

Accident research finds running elementary school children need 1.8 meters to stop

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The researchers carried out tests with children aged between six and 10 in which they had to walk or run and stop as quickly as possible at the sound of a whistle. Credit: Martin Nußbaum

The reconstruction of road traffic accidents provides important insights

into how they can be avoided. If pedestrians are involved, experts use kinematic models that include typical values for acceleration, speed, reaction time and the distance required to stop.

Until now, however, there has been no corresponding data for children, although their [movement patterns](#) differ significantly from those of adults. As part of the KISIMO research project, Ernst Tomasch from the Vehicle Safety Institute at Graz University of Technology (TU Graz) and Bettina Schützhofer from the traffic psychology institute "sicher unterwegs" have now collected such data for children of primary school age and made it available for accident research.

1.8 meters to a standstill—regardless of age

"Unlike adults, children up to a certain age cannot simply interrupt a movement they have started," says traffic psychologist Bettina Schützhofer. They therefore need more time and more distance in [road traffic](#) before they can stop.

The researchers therefore carried out movement tests with children aged between 6 and 10 in which they had to walk or run in order to stop as quickly as possible when they heard a whistle.

One key finding: regardless of age, running children needed around 1.8 meters to come to a stop. "The [older children](#) reacted more quickly to the signal and were also able to slow down more," explains Tomasch. "However, due to their higher initial speed, their deceleration distance was the same as that of the [younger children](#)."

Design traffic areas to be easily observable for children

The researchers have already presented their data on acceleration, maximum speeds and stopping distances of primary school children at workshops with accident inspectors. However, the findings can also facilitate the design of safe road space.

"The traffic space should therefore be easily visible to children so that they can stop in good time in the event of danger," says Tomasch.

Provided by Graz University of Technology

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