BCS' response to early years screen time and usage.

BCS' experts respond to a call for evidence from the Early Years Screen Time Advisory Group to produce new parental guidance on screen time and usage for early years (0-5-year-old) children.

February 2026

Compiled by Claire Penketh, BCS Senior Policy and Public Affairs Manager

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BCS
The Chartered Institute for IT
3 Newbridge House,
Newbridge Square,
Swindon SN1 1BY
BCS is a registered charity: No 292786

Executive Summary

The UK Government launched a call for evidence on in February 2026 to inform the development of new parental guidance on screen time and digital device use for children aged 0–5. This consultation sought insights from experts across education, early years development, research, and the voluntary sector, recognising that the last major national advice was issued by the UK's Chief Medical Officers in 2019. The evidence gathered will support the work of the Early Years Screen Time Advisory Group, which has been commissioned to review existing recommendations and shape updated, practical guidance for families.

The government's consultation focused on understanding the impact of screen use across early childhood, including its effects on development, wellbeing, health, and family dynamics. It also examined the role of parental attitudes, the quality and context of digital content, and the effectiveness of interventions that support families in managing screen use.

BCS, The Chartered Institute for IT, submitted evidence drawing on contributions from early years computing and digital literacy experts, including members and associates such as Hannah Hagon (Unplugged Tots), Emma Goto (education consultant and academic), Phil Wilkins (Switch Off; Run Don't Walk), Sarah Zaman, Primary Computing Subject Matter Expert, and Rachael Coultart (NCCE; Computing at School).

Summary of BCS' response:

Across its response, BCS emphasises several cross-cutting themes that the government should prioritise:

1. Not all screen time is equal
Different types of screen use - passive viewing, interactive games, creative activities, or video calls - have **very different developmental impacts**, so guidance should not treat them as a single category.

2. Context matters more than duration
Evidence shows that **how** screens are used (e.g., jointly, creatively, intentionally) is more important than **how long** children spend on them, so rigid time limits can be misleading.

3. Co-use delivers the strongest benefits
Children learn more when adults watch or use screens **with** them - boosting language, cognition and social understanding - while solitary use is linked to poorer outcomes.

4. High-quality content can support learning
When digital content is **slow-paced, intentional and developmentally appropriate**, it can help build vocabulary, early computational thinking and communication skills.

5. Family pressures shape screen use
Parents often rely on screens because of **stress, workload and limited support**, so guidance must be non-judgemental and realistic about modern family life.

6. Unplugged play remains essential
For under-threes especially, children learn far more from **real-world, hands-on interaction** than from screens; unplugged activities support communication, creativity and problem-solving.

7. Support must be practical and easy to use
Parents and educators need **simple, low-cost ideas**, better training, and confidence-building strategies - not bans - so they can create balanced routines that work in daily life.

Consultation Questions:

Q1. What evidence should the panel consider about the positive and negative impacts of all types of digital screen use by 0–5-year-olds?

According to the expert education members of BCS, the Chartered Institute for IT, it is not possible to put all screentime into one single overarching activity. Emma Goto, contributing author to Teaching and Learning with Technologies in the Primary School, (Routledge) makes this point: a child consuming Youtube videos with no filtering or oversight is very different to a group of children using an iPad collaboratively to make a talking book within a supervised environment. One is about consumption (in unsafe, unmonitored ways), and the other is about creating collaboratively to encourage communication. She adds that

technology, screen-based or otherwise, should be used where it switches children on and gets them collaborating, creating and thinking in active ways.

Screen use must also be understood within the broader ecosystem of family life, according to Hannah Hagon, founder of Unplugged Tots, and contributing author to Developing Computational Thinking Abilities in the Early Years Using Guided Play Activities (Critten, Valerie; Hagon, Hannah; Critten, Sarah and Messer, David (2025) Open University). Hannah adds that screens themselves are not the core issue: disconnection, stress, structural pressures, and limited support are. When screens repeatedly substitute for play, connection, and communication, concerns arise.

