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Life starts at home: Exploring how housing impacts participation for people with disabilities

June 2018

A community's built environment, which includes everything from roads and sidewalks to buildings and parking lots, impacts how people move through and engage with their community.

Modern perspectives of disability focus on the impact of the environment on the participation and independence of people with disabilities. The interaction between a person and their surroundings can either support or inhibit their functional needs to live independently and participate in the community (World Health Organization).

Physical barriers such as stairs, curbs, narrow building entrances, broken sidewalks and long routes of travel can prevent access to community spaces and limit people's ability to move about their community independently, which in turn can increase social isolation. Fewer barriers in the environment can mean more opportunities for community participation for people with physical disabilities.

But what about the home? Does the built environment of a home impact a person's opportunities for community participation and independent living?

Person and Environment

People choose to participate in life activities based on the opportunities available to them and the constraints that may limit their choices.



Opportunities and constraints for participation are shaped by the social and physical environment of the individual.

When people have an impairment, their ability to participate and the effort they must exert to do so may be heavily influenced by the environment. Participation involves the interaction of personal and environmental variables.

Most simplistically, a person's functional ability interacts with the environment to facilitate or restrict participation. As individual and environmental characteristics influence each other, the complexity of this interaction emerges.

Accessibility vs Usability

The words 'accessibility' and 'usability' are sometimes used interchangeably, but they can have very different meanings.

Accessibility describes the physical environment.

A location that is accessible follows federal guidelines, such as those in the Americans with Disabilities Act and the Fair Housing Act.

For example, a building with a ramp or zero-step entrance is considered accessible.



Usability describes how a person interacts with their environment.

Spaces can be usable for some people and not others. Many individuals have usability needs that are not covered by federal accessibility requirements.

Examples of usability modifications include:

- Kitchen modifications, such as raised or lowered tables and countertops and an open space beneath the sink, so an individual can prepare food from a seated position.
- Modified cabinet, drawer, and door lever handles for easier grasping and opening.
- Smart home technology like voice controlled appliances, and motion detecting lights and security systems that don't require finger or hand dexterity to operate.
- Railings and grab bars throughout the home to help with stability and prevent falls.



physical and psychological health impacts.

Our research focuses on learning more about the dynamic interaction between a person and their environment, and how this shapes community participation for people with mobility impairments. We use questions from the American Community Survey (ACS) to identify individuals who may experience disability. While these questions do not directly measure disability status, they

are used as a proxy measure for functional difficulty. For example, the ACS defines mobility impairments as “having serious difficulty walking or climbing stairs.”

Our previous research has found that:

- Many people with mobility impairments live in houses that do not meet their needs.
- Over half of households with people with mobility impairments have a stepped entrance, and over half do not have grab bars in their bathrooms (Greiman & Ravesloot, 2016).
- People with mobility impairments spend more time resting and less time participating outside the home (Greiman et al., 2018).
- People with mobility impairments who report high levels of exertion while bathing are less likely to report engaging in any social or recreational activity (Greiman et al., 2018).

The Housing Environment

RTC:Rural research on housing and ecology indicates that increasing the availability of accessible and usable housing is a significant step toward building greater community participation and independent living for all.

Accessibility and usability issues within the home can present barriers to daily living that negatively impact an individual's ability to participate in their community. Increased energy spent on overcoming these barriers in the home may reduce available time and energy for activities outside the home, such as employment or social engagement, especially as a person might experience even further barriers in the community.

Accessibility and usability issues are also unsafe: an unusable home exposes people to an increased risk of injury, as well as negative

Housing and Community Participation

Many studies have shown that housing influences overall wellbeing as well as physical and mental health (Gibson et al. 2012; Haywood 2004; Imrie 2004; Stark 2001; Taylor, 2018).

Our research has shown that for people with mobility impairments, the home environment

can present barriers to daily living that require considerable energy.

Now, we want to know: how does housing influence community participation? Can we increase opportunities for community participation by modifying the physical space of peoples' homes, or by increasing their capacity for exertion?

The experience of disability varies depending on both the individual and the environment. Our research focuses on both of these variables. If we are able to provide an individual with a more usable home, or to increase their personal capacity in being able to use their existing home, will they feel more able to live independently and participate in their community?

Current Housing Research

Not all people are able to move into the accessible housing they need, or at least not right away. This problem is especially severe in rural areas, where 69% of people with mobility impairments live in homes with stepped entries, and 17% live in homes that do not have entry-level bathrooms.

Effort Capacity and Choice and the **Home Usability Project** are gathering data to develop interventions that will help reduce the effort required to carry out certain activities within the home in order to see how this influences a person's capacity to participate outside the home.

Effort Capacity and Choice

Each person has a finite amount of energy to spend doing the things they need and want to do each day. The amount of effort required for an activity is determined by characteristics of the person and the environment. People with mobility impairments may have less capacity

for effort, may use more energy for activities, or may experience both due to things like pain, limited range of motion, or inaccessible environments. Because of this, they spend more time resting and less time participating in activities, especially high-energy activities. Increasing energy capacity (via exercise) or reducing the effort required to perform an activity (via assistive equipment) may be one way of promoting more participation.

Home Usability Project

The Home Usability Project is part of the **Research and Training Center on Promoting Interventions for Community Living (RTC/PICL)**, a partnership between RTC:Rural and the University of Kansas.



The project engages staff at Centers for Independent Living (CILs) to work with consumers to identify smaller-scale home improvements that can address home usability issues.

To do this, consumers of CIL services (people with disability) meet with a CIL specialist to complete a home usability assessment and set home usability goals.

Together, the consumer and CIL specialists develop a network of local resources to address identified issues. As the project progresses, this resource network can expand to better address housing concerns in the community.

Housing, quality of life, and social impact

RTC:Rural research uncovers relationships among personal and environmental factors that influence quality of life. Studying these relationships brings opportunity to inform future policy change and to fill gaps in federal

guidelines to support programs that help make homes more accessible and usable.

Policies and programs that help make homes more accessible and usable will not only improve quality of life for people with mobility impairments, but also reduce the amount of caretaking responsibility assumed by other household members. If daily activities, like

bathing, require less energy or exertion, people with mobility impairments may have more time and energy for community participation.

By focusing on how people navigate their home environment, and by working to develop effective interventions within the home that facilitate independent living, we can improve the landscape of social inclusion and community living.

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Photos

Unless otherwise noted, all photos are from our [Healthy Community Living](#) project, under which people from around the country have sent in photos of “Real People, Real Places” that have to do with living with disability in America.

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