

Is 16 Too Young to Drive a Car?

By Robert Davis, USA TODAY

Raise the driving age. That radical idea is gaining momentum in the fight to save the lives of teenage drivers — the most dangerous on the USA's roads — and their passengers.

Brain and auto safety experts fear that 16-year-olds, the youngest drivers licensed in most states, are too immature to handle today's cars and roadway risks.

New findings from brain researchers at the National Institutes of Health explain for the first time why efforts to protect the youngest drivers usually fail. The weak link: what's called "the executive branch" of the teen brain — the part that weighs risks, makes judgments and controls impulsive behavior.

Scientists at the NIH campus in Bethesda, Md., have found that this vital area develops through the teenage years and isn't fully mature until age 25. One 16-year-old's brain might be more developed than another 18-year-old's, just as a younger teen might be taller than an older one. But evidence is mounting that a 16-year-old's brain is generally far less developed than those of teens just a little older.

The research seems to help explain why 16-year-old drivers crash at far higher rates than older teens. The studies have convinced a growing number of safety experts that 16-year-olds are too young to drive safely without supervision.

"Privately, a lot of people in safety think it's a good idea to raise the driving age," says Barbara Harsha, executive director of the Governors Highway Safety Association. "It's a topic that is emerging."

Americans increasingly favor raising the driving age, a USA TODAY/CNN/Gallup Poll has found. Nearly two-thirds — 61% — say they think a 16-year-old is too young to have a driver's license. Only 37% of those polled thought it was OK to license 16-year-olds, compared with 50% who thought so in 1995.

A slight majority, 53%, think teens should be at least 18 to get a license.

The poll of 1,002 adults, conducted Dec. 17-19, 2004, has an error margin of +/-3 percentage points.

Many states have begun to raise the age by imposing restrictions on 16-year-old drivers. Examples: limiting the number of passengers they can carry or barring late-night driving. But the idea of flatly forbidding 16-year-olds to drive without parental supervision — as New Jersey does — has run into resistance from many lawmakers and parents around the country.

Irving Slosberg, a Florida state representative who lost his 14-year-old daughter in a 1995 crash, says that when he proposed a law to raise the driving age, other lawmakers "laughed at me."

Bill Van Tassel, AAA's national manager of driving training programs, hears both sides of the argument. "We have parents who are pretty much tired of chauffeuring their kids around, and they want their children to be able to drive," he says. "Driving is a very emotional issue."

But safety experts fear inaction could lead to more young lives lost. Some sound a note of urgency about changing course. The reason: A record number of American teenagers will soon be behind the wheel as the peak of the "baby boomlet" hits driving age.

Already, on average, two people die every day across the USA in vehicles driven by 16-year-old drivers. One in five 16-year-olds will have a reportable car crash within the first year.

In 2003, there were 937 drivers age 16 who were involved in fatal crashes. In those wrecks, 411 of the 16-year-old drivers died and 352 of their passengers were killed. Sixteen-year-old drivers are involved in fatal crashes at a rate nearly five times the rate of drivers 20 or older.

Gayle Bell, whose 16-year-old daughter, Jessie, rolled her small car into a Missouri ditch and died in July 2003, says she used to happily be Jessie's "ride." She would give anything for the chance to drive Jessie again.

"We were always together, but not as much after she got her license," Bell says. "If I could bring her back, I'd lasso the moon."

Most states have focused their fixes on giving teens more driving experience before granting them unrestricted licenses. But the new brain research suggests that a separate factor is just as crucial: maturity. A new 17- or 18-year-old driver is considered safer than a new 16-year-old driver.

Even some teens are acknowledging that 16-year-olds are generally not ready to face the life-threatening risks that drivers can encounter behind the wheel.

"Raising the driving age from 16 to 17 would benefit society as a whole," says Liza Darwin, 17, of Nashville. Though many parents would be inconvenienced and teens would be frustrated, she says, "It makes sense to raise the driving age to save more lives."

Focus on lawmakers

But those in a position to raise the driving age — legislators in states throughout the USA — have mostly refused to do so.

Adrienne Mandel, a Maryland state legislator, has tried since 1997 to pass tougher teen driving laws. Even lawmakers who recognize that a higher driving age could save lives, Mandel notes, resist the notion of having to drive their 16-year-olds to after-school activities that the teens could drive to themselves.

"Other delegates said, 'What are you doing? You're going to make me drive my kid to the movies on Friday night for another six months?' " Mandel says. "Parents are talking about inconvenience, and I'm talking about saving lives."

Yet the USA TODAY poll found that among the general public, majorities in both suburbs (65%) and urban areas (60%) favor licensing ages above 16.

While a smaller percentage in rural areas (54%) favor raising the driving age, experts say it's striking that majority support exists even there, considering that teens on farms often start driving very young to help with workloads.

For those who oppose raising the minimum age, their argument is often this: Responsible teen drivers shouldn't be punished for the mistakes of the small fraction who cause deadly crashes.

The debate stirs images of reckless teens drag-racing or driving drunk. But such flagrant misdeeds account for only a small portion of the fatal actions of 16-year-old drivers. Only about 10% of the 16-year-old drivers killed in 2003 had blood-alcohol concentrations of 0.10 or higher, compared with 43% of 20- to 49-year-old drivers killed, according to the Insurance Institute for Highway Safety.

Instead, most fatal crashes with 16-year-old drivers (77%) involved driver errors, especially the kind most common among novices. Examples: speeding, overcorrecting after veering off the road, and losing control when facing a roadway obstacle that a more mature driver would be more likely to handle safely. That's the highest percentage of error for any age group.

