

Assistive Technology (AT) & Remote Support (RS) for Adults With Intellectual/Developmental Disabilities

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Background

- (2006) National Convention on the Rights of Persons with Disabilities
- People with intellectual and developmental disabilities (PWI/DD) **can and do** live independently in community-based settings
- Functional independence is key:
 - Autonomy
 - Self-determination
 - Overall self-management



(Friedman, 2024; Stancliffe et al., 2022)

Purpose & Research Question

- Despite the takeoff of AT and RS adoption:
 - Descriptive evidence of the impact on functional independence at the community-level remains limited
- Research Question:
 - Does assistive technology and remote support promote functional independence for people with intellectual and developmental disabilities in community-based residential settings?

Methods

- n=10
- Given each person's record
- Data sources could include:
 - Staff observational notes
 - Connecticut Department of Developmental Services level of need assessment (LON)
 - Level of Need Summary Report (PRAT)
 - Behavioral support plan
 - Monthly behavioral reports
 - Three-month behavioral review
 - Self-administration of medication paperwork
 - Person-Centered Plan (PCP)
 - DDS individual plan

Initial Review of Data

- Step one: Initial review
 - each person's record revealed
 - Inconsistent documents
 - Inconsistent timeline
- Did have each person's PCP

Person	Life Skills	Monthly Behavioral			Self-Admin	DDS Individual	PCP	Behavioral Support Plan
	Assessment	LON	PRAT	Support	Meds	Plan		
1	1	1	1	1	1	1	1	1
2	1	1	1	0	1	0	1	0
3	0	1	1	0	1	0	1	0
4	0	1	1	1	1	0	1	1
5	0	1	1	0	1	0	1	0
6	0	1	1	0	1	0	1	0
7	0	1	1	0	0	0	1	0
8	0	1	1	0	1	0	1	0
9	0	1	1	0	0	0	1	0
10	0	1	1	1	1	0	1	0

Using this data

- Step Two: Extracted a task outlined from each

Person	Task Per PCP
1	Improve ADL skills to increase independence and alone time
2	Have a physically safe home to live in and to be able to do things they enjoy doing
3	Take medication at the appropriate scheduled hour
4	Improve ADL skills to increase independence in the home from staff and other caretakers
5	Maintain a clean and safe household
6	Live in a safe home that allows them to create designs
7	Live in a safe space with a reliable routine and to improve ADL skills
8	Use supports to maintain household independence and safety
9	Have a nice place to live with needed support to safely reside in the home
10	Maintain living independence to be able to do fun things, pay bills, have a job, and access to transportation

Categorized AT&RS

- Step three: Technology supports were categorized into the following:
 - Remote monitoring
 - Medication management
 - Cooking safety
 - Door access safety
 - Alert safety
 - Communication support
 - Bathroom support
 - Contact sensors
 - Alert/safety detectors

Summary Table

- Step four: For each person, I made a table including their goal and the technology they used

Person	PCP Goal	Technology Used
1	Improve ADL skills and increase independence/alone time	Remote monitoring
		Medication management
		cooking safety systems
		door access safety
		communication support
		contact sensors
		safety detectors

Recognized Patterns: Operationally defined functional independence

- Step five: Operationalized functional independence into 4 categories
 - ADL Independence
 - Medication management, cooking/meal prep and food handling, bathroom support, house cleaning/management
 - Safety with Reduced Supervision
 - Remote monitoring, contact sensors, emergency alert safety, reduced staff supervision, and safety
 - Communication and Daily Structure
 - Prompting, scheduling, communication, and daily structure
 - Autonomy and Community Participation
 - Living independently, accessing transportation, hobbies, and fun things, and managing responsibilities