Negative impacts are well established when screen use is passive, prolonged, or replaces developmentally rich activities such as outdoor play, movement or sleep. Evidence links such use to poorer language development, attention, emotional regulation and physical health. For example:

- An article published in the journal BMC Public Health (Rayce, Okholm & Flensborg-Madsen, 2024) *Mobile device screen time of one hour or more per day is associated with poorer language development among toddlers* found the following: 'High mobile device screen time of one hour or more per day was significantly associated with poorer language development scores and higher odds for both language comprehension difficulties and expressive language skills difficulties. The results suggest that reading frequently to the child partly buffers the negative effect of high mobile device screen time on language comprehension difficulties but not on expressive language skills difficulties.' .
- An investigation for Jama Paediatrics: The Early Childhood Screen Use Contexts and Cognitive and Psychosocial Outcomes: Systematic Review and Meta-analysis (Sumudu Mallawaarachchi, Jade Burley, Myrto Mavilidi et al) found that: '*More program viewing and background television were associated with poorer cognitive outcomes, while more program viewing, age-inappropriate content, and caregiver screen use were associated with poorer psychosocial outcomes. Co-use was positively associated with cognitive outcome'.*
- Sleep disruption is well documented in studies such as Associations of screen time, sedentary time and physical activity with sleep in under 5s: A systematic review and meta-analysis by Janssen, Martin et al.

The research shows positive impacts occur when screens are used intentionally, jointly, and with high-quality content, such as video calling, shared storytelling and co-viewing. Evidence suggests that co-use strengthens interactions, vocabulary, cognitive skills, and problem-solving through adult scaffolding.

Research also emphasises the need to view choices through the lens of parental mental health, time pressures, childcare constraints and poverty. Judgement increases parental guilt and reduces help-seeking.
Supporting parents with reading at home remains vital, as reduced reading may mediate the relationship between screen time and language difficulties.

Q2. What evidence should the panel consider about the impact of different amounts of screen time, imposing empirical time limits, for 0–5-year-olds?

The panel should be cautious about using rigid time limits alone. However, our experts advise limiting passive consumption of content. This type of use usually switches children off rather than on, as it fails to encourage them to think and engage with others creatively.

Evidence consistently suggests that ***how*** screens are used matters more than ***how long they are used***, particularly between ages two and five. This is reinforced in The Handbook of Children and Screens, Christakis & Hale, 2024, published by Springer .

The Handbook, on page 381, outlines **the 5 Cs** as a more useful framework than simple time measurement: **Content, Context, Child, Communication and Capacity-building**.

While time limits can help families establish boundaries, these should be accompanied by guidance that acknowledges real pressures and supports a **balanced routine** where screens follow—rather than replace—play, conversation, sleep, and physical activity.

Families may benefit from **shared time limits,** using timers already familiar in the home (e.g., bedtime or tidy-up timers), to help children understand that screen use is one aspect of a balanced day.

Our experts advise that content can be watched in moderation, but only high-quality content.

Q3. What evidence should the panel consider about the different types of digital screen use by 0–5-year-olds (e.g. TV, digital books and games, social media, messaging tools and online activities) and their impacts on children?

Television & streaming

As stated above, screen types vary significantly, and treating all screen time as equal limits the effectiveness of guidance. Evidence shows that passive TV consumption can have low developmental value, with background TV linked to **poorer cognitive outcomes,** according to Early Childhood Screen Use Contexts and Cognitive and Psychosocial Outcomes, Mallawaarachchi, Burley, Mavilid, (2024).

Studies such as Lillard and Peterson (2011) suggest that even short exposure to fast-paced cartoons can affect executive function in the short term.

But **co-viewing creates opportunities** for discussion, empathy, vocabulary growth moral reasoning and connection.

For instance, the CBeebies TV programme Wonderblocks has been developed with advice and guidance from Early Years Consultants such as Emma Goto, a Senior Lecturer in Primary Education in the Faculty of Education and the Arts at the University of Winchester.

Wonderblocks aims to support the development of computational thinking in Early Childhood and consists of five-minute episodes. Whilst Emma advises she would want children to watch one episode, for this call for evidence, she cautions against them sitting in front of any content (even great content) for hours.

Programmes like Wonderblocks, will hopefully encourage learning away from the screen, and the characters and language will become incorporated into children's play.

Barefoot provides primary school teachers with free workshops, live lessons, online guides and lesson plans, and helps teachers across the UK deliver the computing curriculum. In the educational setting, some Barefoot materials use Wonderblocks episodes as a jumping-off point to encourage computational thinking.

