

“We never teach herbut she knows”:
Young children’s engagement with digital media in
homes in the UK and Finland

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Expert Group at the Faculty of Educational Sciences

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Research report – aim to generate evidence about young children’s use of digital technologies in the home

1. DigiLitEY
2. Literature review of research published 2005 – 2015
3. Literature review of research published 2016 – 2017
4. Design and implementation of “A day in the digital lives of children aged 0-3 years” in Europe
5. A closer look at 2 families – located in the UK and Finland.



The digital literacy and multimodal practices of young children (DigiLitEY)

Young children are growing up in highly technologised societies across Europe. The aim of this COST Action is to develop an interdisciplinary network that enables researchers to synthesise existing research and identify gaps in knowledge in this area. This will help to avoid duplication, foster innovative avenues for future research and effectively advance knowledge in this area. The Action focuses on children aged from 0-8.



Working Groups



Events & Activities



Publications



News

Literature reviews

Kumpulainen, K, Gillen, J, (2017) Young Children's Digital Literacy Practices in the Home: A Review of the Literature. COST ACTION IS1410 DigiLitEY [\[Full Report\]](#)

Kumpulainen, K. & Gillen, J. (in preparation) Young children's digital literacy practices in homes: Past, present and future research directions. In *The Routledge Handbook of Digital Literacies in Early Childhood*, (eds) R. Flewitt, Ola Erstad, Bettina Kuemmerling-Meibauer and Iris Pereira. London: Routledge.

Literature Review 1 (open access report)

Review of research 2005-2015

Searched known databases, many disciplines, not just “literacy” but also “media” or “technology” as keywords to find out what is known about children’s use of digital technologies in the home

33 articles and reports

Themes:

- A. Parental mediation of children’s digital literacy practices in homes
- B. Children’s media engagement and literacy learning in homes
- C. Home-school knowledge exchange of children’s digital literacy practices

Parental mediation of children's digital literacy practices in homes

The major theme (c ½ studies)

A1 Many parents see digital technologies and media as positive but challenging at the same time

A2 Parents are not always aware of the range of children's online activities and their skills

A3 Benefits of children's digital activities are less straightforward to parents than seeing the risks.

A4 Parental mediation includes “co-use”, “active mediation”, “restrictive mediation”, “supervision”, “technical safety” and “guidance”.

A5 Parental mediation is linked with the number and nature of media devices in the home, and the parents’ gender, education, cultural/socioeconomic background, computer/internet skills and attitudes.

B Children's media engagement and literacy learning

B1 Children in Europe grow up in media-rich homes

B2 Digital technologies and media are an important (but not dominant) part of children's lives.

B3 Children typically demonstrate agency over technology: Digital activities interact and support children's "offline" life interests as children use digital media as an enlargement of their activities.

B4 Children's literacy learning with and from digital technologies and media is mediated by the social context. Children learn from parental and peer mediation as well as from observation and imitation; parents seem sometimes not to be aware of their children's mirroring their behaviour.

B5 Using devices that are not configured for children's use increases their risks of problematic experiences with pop ups sometimes with inappropriate content and in-app purchases.

C Home-school knowledge exchange on children's digital literacy practices

Our search strategy will not have identified all salient research

C1 Children and parents believe that educators have little knowledge of children's media engagement and digital literacy at home

C2 Children report limited school work related to digital literacies

C3 Parents would welcome stronger and more collaborative relationships with ECE/school settings, with information-sharing and exchange of good practice

Literature Review 2 (handbook chapter)

Same method & criteria 2016-17 Greatest change – far more published (38 by end November – not the final figure)

A Parental mediation of children's digital literacy practices in homes

B Children's media engagement and literacy learning in homes

C Home-school knowledge exchange of children's digital literacy practices

Also applied Green's (1988) 3D model, focusing on three interrelated dimensions of literacy, adapted appropriately for digital technologies:
operational – skills,
cultural – meaning-making
critical – active agency, transformation

Examines findings in the light of Literature Review 1

Parental mediation of children's digital literacy practices in homes

Continues to be a major theme

A1 Many parents see digital technologies and media as positive but challenging at the same time

Continuing sense of ambivalence.

A2 Parents are not always aware of the range of children's online activities and their skills

Still true but research is scant; not covering operational aspects of digital literacy practices.

A3 Benefits of children's digital activities are less straightforward to parents than seeing the risks.

Parents are identifying more opportunities now.



