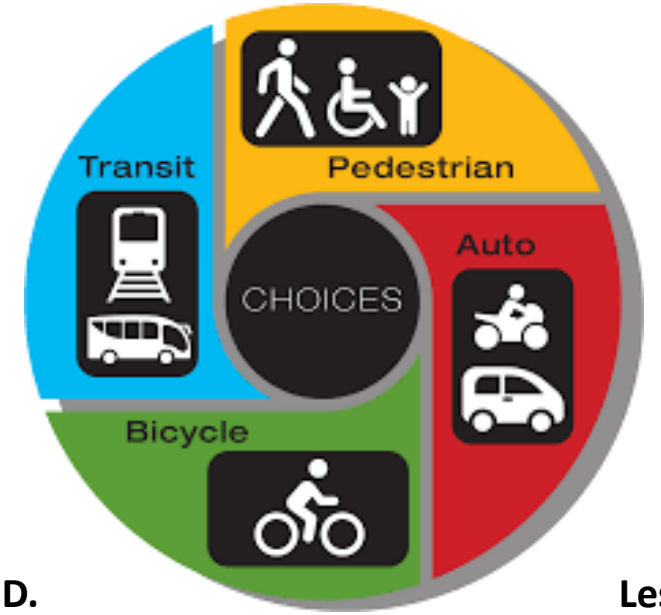
Enhancing Youth Ability to Travel through Instruction and Community Partnerships

A Holistic View of Accessible Transportation & Mobility



Judy L. Shanley, Ph.D.
Asst. Vice President, Education & Youth Transition
National Director, Transportation & Mobility

Leslie Ann Bross, Ph.D., BCBA-D
Assistant Professor of Special Education
University of North Carolina at Charlotte

NCMM National Center for Mobility Management

easterseals

UNIVERSITY OF NORTH CAROLINA CHARLOTTE | CATO COLLEGE OF EDUCATION

Today We Will Talk About…

- Overview of the National Center for Mobility Management (NCMM)
- Understanding the why?
- Implementing solutions
- Resources
- Two recently conducted transportation-focused research studies

NCMM
National Center for Mobility Management

easterseals

The National Center for Mobility Management

Can Help you Make Connections

The mission of the National Center for Mobility Management (NCMM) is to facilitate communities to adopt transportation strategies and mobility options that empower people to live independently and advance health, economic vitality, self-sufficiency, and community.

National Center for Mobility Management

NCMM
National Center for Mobility Management

easterseals

About the NCMM

- National Technical Assistance Center
- Launched in early 2013
- Jointly operated by three national organizations:
  - Easterseals
  - American Public Transportation Association
  - Community Transportation Association of America
- Through a cooperative agreement with the Federal Transit Administration (FTA), U.S. DOT

APTA AMERICAN PUBLIC TRANSPORTATION ASSOCIATION

Community Transportation ASSOCIATION

easterseals

What Do You Think?

NCMM
National Center for Mobility Management

easterseals

Challenges → Solutions

- Skills & Fear
- Lack of Connections
- Limited Options or Service
- Complexity of Travel
- Can't get to Transit

- Provide Travel Instruction & Training
- Create Opportunities for Education & Relationship Building
- Develop Options
- Teach Transportation Education – Develop Plans
- Advocate for Sidewalk Accessibility

NCMM
National Center for Mobility Management

easterseals

Implementing Solutions

- Provide Travel Instruction
- Connect with Transportation Professionals

- Identify providers
  - Human services organizations
  - Transit agencies
  - Section 5310
  - Mobility managers
- Be involved in Human Services Coordinated Transportation Plan
  - Regional Planning Organization or Regional Council
  - State and local departments of transportation

National Center for Mobility Management

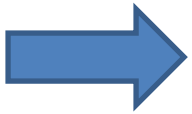
Implementing Solutions (2)

- Suggest & Develop Options

- Think innovation
  - On demand services
  - Alternatives to paratransit
  - Ride Share
  - Volunteer driver programs
  - Ride share / Shared ride programs

Implementing Solutions (3)

- Teach Transportation Education



- Implement transportation goals & activities
- Embed transportation content in classroom activities
- Invite transportation professionals in transition programs
- Visit transit
- Use transit

