

Sociologists urge use of big data to study human interaction

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Credit: George Hodan/Public Domain

The internet dominates our world and each one of us is leaving a larger digital footprint as more time passes. Those footprints are ripe for studying, experts say.

In a recently published paper, a group of Stanford sociology experts encourage other sociologists and social psychologists to focus on

developing online research studies with the help of big data in order to advance the theories of [social interaction](#) and structure.

Companies have long used information they gather about their online customers to get insights into performance of their products, a process called A/B testing. Researchers in other fields, such as computer science, have also been taking advantage of the growing amount of data.

But the standard for many experiments on social interactions remains limited to face-to-face laboratory studies, said Paolo Parigi, a lead author of the study, titled "Online Field Experiments: Studying Social Interactions in Context."

Parigi, along with co-authors Karen Cook, a professor of sociology, and Jessica Santana, a graduate student in sociology, are urging more sociology researchers to take advantage of the internet.

"What I think is exciting is that we now have data on interactions to a level of precision that was unthinkable 20 years ago," said Parigi, who is also an adjunct professor in the Department of Civil and Environmental Engineering.

Online field experiments

In the new study, the researchers make a case for "online field experiments" that could be embedded within the structure of existing communities on the internet.

The researchers differentiate online field experiments from online lab experiments, which create a controlled online situation instead of using preexisting environments that have engaged participants.

"The internet is not just another mechanism for recruiting more

subjects," Parigi said. "There is now space for what we call computational social sciences that lies at the intersection of sociology, psychology, computer science and other technical sciences, through which we can try to understand human behavior as it is shaped and illuminated by online platforms."

As part of this type of experiment, researchers would utilize online platforms to take advantage of big data and predictive algorithms. Recruiting and retaining participants for such field studies is therefore more challenging and time-consuming because of the need for a close partnership with the platforms.

But online field experiments allow researchers to gain an enhanced look at certain human behaviors that cannot be replicated in a laboratory environment, the researchers said.

For example, theories about how and why people trust each other can be better examined in the online environments, the researchers said, because the context of different complex social relationships is recorded. In laboratory experiments, researchers can only isolate the type of trust that occurs between strangers, which is called "thin" trust.

Most recently, Cook and Parigi have used the field experiment design to research the development of trust in online sharing communities, such as Airbnb, a home and room rental service. The results of the study are scheduled to be published later this year. More information about that experiment is available at stanfordexchange.org.

"It's a new social world out there," Cook said, "and it keeps expanding."

Ethics of studying internet behavior

Using [big data](#) does come with a greater need for ethical responsibility.

In order for the online studies of social interactions to be as accurate as possible, researchers require access to private information for their participants.

One solution that protects participants' privacy is linking their information, such as names or email addresses, to unique identifiers, which could be a set of letters or numbers assigned to each research subject. The administrators of the platform would then provide those identifiers to researchers without compromising privacy.

It's also important to make sure researchers acquire the permission of the online platforms' participants. Transparency is key in those situations, Cook said.

More information: Paolo Parigi et al. Online Field Experiments, *Social Psychology Quarterly* (2017). [DOI: 10.1177/0190272516680842](https://doi.org/10.1177/0190272516680842)

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