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Families with young children and 'screen time' advice

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Abstract

There is currently a lack of guidance for both parents and health professionals regarding screen time and the use of digital devices by 0- to 5-year-olds, despite rising concerns among health visitors. In a context of increasing reliance on digital technologies, public anxiety about the still-uncertain outcomes for children, and a policy debate that prioritises risks over opportunities, this article offers a balanced assessment of recent evidence that can underpin realistic screen media guidance. While evidence for screen-related risks is less strong than often supposed, it appears that parent-child interaction mitigates any associated harms of screen time, also fostering screen-based learning opportunities. We conclude with some practical, evidence-based suggestions for health visitors.

Key words

Screen time, parenting advice, media exposure, digital technology, media effects, risks and opportunities, parent-child interaction

There is currently a lack of guidance for both parents and health professionals regarding screen time and the use of digital devices by 0- to 5-year-olds, and little critical discussion of the relevant evidence. This is surprising given the current spate of media attention to screen time harms and high levels of parental concern.

Health visitors are clearly well positioned to advise parents with evidence-based recommendations. But who advises them? The ASQ development tools (Squires et al, 2009) do not discuss screen time or use of digital devices, and recent research findings revealed a lack of evidence-based information for health professionals (Franklin, 2018). The *What to Expect, When* (4Children, 2015) guidance to learning and development in the Early Years does not discuss screen time or the use of digital devices. The Institute of Health Visiting endorses the #BathBookBed campaign, asserting that books are essential to development and that screen time cannot be an adequate substitute but offers little further advice (iHV, 2017; see www.booktrust.org.uk).

In this article we consider the evidence regarding young children's screen time and its implications for the risks and opportunities for their wellbeing in order to support the development of appropriate guidance for health visitors and parents.

Young children's screen use: the facts

Ofcom's annual survey of children's media use is the main source of authoritative data in the UK. With year-on-year increases in both access and use among the youngest children, the latest findings show considerable levels of digital device ownership and use among young children (see Box 1; Ofcom, 2017).

Box 1: Young children's screen access and use

Among 3- to 4-year-olds:

- 1% have their own smartphone, 21% have their own tablet
- 96% watch television on a television set, for around 15 hours a week
- 40% play games on a digital device, for nearly 6 hours a week
- 53% go online, for nearly 8 hours a week, mostly on a tablet
- 48% use YouTube; of those, 52% prefer cartoons and 15% unboxing videos

Among 5- to 7-year-olds:

- 5% have their own smartphone, 35% have their own tablet
- 95% watch television on a television set, for around 13.5 hours a week
- 40% play games on a digital device, for nearly 7.5 hours a week
- 79% go online, for around 9 hours a week, mostly on a tablet
- 71% use YouTube; of those, 30% prefer cartoons and 18% funny videos or pranks

Source: Ofcom (2017)

Less is known for even younger children, though the Parenting for a Digital Future survey of 2,000 parents in the UK found that 73% of parents of 0- to 4-year-olds reported that their child had used a tablet to go online in the past month, 41% a mobile or smartphone and 24% a desktop or laptop computer (Livingstone et al, 2018).

Health visitors' concerns

A recent study interviewing health visitors revealed a host of concerns linked to such growth in digital device use in the Early Years (see Box 2; Franklin, 2018). Such concerns tend to inform practice, as illustrated in a case study.

During a two-year health review, a health visitor observed that although the child's play and interaction with her parents suggested she was bright, she scored zero for communication skills, with gross motor, fine motor, problem-solving and personal-social skills all close to

the lower limit for being on schedule with her development. Discussing the daily routine with the parents, the health visitor learned that the iPad was offered to the child for hours at a time 'to learn from', with no parent interaction during use. A plan was developed with the parents to limit access to the iPad, encourage interaction with the child while using the iPad, and increase reading from a book, outdoor activities and attending toddler groups. After two weeks, the child's development was on schedule for communication, problem-solving, personal-social, gross and fine motor skills (Franklin, 2018).

This illustrates health visitors' concerns that screen time can be harmful, though it also shows parental hopes that it may be beneficial. Although the intervention appeared promising, systematic research is needed to disentangle whether it was the changes to screen time that made the difference, and whether this strategy would work for other families.

Box 2: Health visitors' concerns

'Parents use screen time as a way of avoiding [dealing with] bad behaviour.'
'Some children will be left to play alone on a mobile/tablet with little interaction with an adult.'
'Parents seem to be using TV and tablets to entertain a child [… while] stories and songs do not feature in the daily routine.'
'Parents appear unaware of the effects of handheld devices.'
'Parents being on their phone when feeding their babies or distracted by phone when talking to their children.'
'In my experience children who scored low on communication often have lots of screen time, particularly with handheld devices.'

