

# Brain-fitness companies applying neuroscience to make safer drivers

August 21 2009, By Richard Seven

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Young drivers cause accidents mainly through carelessness, distraction and inexperience. Older drivers face a challenge: brains that work at slower processing speeds -- a critical disadvantage when navigating the unpredictable traffic world.

[Neuroscientists](#) are taking aim at both groups with "[brain fitness](#)" computer programs they say can hone the [cognitive skills](#) that come in most handy while behind the wheel. Last month, PositScience, released a computer program that exercises brain systems involved with "divided attention," and "useful field of vision." And this month, another company, CogniFit, is releasing an online program targeting new drivers.

Brain fitness has become big business.

SharpBrains, a market research company that focuses on cognitive fitness research and trends, says the industry sold about \$265 million of computer-based products to U.S. customers in 2008, up from \$100 million in 2005.

"The applications range from what schools buy for kids with cognitive-related [learning difficulties](#) to what senior housing facilities buy for residents, and programs that help assess and/or train cognitive functions," said SharpBrains CEO Alvro Fernandez. "There are over 50 companies in the space."

Using the technology to make better drivers is a niche that makes sense

with 34,999 fatal crashes in the U.S. last year.

The AAA Foundation for Traffic Safety feels strongly enough about the research behind the DriveSharp program that it sells it.

"We are very careful about putting our name behind a product," said J. Peter Kissinger, president and CEO of the foundation. "But we believe in this program because it concentrates on the brain functions shown to be most relevant to driving. This is a tool to intervene and actually improve performance -- or at least delay problems."

Delaying problems is especially important because drivers over 65 are also considered higher accident risks and they will account for about 25 percent of all drivers in the U.S. by 2025.

PositScience says its program is based on research that showed specific training could help drivers see more, react faster, and dramatically cut at-fault crash risk.

One of the key points of emphasis is "useful field of view," which represents the swath from which a person can extract information in a single glance without moving his or her head or eyes. The concept was developed by University of Alabama at Birmingham professor Karlene Ball and a team of researchers. PositScience acquired technology and incorporated it into its DriveSharp exercises.

CogniFit, an Israeli company with its U.S. headquarters in Seattle, has marketed driving programs targeting seniors. In a few weeks it will be rolling out one for new drivers. It will include training for 10 skills, including response time, changing plans, distance estimation, and divided attention.

Teens make up seven percent of the driving population but account for

12 percent of the accidents.

CogniFit President Shlomo Breznitz says previous versions of this software have been in use by the largest driving schools in the UK and Canada

"The brains of new drivers have to acquire new skills that take time to develop," he said. "Typically, they take about two years of driving, as witnessed by accident records all over the world. By actively training these skills the time needed for the brain to achieve the same level of expertise is shortened. This shortens the extremely high risk period of new drivers."

While Posit sells its program on a DVD, for \$99 up to \$139, CogniFit does its testing and coaching online with packages of 12, 18 or 24 sessions of training, depending on the initial assessment. Packages range from \$19.95 per month to \$99 for six months.

Fernandez, whose company has produced "The SharpBrains Guide to Brain Fitness," ([sharpbrains.com/book/](http://sharpbrains.com/book/)) to help decipher claims and research, sees several reasons behind the explosion of brain fitness.

Research that shows the brain's neuroplasticity -- its ability to change -- in adulthood requires repetitive, targeted exercises. With more research and public acceptance of the applications, more companies have jumped in and explored niches. Funding and research has followed.

The demand has increased, thanks mainly to aging boomers and seniors keen on improving mental acuity as a way to maintain quality of life.

Industry experts like Fernandez note that consumers struggle with big claims (like "lower your brain age!") but Kissinger believes programs targeting the [brain](#) skills needed to keep [drivers](#) safe is as common sense

that there is.

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