Results

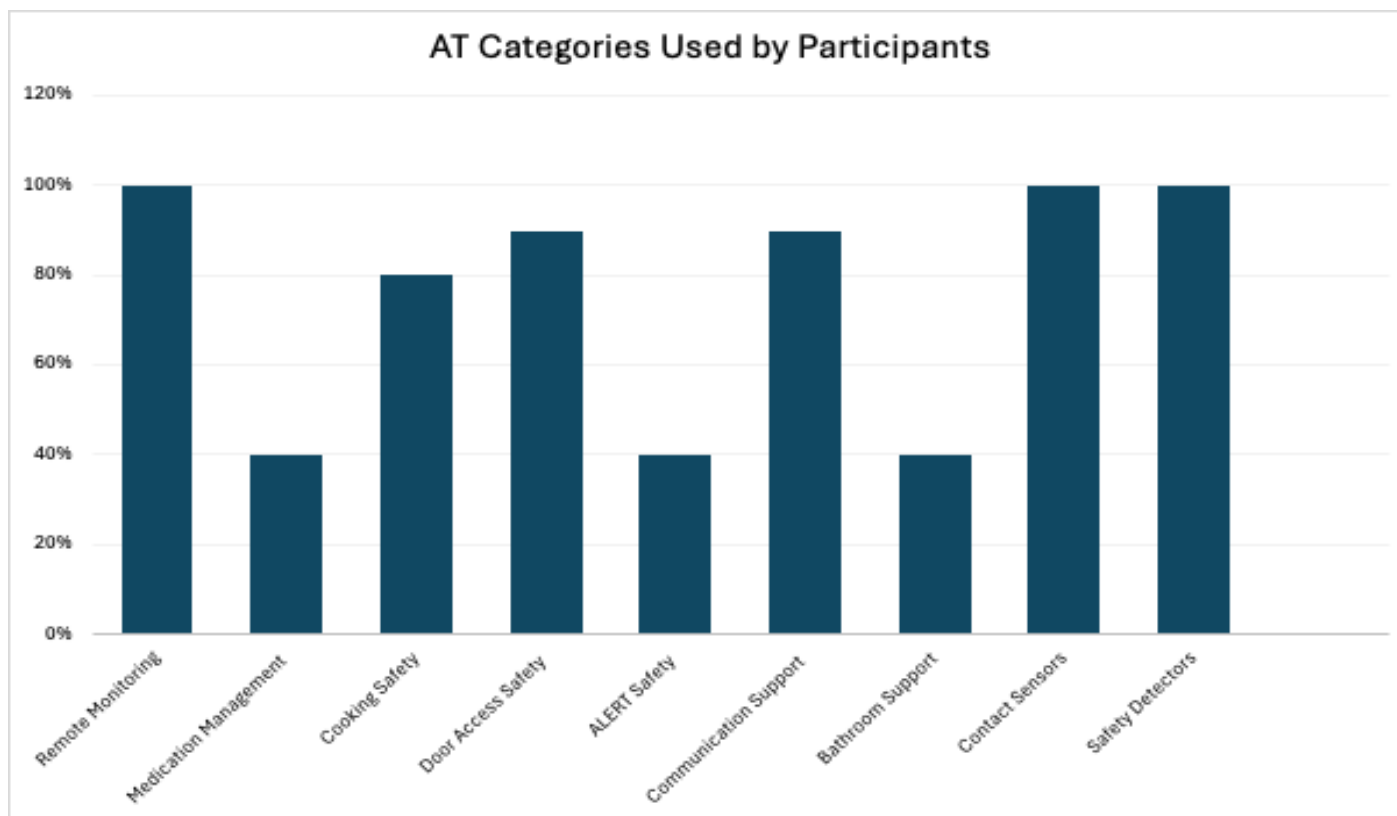


Figure 1. AT Categories Used by Participants

Results, cont.

Technology	Icon
Remote monitoring	
Medication management	
Cooking Safety	
Door Access Safety	
ALERT safety	
Communication support	
Bathroom support	
Contact Sensors	
Alert/Safety detectors	

Figure 2. Key

Person	Technology	ADL Independence	Safety, Less Supervision	Communication & Daily Structure	Autonomy & Community Participation
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

Figure 3. Summary of Technology Use and Functional Domain Supported

Discussion

- Yes – AT and RS do promote functional independence
 - Findings highlight the potential of meeting people's goals with different combinations of AT and RS
 - It can broadly support safety with less supervision by enhancing functional independence
- AT and RS could be most effective when aligned with person-centered goals
- Many technologies supported more than one independence category – one device could promote ADL skills, and reduce reliance on caregivers