In summary, not all TV is equal - screen types vary significantly, and treating all screen time as equal limits the effectiveness of guidance.

Content quality

Highly animated or fast-paced content can overstimulate visual networks and reduce comprehension, according to Digital Media and Developing Brains: Concerns and Opportunities, Hutton, Piotrowski, Bagot, et al 2024.

A new initiative, the Digital Wellbeing Framework, led by Dr Amanda Gummer, will support parents in identifying developmentally appropriate content. This is currently being funded by InnovateUK.

Educational apps

Evidence for 0–5s is mixed. Some apps show benefits for early maths or for some children with autism who use alternative communication devices, but the evidence is limited and often overstated, according to Hutton, Piotrowski, Bagot, et al 2024.

Interactive games

Interactive games are particularly troublesome for 0-5-year-olds due to their dopamine-chasing nature, overstimulation, and missed opportunities for bonding and playing unplugged games with family members. Whilst some interactive games do support early literacy and problem-solving skills, it's important to stress to parents the power of unplugged play over screen-based play.

Smartphones/social media

There are concerns about the use of smartphones, especially social media exposure for 0–5s, due to a lack of guardrails, the risk of lone use, and limited evidence of benefit. Adult phones may contain open browsers, social apps, messages, photos and payment methods, and child-appropriate settings are not always enabled, Because of their portability, smartphones can be used by the child on their own, thereby also reducing the opportunity for co-viewing.

Research is sparse about the use by very young children of smartphones, according to *'Mobile device screen time is associated with poorer language development among toddlers: results from a large-scale survey:* "To our knowledge, only few studies have examined the association between mobile device screen time and language development. Of these, two studies suggest a negative association between time spent on mobile devices and expressive language among toddlers, while no significant association was found with other communication delays or language comprehension. Another recent study found no significant association between prolonged use of touch screens and overall communication and language development delay among toddlers.'

The panel should also look closely at design features such as autoplay, infinite scroll and persuasive design. These may contribute to difficulties with transitions and family conflict, although the research base here is still developing.

Near-universal smartphone ownership in homes with under-threes is particularly relevant. Research linking mobile screen use to access, availability and the home environment reflects this 'always available' pattern. A research study of under threes, Toddlers, Tech and Talk: Understanding how very young children learn language and literacy at home in a post-digital age found **98% of the families who took part in the study's online survey had access to a smartphone** and the same proportion had Wi-Fi connectivity.

Almost all families in the study (92%) reported they have a television/smart television and over 80% have laptops and/or tablets. The study was led by Prof Rosie Flewitt at Manchester Met, and the project was a collaboration with the universities of Lancaster, Queen's Belfast, Strathclyde and Swansea.

In terms of impacts, the BCS experts said the panel should look at research that measures displacement of adult–child interaction, challenges with transitions, and use in contexts that replace play or established soothing routines.

Unplugged

Celebrating **screen-free play** is essential, as the *transfer deficit* shows under-3s learn far less from screens than from real-world interactions (OECD How's Life for Children in the Digital Age?) Hands-on, unplugged computational thinking activities have been shown to be effective for 2–5-year-olds (Hagon, Critten & OU research)

Q4. What evidence should the panel consider about the impact of the way that screens are used by 0–5-year-olds (e.g., lone use vs joint use with an adult)?

Evidence strongly supports **co-use**, where adults actively engage with children during screen use. This is associated with improved **cognitive, language and social outcomes** (JAMA Paediatrics systematic review):

Conversation starters such as "How do you think they feel?" or "What do you think will happen next?" help children connect content to real life, strengthening empathy and oracy. This supports the known pedagogical theory of Vygotsky's Zone of Proximal Development (ZPD).

Encouraging young children to use screens independently may inhibit the development of the **Default Mode Network**, a brain system linked to empathy and theory of mind. These skills are increasingly important in a world where screen use is widespread.

Lone use reduces opportunities for nuanced engagement in conversations and may inhibit development, according to Hutton et al. Parents are also **less responsive to children's cues** when they are on devices themselves, according to evidence cited in Rayce et al.

Parents benefit from simple, accessible activity ideas—songs, movements, building tasks—which help establish patterns of independent play while respecting parental demands.

