

Study secretly tracks cell phone users outside US

BY SETH BORENSTEIN, AP Science Writer
Wednesday, June 4, 2008



(06-04) 10:01 PDT WASHINGTON (AP) --

Researchers secretly tracked the locations of 100,000 people outside the United States through their cell phone use and concluded that most people rarely stray more than a few miles from home.

The first-of-its-kind study by Northeastern University raises privacy and ethical questions for its monitoring methods, which would be illegal in the United States.

It also yielded somewhat surprising results that reveal how little people move around in their daily lives. Nearly three-quarters of those studied mainly stayed within a 20-mile-wide circle for half a year.

The scientists would not disclose where the study was done, only describing the location as an industrialized nation.

Researchers used cell phone towers to track individuals' locations whenever they made or received phone calls and text messages over six months. In a second set of records, researchers took another 206 cell phones that had tracking devices in them and got records for their locations every two hours over a week's time period.

The study was based on cell phone records from a private company, whose name also was not disclosed.

Study co-author Cesar Hidalgo, a physics researcher at Northeastern, said he and his colleagues didn't know the individual phone numbers because they were disguised into "ugly" 26-digit-and-letter codes.

That type of nonconsensual tracking would be illegal in the United States, according to Rob Kenny, a spokesman for the Federal Communications Commission. Consensual tracking, however, is legal and even marketed as a special feature by some U.S. cell phone providers.

The study, published Thursday in the journal *Nature*, opens up the field of human-tracking for science and calls attention to what experts said is an emerging issue of locational privacy.

ONLINE DEGREES

Click here for
[Top Online Schools](#)

Choose From:

- ▶ Associate's Programs
- ▶ Bachelor's Programs
- ▶ Certificate Programs
- ▶ Doctoral Programs
- ▶ M.B.A. Programs
- ▶ Master's Programs

EarnMyDegree.com

"This is a new step for science," said study co-author Albert-Lazlo Barabasi, director of Northeastern's Center for Complex Network Research. "For the first time we have a chance to really objectively follow certain aspects of human behavior."

Barabasi said he spent nearly half his time on the study worrying about privacy issues. Researchers didn't know which phone numbers were involved. They were not able to say precisely where people were, just which nearby cell phone tower was relaying the calls, which could be a matter of blocks or miles. They started with 6 million phone numbers and chose the 100,000 at random to provide "an extra layer" of anonymity for the research subjects, he said.

Barabasi said he did not check with any ethics panel. Had he done so, he might have gotten an earful, suggested bioethicist Arthur Caplan at the University of Pennsylvania.

"There is plenty going on here that sets off ethical alarm bells about privacy and trustworthiness," Caplan said.

Studies done on normal behavior at public places is "fair game for researchers" as long as no one can figure out identities, Caplan said in an e-mail.

"So if I fight at a soccer match or walk through 30th Street train station in Philly, I can be studied," Caplan wrote. "But my cell phone is not public. My cell phone is personal. Tracking it and thus its owner is an active intrusion into personal privacy."

Paul Stephens, policy director at the Privacy Rights Clearinghouse in San Diego, said the nonconsensual part of the study raises the Big Brother issue.

"It certainly is a major concern for people who basically don't like to be tracked and shouldn't be tracked without their knowledge," Stephens said.

Study co-author Hidalgo said there is a difference between being a statistic — such as how many people buy a certain brand of computer — and a specific example. The people tracked in the study are more statistics than examples.

"In the wrong hands the data could be misused," Hidalgo said. "But in scientists' hands you're trying to look at broad patterns.... We're not trying to do evil things. We're trying to make the world a little better."

Knowing people's travel patterns can help design better transportation systems and give doctors guidance in fighting the spread of contagious diseases, he said.

The results also tell us something new about ourselves, including that we tend to go to the same places repeatedly, he said.

"Despite the fact that we think of ourselves as spontaneous and unpredictable ... we do have our patterns we move along and for the vast majority of people it's a short distance," Barabasi said.

The study found that nearly half of the people in the study pretty much keep to a circle little more than six miles wide and that 83 percent of the people tracked mostly stay within a 37-mile wide circle.

But then there are the people who are the travel equivalent of the super-rich, said Hidalgo, who travels more than 150 miles every weekend to visit his girlfriend. Nearly 3 percent of the population regularly go beyond a 200-mile wide circle. Less than 1 percent of people travel often out of a 621-mile circle.

But most people like to stay much closer to home. Hidalgo said he understands why: "There's a lot of people who don't like hectic lives. Travel is such a hassle."

On the Net:

Nature: www.nature.com/nature

<http://sfgate.com/cgi-bin/article.cgi?f=/n/a/2008/06/04/national/a100140D77.DTL>

Associated Press Sections

Go

© 2008 Hearst Communications Inc. | [Privacy Policy](#) | [Feedback](#) | [RSS Feeds](#) | [FAQ](#) | [Site Index](#) | [Contact](#)