



The Effects of Adapted Fitness on Community Participation

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Introduction

Background:

- Due to social, environmental, and activity demand barriers, children with disabilities participate less frequently and in fewer types of community activities compared to their typically-developing peers^{1,2}
- Community participation is linked to quality of life, well-being, and psychosocial benefits³
- Adapted fitness programs provide environmental adaptations and social support to enhance the involvement of children with disabilities in physical activity which, in turn, may facilitate increased community participation⁴

Purpose:

- To investigate whether participation in an adapted fitness program increases the frequency of, quality of, and satisfaction with community participation among children with disabilities, ages 7-17 years

Research Design & Methods

Study Design:

- One group pre-test post-test quasi-experimental

Participants:

- 16 children, ages 7-17 years, with a variety of physical, behavioral, and developmental disabilities who participated in "No Limits Kids," an 8-week adapted fitness program

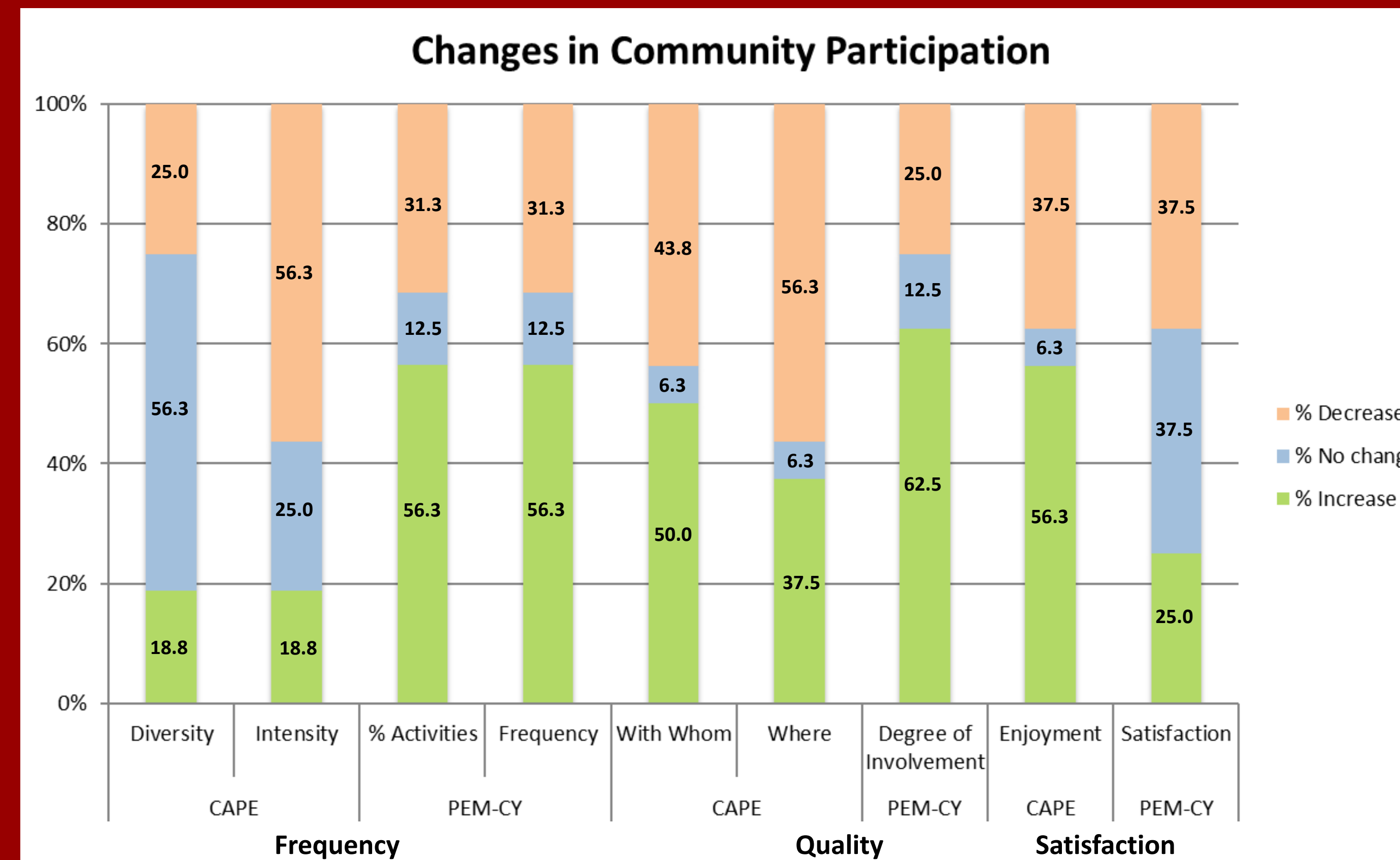
Measures:

