extent to which they support children in developing a range of competencies in relation to media texts and devices, a finding that resonates with the earlier work of Plowman, McPake, and Stephen (2008).

In the study of parent–child story book reading, it is well established that parents extend children's knowledge by giving additional information (e.g., Roser and Martinez 1985), asking questions or initiating extended conversations (Fletcher and Reese 2005). The type of extension identified in the present study does, however, span beyond discussion and into instigating new activities. Vandermaas-Peeler et al. (2009) make a similar observation in relation to play, reporting that parents steer children's play in new directions through the guidance behaviours 'suggest' and 'suggest-instruct'. Notably, family members extended existing media interests across new media and non-media contexts. The ease with which family members steer their children's activities across digital and non-digital boundaries speaks to Jayemanne, Apperley, and Nansen's (2016) notion of the postdigital.

The present study identified a diverse range of skills that children developed in relation to family 'extending' of their media interests. These included: traditional literacy skills such as word learning and using similes; maker literacies (Marsh, Arnseth, and Kumpulainen 2018); and operational, critical and cultural digital literacies (Marsh 2015). John's mum and dad supported him to develop maker literacies by making 'Castle Crashers' masks with him using printed nets. Emma's grandmother supported her traditional literacy skills. Noticing Emma's propensity to watch, sing along to and adapt nursery rhyme videos on YouTube, she bought Emma finger puppets which they then used to sing and adapt nursery rhymes together.

Relating

Finally, the term 'relating' was adopted to describe moments in which family members drew a child's attention to a connection between their media or non-media interests and something else (digital or non-digital). One type of relating was found.

Drawing a child's attention to a connection between their media interests and something else (digital or non-digital). Four-year-old Rosie was watching the film Happy Feet. Rosie was struggling to understand the subtext to the narrative of Mumble the penguin experiencing feeling 'different'. Rosie's Mother, Mary, related the film to Rosie's experiences at school, where different children

in the class all had different talents. Mary was drawing on Rosie's existing range of experiences to help her make sense of a media text. During the same viewing of Happy Feet, Mary related the film to another of Rosie's experiences, comparing the dancing penguins to the tap dancing Rosie had previously tried.

Family members relating children's media interests in this way has not previously been explored in any depth in parental mediation literature. However, similar practices have been discussed in the context of parents and children engaging in storybook reading, with adults helping children to relate the information in a story book to their own lives (Cochran-Smith 1984; Vandermaas-Peeler et al. 2009). The present study identified a diverse range of skills that children developed in relation to family 'relating' of their media interests. In the case of Rosie, Mary was relating Rosie's experience of a children's film to the notion of difference, which Mary knew Rosie had been discussing in school. Mary's relating, then, connected Rosie's interest in a film with an aspect of social and emotional development, which is a prime area for development in the Early Years Foundation Stage Statutory Framework (Department for Education 2017). When Mary related the penguins dancing to Rosie's past experience of tap dancing, she was also helping Rosie make meaningful connections between media and her own life. In the case of Niyat, her mother related a video of her own baptism to other mothers and babies in their family, supporting Niyat's ongoing identity construction and understanding of her own life history, as well as extending the learning opportunity around the roles of mothers and babies. Marsh's (2004) notion of a narrative web illuminates how children transfer meanings from varied texts and practices. However, the present study is unique in identifying the 'relating' role that family members sometimes play in this process.

Discussion

It has long been acknowledged that parents play important roles in supporting non-digital learning. Research has begun to examine the positive roles family members can play in supporting digital learning (e.g., Neumann 2018; Padilla-Walker et al. 2020). However, less nuanced consideration has so far been given to positive or instructional active mediation. Where this work exists, it tends to focus on parents supporting children in learning to use technology or completing tasks within apps. The practices identified in this study suggest that family mediation of children's digital media practices at home includes a range of positive or instructional strategies that are more diverse than previously acknowledged in much mediation literature. Children are engaged in a good deal of instructional activity at home that relates strongly to their media passions and is thus likely to be highly motivating. There are also important benefits beyond learning. The practice of 'relating', for example, may offer important opportunities for children's socioemotional development, identity formation and understanding of community.

This article proposes a typology for positive or instructional active mediation to include the novel forms of family mediation identified in the study (Figure 2). In Figure 3, this typology has been integrated with past frameworks. Since the present study demonstrates that grandparents, siblings and other family members play an important role in mediation, the term 'family mediation' has been employed. In the revised typology, active mediation involves a family member actively interacting with media content a child is engaged with (Livingstone and Helsper 2008) but includes interactions that take place both while the child is engaging and interactions relating to that content at a later time (Valkenburg et al. 1999). Active mediation can be positive/instructional or negative/critical. Negative/critical active mediation involves interactions serving to negotiate or justify restrictive mediation strategies. The sub-categories for negative/critical active mediation derive from Zaman et al. (2016). Positive/instructional active mediation consists of family members interacting with media content a child is engaged within a way that is generative of new learning or other positive outcomes, the sub-categories for which are informed by the present study. Restrictive mediation consists of a family member setting rules that restrict use of the medium in one or more of several domains, without necessarily discussing the content or its effects. The sub-

(A) ACTIVE MEDIATION	(1) Positive/instructional	(i) Scaffolding (ii) Facilitating (iii) Initiating (iv) Extending (v) Relating
	(2) Negative/critical	(i) Active mediation of time (ii) Active mediation of device (iii) Active mediation of content (iv) Active mediation of purchase
(B) RESTRICTIVE MEDIATION	(1) Restricting time (2) Restricting device (3) Restricting content (4) Restricting location (5) Restricting purchase	
(C) CO-USE	(1) Joining in	
(D) DISTANT MEDIATION	(1) Distant mediation through deference (2) Distant mediation through supervision	

Figure 3. Family Mediation Practices (adapted from Livingstone and Helsper 2008 and Zaman et al. 2016).

categories for restrictive mediation and the concept of distant mediation derive from Zaman et al. (2016). Co-use relates to a family member being present while the child is engaged with the medium, thus sharing the experience without commenting on the content or its effects. Co-use frequently leads to active mediation.