DigiLitEY

A4 Parental mediation includes “co-use”, “active mediation”, “restrictive mediation”, “supervision”, “technical safety” and “guidance”.

Continuing attention in research; thoughtful reconceptualization.

A5 Parental mediation is linked with the number and nature of media devices in the home, and the parents’ gender, education, cultural/socioeconomic background, computer/internet skills and attitudes.

Correlation with demographic characteristic is weakening.

B Children's media engagement and literacy learning

B1 Children in Europe grow up in media-rich homes

Continues. Access to bandwidth an issue for some.

B2 Digital technologies and media are an important (but not dominant) part of children's lives.

Evidence now somewhat mixed.

B3 Children typically demonstrate agency over technology: Digital activities interact and support children's "offline" life interests as children use digital media as an enlargement of their activities.

Continues, but too little evidence on children's creative practices.

B4 Children's literacy learning with and from digital technologies and media is mediated by the social context. Children learn from parental and peer mediation as well as from observation and imitation; parents seem sometimes not to be aware of their children's mirroring their behaviour.

Little research attention.

B5 Using devices that are not configured for children's use increases their risks of problematic experiences with pop ups sometimes with inappropriate content and in-app purchases.

Little research attention.

C Home-school knowledge exchange on children's digital literacy practices

Our search strategy will not have identified all salient research but **continues:**

C1 Children and parents believe that educators have little knowledge of children's media engagement and digital literacy at home

C2 Children report limited school work related to digital literacies

C3 Parents would welcome stronger and more collaborative relationships with ECE/school settings, with information-sharing and exchange of good practice

Conclusions to literature reviews:

Green's 3D model of literacy: operational, cultural, critical – most research relates to cultural dimension.

More research is needed – especially according to dimensions and themes as identified above.

More work is needed connecting EY settings/schools with parents – both directions

More parental guidance would be welcomed, especially from such sources.

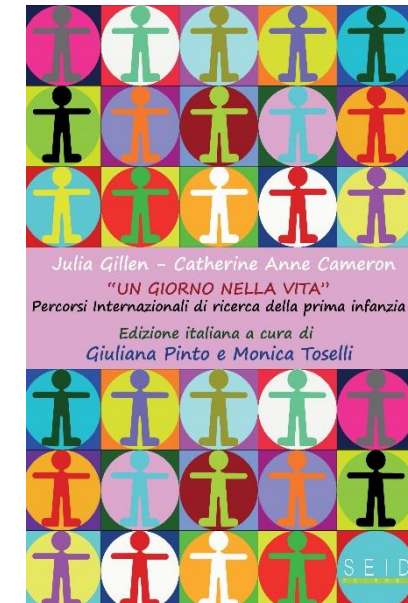
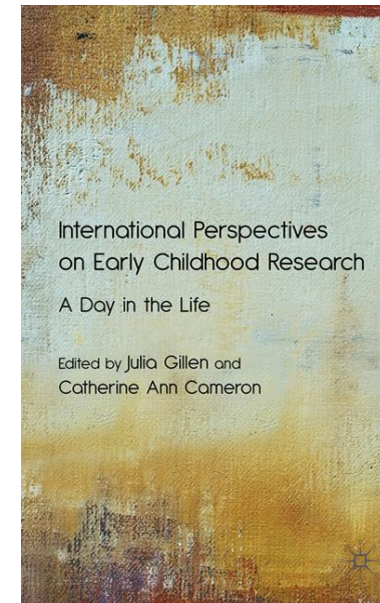


Design and implementation of “A day in the digital lives of children aged 0-3 years” in Europe

Using the methodology of [A day in the Life](#) (C.A. Cameron & J. Gillen)

11 countries, 16 cases

WG1 Digital Literacy in Homes and Communities: research strand A day in the digital lives of children aged 0-3
Meeting in Lisbon February 2018.



RQ1 How does technology inform the daily lives of children aged from birth to 3?

RQ2 What digital literacy skills and competences to children this age group develop as they engage with technologies?

RQ3 How do parents or carers mediate young children's use of technologies?

RQ4 What are parents' or carers' perceptions of and attitudes towards the current and potential future use of technologies by their young children?

Original *Day in the Life* aim: 1

Identify diverse ways of thriving through study of the early home lives of 'strong' children in various contexts across the globe. Avoiding a crude comparative approach, to combine investigations of values in the families with careful interpretation of data to explore the broad notion of strength in diverse global communities.

