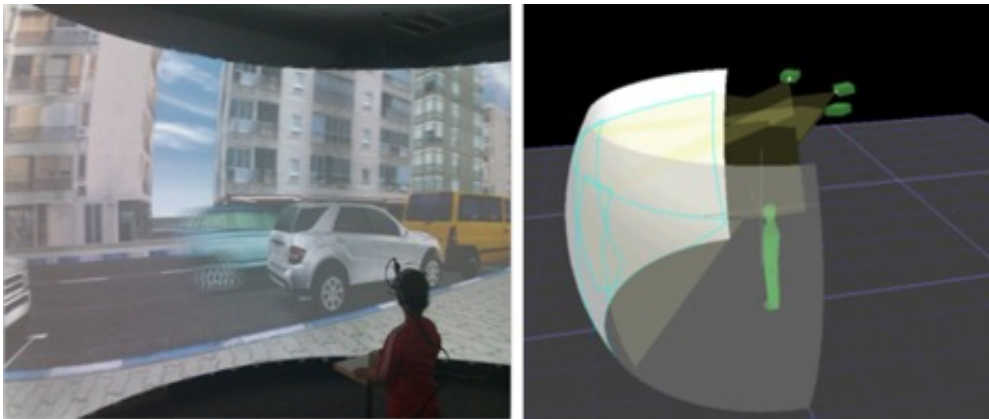


# Cell phone conversations hinder child pedestrian crossing abilities

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This image shows a dome projection facility and pedestrian simulator at the BGU ergonomics complex. Left: A child participant viewing the scenario on the Dome screen with the eye tracker strapped to his head. Right: A perspective of a participant facing the dome. Credit: BGU

Researchers at Ben-Gurion University of the Negev (BGU) have determined that a child pedestrian's ability to safely cross the road is hindered more during a cell phone conversation than an adult's. The study will be published in the November, 2016 issue of *Safety Science*.

"Although many children carry cell phones, the effect that cell phone conversations have on children's [crossing](#) behavior has not been thoroughly examined," explains Prof. Tal Oron-Gilad, a researcher in the BGU Department of Industrial Engineering and Management.

"Over a third of the road traffic deaths in low- and middle-income countries are among pedestrians. This high level of involvement is particularly meaningful for child pedestrians as the proportion of child pedestrian fatalities is significantly high relative to adults," she adds.

The study was conducted at the BGU Virtual Environment Simulation Laboratory, one of the world's most sophisticated traffic research facilities, which enables researchers to measure pedestrian reactions to virtual reality scenarios. The pedestrian dome simulator consists of a 180-degree spherical screen aligned with a highly accurate three-projector system large enough to immerse a participant within its circumference.

The simulator experiment was conducted in a virtual city environment with 14 adults and 38 children who experienced road crossing scenarios paired with pre-determined cell [phone conversations](#). The subjects were requested to press a response button whenever they felt it was safe to cross while the researchers tracked their eye movements.

"The results showed that while all age groups' crossing behaviors were affected by [cell phone](#) conversations, children were more susceptible to distraction," says Prof. Oron-Gilad.

"When busy with more cognitively demanding conversation types, participants were slower to react to a crossing opportunity, chose smaller crossing gaps and allocated less visual attention to the peripheral regions of the scene."

The ability to make better crossing decisions improved with age. The most prominent improvement was shown in the "safety gap;" each age group maintained a longer gap than the younger one preceding it.

"It is important to take those findings in account when aiming to train

young pedestrians for road safety and increase public awareness with children going back to school," Prof. Oron-Gilad says.

**More information:** Hagai Tapiro et al, Cell phone conversations and child pedestrian's crossing behavior; a simulator study, *Safety Science* (2016). [DOI: 10.1016/j.ssci.2016.05.013](https://doi.org/10.1016/j.ssci.2016.05.013)

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