Effects of Previous Exposure on Children’s Perception of a Humanoid Robot

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## Sample

166 children (83 male, 83 female) aged between 7 and 11 recruited via a local primary school in Hertfordshire

## Implications For Stakeholders About

Industry

# Abstract

The study described in this paper investigated the effects of previous
exposure to robots on children’s perception of the Kaspar robot. 166 children
aged between 7 and 11 participated in the study in the framework of a UK robotics week 2018 event, in which we visited a local primary school with a number of different robotic platforms to teach the children about robotics. Children’s perception of the Kaspar robot was measured using a questionnaire following a direct interaction with the robot in a teaching scenario. Children’s previous exposure to other robots and Kaspar itself was manipulated by controlling
the order of children’s participation in the different activities over the event. Effects of age and gender were also examined. Results suggest significant effects
of previous exposure and gender on children’s perception of Kaspar, while age
had no significant effect. Important methodological implications for future studies are discussed.

# Outcome

The children had to the opportunity to programme and teach a child-sized humanoid robot called Kaspar. They could also observe a number of demonstrations with a small 3D printed 18
DOF hexapod robot, called Scampi. "Findings showed significant effect of exposure on children’s perception of Kaspar. Children who have been exposed to the Scampi robot and have had the opportunity to program Kaspar to express simple emotions before interacting with it in the teaching
scenario, rated Kaspar higher on several items and categorised it significantly more
often as a friend than children who have not been previously exposed to the other
activities. We have to note, however, that this change in perception could be related to
several factors other than children’s experience of programming Kaspar, such as the
time spent on each activity. In Activity #1children had more time to interact with
Kaspar than in Activity #3. Additionally, in Activity #1 children worked in pairs,
which allowed them to acquire more hands-on experience with Kaspar, which could
further explain why participating in Activity #1altered their perception. It is also important to note, that children’s perception of Kaspar was generally very positive after
the interaction with Kaspar in the teaching scenario even without any previous exposure, with 63.4% of children categorising Kaspar as a friend instead of a toy." (Lakatos et al., 2019: 8). There was no significant effect of year groups.