

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

For People with Mobility Disabilities, High-Quality Mobility Devices May Be Key for Community Involvement and Independence

About 9.4 million Americans use a mobility device to get around. Mobility devices include walking aids such as crutches, canes, and walkers, as well as manual or battery-powered wheelchairs. Mobility devices can help people with mobility disabilities to participate in work, family, leisure, and other community activities. However, if mobility devices break down or stop working correctly, this can restrict participation in the community. Manual and motorized wheelchairs and scooters, in particular, may be costly to repair. Also, while they're in the shop, the user may be unable to leave home. In a recent NIDILRR-funded study, researchers looked at the connections between users' ratings of mobility device quality and their perceptions of how much their device benefited them, as well as between the ratings of mobility device benefit and their ability to participate in their communities. The researchers wanted to find out whether mobility device users who rated their devices as more reliable and easier to maintain perceived their devices as more beneficial to them. They also wanted to find out whether mobility device users who were more satisfied with their devices were also more satisfied with their ability to participate in activities they enjoyed doing.

Researchers at the [Rehabilitation Research and Training Center on Improving Measurement of Medical Rehabilitation Outcomes](#) surveyed 250 people ages between 18-85 years old as a part of a larger study. All participants had mobility disabilities as a result of either a spinal cord injury (SCI), a traumatic brain injury (TBI), or a stroke, and all used at least one mobility device. The participants answered questions about the mobility device they used most often. The participants were asked whether this mobility device was a walking aid (like crutches or a walker) or a wheeled device (such as a wheelchair or scooter). The participants used five-point scales to rate how reliable their device was, and how easy it was to maintain and repair. They also used five-point scales to rate how much their device helped them to have more control over daily activities, be more confident and independent, do activities they enjoyed, and achieve their goals. Then, the participants completed standardized questionnaires measuring how much they felt that their disability limited their participation in social activities such as spending time with family and friends; how satisfied they felt with their participation in social activities; how much they felt valued in their communities (e.g., "I have a say on decisions in my community") and how much they felt in charge of their community participation choices (e.g., "I live my life the way I want").

The researchers found that, in general, the participants who used walking aids rated their devices as more reliable and easier to maintain or repair than the participants who used wheeled mobility devices. The participants who used wheeled mobility

devices reported their devices as more beneficial and having a larger impact on their participation than the participants who used walking aids. Regardless of the types of mobility devices, the participants who rated their devices as more reliable and easier to maintain or repair also indicated that their device was more beneficial for their independence and ability to participate in activities they enjoyed. In addition, regardless of the types of mobility devices, the participants who rated their devices as more beneficial reported more social participation, being valued in their communities, and having more control over their participation. The links between device quality, perceived benefit, and participation were similar for the participants with SCI, TBI, and stroke.

According to the authors, even perceptions of the quality of mobility devices can have an impact on whether and how people with disabilities participate in their community. Poor quality equipment can breakdown, leaving the user with no option to get around. For some users, concerns about the reliability, reparability, and ease of maintenance might also keep them from participating in activities such as work, school, volunteering, and leisure.

The authors noted that mobility devices can both help and hinder participation in the community: When they function well, mobility devices can offer access and autonomy, but device malfunctions or maintenance needs can interfere with community participation. It may be beneficial to ensure that mobility devices, particularly wheeled devices, are made with high quality and that vendors are readily available to provide maintenance or repairs when needed. Future research may be useful in determining how mobility device quality might interact with other factors in the environment to influence participation in valued activities.

To Learn More

AbleData offers a comprehensive database of assistive technology solutions, including ambulation aids and wheeled mobility options. Search their database at abledata.acl.gov or read through their publications including

- Guide to Wheeled Mobility Manual Wheelchairs, Powered Chairs, and Scooters <http://abledata.acl.gov/publications/guide-wheeled-mobility-manual-wheelchairs-power-chairs-and-mobility-scooters>
- Options for Paying for AT (Video) <https://www.youtube.com/watch?v=lgLVnOsj5ql&t=>

The Model Systems Knowledge Translation Center offers The Wheelchair Series: What SCI Consumers Need to Know: <http://www.msktc.org/sci/factsheets/Wheelchairs>

Your healthcare team and durable medical equipment suppliers are the first line of defense in maintaining the quality and reliability of a mobility device. However, you can do regular maintenance and be prepared when emergencies happen. The Northwest Regional SCI System Center published a factsheet on wheelchair maintenance and minor repairs:

<http://sci.washington.edu/summit2013/wheelchair%20maintenance%20and%20minor%20repairs.doc>

The National Multiple Sclerosis Society offers a guide, How to Choose the Mobility Device that is Right for You, with contributions from several NIDILRR-funded researchers in mobility and engineering:

<https://www.nationalmssociety.org/NationalMSSociety/media/MSNationalFiles/Brochures/Brochure-How-to-Choose-the-Mobility-Device-that-is-Right-for-You.pdf>

To Learn More About This Study

Magasi, S., Wong, A., Miskovic, A., Tulsy, D., and Heinemann, A. (2018) [Mobility device quality affects participation outcomes for people with disabilities](#). Archives of Physical Medicine and Rehabilitation, 99, 1-8. This article is available from the NARIC collection under Accession Number J77729.

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