Q5. What evidence should the panel consider about how different types of content (e.g. video calling, digital books, communication apps such as learning to sign, learning numbers and letters etc, video games, children's videos, commercial adverts etc) impact 0–5-year-olds at different ages/stages of development?

0–2 years: Infants learn far more from human interaction than from 2D digital content. Eye-tracking and EEG studies show infants learn phonemes only from real people, not TV or audio, according to '*Digital Media and Developing Brains: Concerns and Opportunities'.* However, the authors also say video calling can act as a **reasonable proxy** for human interaction

Research shows that guided, unplugged play can build children's skills in communication, collaboration, planning, logical thinking and problem-solving. By noticing children's interests and offering related hands-on activities - such as using sequences for getting dressed and for dance moves, or to build a marble maze from blocks - parents can foster independent play while also freeing time for daily tasks, knowing their child is safely engaged.

For toddlers, research highlights that heavy TV and fast-paced content reduce **executive function** and background noise reduces parental conversational turns, according to the OECD report: *How's Life for Children in the Digital Age*

Government content guidelines should highlight possible positive screen content such as:

- CBeebies/BBC content that is educationally appropriate and utilises educational experts (See Wonderblocks)
- Video calls with family
- Gentle natural programmes or subjects of particular interest to the child, such as animals, trains, tractors.
- Content that promotes the joy and fun of screen-free play and encourages activities that stretch our children and have the potential to be hard fun, building the cognitive endurance and resilience our youth need.

Our experts believe parents should be encouraged to treat screens as just one tool in a child's home environment, rather than the central focus.

Q6. What evidence should the panel consider about the relationship between parents' or carers' screen use and their children's?

Technoference: Parental distraction due to screens—has measurable negative effects on infants' emotional well-being according to The Handbook of Children and Screens. Infants show increased negative affect, social bids, and self-comforting when parents withdraw attention to use devices. Conversely, **co-viewing** aligns with better cognitive and social outcomes and even measurable differences in infants' parasympathetic nervous system responses.

Babysitting' use and displacement of interaction: Our experts said the panel needs to consider evidence examining whether screens are used to occupy or settle children, particularly during busy periods, and whether this reduces talk, shared attention and play. Emerging research linking screen exposure with reduced adult–child talk highlights a plausible pathway for language impacts.

Parents should also be aware of how *their own screen use* affects young children, including what children may overhear or see. Also, reinforcing to parents that screen use before bedtime can disrupt children's sleep. Children's increasing expectation of instant gratification, reinforced by fast-paced digital games and dopamine-driven reward loops, means that offline play needs to be made equally engaging. This is easier when children have had limited screen exposure, but for those who haven't, parents will need to make gradual, persistent habit changes. With supportive, encouraging messaging, the government can help parents make these shifts and promote healthier long-term development for children.

Guidance should sensitively highlight that parents' own screen use influences children's behaviour. To help families reduce screen reliance, parents need simple, enjoyable, low-cost activities that are easy to set up—even for those who may not naturally feel confident playing. Expert-modelled ideas, such as songs, household-item activities or simple movement games, can support early communication, literacy and confidence.

Q7. What evidence should the panel consider about how parental attitudes towards technology and wider parenting approaches influence impacts of digital screen use by 0–5-year-olds?

Evidence warns that using screens to regulate behaviour can create **cycles of reliance and poorer emotional regulation**, highlighted by the OECD Report How's Life for Children in the Digital Age?

The Handbook of Children and Screens highlights how excessive background TV reduces **executive functioning. Parents** often lack confidence in how to play or interact without screens. Support should emphasise **realistic, small changes** rather than perfection. Reducing guilt increases the chance that parents will seek guidance and maintain improved habits.

Q8. What evidence should the panel consider about interventions, programmes, or support that can help parents to support and manage their child's screen use?

Effective programmes build on the **home learning environment**. Regular reading, singing and play have a **30% positive impact on vocabulary** according to Children of the 2020s-Second Survey of Families at Age 2 (COTS20s)

Programmes such as **"Unplugged Tots"** (Hagon) offer budget-friendly, play-based activities that build core skills like communication and listening, helping to prepare preschool children for school. These approaches align with findings from Can Pre-school Children Learn Programming and Coding Through Guided Play Activities? A Case Study in Computational Thinking, Hagon and Messer, Early Childhood Education Journal highlights how guided, unplugged play supports early learning and development.