NCMM
National Center for Mobility Management

Transportation education creates a **culture,** accompanied by a coordinated set of **practices**, to **connect** students, families, educators, pupil transporters, and public transportation professionals to ensure students have knowledge, access, and choice regarding a **continuum of accessible transportation options** across grade levels, and especially as they transition from school to postsecondary education, employment, and independent living

We are Updating the Curriculum

NCMM
National Center for Mobility Management

easterseals

Implementing Solutions (4)

- Focus on Community Navigation

- Emphasize the importance of sidewalk accessibility
- Conduct sidewalk – path of travel audits
- Connect with community initiatives – complete streets, vision zero, aging in place, etc.

National Center for Mobility Management

Welcome!

Project Sidewalk Workforce Development Program

Module 1

Building Knowledge about Community Accessibility

Crowd+AI Tools to Map, Analyze, and Visualize Sidewalk Accessibility for Inclusive Cities

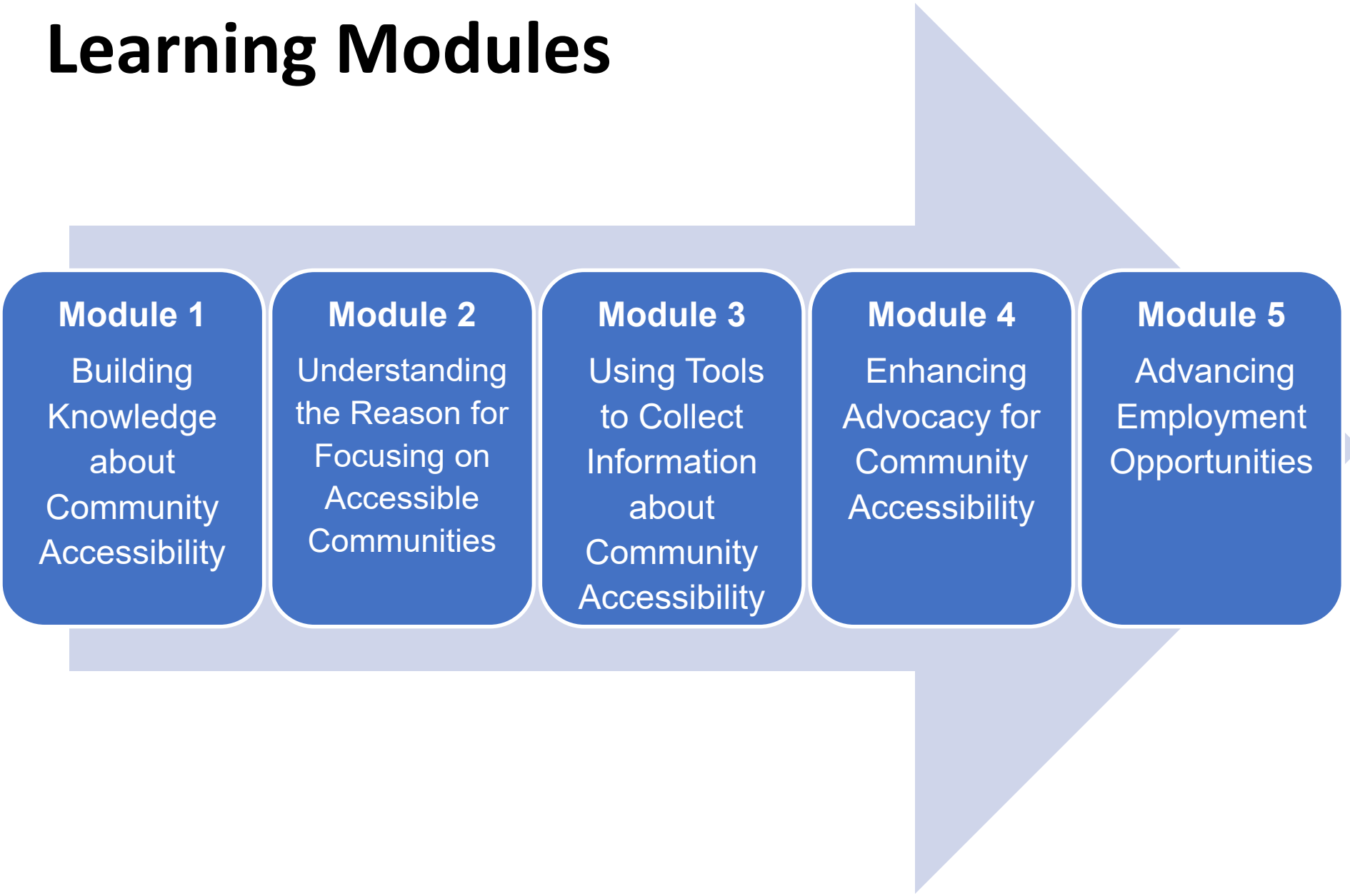
UIC UNIVERSITY OF ILLINOIS CHICAGO

easterseals

About the Project Sidewalk Workforce Development Program

- The Project Sidewalk Workforce Development Program has five learning modules
- Overall, these modules are intended to student knowledge and skill on topics related to sidewalk accessibility and community navigation. You will also learn how using tools can support what we know about sidewalk navigation.
- Students can use this knowledge to:
  - Advocate for improved sidewalk accessibility in your community
  - Use tools like Project Sidewalk to help communities improve accessibility
  - Use this knowledge about sidewalk accessibility to get a job in your community that builds on your advocacy skills and knowledge about sidewalk accessibility
- When students complete all five of the modules, they will receive an Amazon Gift Card
- This is a pilot program – therefore, we will use pre-post questionnaires

The Focus of Each of the Learning Modules



Interested in Participating in Project Sidewalk?

Contact Judy Shanley, jshanley@easterseals.com or scan this code

Your QR Code

Scan this QR code to participate.

Connections to Support Transportation Education…unlikely sources….

National Center for Mobility Management

Tap into Free Resources

