

Video: Tiny cars help infants' cognitive development

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Credit: National Science Foundation

Infants constantly explore their environments, toddling and crawling around while at the same time laying the cognitive foundation that they'll use for learning later in life. But how can parents and doctors foster that kind of development in infants with mobility issues?

A research team at the University of Delaware is working on a solution that's proven promising—and adorable.

The work—led by physical therapy professor James Cole Galloway and supported by the National Science Foundation (NSF) Social, Behavioral and Economic Sciences Directorate—puts infants and young children

with special needs in sophisticated mobility solutions that just happen to look like brightly colored race cars and cartoon characters.

Galloway says the key to the approach used in this research is that it allows children to "hack" their [mobile robots](#) based on what they can do. If a child can move his head, designers and parents can customize a headrest-mounted switch that controls acceleration or steering. If another needs specific supports, designers can cobble together a study solution made of plastic pipes. Buttons that can make these four-wheeled robots go, stop and change direction are available in different configurations and can be easily relocated.

The researchers' NSF-supported work has investigated infants' capacity to steer the mobility devices, finding they were able to do so before they could crawl or walk, and explored ways to use the technology therapeutically, for children too young for power wheelchairs. The team is now determining whether early mobility helps advance early social behavior among infants. The goal is to help [infants](#) with [mobility issues](#) take part in another activity that has profound developmental implications—social playtime.

Provided by National Science Foundation

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