

Research In Focus: A Weekly Digest of New Research from the NIDILRR Community

For People with Serious Mental Illness, Getting Out and About May be Good for the Brain

A study funded by the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR).

Neurocognition involves information processing, ability to focus, accessing/using memory, and learning, and it plays an integral role in the health and well-being of individuals with serious mental illness such as mood disorders and schizophrenia. Research has shown that deficits in neurocognition are closely associated with the severity of serious mental illnesses.

Environmental enrichment (ENR) has shown promise for improving cognition in people without disabilities. ENR involves immersion in a complex environment with a variety of sensory and social interactions, where a person is likely to encounter an environment or situation to which they have never been exposed before. This is called environmental novelty. While laboratory studies have shown promising results in animals and in models of some mental health conditions, no previous research has examined environmental novelty in adults with serious mental illness. In a recent NIDILRR-funded study, researchers looked at how environmental novelty might be related to neurocognition in adults with serious mental illness. The researchers wanted to understand the relationship between environmental novelty and neurocognition, and whether it can be affected by the number of different places someone may visit outside of the home, and the variety of their participation in community activities.

Researchers from the project on [Identifying Enabling Environments Affecting Adults with Psychiatric Disabilities](#) looked at community mobility data collected from 97 participants from 4 Philadelphia-area community mental health centers (CMHC). The participants were between 18 and 65 years old and had a diagnosis of major depression, manic episode, psychotic disorder, or mood disorder with psychotic features. They had all lived in a stable residence for at least six months with no plans to move and were able to freely leave and return home without restriction. They were also receiving case management or outpatient services at a CMHC at the time of the study.

The study included an initial interview, a tracking period, and a follow-up interview. During the first interview, the researchers measured each participant's neurocognition, community participation, and community mobility. Specifically, the participants answered questions about their ability to think flexibly and quickly, remember words and events, express themselves verbally, stay focused, and maintain their self-control. To measure community participation, the participants answered questions about the number of days in the previous 30 days they had participated in 26 different community-based activities and how important those activities were to them. Participants were also issued GPS-enabled mobile phones during the first interview.

During the tracking period, the participants were tracked for 13 full days using the GPS. The GPS tracking software recorded location data in 1-minute increments, collecting up to 18,720 data points per participant. For each participant, the researchers tracked the total number of unique destinations and the percentage of time spent outside of the home. Using this data, the researchers determined which participants never left their homes on more than 50% of days (homebodies) and which left their home at least once on 50% or more days (venturers).

Following the tracking period, the participants completed a second face-to-face interview where they answered the same questions about their neurocognitive abilities and their community participation over the previous 30 days. This interview took place about 18-20 days after the first interview. At this stage, they also returned the cell phones.

The researchers found that among the 97 participants, 23 could be classified as homebodies and 74 could be classified as venturers. Upon comparing the data between the homebodies and venturers, the researchers found the following:

- Venturers visited more unique destinations than the homebodies.
- Venturers had a larger variety of community participation experiences than the homebodies.
- Venturers had significantly higher neurocognition scores compared to homebodies.

Although the venturers had higher neurocognition scores than the homebodies, the researchers found that, among the venturers, visiting more places or a greater variety of participation experiences did not result in higher neurocognition scores.

The authors noted that, in this study, the participants who spent a majority of time at home had lower neurocognition scores compared to those that engaged more frequently in community activities outside of the home. Research in other communities, such as people who experience hearing loss, has shown a connection between loss of engagement with the environment and cognitive decline. However, the authors also noted that people who are experiencing difficulty with cognition may choose to limit their activity outside of the home as a result. Future research with a larger group of participants or over a longer period of time may help determine how participation outside the home impacts cognitive function for people with serious mental illness.

According to the authors, the results of this study may indicate that spending more time away from their familiar home environment could improve neurocognition in people with serious mental illness. If that were to be the case, mental health providers may want to recommend programs or activities in the community that provide a variety of experiences, along with supports to make participation possible. Future research could investigate whether cognitive remediation in combination with programs like

environmental enrichment help people with serious mental illness improve their cognitive abilities.

[To Learn More](#)

The [Rehabilitation Research and Training Center on Community Living and Participation of Individuals with Serious Mental Illness](#) has a large collection of guides, graphics, calendars, and other tools to encourage greater community activity and participation of people with serious mental illness and their families.

The [Center on Integrated Health Care and Self-Directed Recovery](#) has a suite of tools to help people with serious mental illness manage their overall health and wellness, including guides and resources to engage in meaningful community activities.

[To Learn More About this Study](#)

McCormick, B. P., Brusilovskiy, E., Snethen, G., Klein, L., Townley, G., & Salzer, M. S. (2021, April 1). [Getting Out of the House: The Relationship of Venturing into the Community and Neurocognition Among Adults with Serious Mental Illness](#). *Psychiatric Rehabilitation Journal*. This article is available from the NARIC Collection under Accession Number J86197.

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