

# Researchers create tool for studying social networks and health

December 19 2013

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A team led by Penn State College of Medicine researchers has developed a tool to help scientists study the influence of social networks on health. The team integrated—for the first time—scientific articles on both social networks and physical and online environments, to help scientists better study how to influence people's health through their social interactions.

While the term "social networks" often refers to online services like Facebook, in this case it means any in-person or virtual social interaction.

The project was led by Liza Rovniak, assistant professor of medicine and [public health](#) sciences, who studies how to engineer in-person and online interactions to support healthy behaviors.

"By engineering new environments or placing people in different environments, we can shape health behaviors—such as physical activity, safer sex or smoking cessation," she said. "It's easy to conceptualize how to change the environment. It is harder to conceptualize how to change people. So the question becomes, 'What can we manipulate in our physical or virtual environments to change what people say or do to encourage healthy behavior?'"

As Rovniak began her own National Institutes of Health-funded research exploring how to promote networks of people to walk more consistently in their community, she realized there was no framework available on

how to engineer a social network.

"I needed to know what variables to target," she said. "How do the 'ingredients' of a social network work together, and how does the structure of social networks and the physical and virtual environment influence people's activities?"

By putting the literature on social networks and physical environment approaches together in one place, a more effective recipe for engineering social networks can be assembled, she said. Results were published in *BMC Public Health*.

Researchers have already identified variables of social networks that can be studied, including behaviors like modeling physical activity for others to observe, tracking and rewarding people's physical activity and praising people.

"Another variable is the structure of the network, which creates opportunities for the behaviors of social networks to happen," Rovniak said. "These behaviors can then help promote physical activity."

Rovniak hopes her work putting key variables related to social networks and the environment together in one place will lead to better research in the field by helping scientists keep better track of what's already been targeted.

In practical terms, if a researcher wants people to use an exercise device while at their desks, variables can be more easily selected that could help build social networks to support using the device because of Rovniak's work. From there, the scientist could generate a hypothesis about how these variables will influence [physical activity](#) and develop an intervention to test the hypothesis.

"Before, it was tough to create a hypothesis about how to engineer social networks," Rovniak said. "There are so many variables. Now, with this framework, we can more systematically test and refine hypotheses and work toward developing stronger social network interventions to sustain healthy behaviors."

Provided by Pennsylvania State University

Citation: Researchers create tool for studying social networks and health (2013, December 19) retrieved 19 September 2024 from

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