

VT Early Mobility Research in Review

“Exploring young children’s activity and participation change following 6 months’ power mobility experience”

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Primary Purpose:

to measure children’s ability to meet activity and participation goals after using an early power mobility device for six months.

Population: 46 children aged 13-68 months and their parents. All children had conditions that limited movement. The four condition groups were: cerebral palsy, neuromuscular, neurodegenerative, and stable neurological conditions.

Study Selection/Exclusion: Families/children were selected from a previous study that taught them about powered mobility.

Methods: Each child borrowed a power mobility device for 6 months (Wizzybug, Bugzi, Tiger Cub, or switch-adapted ride-on toys). They were trained on how to use it and had follow ups with physical and occupational therapists. Families completed the wheelchair outcome measure for young people (WhOM-YP) and assessment of learning powered mobility (ALP) before and after using the device.

Secondary Purposes:

1. Compare WhOM-YP scores to skill and environmental factors.

The WhOM-YP helps parents and children make goals related to their wheelchair or device.

2. Compare parent satisfaction and child skill

3. Compare parent and therapist expectation

What is an early power mobility device?

Some examples include switch-adapted ride-on toys and powered wheelchairs.

Research Limitations

- *Comparing subgroups of children was not done due to a small sample size.*
- *Powered mobility use and teaching was specific to each child and varied.*

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Results:

- Participation based family goals were met after using power mobility devices.
- Families were satisfied with **goal achievement**. Common goals were:
 - *Enjoying movement*
 - *Playing*
 - *Moving around in different environments*
 - *Increasing independence*
 - *Understanding direction*
 - *Learning how to use a joystick or switch*
- Higher skills acquired related to higher goal achievement.
- Parents and therapists were equally satisfied with goal achievement and power mobility use. They had similar hopes for goal achievement.
- There was no significant differences regarding goal achievement and skill amongst children of different ages, diagnosis, or mobility device used.
- Children at different phases of learning powered mobility had similar satisfaction and challenges. For example, those at a higher phase of learning would get frustrated when using multiple skills to complete a complex task
- Children in a lower phase of learning powered mobility required more help from adults.

How does movement impact participation?

Mobility helps children interact with their environment and others. Limited mobility causes participation limitations, which negatively impacts growth (Field et al., 2015).

Implications for our work:

Families and providers should create goals that are meaningful to the child and family. When helping a child learn to use a powered mobility device, it is important to know what phase of learning they are in. It is helpful to know what skills the child has and which ones they will need to use the device.

What are the benefits of early power mobility devices?

- Increased participation in school and home
- Completion of participation-based goals
- Increased social skills

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