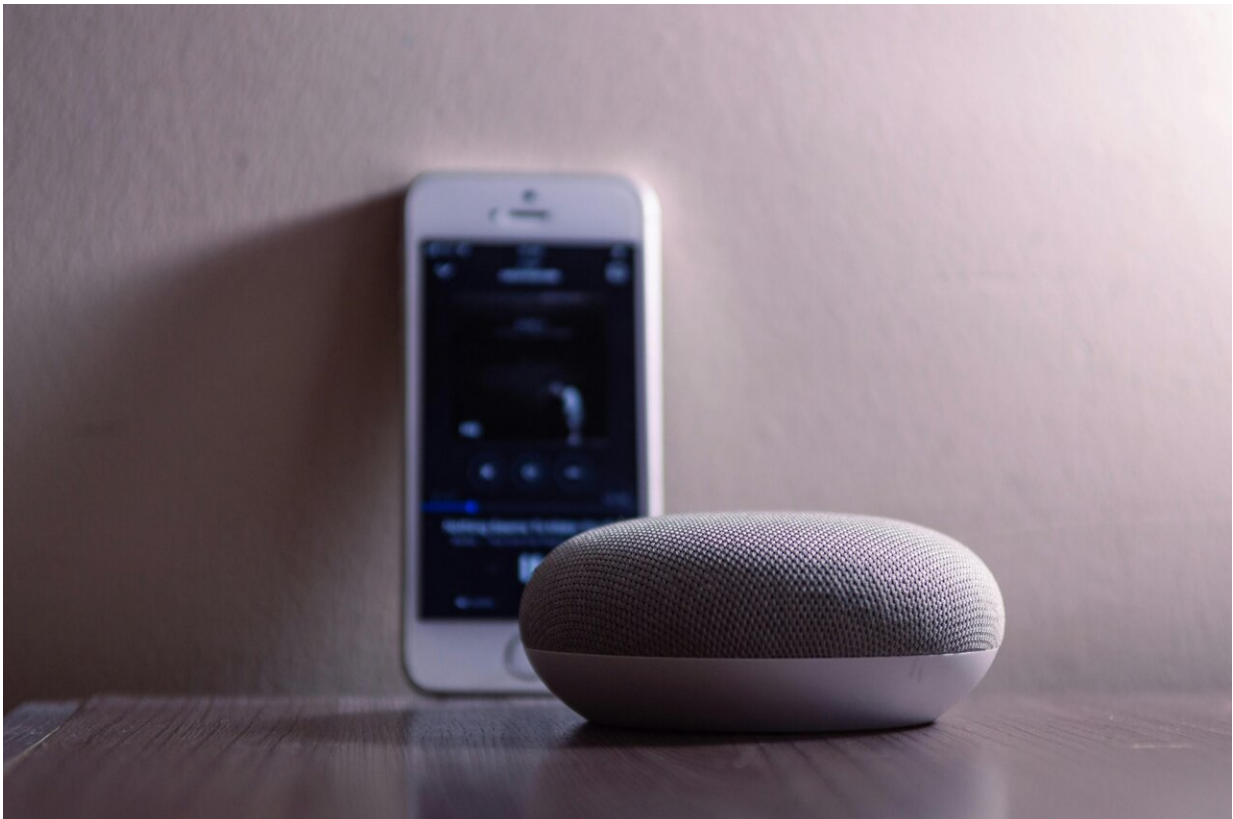


# Children may overestimate smart speakers' abilities

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Credit: Caio from Pexels

Children overrate the intelligence of smart speakers—such as Alexa, Siri, or Google Home—and are uncertain if the systems can think like humans or not, research suggests.

The study highlights the risk of children overestimating the reliability and capabilities of AI systems—as they may see them as thinking for themselves—rather than processing commands and sourcing responses, the researchers say.

Children are familiar with smart speakers supported by Artificial Intelligence (AI) such as Alexa at home, but they often misunderstand how intelligent and human-like these devices are, researchers say.

Those surveyed tended to overestimate the intelligence of a conversational smart speaker, with around three out of 10 believing it could think for itself and four out of 10 unsure whether it could.

## **Security Issues**

Many of the children also felt uninformed about [security issues](#)—with some expressing concern about their privacy when using the devices at home.

Researchers from the Moray House School of Education and Sport investigated children's understanding of AI by assessing attitudes toward voice-assisted smart speakers among 166 children aged six to 11.

They used questionnaires and interviews and surveyed the pupils' views on data privacy and how they interact with the devices. They also conducted 10 focus groups to learn about experiences in depth.

## **Human traits**

Of those surveyed, 93 percent had a smart speaker at home—mostly Amazon's Alexa, and had various levels of competency in using them.

Around eight out of 10 of those surveyed knew that the devices were examples of AI rather than being human, although about two-thirds of them thought that the systems might think like a human.

The children generally thought that devices such as Alexa were smart, often cleverer than themselves.

Seventy percent of the respondents also said it is wrong to be rude to the devices.

The findings help shed light on misconceptions young people may have about smart speakers and AI more broadly, the researchers say.

"The findings reveal the importance of enhancing children's awareness and understanding of AI-supported technology to ensure safe and responsible interactions with smart technologies. This is becoming increasingly important in the current context of generative AI technology for various purposes, including in education," says lead author Dr. Valentina Andries.

"AI is already a part of most children's lives and will play an increasingly important role. AI is often designed to appear more human and intelligent than it really is, which is very confusing for children."

"There are two things which can be done about this: children should be taught AI literacy in schools, and technology designers should take care that their AI products don't mislead children into thinking they are human-like," says co-author Professor Judy Robertson, chair in digital learning, Moray House School of Education and Sport.

This study is the [first stage](#) in the development of a range of materials that can be used to educate children about AI-supported technologies, such as [smart speakers](#) while addressing AI literacy topics.

The study is published in the journal [\*Computers and Education: Artificial Intelligence\*](#).

**More information:** Valentina Andries et al, Alexa doesn't have that many feelings: Children's understanding of AI through interactions with smart speakers in their homes, *Computers and Education: Artificial Intelligence* (2023). [DOI: 10.1016/j.caeai.2023.100176](https://doi.org/10.1016/j.caeai.2023.100176)

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