The present study adds nuance to existing mediation studies which have discussed parental scaffolding, facilitating or initiating of children's digital media practices. Its findings suggest that family members scaffold both digital and non-digital competencies in relation to media texts and platforms, and these competencies are diverse, encompassing traditional literacy skills, maker literacies and socioemotional intelligence. This extends previous work, which tends to focus on how adults scaffold children's operational digital literacies. Less attention has been paid to the ways families actively facilitate the digital engagement of young children. There is also little recognition of the fact that families may deliberately initiate these engagements. As families become more conscious of the educational benefits associated with technology, it will undoubtedly be important to attend to the ways they initiate and facilitate young children's early engagements with technology, the digital experiences they perceive as valuable and the beliefs that underlie these practices. However, the study also evidences that family motivations for active engagement with children's digital lives are more diverse than purely educational goals. Family members are motivated by a range of other factors, including a desire to share their own passions and to ensure children don't feel left out.

The study identifies novel family mediation practices that have not previously been discussed in mediation literature, namely 'extending' and 'relating'. Recognition of these practices is important

to the field because they change the way we understand what family members contribute to children's learning with technology in the home. Acknowledging that family members 'extend' children's digital media practices at home into new digital and non-digital learning opportunities highlights that digital media engagement at home may not only be internally educational, but may also act as an important stimulus for further, cross-curricular learning. Family members (whether consciously or unconsciously) respond to young children's interest in digital technologies by supporting new learning beyond that which is intentionally designed into digital technologies. Identifying the family practice of 'relating' brings attention to the fact that family members actively assist young children in making sense of their digital experiences in relation to other, existing lived experiences. In doing so, they help children make connections between varied texts and practices, making their digital learning experiences more meaningful.

The study highlights that particular digital experiences may afford a range of different outcomes (learning, or other, broader positives) when their use is mediated by a range of different family members. Different family members bring different sets of skills, knowledge and experience to these encounters. Some of the skilled support provided, for example by Rosie's Mother, was possible in part due to professional experiences. However, analysis of interview data alongside video data highlighted that family members were frequently unaware of the extent to which they were supporting their children's learning in relation to the digital. Parents tended not to articulate intentional positive or instructional mediation practices during interviews. This also speaks to the metalanguage some parents may have (or may not have) to describe these nuanced interactions. Echoing earlier work (Plowman, McPake, and Stephen 2008), this finding highlights the value in policies which encourage parents and families to actively engage with children's digital media play.

Family members beyond parents have always played important roles in children's lives. Steady increases in maternal employment have also correlated with increased Grandparent involvement in childcare (Geurts et al. 2015). Grandparents in this study invested significant time and planning in extending children's engagements with the digital, echoing Plowman, McPake, and Stephen's (2008) finding that Grandparents are an important source of 'guided interaction'. Other children in the families also played important roles in mediating preschool children's digital media practices. A good deal of peer scaffolding was observed. Children may be particularly unaware of the significant roles they play in mediating their siblings' media practices, although it is likely that they are motivated by a desire to share interests. Sibling mediation may be an important area for future study.

Conclusion

Within mediation literature, less nuanced consideration has thus far been given to the diverse nature of active mediation and co-use, when compared to restrictive mediation strategies. This exploratory, qualitative study focused in depth on a small sample of families from one region in the UK. Whilst claims of generalisability would be inappropriate, the study presents examples of family mediation practices that are likely transferable to other families in other contexts, suggesting new directions for future research. The study suggests the range of positive or instructional active mediation practices that families engage in are more diverse than previously acknowledged. Two novel mediation practices are identified: extending and relating. Furthermore, the study highlights roles played by a wider range of child and adult family members. The practices identified in this study thus expand current discussions of parental mediation and suggest new directions for future research.

In contrast to past work using self-report surveys and/or parent interviews, this study employed observation and parent interviews. In interviews, parents tend to underestimate their own roles and the extent to which learning with technology is culturally transmitted within the family (Plowman, McPake, and Stephen 2008). Accordingly, it is unsurprising that some important aspects of family

mediation have been missed by excluding observation from the methodological mix. These findings suggest future mediation studies should attend more fully to the precise nature of positive and instructional forms of mediation. The study also highlights the importance of detailed, longitudinal observational work to attend to mediation beyond what parents tend to relate narratively.

Families express a desire for advice about children's engagements with digital media (Livingstone et al. 2018), but public discourses present conflicting messages. Much of the information provided to parents highlights potential risks, offering guidance on how to mitigate them without providing guidance on the possible benefits and how to maximise them. This focus is perhaps unsurprising, since discourses on childhood have tended to foreground protection and downplay children's agency (James and James 2008). The present study evidenced that family mediation of preschool children's digital media practices supported the development of a wide range of skills, but also that family members lacked awareness of their own positive mediation of digital practices. There are, then, potentially significant benefits to families being made aware of the types of practices that support preschool children's learning with technologies. It is thus suggested that future advice provided to parents includes information about positive and instructional mediation practices and the diverse skills and knowledge they foster, alongside information on how to mediate potential harms.

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ORCID

Fiona Louise Scott http://orcid.org/0000-0002-8689-2905

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