National Center for Mobility Management

National Aging and Disability Transportation Center

Rural Transit Assistance Program

ACL Inclusive Transportation Partnerships

Shared-use Mobility Center

National Center for Applied Transit Technology

Adaptive Driving

Adaptive Driving Alliance

- Considerations
  - Functional – Cognitive appropriateness
    - Assessment
  - Financing
    - Vocational Rehabilitation, Veterans Administration, Auto Manufacturers, Private foundations
  - Safety & Training

Two Recently Conducted Transportation Focused Research Studies

Original Research

Transportation Perspectives of Young Adults With Intellectual and Developmental Disabilities, Parents, and Service Providers

Leslie Ann Bross, PhD, BCBA-D[1], Darcy Fredrick, MAT[1], and Stephen Kwiatek, PhD[1,2]

Hammill Institute on Disabilities

Career Development and Transition for Exceptional Individuals
1–14
© Hammill Institute on Disabilities 2023
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/21651434231152872
cdtei.sagepub.com
SAGE

Abstract

Young adults with intellectual and developmental disabilities (IDD) are vulnerable to transportation challenges which can contribute to a lack of community engagement. This article describes findings from a qualitative study in which we conducted one time, semistructured interviews with nine individuals with IDD (ages 18–25) and their parents/guardians in dyads. We also interviewed 10 adult service and local agency providers to incorporate different perspectives. Major themes included *family factors*, *community structure*, and *systems challenges* as barriers that impacted the transportation experiences of young adults with IDD and their families. We provide implications for transition-related professionals and suggestions for future research and policy focused on transportation.

Keywords

autism, community participation, intellectual disability, interviews

Bross, L. A., Wood, C. L., Masud, A., Fredrick, D., & Vicchio, J. (in press). Teaching travel skills with a ridesharing application to young adults with intellectual and developmental disabilities. Manuscript accepted for publication in *Education and Training in Autism and Developmental Disabilities.*

Transportation Perspectives of Young Adults with IDD, Parents, and Service Providers

Table 1. Young Adult and Parent/Guardian Demographic Information.