Source: Franklin (2018)

A polarised debate

Public and expert debates over screen time tend to focus on either the risks or the opportunities of digital technology use, leaving parents ambivalent. On the one hand, parents feel impelled to buy the latest technology to 'keep up' and ensure their child has vital skills for the future. On the other, they are anxious that the technology may prove harmful, especially as it is too early for longitudinal findings to be available. Meanwhile the mass media tend to jump to the conclusion that technology is inherently harmful, often exaggerating the size of the effect or inappropriately inferring causation from correlational findings.

Public worries about screen media generate their own problems for parents, who report guilt about letting their children watch, and conflict when they try to stop them watching (Blum-Ross and Livingstone, 2016; Hiniker et al, 2016). For instance, the Parenting for a Digital Future survey found that 15% of parents of 0- to 4-year-olds and 27% of parents of 5- to 8-

year-olds said that the amount of screen time led to conflicts between them (though bedtime, behaviour and what they eat were a source of conflict in more families). What the child actually does on a digital device, by contrast, was rarely a source of conflict (3% and 8% respectively) (Livingstone et al, 2018).

Recent research findings

Emerging findings from the TABLET Project with 6- to 36-month-olds at Birkbeck Babylab show that tablet use is linked to both risks and opportunities. After controlling for relevant demographic variables, findings include:

- A positive association between active scrolling of the touchscreen and fine motor skills (stacking blocks, pincer grip) with 'no evidence to support a negative association between the age of first touchscreen usage and developmental milestones' (Bedford et al, 2016).
- When toddlers were read electronic books, compared with those who were read print versions of the book, they 'paid more attention, made themselves more available for reading, displayed more positive affect, participated in more page turns, and produced more content-related comments during reading' (Strouse and Ganea, 2017).
- However, building on a long history of studies of adverse effects of bright light at bedtime (Akacem et al, 2018), the study also revealed a negative association between touchscreen use and night-time sleep, daytime sleep and sleep onset (Cheung et al, 2017).

Birkbeck Babylab researcher Celeste Cheung (2016) concludes that:

> The problem is that touchscreens are not the same as TV or computers; they combine both elements of passive entertainment of TV and interactivity of videogames. Active interaction with touchscreens can generate dynamic stimulation, and, if used appropriately, may be just as engaging and cognitively stimulating as traditional toys or books. And even for TV viewing, not all exposure is bad—educationally informed programming can have positive influences on executive function, language and numeracy.

Other studies add both encouraging and worrying results:

- A Canadian study found that by their 18-month check-up, one in five children used a handheld device for an average of 28 minutes per day. For each 30-minute increase in this time, the researchers found a 49% increased risk of expressive speech delay (Ma & Birken, 2018).
- On the other hand, McClure et al (2017) found that babies in the US aged 6–24 months can interact successfully via video chat with grandparents and others, learning to manage and benefit from 'joint visual attention'. Myers et al (2017) also found that

children under two can learn from video chat (FaceTime) conversations, provided the interaction is temporally synced.

- Also encouraging was Marsh et al's (2015) survey of 2,000 parents in the UK of 0- to 5-year-olds who used tablets, which found that children were using these for around an hour and 20 minutes per day on average, and were gaining a range of digital skills, such as being able, unassisted, to trace shapes with their fingers (44% of 0- to 2-year-olds, 75% of 3- to 5-year-olds) or tap the screen to operate commands or take photos or show others, for example, siblings how to use the device (23% of 0- to 2-year-olds, 50% of 3- to 5-year-olds).
- Despite public concerns over sedentary behaviour, it appears that the correlation between television viewing and obesity is statistically significant, but 'is likely to be too small to be of substantial clinical relevance' (Marshall et al, 2004, p.1238; see also WHO 2016), while little research updates the picture for today's digital devices. Moreover, the interpretation of such findings is unclear, since it remains uncertain whether the problem is that of viewing content full of junk food advertising, or about the snacking often linked to such viewing, or about the sedentary activity per se (not that media use is necessarily sedentary for pre-schoolers; see Kaye and Levy, 2017).