Original *Day in the Life* aim 2

Explore specific aspects of cultural activities seen by participants (parents, local and distal researchers) as constructive to healthy growth, *as these aspects emerged* eg.

- nurturance in development of exploratory skills
- emergent literacy
- musical experiences
- humour
- eating, etc.
- new project – interactions with digital technologies, in the flow of everyday life

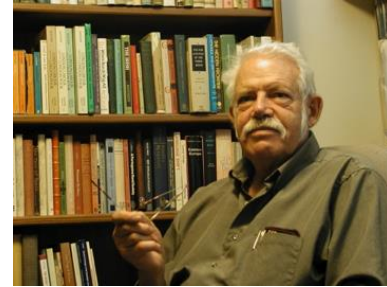
Theoretical perspective: culture & cognition 1

Leontiev (1978: 13):

“Cognition does not exist outside the life process that in its very nature is a material, practical process. The reflection of reality arises and develops in the process of the development of realities of cognitive people with the human world surrounding them; it is defined by these ties and, in its turn, has an effect on their development.”

Law (2016) STS (science and technology studies) as method

culture & cognition 2



Hammel (1990: 457):

“Culture is an evaluative conversation constructed by actors out of the raw materials afforded by tradition and ongoing experience. It is continually modified by them in processes of social interaction, and their behaviour is guided by anticipation of such cultural evaluation.”

“culture as verb” (Heath and Street, 2008)

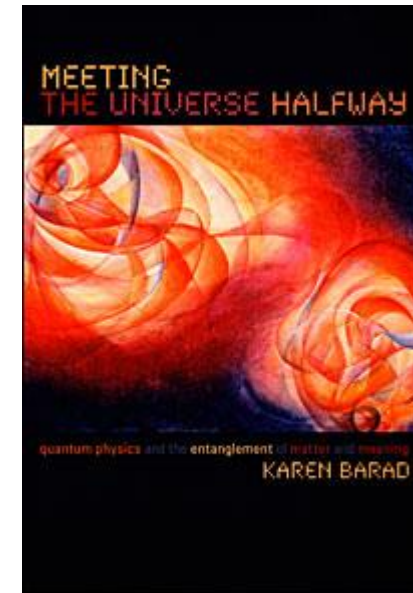


culture & cognition 3

Cole (1998)

“There is no doubt that culture is patterned, but there is also no doubt that it is far from uniform and that its patterning is experienced in local, face-to-face interactions that are locally constrained...” p. 250

Barad (2007) entanglements of matter and meaning: “...since there is no outside to the universe, there is no way to describe the outside system, so that description always occurs from within....” p. 351



Consequent cautions for methodology

- Impossibility of direct equivalence translation, even the starting notion itself is variable across cultures.
- Former adherence to an ideal 'standardization of procedures' warrants interrogation:
"identical procedures do not necessarily have the same meanings from the perspectives of the people who are involved." (Rogoff, 1997)



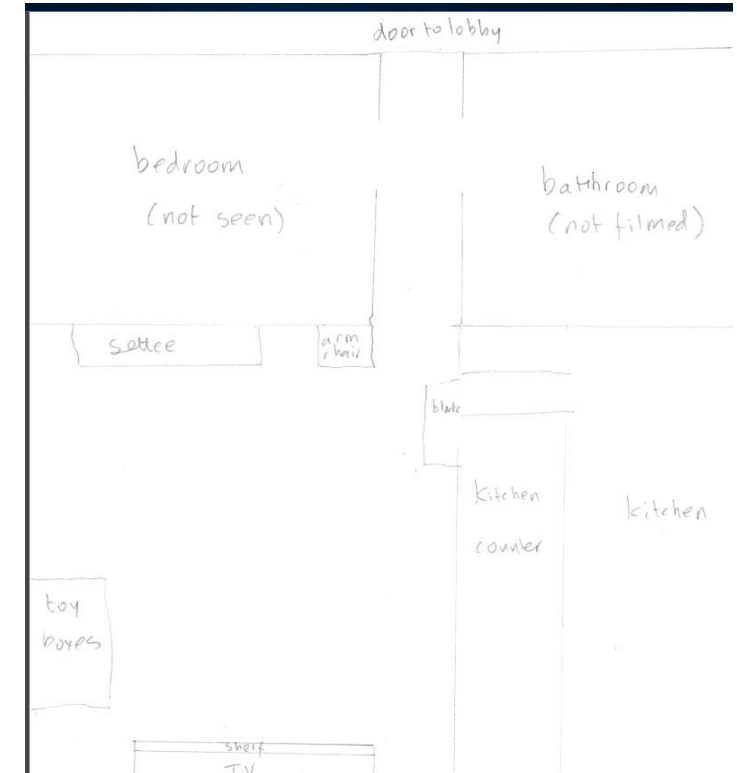
13 children from 6 countries aged 0-3

Lead researchers:

