

Voice-control smart devices might hinder kids' social and emotional development, says expert

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Voice-control smart devices, such as Alexa, Siri, and Google Home might hinder children's social and emotional development, argues an

expert in the use of artificial intelligence and machine learning in health care, in a viewpoint published online in the *Archives of Disease in Childhood*.

These devices might have long-term effects by impeding [children's](#) critical thinking, capacity for empathy and compassion, and their learning skills, says Anmol Arora of the University of Cambridge.

While [voice-control](#) devices may act as "friends" and help to improve children's reading and [communication skills](#), their advanced AI and "human-sounding" voices have prompted concerns about the potential long-term effects on children's brains at a crucial stage of development.

There are three broad areas of concern, explains the author. These include inappropriate responses, impeding social development and hindering learning.

He cites some well-publicized examples of inappropriate responses, including a device suggesting that a 10-year old should try touching a live plug with a coin.

"It is difficult to enforce robust parental controls on such devices without severely affecting their functionality," he suggests, adding that privacy issues have also arisen in respect of the recording of private conversations.

These devices can't teach children how to behave politely, because there's no expectation of a "please" or "thank you," and no need to consider the tone of voice, he points out.

"The lack of ability to engage in non-verbal communication makes use of the devices a poor method of learning [social interaction](#)," he writes. "While in normal human interactions, a child would usually receive

constructive feedback if they were to behave inappropriately, this is beyond the scope of a smart device."

Preliminary research on the use of voice assistants as social companions for lonely adults is encouraging. But it's not at all clear if this also applies to children, he notes.

"This is particularly important at a time when children might already have had [social development](#) impaired as a result of COVID-19 restrictions and when [they] might have been spending more time isolated with [smart devices](#) at home," he emphasizes.

Devices are designed to search for requested information and provide a concise, specific answer, but this may hinder traditional processes by which children learn and absorb information, the author suggests.

When children ask adults questions, the adult can request contextual information, explain the limitations of their knowledge and probe the child's reasoning—a process that these devices can't replicate, he says.

Searching for information is also an important learning experience, which teaches critical thinking and logical reasoning, he explains.

"The rise of voice devices has provided great benefit to the population. Their abilities to provide information rapidly, assist with daily activities, and act as a social companion to lonely adults are both important and useful," the author acknowledges. "However, urgent research is required into the long-term consequences for children interacting with such devices."

"Interacting with the devices at a crucial stage in social and [emotional development](#) might have long-term consequences on empathy, compassion, and critical thinking," he concludes.

More information: Effects of smart voice control devices on children: current challenges and future perspectives, *Archives of Disease in Childhood* (2022). [DOI: 10.1136/archdischild-2022-323888](https://doi.org/10.1136/archdischild-2022-323888)

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