It should be noted, however, that many studies find only small or no effects. A large-scale US survey of parents of 2- to 5-year-olds found no relation between amount of daily digital screen time and negative indicators of wellbeing; on the contrary, a slight positive relation was found, with small benefits to wellbeing even among those totalling seven hours per day of screen media use (Przybylski and Weinstein, 2017). We cannot review the whole of this fast-growing field of research, but it seems that the evidence broadly supports the health visitor who told Franklin (2018) that:

> I think that handheld devices have their place and it is unrealistic to expect families to never use them. In small doses, I feel that handheld devices are okay and can sometimes offer another form of education, especially as they will be expected to use technology throughout school and working lives. However, I feel that screen time can have a negative effect on speech development unless really restricted and that this effect can be worsened if the screen time is excessive.

The important role of parents

Research also shows that parents can play a crucial role in mediating children's interactions with digital technology, potentially tipping the balance from risks to opportunities. Radesky and Christakis (2016: 832) reviewed the (largely American) research literature for screen time in early childhood, concluding that parents should support their child if they are to learn from digital technology, since:

> For infants and toddlers younger than 24 to 30 months, the primary way children learn from passive or interactive media is through caregivers coviewing, teaching them about the content, and repeating this teaching through daily interactions.

Paciga and Donohue (2017: 7) also found that children's interactions with technology can be beneficial, provided that the content or context of use:

> …helped children deal with frustration and/or mistakes; encouraged children to take positive risks; utilized digital media to facilitate empathy and awareness; encouraged children's sense of trust; promoted children's sense of self-worth; engaged children's curiosities; encouraged children to look and listen carefully; provided opportunities for children to play; and provided opportunities for children to quietly reflect—alone or near a trusted adult or peer.

UK research by Plowman and Hancock (2017) agrees, showing that effective guided interaction supports a child's play and learning with technology as long as parents show an interest, ask questions, make suggestions, provide encouragement, praise achievements and help with any frustrations.

Do parents actually do this? The Parenting for a Digital Future project reported of UK parents that, on average, they 'sometimes' share an activity with their child online or talk to them about the content they use or advise them on apps they think are good for them. Doubtless they could be encouraged to do more. Ofcom's (2017) report likewise documents fairly high levels of parental involvement in their children's media use, but arguably not all parents are sufficiently involved.

Allowing for differences among families

Families come in many shapes and sizes, of course. Since Przybylski and Weinstein (2017) and other studies find that screen time is higher in lower-income families, one might be more concerned about these families. Or, one might argue that policy guidance to reduce screen time is itself classed. In other words, the temptation is to view poorer families as deficient in their parenting because, unlike those making the judgements, they permit more screen time.

There are other reasons why families differ, making it important not to impose normative judgements. Diasporic families often use screen media (for example, Skype) for good reason—to keep children in contact with distant relatives. Families where English is a second language or where children have special educational needs or disabilities may also find digital technologies offer particular advantages (Blum-Ross and Livingstone, 2016).

Recommendations

Many parents and professionals are at least vaguely aware of the original guidance from the American Academy of Pediatrics which stipulated no screen time for children under the age of two, and not more than two hours per day for older children. Recognising the need for an update in the digital age, they revised their guidance, as shown in Box 3.

Box 3: Screen time guidance for parents

The revised screen time guidance from the American Academy of Pediatrics (AAP) (Council on Communications and Media, 2016, based on an evidence review by Chassiakos et al, 2016) remains the main internationally cited authority. The guidance states that:

1. Infants and toddlers should have no screen exposure, except for interactive video chats.
2. From 18 months, high-quality television content is acceptable, provided a parent watches with the child.
3. For 2- to 5-year-olds, screen time should be limited to one hour per day, again, with parents present to help to interpret the content.
4. Families should develop a 'media plan' (the AAP provides an interactive tool), including designated 'media-free' times.
5. Rather than controlling their child's media use, parents should act as their child's 'media mentor', including managing their own screen time as a model for their child.

Building on the American model, similar guidance has since been developed in Australia (Australian Government Department of Health (2017) and Canada (Canadian Paediatric Society (2017).

No official screen time guidance is currently available in the UK, but the Department of Health and Social Care provides physical activity guidelines for Early Years (2011), and emphasises the importance of minimising sedentary behaviour. Clearly an update for the UK is now needed.

