How Digital Assistants are used by Families in the Home: A multi-national study of use, interaction, and parental mediation

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Theory of Artificial Minds (ToAM, Bharadwaj et al., 2021a) is a dynamic area of study endeavoring to understand how children conceive of artificial intelligent technologies around them (i.e., digital assistants like Amazon Alexa) and how everyday use impacts these conceptions. Here, we determine how families use DAs at home, how parents regulate children’s use, and how children relate to these technologies.

An online survey of parents (n=300) from USA, Canada, and UK measured DA interactions and parental mediation of use. The DAi measure assesses uses (13), questions (17), and relationships (5) that characterize families’ interactions with DAs and was adapted from Bharadwaj et al., (2021b). The Parental Mediation (PM) measure assesses strategies (28) parents use to regulate children’s DAi and was adapted from Livingstone (2011).

Preliminary data from parents (n=60, 20/country; Mage=34.5; 65%female) identifies uses and mediation strategies. For parents, common uses were playing media, clock features, and weather, F=37.13; common questions related to general knowledge, language, and cooking, F=15.23. For children, common uses were media, games/jokes, knowledge search, and learning apps, F=47.53; common questions related to general knowledge, nature, and language, F=22.07. Common PM includes suggesting safe ways to use DAs, helping children with difficult DA commands and when something disturbs them about the DA, F=223.27. Child-DA relationships were characterized as transactional, entertainer, and teacher, F=2.57. These results provide insights into how children’s DA use and related parental mediation may affect how children ultimately conceptualize AI technologies. Differences among countries and relationships among use and mediation strategies will be explored via the full data set.

Keywords: Artificial Intelligence; Digital Assistants; Human-Computer interaction; Theory of Artificial Minds