Background

A handful of studies have suggested that technology could inspire or support autistic children to engage, interact and play with others [1-3].

On the other hand, practitioners and parents have expressed concern that technology could impede social development, and prohibit "real-world interaction" in autistic children [4].

This study aimed to draw on practitioner experience to explore how social interactions may be influenced by technology, and presents design considerations for fostering interaction.

Method

186 educational practitioners with a range of backgrounds, roles, and expertise completed a survey about the use of technology in education for autistic pupils.

Focus groups with teachers in different special education services (total n = 11) discussed the influence of technology on social interactions in autistic pupils.

An inductive thematic analysis approach was used to create themes from the focus group data.

Uses of technology

When asked what they used technology for, educators frequently said learning, motivating pupils, and communication. Educators rarely reported that they used technology to support children to socialize with others.

Teachers did not overtly use technology to encourage interactions but when asked to think and talk about it, they noted lots of examples of technology mediated interactions.

Key findings

Technology can inspire peer relationships, by bringing children together through a shared interest. Children were reported to converse and form bonds with peers from both within and beyond their classroom through a common interest in technology.

Larger technologies, such as sensory rooms, brought different groups of children together which elicited novel social interactions. Staff viewed these technologies as an opportunity for building relationships and social tolerance, as noted below:

"I've got a handful of children in individual rooms and main classes and they come together in the Magic Carpet to share a space"

Interactions were reported in both physical and digital spaces. According to staff, the physical space around the technology could influence the interaction. Some children preferred technologies which invite close social proximity (e.g. tablets), whilst others preferred spaces which allowed for more distal interactions.

Some children associated using technology with solitude. Staff reasoned that some children chose technology-based activities as a way to reduce sensory or social stress in the environment, thus allowing children to have their own space. In this case, the children's previous experiences and expectations from digital technologies shaped how they interacted with others whilst using technology. New technologies, or new ways to use existing technologies, might inspire these children to interact with others.

Design considerations and Conclusions

• The right for children to have a choice in either playing a game singularly, or collaboratively, was seen as important. Games which allow both settings can be a good stepping stone for encouraging social play.

• The physical space surrounding technology is a mediator for interaction— for some children, bringing them closer together encourages interaction but others prefer their own personal space.

• For some children, technology can indirectly foster communication and relationships through shared interests. These fleeting moments of shared engagement with others can be clinically significant.

• Some interactions are entirely unpredicted by design, and driven by children’s skills, experiences, and expectations of technology.

• In conclusion, technology can inspire a range of social interactions in autistic children.

• Future work (in progress) will observe autistic children playing with different technologies (tablets, tangibles, robots) and characterize interactions using a range of methods.

References