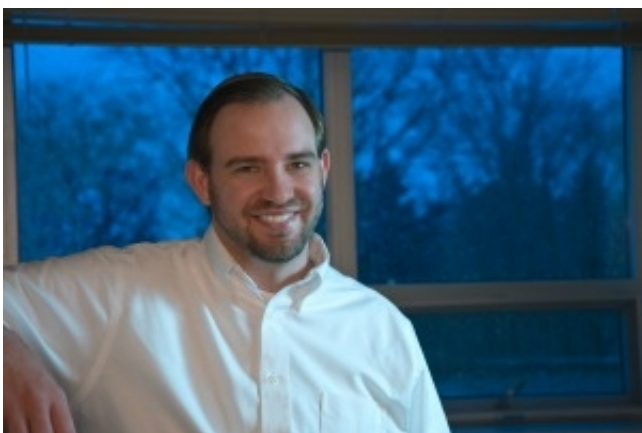


Team develops web tool to speed data collection

February 20 2015, by Rebecca Basu



Sociology Prof. Michael Bader. Courtesy Jeff Watts, American University

By 2030, one in five Americans will be age 65 or older. To understand the role neighborhoods play in seniors' ability to 'age in place'—living safely and independently in one's home of choice rather than in a healthcare facility—American University sociology Prof. Michael Bader and colleagues created a web application that speeds up researchers' data collection.

In a new paper in the journal *Health & Place*, Bader and [colleagues](#) demonstrate how the app works. Researchers used the app to rate 150 different features of neighborhoods in major metropolitan cities across the United States. They found that the app, called Computer Assisted Neighborhood Visual Assessment System, eliminated the costly and time-

consuming aspects of conducting research. The app harnesses Google Street View technology, the street recognition program that links together images to create panoramic views of cities and rural areas.

"Before Google Street View, sociologists had to cover hundreds of square miles in neighborhoods and painstakingly record visual details to answer research questions about gentrification, elders and healthy aging, and more," Bader said. "CANVAS takes Google Street View a step further by marrying its image [data collection](#) with Django software, providing a reliable, efficient and comprehensive tool for conducting sociological research on a large scale."

Graffiti and parks

Since the 1970s, sociologists have rated neighborhoods for factors that affect people's quality of life and health. In any given rating, researchers must take note of hundreds of details involving land use, aesthetics, traffic design and amenities, a neighborhood's proximity to parks, and sidewalk types.

"Neighborhoods affect how healthy people are, how they interact, and how safe they feel. Factors like broken sidewalks, curbs without cut-outs, and a lack of cross-walks are associated with negative health outcomes," Bader explained.

In the case of studying health of elders, ratings identify risk factors, such as broken sidewalks, that could lead elders to experience unhealthy outcomes. For example, if elders have to walk on broken sidewalks, that could make them less mobile and less likely to interact with peers. The data is used to predict the likelihood of elders aging in place, which in turn gets provided to policy makers.

National Institute for Child Health and Human Development provided a

\$247,888 grant for the creation of the application. The study in Health & Place is believed to be the first one of its scope to examine the reliability of Google Street View in rating U.S. neighborhoods. Bader and his colleagues at Columbia University hope to secure funding to develop the app into a product that sociologists everywhere can use.

Aging in place in D.C.

Getting at the heart of why elders leave communities in which they live, and what prevents them from aging in place, is a question Bader aims to answer. He's now conducting research in the Washington, D.C. region, where the population of those 65 and older will increase to 15.3 percent in 2030, according to policy think tank The Urban Institute.

AU graduate students are using CANVAS to rate features on streets in elderly [neighborhoods](#) in D.C., Montgomery County, Prince George's County, Fairfax County and Arlington County. Students are rating features related to physical disorder (litter, boarded-up buildings, graffiti), walkability (curb cuts, cross-walks, crossing signals), and land-use (types of buildings on streets).

After the students finish rating streets, they will use geostatistical computation to create a "surface" of each measure—the "surface" looks like a heat map showing where physical disorder is high or low. Bader and his colleagues will use the maps to determine neighborhood conditions associated with health outcomes among elders. In addition, the computer maps provide a useful visual aid for policy makers.

"This will help us know what challenges elders face in D.C. and how feasible it is for elders to successfully age in place without facing major physical obstacles," Bader said.

Provided by American University

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