In the meantime, the US guidance shown in Box 3 provides a fair starting point, but is insufficient insofar as it fails to recognise the benefits of screen media. Since it is precisely the balance between risks and opportunities that parents must grapple with, Blum-Ross and Livingstone (2016: 27) argue that policy-makers and practitioners should:

- Recognise that media use is no longer optional or dispensable in families' daily lives
- Screen time is neither a homogenous nor an inevitably problematic activity
- Parents can play positive roles in relation to children's screen time and urging them to limit or 'police' that time can be counterproductive

They recommended that rather than watching the clock, parents should observe their child and ask themselves five key questions:

- Is my child physically healthy and sleeping enough?
- Is my child connecting socially with family and friends (face-to-face or online)?
- Is my child engaged with and achieving in nursery or school?
- Is my child pursuing interests and hobbies (face-to-face or online)?
- Is my child having fun and learning in their use of digital media?

If the answers suggest problems, and if, in turn, these can reasonably be linked to the child's use of screen media—bearing in mind the caution raised earlier about the nature of the evidence—then intervention to reduce or change the nature or conditions of the child's screen time would be merited.

What else might health visitors do? First, we note that when parents choose apps, their aim is often to support their child's learning, play and creativity, but they are not always clear which apps are appropriate or effective in supporting these goals (Evans et al, 2011). Can health visitors advise? Marsh et al (2015) offer a helpful checklist of features to look for in good app design for pre-school children (see also Takeuchi and Stevens, 2011).

Second, we note that currently few parents see health visitors as the people to turn to for advice. The Parenting for a Digital Future survey found that parents of under-8s tend to search online by themselves when they want advice about their child's digital technology use. Indeed, while one in four (26%) of parents of 0- to 4-year-olds would ask a health professional when they have a concern about their child in general, far fewer (11%) would turn to them for guidance about their child's digital technology use. So, can health visitors raise digital media and screen time dilemmas with parents, to discuss with them and inform and guide them? Given the evidence, health visitors might usefully emphasise the importance of parent–child interaction, both directly and in relation to digital content, while avoiding generating parental guilt or anxiety over screen time per se.

Third, as a professional recommendation for health visiting practice change (NICE, 2007), we recommend that screen time and the use of digital devices should be a mandatory discussion at the 9–12-month and 2-year review. Further, we recommend health visitors evaluate, promote and discuss parent interaction when their 0- to 5-year-old child is using the digital device, together with recommendations for positive (educational, imaginative, playful) and safe use of digital devices.

Last, parents should be encouraged to evaluate how they themselves use digital devices in the presence of their children, as this may lead to a lack of engagement with the child/ren (Franklin, 2018). This should be supported by the production of health promotion material for parents, informing them of the best evidence about use of digital devices, child development milestones and promoting the importance of parent interaction in all emotional and physical activities.

By discussing the screen time guidance (see Box 3) with parents, they can be educated and empowered to make an informed choice about how they allow their child to use a digital device, as well as the wider context of their child's healthy development. This is dependent on the interaction of parents in all activities (Johnson et al, 2012), and not just on the interaction when a child is using a digital device. Therefore children need to be exposed to physical, social and emotional activities to develop skills, independence and safe risk taking. Mealtimes should be a time for family discussion and a bedtime routine should be promoted.

It may be hoped that, in time, the market will diversify so that digital providers improve the products available to support child wellbeing. Until then, the responsibility falls to parents and those who advise them to ensure that screen media use is beneficial in terms of parental involvement, child interaction, educational content, absence of problematic features (advertising, violence) or, if merely used for relaxation or fun, not used to excess or before bedtime. With this in mind, in Box 4 we list some useful websites that are full of resources and constructive suggestions.

Box 4: Useful online resources

American Academy of Pediatrics (USA), Media and Children Communication Toolkit: www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/Pages/Media-and-Children.aspx
Better Internet for Kids (Europe): www.betterinternetforkids.eu
Common Sense Media (USA): www.commonsensemedia.org
Connect Safely (USA): www.connectsafely.org
Family Online Safety Institute (USA): www.fosi.org/good-digital-parenting
Joan Ganz Cooney Center (USA): http://joanganzcooneycenter.org
Internet Matters (UK): www.internetmatters.org
Institute of Health Visiting (UK): https://ihv.org.uk
Parent Zone (UK): https://parentzone.org.uk
Parenting for a Digital Future (international): www.parenting.digital
UK Safer Internet Centre (UK): www.saferinternet.org.uk

Key points

- There is a current lack of guidance for health visitors on under 5s 'screen time'
- The evidence for screen time harms for 0-5 year olds is weaker than often supposed, and different families may have legitimate reasons for using digital media
- Research suggests that harms are reduced and benefits greater if screen time is accompanied by direct parent-child interaction
- Screen time and use of digital devices should be a mandatory discussion at the 9-12 month and 2-year review
- Parents should be encouraged to reflect on how they and their children use digital devices, as should parent-child interaction during device use

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