

# How the use of smartphones can revolutionize research in cognitive science

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Smartphones may be the new hot tool in cognitive psychology research, according to a paper in the online journal *PLoS ONE*.

Cognitive psychology, which explores how people perceive, think, remember, and more, often relies on testing volunteers that come to a research facility to participate in behavioral experiments. This data collection method generally results in relatively small, homogeneous group of test subjects, which can bias the results and limit the extent to which researchers can interpret their data.

Collecting data via smartphones, on the other hand, may be the answer to this long-standing issue by helping scientists reach larger and more varied populations, the researchers suggest. To illustrate, the authors have begun a large-scale iPhone/iPad-based language study investigating people's ability to distinguish words from similar non-words, for example, "table" versus "tible." They began the project in December 2010 and have already collected data from 4,157 subjects. For comparison, a study on a similar topic that used traditional data-collection methods took more than three years to collect approximately the same amount of data.

Moreover, the project is being conducted in seven different languages (English, French, Spanish, Catalan, Basque, Dutch, and Malay) across the world. According to the authors, "this innovative research involving volunteer smartphone users from all over the world not only allows us to better understand how the brain recognizes words, but indeed opens up

vast possibilities for future large-scale research on aspects of [human cognition](#) such as memory and aging, cultural differences in perception of facial [emotional expression](#), or reading development in children."

**More information:** Dufau S, Dunabeitia JA, Moret-Tatay C, McGonigal A, Peeters D, et al. (2011) Smart Phone, Smart Science: How the Use of Smartphones Can Revolutionize Research in Cognitive Science. PLoS ONE 6(9): e24974. [doi:10.1371/journal.pone.0024974](https://doi.org/10.1371/journal.pone.0024974)

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