Limitations

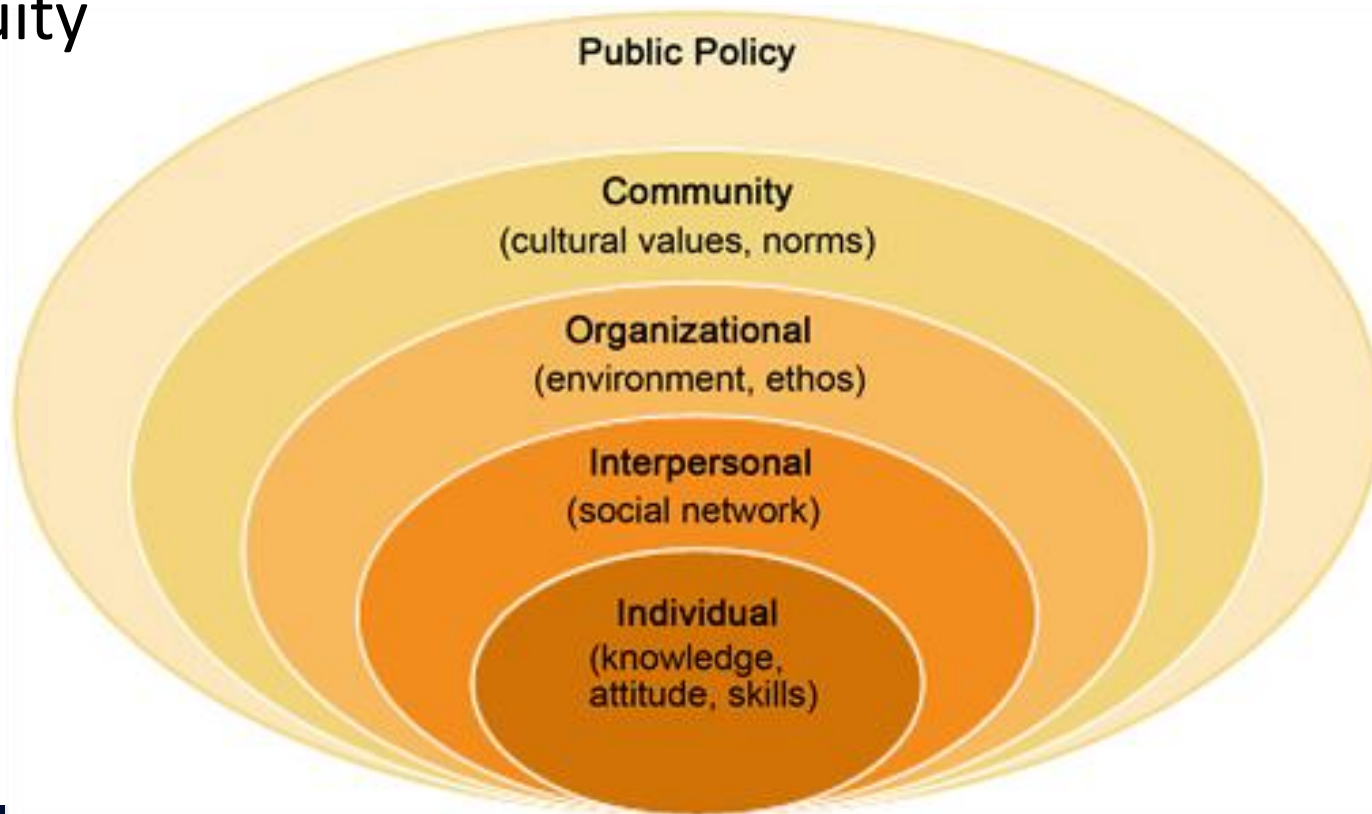
- Small n
- Limited standardized documentation across all 10 people, inconsistent timelines
- PCPs may not represent a person's actual functional goals

Future Directions

- Larger sample
- Standardized outcome measures over time
- Qualitative interviews to contextualize goals and offer a clearer insight of how AT/RS impacts daily living
- A more in-depth exploration of how AT and RS support functional independence

Public Health Implications

- The Social Ecological Model (SEM)
- Equity



References

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