Pseudonym	Gender	Age	Race/ ethnicity	Disability category	Current program	Rural/ urban	Parent interviewed and highest degree
Adam	Male	18	White	ID	18–21 program	Rural	Mom—bachelor's degree
Caroline	Female	21	White	ASD and blindness	High school	Urban	Mom—bachelor's degree
Christopher	Male	21	White	ID and Down syndrome	18–21 program	Urban	Mom—bachelor's degree
Jeffrey	Male	21	White	ID, PDD-NOS	High School	Urban	Mom—bachelor's degree
Joel	Male	24	White	ASD and Down syndrome	18–21 program	Urban	Mom—bachelor's degree
Laura	Female	22	White	ID	18–21 program	Urban	Mom—master's degree
Rebecca	Female	18	Black	ID	High School	Urban	Mom—bachelor's degree
Samantha	Female	25	White	ID and genetic disorder	18–21 program	Urban	Mom—bachelor's degree
Sawyer	Male	21	White	ID	18–21 program	Urban	Mom—bachelor's degree

Note. ID = intellectual disability; ASD = autism spectrum disorder; PDD-NOS = pervasive developmental disorder-not otherwise specified.

Transportation Perspectives of Young Adults with IDD, Parents, and Service Providers (2)

Table 2. Adult Service and Local Education Agency Provider Demographic Information.

Pseudonym	Title	Organization	Description of services provided	Population range	Rural or urban
Caleb	Disability rights advocate	Center for Independent Living	Nonprofit, nonresidential organization that promotes equal opportunities for individuals with disabilities	70,000–80,000	Urban
Ellen	Transition specialist	Regional Office of Education	Grant program through the state's vocational rehabilitation and is employed by a regional office of education	70,000–80,000	Urban
Janet	Director	Nonprofit organization	National American 501c3 nonprofit organization providing a range of disability services across the United States	2,000,000–2,200,000	Urban
Jocelyn	Secondary special educator	Public high school	Special education services covered under IDEIA	4,000–5,000	Rural
Jolene	Human resource manager	Large retail store	History of employing individuals with disabilities	70,000–80,000	Urban
Kelly	Transition coordinator	Nonprofit organization	Residential, vocational development, employment, and therapeutic supports	50,000–60,000	Urban
Lindsey	Director	Community college interagency program	Adult program on a community college that serves adults with IDD ages 17+ with academic and vocational foci	140,000–150,000	Urban
Shelly	Independent living advocate	Center for Independent Living	Nonprofit, nonresidential organization that promotes equal opportunities for individuals with disabilities	70,000–80,000	Urban

Barriers to Transportation

Family Factors

- Few young adults with IDD drive
- Parents are integral to access transportation

Community Structure

- Fewer options in rural areas (distance)
- Accessibility varies greatly (population density)

Systems Challenges

- Need for effective transportation policies
- Lack of transition planning focused on transportation
- Challenges accessing specialized transportation services

Transportation and Quality of Life

"I think if we took transportation as a quality of life standard, and we took it seriously, a lot of us, we just take it for granted. But I think as institutions and systems, we would have these services at our school, helping provide this information. Really have a larger dialogue about transportation. I think this conversation needs to be a lot bigger."

- "Caleb," Center for Independent Living disability rights advocate in an urban city

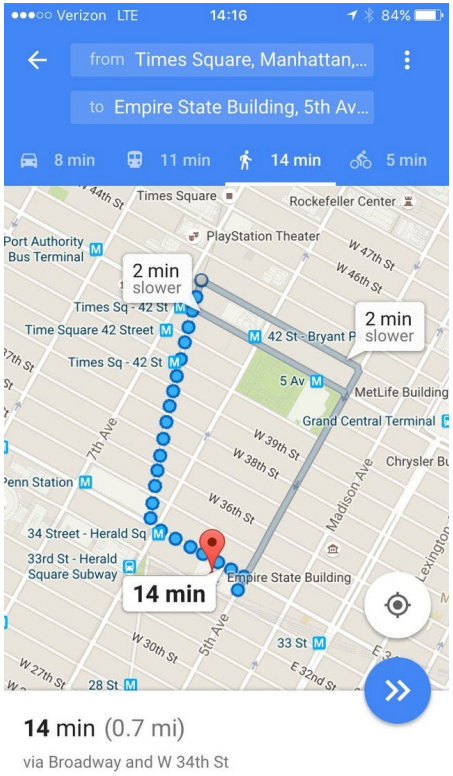
Teaching Travel Skills with a Ridesharing Application to Young Adults with IDD

Background/Rationale:

- Much of the transportation literature base for individuals with IDD focuses on learning **different modes of transportation** such as public transportation systems or walking navigation skills (McMahon et al., 2015).

