Robots may need to include parental controls

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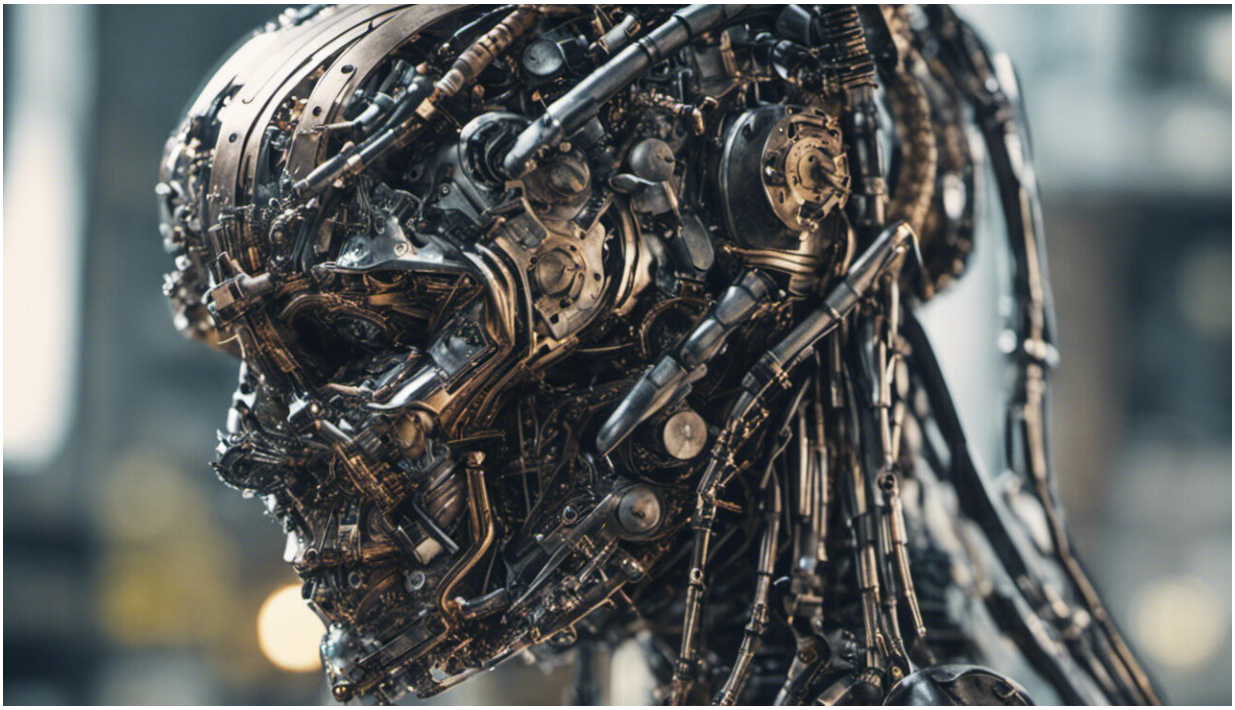

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Older adults' fears that companion robots will negatively affect young people may create design challenges for developers hoping to build robots for older users, according to Penn State researchers.

Companion robots provide emotional support for users and interact with them as they, for example, play a game, or watch a movie.

Older adults reported in a study that while they were not likely to become physically and emotionally dependent on robots, they worried that young people might become too dependent on them, said T. Franklin Waddell, a doctoral candidate in mass communications. Those surveyed also indicated that although they were not worried about being negatively affected by robots, the adults would still resist using the devices.

"We've seen this type of effect, which is usually referred to as a third-person effect, with different types of media, such as video games and television, but this is the first time we have seen the effect in robotics," said Waddell. "According to a third person effect, a person says they are not as negatively affected by the media as other people."

The researchers, who presented their findings today (April 30) at the Association for Computing Machinery's Conference on Human Factors in Computing Systems, said this effect could eventually lead to changes in behavior. For instance, people who believe video games harm young people may tend to avoid the games themselves. Likewise, older adults who believe that companion robots could harm young people may tend to avoid robots.

To compensate for the effect, robot designers may need to consider adding controls that will help adults monitor the use of robots by children, said Waddell, who worked with S. Shyam Sundar, Distinguished Professor of Communications and co-director of the Media Effects Research Laboratory, and Eun Hwa Jung, a doctoral candidate in mass communications.

"Robot designers and developers look at older adults as a central user base for companion robots," said Waddell. "This effect is something they should consider when designing the interface for the robots to make sure, for example, that the robot includes some type of parental

controls."

Robots with parental controls may convince adults that they can own and use robots and still protect children from their fears that the devices might lead to laziness and dependency.

The researchers studied two types of robots: companion robots and assistant robots, said Sundar. Assistant robots are devices that help with everyday tasks, such as vacuuming the floor or playing a CD, he said, while companion robots are more interactive.

This interactivity may be one reason that users tend to attach human-like emotions to companion robots, Waddell said.

"A companion robot provides the user with a source of friendship," said Waddell. "They might watch TV with the participant, provide emotional support, or complete an activity with the user."

Waddell said the participants did not seem to show the same level of apprehensions about assistant robots.

Researchers asked 640 retirees over the age of 60—53 percent female and 47 percent male—about whether robots would have negative effects on themselves and on others. For instance, they asked the subjects whether robots would make them lazier and encourage them to interact less often with other people. They then asked similar questions about the effects of robots on young people.

Provided by Pennsylvania State University