

# The science of self-reporting

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Arthur Stone, visiting professor of psychology, joins USC Dornsife as director of the new Center for Self-Report Science. In his role, Stone looks forward to collaborating with partners from across USC Dornsife and the university. Photo courtesy of Arthur Stone.

(Medical Xpress)—The new Center for Self-Report Science at USC Dornsife, led by behavioral scientist and psychologist Arthur Stone, is helping to get the most accurate answers possible to questionnaires measuring health given by doctors, public opinion polls and more.

When you visit your doctor you typically fill out a medical questionnaire, or "self-report": Are you allergic to any medications? Are you experiencing any pain? How would you describe your pain?

While some of the answers contain hard facts —I'm allergic to penicillin, for example—others are subjective. For instance, one can characterize their discomfort and its severity any number of ways.

Devising means of gathering the most accurate information from self-reports such as medical questionnaires, pharmaceutical drug trial patient feedback or public opinion polling is the mission of the new Center for Self-Report Science (CSS) at USC Dornsife, established in February 2014. In addition to center director and visiting professor of psychology Arthur Stone, psychologist Joan Broderick will serve as associate director of the center, and other behavioral scientists will soon be joining the center.

"Health care professionals and researchers obtain a vast amount of information from self-reports: How people are feeling, what their symptoms are, how much fatigue they're experiencing," said Stone.

"Marketers and pollsters also make use of self-reports to seek out things we read about in the newspaper every day. Whether people are estimating the effectiveness of new medical treatments or who's ahead in the polls, we need to find the best ways to get the most accurate information."

At CSS, Stone and other researchers will study how people answer questions and develop new methods and techniques to improve the accuracy and reliability of self-report assessments.

In the field of self-report science, how a question is structured or the method by which information is collected can impact the preciseness of the facts.

Over the years, Stone and his colleagues have been working with ecological momentary assessment (EMA) tools, such as palmtop

computers and cell phones, that can be used to collect information in the moment, potentially increasing the accuracy of self-reports. The researchers can randomly prompt people to answer questions many times throughout the day. The center will also utilize other newly developed tools, such as the Day Reconstruction Method, which assesses how people spend their time and how they experience the various activities, to study topics ranging from medical symptoms to wellbeing.

"A lot of our work has focused on how people can do a one-week recall of behaviors and internal states, such as sleep issues, pain or fatigue," Stone said. "What we're trying to do is move from reporting instruments and questionnaires that require people to remember and summarize things over long periods of time to a system in which they answer in real-time or near real-time," he said. The methods used at the center can also support the accuracy of alternative types of assessments.

Stone and colleagues have worked with organizations such as the Food and Drug Administration, the U.S. Bureau of Labor Statistics, and the American Red Cross to refine a variety of assessment tools that they use for drug trials, to understand how employees spend their time and to evaluate mental health issues following disasters, for instance.

The new center is housed in USC Dornsife's Center for Economic and Social Research (CESR), an interdisciplinary research center where researchers undertake in-depth analysis to improve the understanding of human behavior as it relates to economics and society.

"Arthur Stone's group is the world leader in ecological momentary assessment," said Arie Kapteyn, founding director of CESR and professor of economics at USC Dornsife. "We are fortunate to have them join CESR, where we aim to create an exciting environment for interdisciplinary work on human behavior in a social and economic context. CSS will have synergies with just about every other research

group we are building and with many groups on campus."

Wendy Wood, Provost Professor of Psychology and Business and vice dean for social sciences, noted that Stone's addition to the faculty is part of USC Dornsife's goal of innovative hires in social research methods.

"His work will be important to other social science researchers on campus, and we should look forward to exciting collaborations across fields in the use of ecological momentary assessments," Wood said.

"Immediate reports of experiences provide a unique insight into many aspects of life. For example, these reports could be combined with other types of data, such as [global positioning system] GPS, to understand basic questions about city residents' experience of mobility, or lack thereof, in traffic congestion."

Stone brings with him more than three decades of experience in behavioral science and psychology. Prior to joining USC Dornsife, he was member of the faculty at Stony Brook University's School of Medicine for 35 years. He currently holds the title of Emeritus Distinguished Professor of Psychiatry and Psychology at Stony Brook, where he was director of the Applied Behavioral Medicine Research Institute and vice chair of the Department of Psychiatry for many years.

Stone is a visiting scholar at the Woodrow Wilson School of Public and International Relations and a senior scientist with the Gallup Organization, an international research consulting company. He is also an elected fellow of the Academy of Behavioral Medicine Research, and has served as editor-in-chief of *Health Psychology* and *Annals of Behavioral Medicine*. He has edited *The Science of the Self-Report* (Psychology Press, 1999) and *The Science of Real-Time Data Capture* (Oxford University Press, 2007).

Stone said he looks forward to building on USC Dornsife's vitality in the

social sciences and establishing research collaborations with scientists at the university.

Stone and the researchers at CSS will collaborate with Norbert Schwarz, Provost Professor of Psychology and Marketing, in a new National Institute of Aging study on how people assess their health and quality of life as they age. They will also work with Donna Spruijt-Metz, director of CESR's Mobile and Connected Health Program, on a health initiative, which among other projects makes use of mobile sensors to help minority youth overcome obesity by tracking their physical activity. Stone has also begun to seek out research partnerships with the Keck School of Medicine of USC, the USC School of Social Work and the USC Institute for Health Promotion and Disease Prevention Research.

"There's a very strong and growing presence in the behavioral sciences at USC," Stone said. "There's also a tremendously exciting collaborative spirit. We're thrilled to be part of new projects and to contribute our expertise in self-report science to enhance research going on in CESR, in the USC Dornsife Department of Psychology and in the other schools at USC."

Provided by University of Southern California

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