IS OVER-RELIANCE ON GPS TECHNOLOGY AFFECTING MORE THAN OUR NAVIGATIONAL SKILLS?

News / Airlines

There are few things more reassuring in life than hearing the automated voice in the navigation app on your smartphone.

It can be your first and only friend in an unfamiliar part of town or a new country.

Technology can be credited with helping to reduce our anxiety about getting lost. -However, while it does make our lives easier, there is also a growing concern about our increased reliance on such devices, which some researchers suggest could lead to brain atrophy.

Traditional map-reading and navigation skills – once an integral part of the life-lesson courses in schools and scouting programmes – are fast -becoming redundant.

Sales of printed maps are in rapid decline. Ordnance Survey, the United Kingdom's national mapping service, is one of the largest producers of maps in the world. In 2014, it reported paper-

map sales now accounted for only 7 per cent of annual turnover, as sales slipped below two million for the first time since the business was launched in the 1970s.

A year earlier, a study at Columbia University, published in the Sciencejournal of the American Association for the Advancement of Science, investigated the ways in which our brains are adapting to technology. Dr Betsy Sparrow, an assistant professor of psychology, and her team found the pervasive access to information has not only changed what we remember, it has changed how we remember.

In one of the studies, subjects were given pieces of trivia to type into a computer. Half were told the computer would save the information, the others that it would be erased. When they were asked later to recall the information, those who believed they would not be able to retrieve it were more likely to remember the details.

There has not been extensive research comparing the brain power of people who do and do not use computer-navigation aids yet, but there are indications that similar processing applies when creating spatial memory.

Creating a spatial map in your mind allows you to find new routes and identify shortcuts, whereas a step-by-step navigation strategy, relying on external cues, doesn’t necessarily allow for flexibility or learning the -environment.

In 2010, McGill University professors related this "autopilot" reliance on GPS to the onset of Alzheimer’s disease and difficulties with spatial orientation in the long term.

Lost in thought

Dina Ghandour, who often uses the Google maps app on her smartphone, says she has no doubt her navigation skills have been affected.

"I usually can’t picture myself on a map in relation to the ocean or main road," says the 30-year-old Dubai resident.

"Additionally, self-navigation wasn’t a skill that was strengthened when I was young and now it’s getting worse because of technology."

Ghandour says she always buys a roaming-data package when on holiday to make sure she can access online -navigation.

"I think the last time I used a map for travelling was when I was in college," she says. "When I get lost, I usually panic slightly and wait for Google Maps to -f-inish rerouting."

According to Clayton Curtis, an associate professor of psychology at New York University, technological advancement can be a boon and a bane.

"There is very little research attempting to understand the effects of smartphone -navigation on spatial memory, and results are far from conclusive," he says. "With that said, one could easily imagine that constantly relying on our phones for directions might impact how much we are attending to and encoding environmental information, such as landmarks, which might lead to poorer memory useful for navigation."

But Curtis also says the information embedded in GPS-based maps could just as easily -enhance memory, as well.

"Appreciate how rich are your representations of your city -because of phone maps," he says.

While most people are grateful to have a Satnav, video producer Priyanka Geriya, who lives in Dubai, wanted to test during a recent trip whether she could find her way around China without digital assistance.

"I chose China because most of the technology that we take for granted here is blocked there," says the 29-year-old, from India. "The idea was to reconnect with people and explore on my own without being tempted to whip out my smartphone and start browsing."

Geriya admits figuring out how to read paper maps in Shanghai was tricky – but satisfying.

"I know my memory is -slowly deteriorating because of technology, so it was a -challenge to get back to basics and attempt to stay -focused," she says.

Could technology be leading us astray?

Training the brain to remember routes worked in favour of taxi drivers who were part of a four-year study by neuroscientist Eleanor Maguire of University College London in 2008. She followed 79 trainee taxi drivers to measure the growth of their hippocampi, a part of the brain, as they memorised a labyrinth of 25,000 streets, tourist attractions and landmarks in London to attain a license. The researchers found that the training process caused that area of the brain to grow.

Another study that year, published in the Science Direct journal, found that GPS users travelled more slowly, made larger errors in direction, sketched maps with poorer topological accuracy and rated navigation tasks as more difficult compared with those using paper maps.

The same journal published a study that concluded that mobile-map users performed worse than paper-map users on route distance estimation.

Learning how to read a map helps in critical thinking, analysis and orientation, especially for recreational mountaineers such as Serkan Bettermann. The 33-year-old engineer uses his smartphone to find new places in the city – but still gets used to new places by asking for directions, reading a printed map or simply exploring.

"On holidays, I use [GPS] a little less and rely more on paper maps," says the Dubai resident. "And for my passion for mountaineering and hiking, Google Maps doesn’t give the needed accuracy about the terrain. Also, a paper map will never run out of battery."

Zulfikar Hashem, a manager from Ajman, says he has never had to use technology to find his way but that his adult children cannot go anywhere without the assistance of Google Maps.

"I call the place in advance and understand the directions and landmarks to get there – or just ask someone," says the 54-year-old Tanzanian national, who has lived in the UAE for more than 20 years.

"On the other hand, my son- -always has the navigation -system on in the car and the map app keeps directing him. It’s interesting to see that even when we’ve been to the place before, he can’t recollect the route because he was only following the voice and wasn’t really paying attention."

Geriya says she faces the same issue sometimes.

"There is this place in the Dubai Heights community that I go to often but I always forget the exit that I need to take and get lost," she says. "I’m never really paying attention to the road signs or boards because I know I can rely on my phone for the way."

This was a problem highlighted in a study done on pilots in 2005 and published in the International Journal of Applied Aviation. The study found that the navigational awareness of pilots appeared to be significantly lower when flying with GPS and moving-maps displays. The researchers called for committing more cognitive resources to processing spatial information and avoid unsafe circumstances should there be equipment -failure.

Though research suggests we must find a balance with technology, Curtis and Dr Massimiliano Cappuccio, an associate professor of cognitive science at UAE University, share an optimistic view about the possibilities it holds in expanding our horizons.

"It is equally plausible that smartphone navigational aides free up cognitive resources, enabling thought that benefits us and gives us advantages in this new high-tech world," says Curtis.

Cappuccio suggests that memory loss might be only an -illusion.

"It could just be a transformation from one type of memory to another," he says. "We are now experiencing a different kind of learning and processing. By storing information that we would otherwise memorise in devices, we are freeing up our mind for more creativity and invention."

15 OCTOBER 2016

SOURCE: THE NATIONAL
ARTICLE LINK:
https://50skyshades.com/index.php/news/airlines/is-over-reliance-on-gps-technology-affecting-more-than-our-navigational-skills