- Technology-based interventions, visual supports, and chaining procedures are commonly used.

- Over 50% of individuals with IDD reported using some **type of application (app)** for transportation purposes but also reported needing additional training (Alanazi, 2022).



Ridesharing Applications as a Mode of Transportation

- Ridesharing apps have the potential to **reduce challenges** associated with disability-specific transportation options (e.g., long wait times for paratransit services, limited hours of operation).

- Individuals with disabilities who were **employed were more likely to use ridesharing apps** (Eisenberg et al., 2022).

Research Questions

1. What are the effects of **classroom and community instruction** to teach young adults with IDD to travel to community locations of their choice using a ridesharing ap (i.e., Lyft)?
2. To what extent are **travel skills** maintained at six. weeks following intervention cessation?
3. What is the **social validity** of young adults with IDD using a ridesharing app as a mode of transportation as reported b the young adults?

CHARLOTTE
CATO COLLEGE OF EDUCATION

Participants

	Jackson	Xander	Scott	Lola
Age, race/ethnicity, gender	20-year-old Black male	21 year-old Black male	22 year-old White male	21 year-old Black female
Disability Category	Moderate ID and ASD	Moderate ID	Moderate ID	Moderate ID
Primary mode of transportation	Public school bus and mother	Public school bus and father	Mother	Public school bus, city transit system, and parents
Places he/she likes visiting in community	Movies and Wal-Mart	Grocery store, donut shop, bank	Coffee shop, donut shop, and fast food restaurant	Shopping mall and other retails stores