For years, researchers suspected that inexperience — the bane of any new driver — was mostly to blame for deadly crashes involving teens. When trouble arose, the theory went, the young driver simply made the wrong move. But in recent years, safety researchers have noticed a pattern emerge — one that seems to stem more from immaturity than from inexperience.

"Skills are a minor factor in most cases," says Allan Williams, former chief scientist at the insurance institute. "It's really attitudes and emotions."

A peek inside the brain

The NIH brain research suggests that the problem is human biology. A crucial part of the teen's brain — the area that peers ahead and considers consequences — remains undeveloped. That means careless attitudes and rash emotions often drive teen decisions, says Jay Giedd, chief of brain imaging in the child psychiatric unit at the National Institute of Mental Health, who's leading the study.

"It all comes down to impulse control," Giedd says. "The brain is changing a lot longer than we used to think. And that part of the brain involved in decision-making and controlling impulses is among the latest to come on board."

The teen brain is a paradox. Some areas — those that control senses, reactions and physical abilities — are fully developed in teenagers. "Physically, they should be ruling the world," Giedd says. "But (adolescence) is not that great of a time emotionally."

Giedd and an international research team have analyzed 4,000 brain scans from 2,000 volunteers to document how brains evolve as children mature.

In his office at the NIH, Giedd points to an image of a brain on his computer screen that illustrates brain development from childhood to adulthood. As he sets the time lapse in motion, the brain turns blue rapidly in some areas and more slowly in others. One area that's slow to turn blue — which represents development over time — is the right side just over the temple. It's the spot on the head where a parent might tap a frustrated finger while asking his teen, "What were you thinking?"

This underdeveloped area is called the dorsal lateral prefrontal cortex. The underdeveloped blue on Giedd's screen is where thoughts of long-term consequences spring to consciousness. And in teen after teen, the research team found, it's not fully mature.

"This is the top rung," Giedd says. "This is the part of the brain that, in a sense, associates everything. All of our hopes and dreams for the future. All of our memories of the past. Our values. Everything going on in our environment. Everything to make a decision."

When a smart, talented and very mature teen does something a parent might call "stupid," Giedd says, it's this underdeveloped part of the brain that has most likely failed.

"That's the part of the brain that helps look farther ahead," he says. "In a sense, increasing the time between impulse and decisions. It seems not to get as good as it's going to get until age 25."

This slow process plays a kind of dirty trick on teens, whose hormones are churning. As their bodies turn more adultlike, the hormones encourage more risk-taking and thrill-seeking. That might be nature's way of helping them leave the nest. But as the hormones fire up the part of the brain that responds to pleasure, known as the limbic system, emotions run high. Those emotions make it hard to quickly form wise judgments — the kind drivers must make every day.

That's also why teens often seem more impetuous than adults. In making decisions, they rely more on the parts of their brain that control emotion. They're "hotter" when angry and "colder" when sad, Giedd says.

When a teen is traveling 15 to 20 miles per hour over the speed limit, the part of his or her brain that processes a thrill is working brilliantly. But the part that warns of negative consequences? It's all but useless.

"It may not seem that fast to them," Giedd says, because they're not weighing the same factors an adult might. They're not asking themselves, he says, " 'Should I go fast or not?' And dying is not really part of the equation."

Precisely how brain development plays out on the roads has yet to be studied. Giedd says brain scans of teens in driving simulations might tell researchers exactly what's going on in their heads. That could lead to better training and a clearer understanding of which teens are ready to make critical driving decisions.

In theory, a teen's brain could eventually be scanned to determine whether he or she was neurologically fit to drive. But Giedd says that ethical crossroad is too radical to seriously consider today. "We are just at the threshold of this," he says.

Finding explanations

The new insights into the teen brain might help explain why efforts to protect young drivers, ranging from driver education to laws that restrict teen driving, have had only modest success. With the judgment center of the teen brain not fully developed, parents and states must struggle to instill decision-making skills in still-immature drivers.

In nearly every state, 16-year-old drivers face limits known as "graduated licensing" rules. These restrictions vary. But typically, they bar 16-year-olds from carrying other teen passengers, driving at night or driving alone until they have driven a certain number of hours under parental supervision.

These states have, in effect, already raised their driving age. Safety experts say lives have been saved as a result. But it's mostly left to parents to enforce the restrictions, and the evidence suggests enforcement has been weak.

Teens probably appear to their parents at the dinner table to be more in control than they are behind the wheel. They might recite perfectly the risks of speeding, drinking and driving or distractions, such as carrying passengers or talking on a cell phone, Giedd says. But their brains are built to learn more from example.

For teenagers, years of watching parents drive after downing a few glasses of wine or while chatting on a cell phone might make a deeper imprint than a lecture from a driver education teacher.

The brain research raises this question: How well can teen brains respond to the stresses of driving?

More research on teen driving decisions is needed, safety advocates say, before definitive conclusions can be drawn. And more public support is probably needed before politicians would seriously consider raising the driving age.

In the 1980s, Congress pressured states to raise their legal age to buy alcohol to 21. The goal was to stop teens from crossing borders to buy alcohol, after reports of drunken teens dying in auto crashes. Fueled by groups such as Mothers Against Drunk Driving, public support for stricter laws grew until Congress forced a rise in the drinking age.

Those laws have saved an estimated 20,000 lives in the past 20 years. Yet safety advocates say politicians remain generally unwilling to raise the driving age.

"If this were forced on the states, it would not be accepted very well," Harsha says. "What it usually takes for politicians to change their minds is a series of crashes involving young people. When enough of those kind of things happen, then politicians are more likely to be open to other suggestions."

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