

Why kids get hit by cars

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Getting hit by a car is the third leading cause of death for kids 5- to 9-years-old, and kids up to age 15 make up a disproportionate number of pedestrian casualties worldwide. It's not hard to think of reasons for this scary statistic: Children are easily distracted and don't always pay attention, and they are also smaller, so they're more likely to sustain fatal injuries when they are hit. But there may be another, even more basic, reason for this childhood peril: Kids simply don't see the cars coming.

The ability to see and avoid looming objects is a fundamental skill, crucial to survival not only for humans but for most animals. We take it for granted because we do it automatically, but it's actually a complex skill, requiring a rapid calculation of size and distance and velocity. Add to this the fact that we pedestrians are also in motion, and must figure in our own walking speed, and it's no surprise that even adults get clipped sometimes. New evidence is now showing that kids' perceptual abilities are slow to develop, making them less adept at this crucial calculation.

Psychological scientist John Wann and his colleagues at the University of London ran a laboratory simulation of regular street crossing in order to compare the perceptual skills of adults with those of children of various ages. In this realistic simulation, a car approached on a roadway, sometimes varying in size and speed; sometimes the subjects saw the car directly in front of them, and other times off to the side a bit, and they reported whether the image of the car expanded or stayed the same. The scientists also calculated the subjects' walking speed, and factored their movement into a calculation of their perception of the approaching car's looming threat.



They found a clear developmental pattern in perception of the looming vehicles. As [reported on-line in the journal *Psychological Science*](#), the kids showed clear improvement in their acuity with age, but even the older children did not match the adults in their ability to detect an automobile's approach, suggesting that the neural mechanisms for this skill remain undeveloped. Paradoxically, faster moving cars appear to loom less than slow moving cars, creating a dangerous illusion that speedy cars are not approaching. Indeed, the scientists determined that children could not reliably detect a car approaching at speeds higher than 20 miles per hour. What's more, the kids' perception of a car's approach was worse if the car was even slightly off to the side—a realistic condition for typical road crossing—or if they themselves were in motion, as they likely would be.

Driving 20 miles per hour is really slow. Try it sometime. But it's typically the speed we're supposed to drive in school zones, and there are many other locations—residential areas, for example—where kids are also vulnerable. These new findings fit with evidence that kids are three times as likely to get hit by a car when traffic speed exceeds 25 miles an hour, and now we know why. Not only do speedy drivers need more reaction time, now it appears that young pedestrians simply can't see the cars coming in the first place. It can be a deadly combination.

Wray Herbert's book, [*On Second Thought: Outsmarting Your Mind's Hard-Wired Habits*](#), has been published by Crown. Excerpts from his two blogs—"Full Frontal Psychology" and "We're Only Human"—appear regularly in *Scientific American Mind* and in *The Huffington Post*.