- Sweden (2 children) Ulrika Sjöberg, Helena Sandberg, Ebba Sundin
- UK (4 children) Fiona L Scott & Jackie Marsh; Rosie Flewitt and Alison Clark; Julia Gillen
- Portugal (3 children) Ana Jorge , Raquel Pacheco Vitor Tome
- Spain (2 children) David Poveda, Mitsuko Matsumoto, Cristina Aliagas,
- Finland (1 child) Kristiina Kumpulainen, Heidi Sairanen
- Israel (1 child) Yehuda Bar-lev

Outline of methods

- Locating research participants
- Interviewing; Pilot filming; mapping the environment
- Day in the Life filming
- Selection & creation of compilation video
- Iterative stage
- Beginning analysis



Research phase	Researchers' task	Research activity
1. Initial recruitment:	Home visit – researcher offers procedural details & consent information. Participant contacts researcher if willing	Builds upon prior identification of possibilities, perhaps through networks etc.
2. Initial research visit: Having obtained agreement, an hour or more spent in home	Researcher obtains informed consent, interviews participants. One hour filming. Discussion to see if research will proceed.	Acclimatize to filming.
3. Day in the Life videoing	Researchers return to home for full Day of videoing	Two researchers video, take field notes, sketch maps, etc.

Research phase	Researchers' task	Research activity
4. Compilation selection	Researchers view full footage of Day and create compilation video	Colleagues independently select about six 5-minute segments, agree on a compilation to elicit participant reflections
5. Iterative data collection	Local researchers show participants compilation	Local researchers video or audio record participants discussing the compilation
6. Follow-through data collection	Communicate further and update on progress. May include F2F, email, phone etc.	Iterative discussion of interpretations, often to check matters of detail.
7. Data analysis & dissemination: Data from all research stages shared with international team; consultations on theme selection, analysis & dissemination	Researchers compile their local data to share with full team collaborating on data analysis and knowledge mobilization	Interview responses, field notes, maps, video footage, photos shared with team; work together on themes, protocol analyses, grounded in the data

We strive to generate/represent multiple perspectives through:

video – rich record, amenable to multiple interrogations

setting video data alongside other data

combine researchers' perspectives

access participants' feedback in iterative stage.

A case in Finland: Emma



- Emma (2 years and 10 months' old on the day of filming)
- Other family members: Mother, father and a little sister (under 1 year old)
- Nationality: Finnish; Language: Finnish
- Living environment: Suburb of Helsinki, private terrace-house with a garden
- Both parents have a university degree
- Father working full-time, mother at home on family leave

Digital devices in Emma's home

- A television set connected to the internet
- iPad tablet computer
- iPhone
- PC or Laptop
- Digital Radio or DAB Radio
- Electronic toy, such as a battery-operated car or doll

Emma's app use

- Learning (e.g. matching shapes, learning numbers/ letters/ words / animal names etc)
- Basic Strategy (e.g. angry birds)
- Audio play/ musical play/ (e.g. nursery rhymes, keyboards)
- Visual play/ drawing/ colouring in (e.g. Draw; Faces iMake HD)
- Video apps (e.g. YouTube)
- Story apps/ interactive books (e.g. Nighty Night, Cinderella)

Emma's activities with the tablet

- Taking photographs
- Watching video
- Watching a children's channel
- To help learning/education
- Listen to music
- Look at pictures/photos
- Voice/video communication, e.g. FaceTime/Skype
- Searching examples for arts and crafts activities from the internet

Emma's tablet use

- **Is able to do unassisted:** Turn the device off and on; Open their apps; Use video apps; Use learning apps; Use creativity apps; Take photos; Drag items across the screen; Exit apps and enter other apps; Increase or decrease the volume; Swipe the screen (e.g. to change photos, turn the 'page' of an e-book); Show others e.g. siblings how to use the device
- **Needs some assistance:** Unlock the device
- **Is unable to do / unaware of:** Use gaming apps; Use reading apps; Find new apps in the app-store / market place; Purchase new apps in the app-store / market place; Click on a cross in a box to get rid of a pop-up; Make videos; Draw things; Trace shapes with their fingers; Enlarge or decrease the size of objects by pinching and dragging; Drag items and trace shapes.



