

How technology is reshaping children's development

While technology itself should not be seen as all bad or good, a deeper understanding of how children are watching, playing and doing things with digital tools is necessary.

BY VALENTINA FANTASIA

It is a common scene on public transport. A parent holds a mobile phone showing noisy cartoons to their young child. The pair is looking at the screen together, laughing. Yet parent and child rarely exchange a gaze or look out across the landscape. While many parents can relate to such moments, this is just an example of how technology (mainly digital screens but also vocal assistants, domestic robots and so on) have become part of our daily routines, changing the way we interact and engage with the world around and most importantly with each other.

But how does all this change how young children develop?

Human development is essentially a social practice. From infancy, we participate in the world around us and learn from experience, especially from unfamiliar situations and cultural encounters, with the help of more knowledgeable partners.

As adults interact with children, they share views and create new knowledge. We make sense of the world around us, in its variety, complexity and beauty. Children learn from it, and adults learn how to see the world from the child's eyes. How can we possibly encounter the world or

make sense of it when our attention is captured by a screen?

Five decades of research in developmental disciplines have shown just how much human development is dependent on the fine-grained details of daily social communication. For infants and young children, communicating is not an abstract or conceptual thing, it is based on the small, routine moments shared with others, from stopping to observe a slow-paced slug on the way to school to reading a book together at the breakfast table. This is how we become humans.

What makes those early activities between children and adults special is the fact that they are co-constructed moment by moment through talk, gaze, gestures (such as pointing to something) and movements.

This includes how long you look at each other, or learn to make pauses and take turns in a conversation or activity. It is also about making eye contact before pointing to an interesting object in the room. These patterns teach us how to relate to others and participate in joint activities, and there is currently no substitute for such learning.

Becoming post-digital humans

Smart devices and streaming tools have

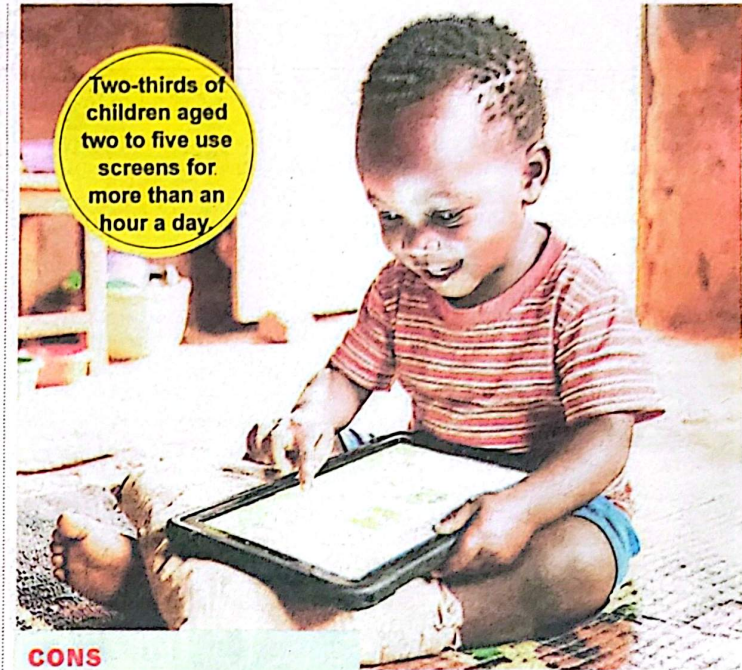
made digital media become an integral part of family life. Two-thirds of children aged two to five use screens for more than an hour a day, and the average starting age of screen use is getting dramatically lower. During the past two decades, researchers have showed how digital technologies are changing the way children cope with everyday tasks and activities, from playing and paying attention to remembering things and sleeping.

Exposure to digital devices on a daily basis has been linked to difficulties with completing homework, finishing tasks and staying calm when issues arise in the family. Sleep quality also seems negatively affected by screens, particularly if it's right before bedtime.

Even having a TV on in the background can negatively influence very young children's play time, disturbing the quality of their focused attention and shortening their play activity.

But although neuroscience is telling us that recurrent exposure to smart technologies is already rewiring humans' brains, not all of it is negative. High-quality media content, offered, for instance, by cartoons or educational apps, may help children cope better with their emotions and improve language skills.

So are we evolving into techno-hybrid super-intelligent creatures? Maybe it is not a completely negative thing after all, as writers and academics such as Jeannette Winterson and Katherine N. Hayles suggest. Becoming post-human, in their view, is the next step in humans' natural evolution towards adapting and transforming into something dif-



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ferent, not better, not worse.

Ultimately, while there is potential for technology to make children smarter in some domains, we also know it can disrupt their attention, play and sleep.

And this is our suggestion; any moment of the day spent together without screens is precious, even the ones which seem irrelevant. Reading a book at bedtime, telling invented stories while driving the car home or even being bored together are all crucial.