Introduction

- Independence, confidence, and safety must be addressed within transportation for individuals with disabilities to feel included within their community.
- More than 1/3 of individuals with disabilities do not drive in the United States. [1]
- The SmartColumbus Mobility Assistance for People with Cognitive Disabilities (MAPCD) Study implements a personal navigation educational program for adults with cognitive disabilities using the individualized and accessible WayFinder GPS smartphone application.
- The MAPCD Study incorporated aspects of occupational therapy executive function learning theories and assessments based on the Executive Function Performance Test (EFPT) and the Cognitive Orientation to daily Occupational Performance (CO-OP).
- The EFPT is a validated measure used to gauge a person’s capability of executing cognitively stimulating tasks. The CO-OP approach is an intervention for individuals who have trouble completing everyday tasks and facilitates skill acquisition through a process of strategy use and guided discovery [2].
- Both frameworks allow individuals to learn in a safe environment and were integrated throughout the training within the project.

Objectives

1) The goal of the MAPCD training is to address the barriers that individuals with cognitive disabilities face to safe and independent community mobility.
2) The goal of this study is to client perceptions of the MAPCD travel participant trainings using participant feedback to improve the usefulness of the training and desirability of the app.

Methods

Design

- A descriptive and exploratory research designs with a single cohort design.
- Quantitative data, such as participant performance data of the travel route, was collected through the WayFinder app.
- Qualitative data, such as user perceptions of the app and training, was collected through focus groups and surveys.
- Training for the participants in MAPCD includes safety training, public transportation training, smartphone training, and WayFinder App Training.

Results

- The resources utilized for the training included PowerPoint presentations, discussions with the travelers and travel partners, quizzes, and online modules.
- All travel participants completed a baseline assessment of cognitive ability at the start of the study, which involved a questionnaire of previous ability and experiences, and a performance-based task evaluation.
- The training satisfaction survey questions and average responses are as follows:

<table>
<thead>
<tr>
<th>Training Type</th>
<th>Satisfaction Score</th>
<th>Average Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>COTA</td>
<td>17.2</td>
<td></td>
</tr>
<tr>
<td>Safety</td>
<td>17.2</td>
<td></td>
</tr>
<tr>
<td>Smartphone</td>
<td>17.4</td>
<td></td>
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<tr>
<td>WayFinder App</td>
<td>17.4</td>
<td></td>
</tr>
<tr>
<td>Public Transportation</td>
<td>17.7</td>
<td></td>
</tr>
</tbody>
</table>

An average score of 17.5 across all four trainings for each satisfaction survey indicates an overall positive perception that the training could translate to successful use of the WayFinder GPS application in the community.

- The COTA training, safety training, smartphone training, and WayFinder App training all received average scores near the upper end of the range, 18 (highest possible score), thus the participants indicated yes for most of the questions.
- The WayFinder app training received the highest perceived satisfaction (17.7), and the safety training received the lowest satisfaction (17.0).

Discussion

- The positive feedback about the COTA training may have been due to the interactive nature of the training facility which provided mock bus stops and boarding buses in a closed and safe area.
- A potential future direction towards improving participant perception towards the safety training component would be exploring other strategies that could be effective for simulated trainings like virtual reality educational programs.
- Exploring virtual reality (VR) as an option to train individuals on safe community mobility could increase the satisfaction of the participants by providing them with engaging learning tools in a safe and replicable environment [3].
- It is a possibility that the participants could have answered positively regardless of their true perceptions due to a desire to convey positive feelings towards others in hopes of social inclusion, impeding these results [4].
- Limitations included a small sample size and high rates of attrition throughout the training and into the implementation phases.

Conclusion

- The travel participants for the MAPCD study had an overall positive perception of the four different trainings for the WayFinder GPS application.
- High participant satisfaction has positive implications implementing successful training for adults with cognitive disabilities and could lead to a training framework for other studies involving this population.
- More research is needed to solidify these results due to the small existing body of evidence, and more innovative solutions using emerging technologies should be incorporated in trainings.

References


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