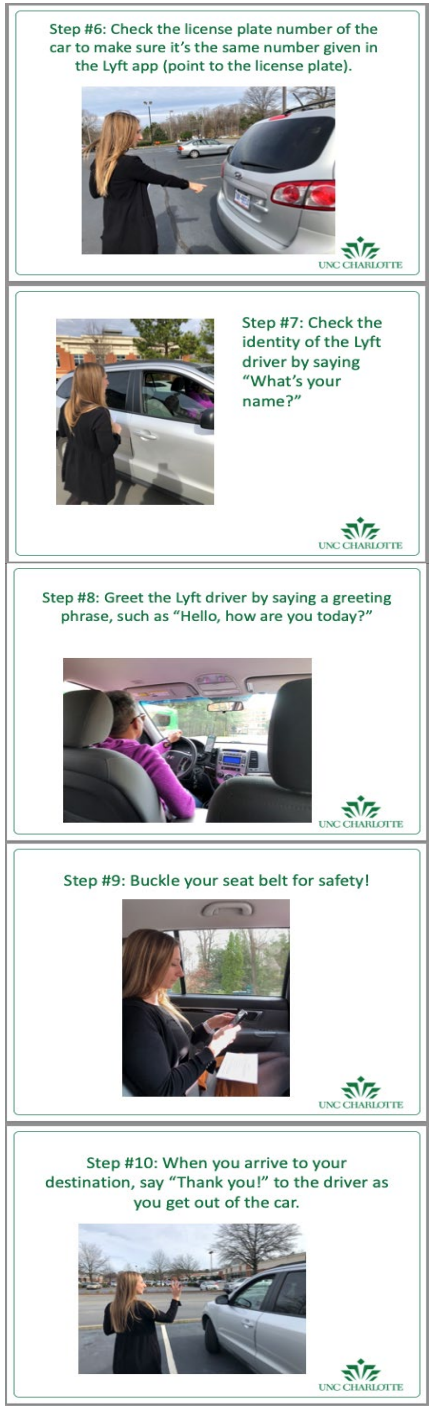
Settings

CHARLOTTE
CATO COLLEGE OF EDUCATION

Task Analysis for Using a Lyft

1. Open the Lyft app on the smart phone.
2. Type in the address where you want to go.
3. Select the type of Lyft car you would like.
4. Choose the “Select Lyft” button.
5. When the Lyft arrives at your location, check the car to make sure it has an official Lyft sticker somewhere on the car.
6. Check the license plate of the car that arrives to make sure it is the same license plate number provided to you in the Lyft app.
7. Check the identity of the Lyft driver by saying, “Are you [name]?” using the name provided to you in the Lyft app.
8. Greet the Lyft driver by giving a greeting phrase, such as, “Hello, how are you today?”
9. Buckle your seat belt when riding in the car.
10. When the car arrives at your destination, say, “Thank you!” to the driver as you get out of the car.

Materials



1- Location menu

2- Task analysis PowerPoint presentation

3- Task analysis visual support

Experimental Design and Variables

- The **independent variable** was classroom instruction and community-based instruction for students to learn the task analysis.
- The **dependent variable** was the number of steps completed independently on the 10-step task analysis to use a Lyft.

- We used a **multiple baseline across participants design** (Gast et al., 2018).
  - Each data point represents a one-way Lyft ride.
  - However, students participated in roundtrip Lyft rides during each data collection session meaning two data points were collected at a time.
  - A potential **functional relation** was determined if a minimum of three participants demonstrated an effect.

CHARLOTTE
CATO COLLEGE OF EDUCATION

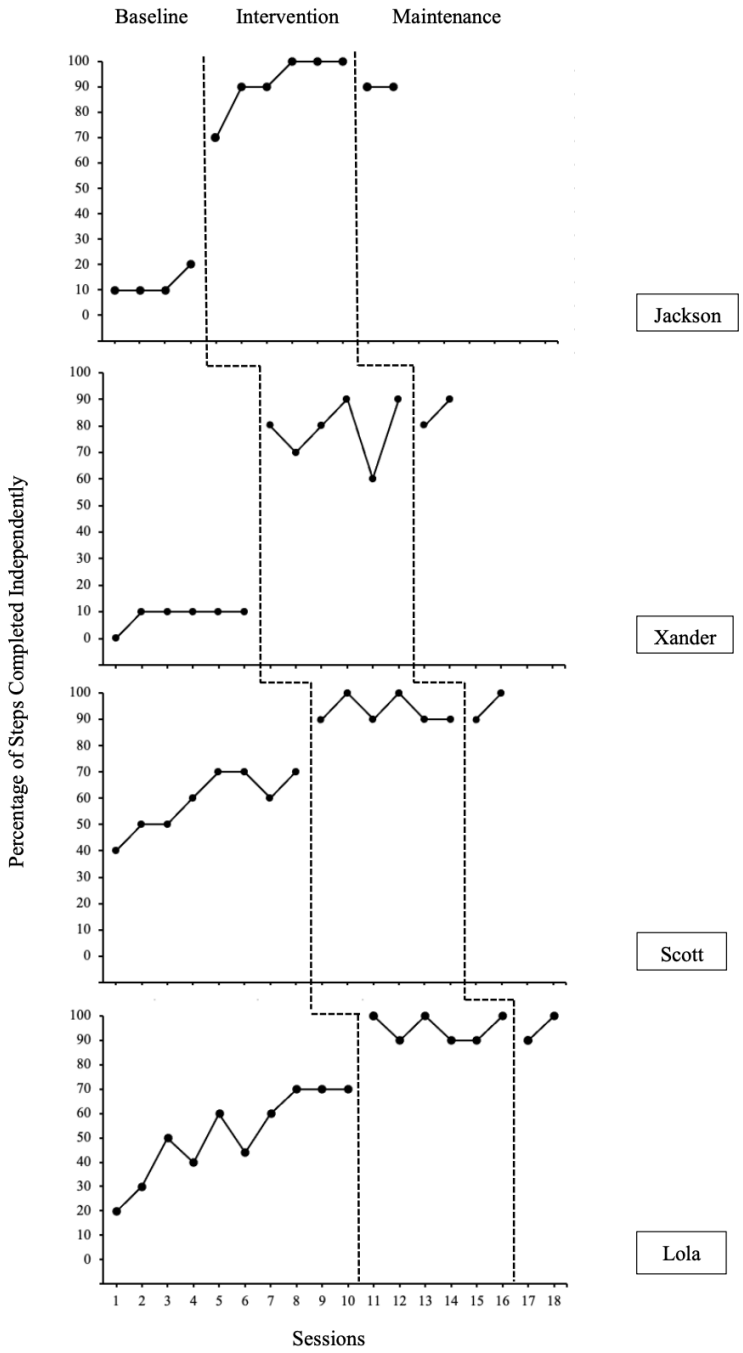
Interobserver Agreement (IOA)