Digital media in Emma's life 1

Documenting and sharing Emma's life:

“Mother: There [outdoors] the most [typical] thing [is], taking photos. I also bought a new camera but they don't have it now there with them.

Researcher 1: Yes

Researcher 2: And it's so great that you can share that...day about the children.

Mother: Our both grandmothers live so far that.. And it would be a real shame that you wouldn't know those hours of the day (while the dad is working and not spending the time with the children).

Digital media in Emma's life 2

The educational role of digital media:

“At first she only watched Musarulla (a music program) and she wasn't actually even interested in anything else.. I'm not sure if I said Musarulla, or she said.. And actually she learned to sing and dance very early.. or comparing to others her own age just because she had watched that program. But then, maybe [she learned] to speak later.. so then I was wondering was it because of that or from something else.”



Digital media in Emma's life 3

Concerns of digital media decreasing Emma's concentration:

"Sometimes I was bothered that when she watched the programs from the tablet or the phone, she may watched them only a while from the beginning and then she changed to somewhere else. And I was annoyed because of that because I'm restless by nature and my child may be too.. so does it (digital media) feed that kind of behavior."

A case in the UK: Lily

- Emma (14 months' old on the day of filming)
- Other family members: mother, father
- Nationality: Malay; Languages: Malay and English
- Living environment: 1 bedroom flat on a university campus in North West England
- Mother is a FT PhD student; father is a FT father.



Digital devices in Lily's home

- A television set connected to the internet
- iPad tablet (was mother's, has become Lily's)
- Samsung tablet
- Parents' smartphones
- Mother's laptop
- MP3 player
- Electronic toy, such as a battery-operated car or doll

Lily's app use

- Learning (e.g. matching shapes, learning numbers/ letters/ words / animal names etc)
- Musical play/ (e.g. nursery rhymes, keyboards)
- Video apps (YouTube)

Lily's activities with the tablet

- Watching video
- Watching a children's channel
- To help learning/education
- Listen to music
- Look at pictures/photos
- Voice/video communication, e.g. FaceTime/Skype
- Watching music videos on YouTube
- Watching videos made by other children on YouTube

Lily's tablet use

- **Is able to do unassisted:** Open apps, use video apps, drag items across the screen; exit apps and enter other apps; swipe the screen e.g. to change photos, turn the 'page)
- **Needs some assistance:** Unlock the device; use learning apps. Click on a cross in a box to get rid of a pop up
- **Is unable to do / unaware of:** Use gaming apps; Use reading apps; use creativity apps; find new apps in the app-store / market place; Purchase new apps in the app-store / market place; Click on a cross in a box to get rid of a pop-up; Make videos; Draw things; Trace shapes with their fingers; Enlarge or decrease the size of objects by pinching and dragging; Drag items and trace shapes.

Digital media in Lily's life 1

Agency in finding, selecting and engaging with videos on YouTube

Father: "We never teach her, we never gave her our device but when she has it she knows how to unlock it, she knows how to find YouTube."

Mother: She loves videos that teach colours. We do not know why....I tried to show her other videos like the "Micky Mouse Club House" and she went made, like she wanted to see the colours....

Digital media in Lily's life 2

Mother:

“She likes the video because first it is the Teletubbies (Father: “noo-noo”). Second it teaches colours as you see and third it is because she has Mega Blcoks and so those are the same blocks she is playing with, so she is associating the blocks with her blocks.”

Digital media in Lily's life 3

Mother:

“I use my phone to educate her.... I used to restrict her usage of the phone because I did not want her use to be so into technology, but then when she's mixed with other kids her age, she seems to be a little bit left behind... she could not do some moves from the videos the other kids are doing like...from the song 'Stomp your feet, clap your hands' ...so I thought I want to expose her to some of it and to educate her through these videos. “

TV on all day; she is always attracted by the ads.

