Pedaling towards inclusion: Understanding the impact of adaptive biking

Jacquie Ripat[1], Cheryl Glazebrook[2], Danny Mann[3], Minoo Dabiri[4], McKenna Brown[5], Eve Alexiuk[5]

1:Professor, Department of Occupational Therapy, University of Manitoba, Winnipeg, Canada; 2:Professor, Faculty of Kinesiology and Recreation Management, University of Manitoba; 3:Professor, Department of Biosystems Engineering, University of Manitoba, Winnipeg, Canada; 4:Post-doctoral fellow, Department of Occupational Therapy, University of Manitoba, Winnipeg, Canada; 5:Research Assistant, University of Manitoba

Introduction

- Physical activity is an important aspect of healthy childhood development (1).
- People with neuromuscular conditions have fewer opportunities for physical activities (2).
- Biking is a common and lifelong leisure activity to promote physical activity.

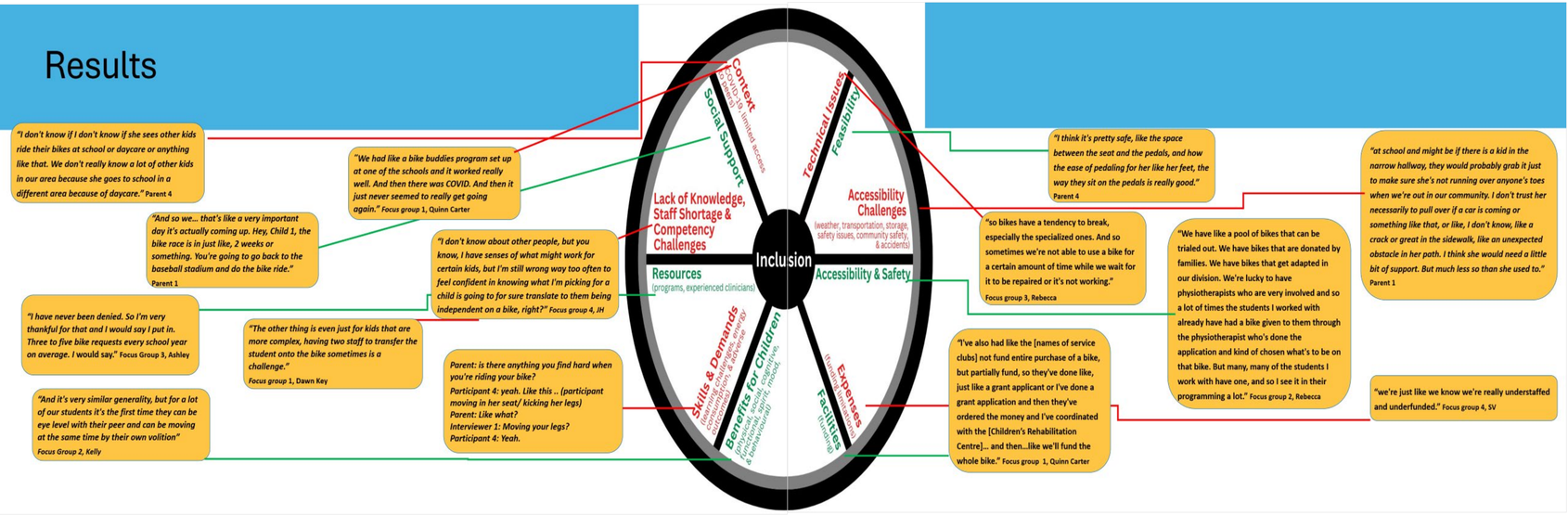
Objectives

1) To identify changes in physical, psychosocial, and functional status that clinicians attribute to adaptive biking;
2) To gain an understanding of the effects of adapted biking on children's self-perceived social participation, physical status, and quality of life; and
3) To identify environmental barriers that impact access and opportunity to bike regularly.

Methods

- ✓ Mixed method qualitative descriptive approach
- ✓ Four online focus groups (each 2-6 occupational therapists or physiotherapists experienced with adapted bikes, recruited from across Canada)
- ✓ Five interviews with dyads, consisting of a child with experience in biking and their parent/caregiver
- ✓ Inductive thematic analysis

Results



Discussion

- ✓ The core finding supported the important role adapted bikes have in supporting inclusion.
- ✓ Adapted bikes have numerous additional benefits for children, including functional, cognitive, social, affective, and behavioural benefits.
- ✓ Findings show how restricting factors can become facilitators.
- ✓ Families' and clinicians' insights indicate the importance of developing clinical practice guidelines for assessing and using adapted bikes as an intervention.
- ✓ We aim to expand access to adaptive biking for more children and adults with neuromuscular conditions.

Acknowledgements

The authors would like to acknowledge funding received from the University of Manitoba Research Grants Program, the contributions of Freedom Concepts Inc., and the experts, family members, and children who participated in this study.

References

1. Public Health Agency of Canada. (2011). Retrieved October 1, 2018, from Benefits of Physical Activity website: https://www.canada.ca/en/public-health/services/being-active/physical-activity-your-health.html
2. Mohanty, P., Meshram, N., & Pattnaik, M. (2015). Comparison of dynamic cycling vs static cycling on endurance, balance and walking ability in children with cerebral palsy. International Journal of Physiotherapy and Research, 3(4), 1163–1170.
3. Klein, R. E., McHugh, E., Harrington, S. L., Davis, T., & Lieberman, L. J. (2005). Adapted bicycles for teaching riding skills. TEACHING Exceptional Children, 37(6), 50–56. https://doi.org/10.1177/004005990503700606