- Three co-authors served as secondary data collectors for purposes of conducting IOA for a minimum of 30% of sessions across all participants (49% of baseline sessions and 33% of intervention sessions).
- The mean IOA across all participants was **99% (range = 90–100%)** during baseline and **99% (range = 92–100%)** during intervention.

Procedural Fidelity

- The teacher implemented the eight-step classroom instruction procedures across all four participants with an overall fidelity of **93.75% (range = 87.5–100%).**
- The first author implemented the five-step community-based instruction procedures across all four participants with an overall fidelity of **95% (range = 80–100%).**

Results



Note. Maintenance occurred six weeks following intervention.

Social Validity Questionnaire Statements	Jackson	Xander	Scott	Lola	Statement Mean
• I liked using the ridesharing application to travel to locations in my community.	4	4	3	3	3.5
• The ridesharing application was easy to use.	3	4	1	3	2.75
• I liked the classroom instruction to learn how to use the ridesharing application.	4	4	2	3	3.25
• I liked the community instruction to learn how to use the ridesharing application.	3	3	3	3	3
• I feel independent when I travel to locations on my own in the community.	4	4	3	4	3.75
• I like using a ridesharing application more than other methods of transportation (e.g., family car, public bus).	3	4	1	3	2.75
• I would like to continue using the ridesharing application after the study finishes.	4	1	3	3	2.75
• I would like to travel to even more locations in my community.	3	3	3	3	3

Note. 1 = Strongly disagree; 2 = Disagree; 3 = Agree; 4 = Strongly agree.

Quotes from Open-Ended Text Boxes on Social Validity Questionnaire

Question: What did you like about using Lyft?

Jackson: "I liked going to Harris Teeter."

Xander: "I had fun."

Scott: "I liked using the phone" and "I liked going to Starbuck's."

Lola: "I liked going places and meeting a lot of people."

Question: What was difficult about using Lyft?

Jackson: "I don't know."

Xander: "Nothing."

Scott: "The driver didn't have the [Lyft] sticker."

Lola: I don't like asking questions [to the driver]."

Discussion, Limitations, and Suggestions for Future Research

- Scott and Lola quickly acquired many steps during baseline except for the steps related to **safety** (e.g., Lyft sticker was present on the car, matching the license plate, and checking the driver's identity).
  - *This finding suggests that participants had existing app navigation skills and needed more explicit instruction in safety.*