Active play and interaction with caregivers are essential in early childhood. Research, including work by *Hutton et al.*, shows that shared activities such as book reading and play foster language development by providing social engagement and scaffolding that digital devices cannot offer. This is especially important as language growth aligns with the rapid maturation of white-matter tracts during the first three years of life. These findings are reflected in the OECD report, How's Life for Children in the Digital Age?

Hagon says that it has to be understood that not every parent relishes 'play', but when supported with expert guidance, parents and children can navigate and embrace change. Activities such as songs and dances that use common home-based items can be incorporated into play to encourage oracy, literacy, thinking about instructions and then carrying them out with a sense of achievement and celebration, according to Hannah Hagon.

Our experts also pointed to initiatives such as Switch Off, set up by Phil Wilkins, Senior Professional Development Leader for STEM Learning and founder of Run Don't Walk. He set up Switch Off to encourage parents to instigate a weekly whole-family 'screens off' time, and says he's had great feedback from early years parents.

Another input to this consultation from Rachael Coultart, National Centre for Computing Education Lead Professional Development Leader, and BCS-backed Computing at School Community Leader, suggests that the panel should consider more CPD for educators (who can, in turn, support parents) on computational thinking skills and on how to engage children purposefully with screens. This view is backed up by Sarah Zaman, Primary Computing Subject Matter Expert, who adds that evidence also supports improving staff training for nursery and school staff so they can have confident conversations with parents, consistent safeguarding messaging and clear signposting to practical tools. This helps to reduce the confusion caused by contradictory advice.

In addition, Zaman also suggests that brief, structured interventions delivered through primary care or health visiting services may offer a practical route for support, as these are settings families already engage with.

The most effective support systems focus on offering **alternative, engaging activities**, rather than imposing bans. Families benefit from a toolkit of **low-cost, practical, realistic ideas** that suit modern life and varying levels of parental confidence. Simple activity swaps and clear guidance, supported across health, early years and community services, help families build a balanced, sustainable home play environment.

Evidence should prioritise what parents say they need: simple routines, realistic alternatives and help with transitions, rather than messages that focus only on reducing minutes.

Q9. What evidence should the panel consider about parents' and children's views on screen time and managing children's use of screens?

Parents experience significant stress and conflicting expectations, and many justify screen use as a means of regulation. Yet **40% believe reducing screen time would better prepare children for Reception** (COT20s report).

Evidence highlights **displacement effects**: increased sedentary behaviour, reduced peer play, and poorer sleep quality.

Young children's learning can be enriched when parents observe their interests and build play activities around them. Research from Hagon, Critten and Messer shows that children can develop skills such as communication, planning and problem-solving through guided, unplugged play. By tuning into what engages a child and scaffolding related activities, parents can encourage periods of independent play. A series of practical examples are demonstrated in the book Unplugged Tots by Hannah Hagon, published by Raspberry Pi,

including creating a tumbling tower with empty cardboard boxes or supporting laundry day by looking for patterns on socks to match them, activities that keep the child safely occupied and allow the parent time to complete essential tasks like preparing meals..

Parents want **practical alternatives** that acknowledge their mental load and busy lives, not abstract warning labels. Clear, accessible, non-judgemental language, lived-experience examples and emphasis on the home learning environment can help reduce screen reliance while improving developmental outcomes. Screens are part of family life now, but parental interaction is the most powerful foundation for the mind their child is building today. Our experts stress that parents/carers don't have to overhaul their world; they just have to reclaim one moment today for a little 'unplugged' play. Systematic reviews suggest that family-based and multi-component programmes are more effective than one-off information leaflets. Behaviour strategies such as goal-setting, routines and monitoring appear particularly important. The goal is to be the supportive coach, not just the warning label.

Who we are

BCS is the UK's Chartered Institute for Information Technology. The purpose of BCS as defined by its Royal Charter is to promote and advance the education and practice of computing for the benefit of the public.

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As the professional membership and accreditation body for Information Technology we serve over 60,000 members including practitioners, businesses, academics, and students, in the UK and internationally.

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