- The Children's Assessment of Participation and Enjoyment (CAPE)
- The Participation and Environment Measure for Children and Youth (PEM-CY)

Analysis:

- 9 assessment items were organized into frequency, quality, and satisfaction constructs for analysis
- Increases, no change, and decreases in community participation scores were assessed using frequency counts across the three constructs

Results & Discussion



CAPE and PEM-CY Data:

- Changes in frequency of, quality of, and satisfaction with community participation varied across assessments
- Consistency of reporting among participants was measured as change in the same direction for the majority of items within each measured construct. Findings suggest:
 - ◆ Larger percentage of participants consistently decreased in frequency of (21.4%) and satisfaction with (33.3%) community participation rather than increased (frequency = 13.3%; satisfaction = 18.2%)
 - ◆ Larger percentage of participants consistently increased in the quality of community participation (69.2%) compared to those who consistently decreased (46.2%), indicating a positive change in the characteristics of community participation (engaged in more activities outside of their families and in more public/community settings)

Post-hoc Analyses:

Canadian Occupational Performance Measure (COPM) scores and interview transcripts for 5 participants who demonstrated consistent changes in measures of community participation were further analyzed to gain insight into their experience (Table 1)

- COPM change scores and interviews more frequently revealed increases in performance and satisfaction, but these were not always consistent with CAPE and PEM-CY scores

Data were also examined using child functional status as a potential explanatory variable

- CAPE and PEM-CY scores did not demonstrate a clear pattern based on child's functional level (from demographic information)

Table 1. Change Scores Among 5 Participants Who Demonstrated Consistency Across Constructs within Domains

ID	Frequency				Quality			Satisfaction		COPM	
	CAPE_1: "Have you done this activity in the past four months?"	CAPE_2: "How often?"	PEM-CY_1: "Typically, how often does your child participate...?"	PEM-CY_2: "How involved is your child...?"	CAPE_3: With whom	CAPE_4: Where	PEM-CY_3: Would you like your child's participation to change?	Performance	Satisfaction		
9	-0.05	-0.23	0.2	0.67	1.29	0.04	1.17	-0.06	0	2.25	0.25
13	0	-0.03	0.3	0	0.67	-0.11	0.25	0.22	-0.1	3.25	3
20	-0.03	-0.20	0	0.13	0.13	0.42	-0.5	0.43	0.1	1.4	-0.6
25	0.05	0.65	0.2	1.2	-0.57	0.46	0.4	0.14	0	0.6	0
40	-0.13	-0.56	0.1	-0.43	-0.04	-0.31	0.1	-0.09	-0.37	2.6	3.2

Key: Green = consistent increase within domain; Blue = consistent no change within domain; Red = consistent decrease within domain



Photographs courtesy of the UW-Madison Department of Kinesiology website for the "No Limits Kids" program

Conclusions

- Wide variability on the CAPE and PEM-CY measures prompted post-hoc analyses of interview transcripts and COPM change scores
Most children and parents perceived psychosocial and physical performance improvements and were satisfied with the outcomes of the "No Limits Kids" program
- Limited changes in the CAPE and PEM-CY scores may be the result of the short program time frame, use of measures not sensitive enough to detect change, and/or response bias
- Consistent with previous findings, adapted fitness programs involve children with disabilities who have a wide range of needs and experiences
- Overcoming individual and environmental barriers is critical to increasing community participation

Implications for Practice

- Occupational therapists have the expertise to develop targeted and individualized activities or environmental adaptations as a part of adapted fitness programs to accomplish the goal of increasing community participation
- Anecdotal evidence and positive feedback on children's experiences in adapted fitness can help foster support and funding opportunities for promoting such interventions

References

1. Bedell, G., Coster, W., Law, M., Liljenquist, K., Y.-C., Teplicky, R.,...Khetani, M. A. (2013). Community participation, supports, and barriers of school-age children with and without disabilities. *Archives of Physical Medicine and Rehabilitation, 94*(2), 315-323. doi: 10.1016/j.apmr.2012.09.024
2. King, G., Law, M., Hurley, P., Petrenchik, T., & Schwelunus, H. (2010). A developmental comparison of the out-of-school recreation and leisure activity participation of boys and girls with and without physical disabilities. *International Journal of Disability, Development, and Education, 57*(1), 77-107. doi: 10.1080/10349120903537988
3. Murphy, N. A., & Carbone, P. S. (2008). Promoting the participation of children with disabilities in sports, recreation, and physical activities. *Pediatrics, 121*(5), 1057-1061. doi: 10.1542/peds.2008-0566
4. Bloemen, M. A., Backx, F. J. G., Takken, T., Wittink, H., Benner, J., Mollema, J., & DeGroot, J. F. (2014). Factors associated with physical activity in children and adolescents with a physical disability: A systematic review. *Developmental Medicine & Child Neurology, 57*(2), 137-148. doi: 10.1111/dmen.12624

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