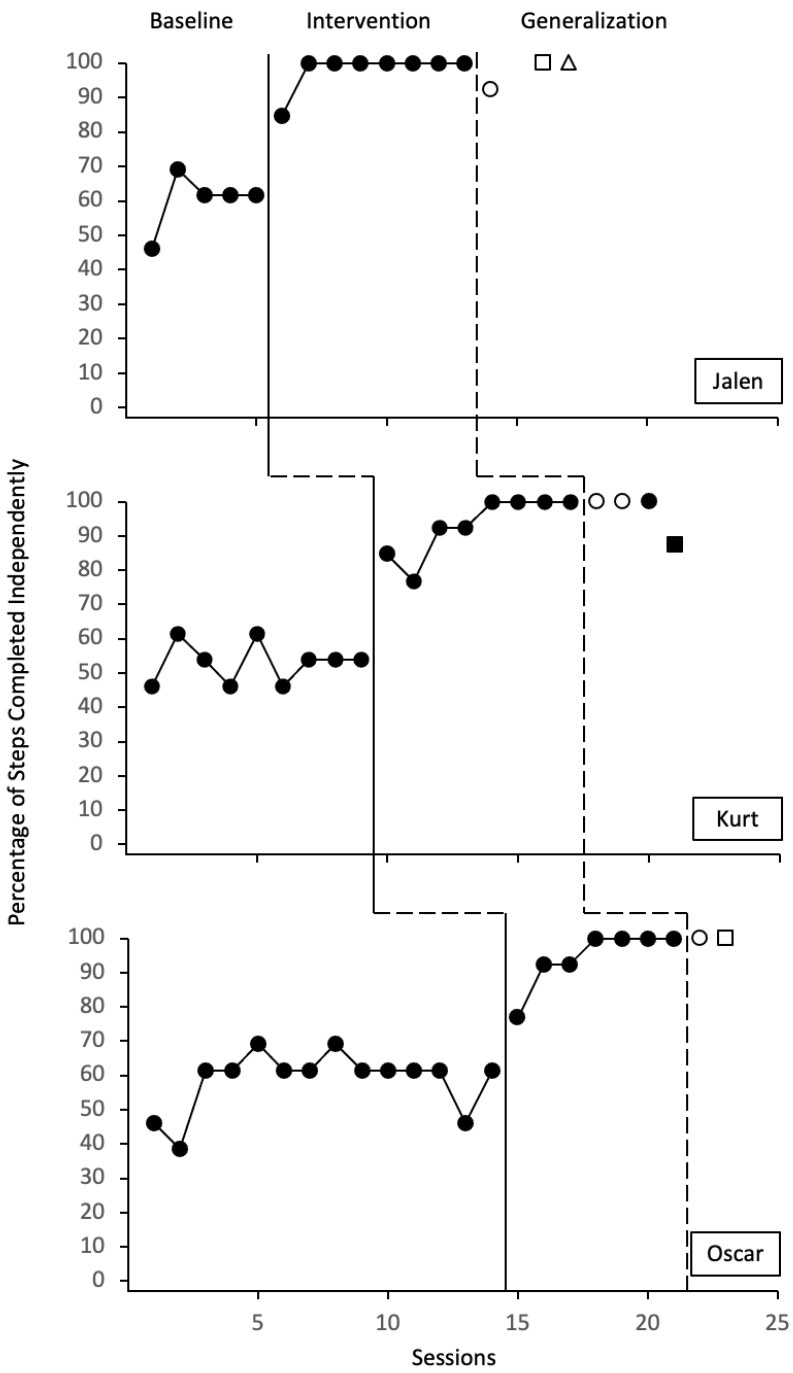
- Rideshare apps can be **expensive and limited in rural areas.**
  - *Future researchers should explore the extent to which the benefits (e.g., convenience) outweigh the costs compared to other modes of transportation.*

- We used **research team member smartphones** throughout the study:
  - *The devices of the young adults can be used in collaboration with parents/guardians.*

- Participants needed additional support with **problem solving in the community.**

Extended Rideshare Application Research at UNC Charlotte- Darcy Fredrick

- **Predictors of postschool success**
  - Parent involvement/expectations
  - Community based instructions
  - Self-determination
- **Individualized**
  - Young adults used their own devices (gift cards)
  - Young adults used Lyft to access authentic locations in their lives (e.g., work, school, YMCA)
- **Generalization**
  - Follow ride
  - Ride using “schedule ahead” features on the app
  - Ride to location novel to study (e.g., haircut)



Extended Rideshare Application Research at UNC Charlotte-Darcy Fredrick (2)

Open markers = Follow rides

Squares = Scheduled rides

Triangle = Rides to novel locations

In collaboration with families, travel skills training should be incorporated as a component of high-quality transition planning.

Thoughts, Ideas, Questions?

UNIVERSITY OF NORTH CAROLINA CHARLOTTE | CATO COLLEGE OF EDUCATION

easterseals

Contact Information:

Judy Shanley

jshanley@easterseals.com

Leslie Ann Bross

lbross@charlotte.edu

NCMM
National Center for Mobility Management

UNIVERSITY OF NORTH CAROLINA CHARLOTTE | CATO COLLEGE OF EDUCATION