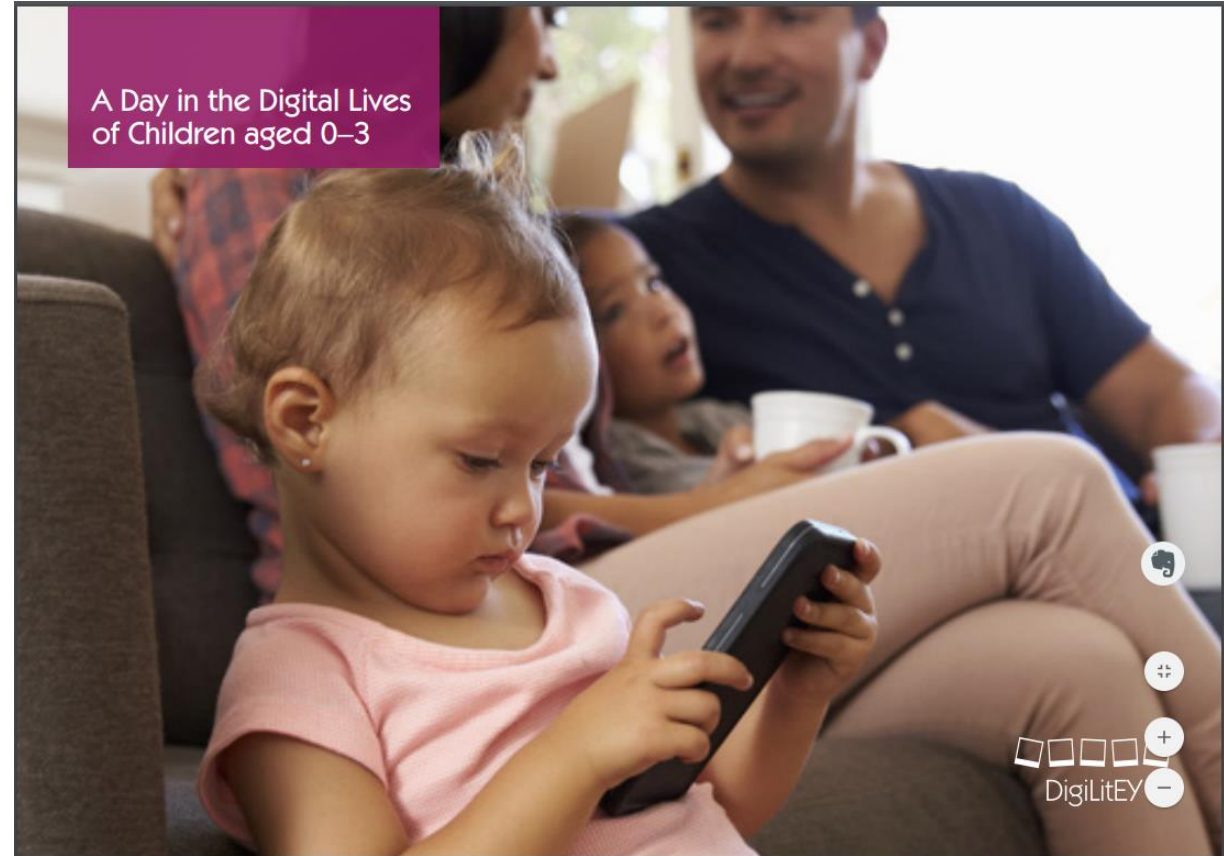
“We want her to have a balance” (“gadgets... books... playing outside...”).

Our summary report

RQ1 How does technology inform the daily lives of children aged from birth to 3?

All children had digital technologies in their lives, as a minimum watching YouTube/TV although most had far more.

Children observe their parents and learn from them.



RQ2 What digital literacy skills and competences to children this age group develop as they engage with technologies?

Children are learning how to use technology for education and entertainment, how to access the content they are interested in and how to make choices about their technology use.

RQ3 How do parents or carers mediate young children's use of technologies?

Mediation varies greatly, from interaction that was entirely controlled by the adults to completely unsupervised access.

RQ4 What are parents' or carers' perceptions of and attitudes towards the current and potential future use of technologies by their young children?

Parents all acknowledge that children need to learn how to use technologies. They hope for and expect them to become skilled users. Some parents think that children will be able to pick up these skills easily while others feel that they need to show/teach children digital skills.

Parents demonstrate diverse concerns about dangerous uses of the internet and the balance with other activities in children's lives. Some think of themselves as skilled users; others express worries about their abilities as they did not grow up with these technologies themselves. They feel there is a lack of or conflicting information on the right ways to introduce children to digital technologies.

Policy implications

- The study indicates the extent to which technology is now embedded in the daily lives of young children aged under 3 but there is little research in the area.
- There are different levels of parental support/mediation in relation to young children's uses of technologies. These relate to confidence and expertise.
- A public campaign should be developed which identifies a set of clear and consistent messages.

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