UNIVERSITY of WASHINGTON

START-Play
Sitting Together & Reaching to Play

Development of Adaptive Behavior in Infants and Toddlers with Neuromotor Delay

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Background

- **Adaptive behavior (AB)** is the ability to integrate conceptual, social, and practical skills and perform them appropriately while facing tasks in daily life.
- Effective ABs help children to participate in, respond to, and engage with their **physical and social environment**.
- Previous research suggests AB is a significant **predictor of gross motor** and **self care** ability in young children with cerebral palsy. However, there is limited research describing AB in infants and toddlers with neuromotor delay.

Purpose: To describe AB during daily activities and how those behaviors change over one year in infants and toddlers with neuromotor delay.

Method

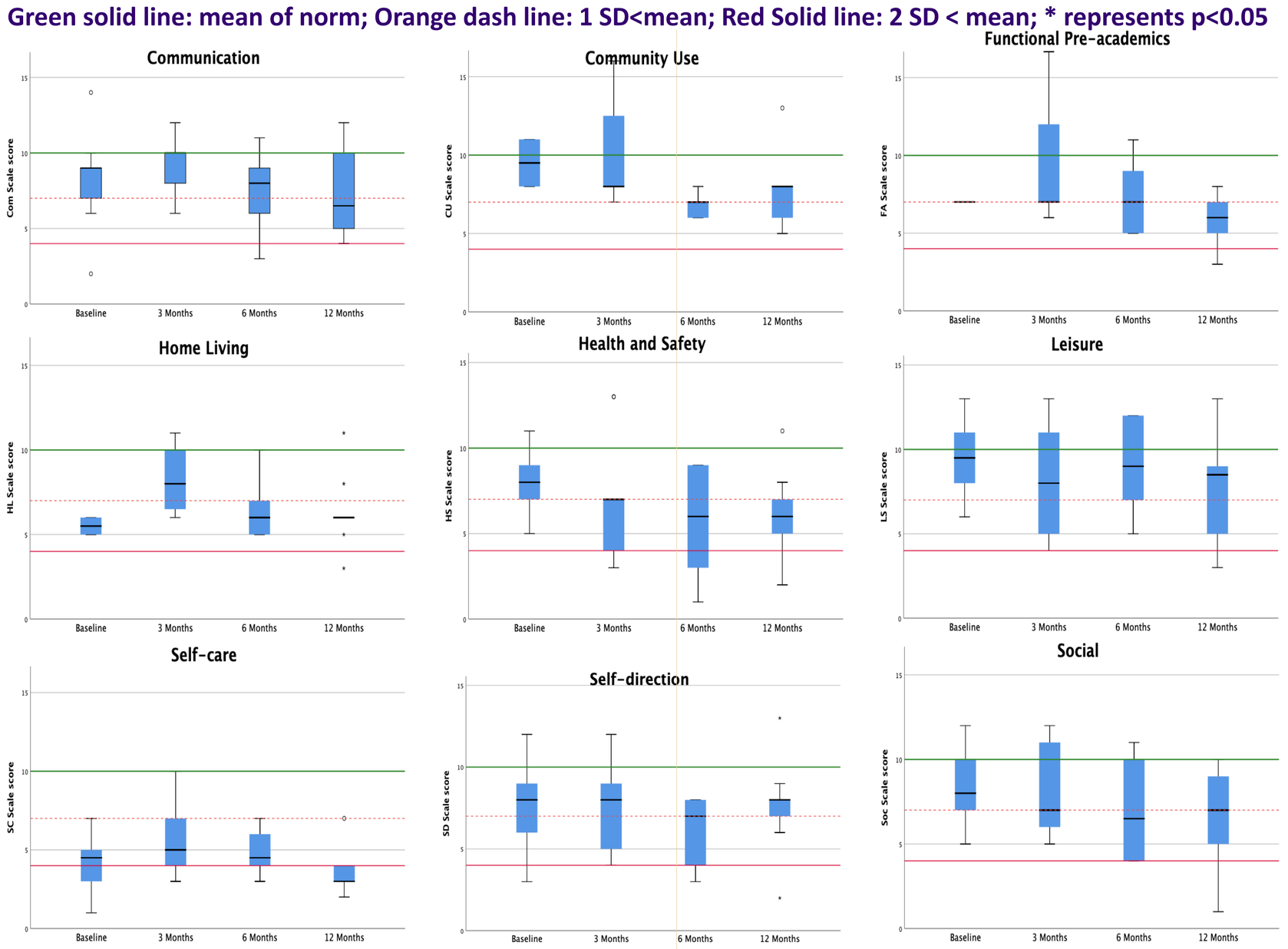
Participants

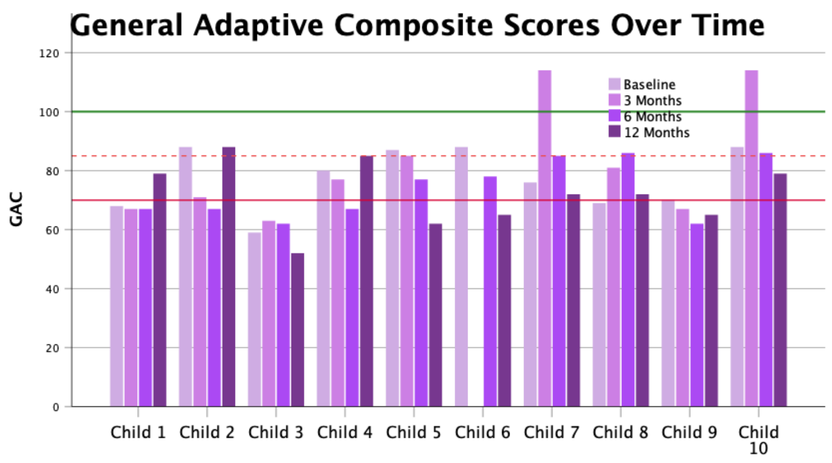
- Convenience sample of 10 infants with neuromotor delay verified by the Bayley Scales of Infant and Toddler Development, 3rd Ed. (Bayley-III) motor scores from the larger **START-Play** randomized controlled trial (Harbourne, et al., 2018).

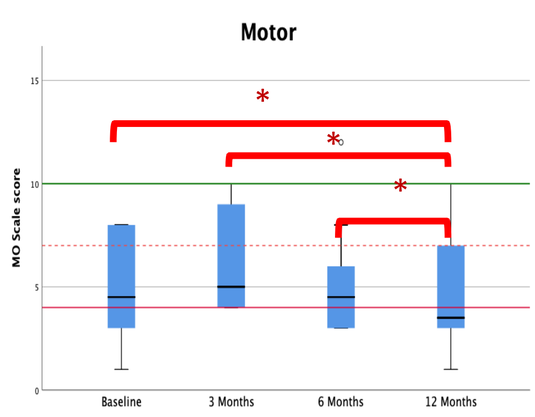
CHARACTERISTIC	(n=10)
Corrected age in months, Mean (SD)	92.6 (9.1)
Sex, n of females	6
Ethnicity/Race, n	
Caucasian	5
Asian	1
Spanish/Hispanic	3
African American	1
Parent education level, n	
Less than high school	0.0
High school diploma	2
Some college	2
College or Professional degree	6
Bayley-III Motor, n of < 1 SD	10
Gross Motor Function Classification System, %	
Level II	4
Level III	3
Level IV	3

Results: AB Functions Over Time

Green solid line: mean of norm; Orange dash line: 1 SD<mean; Red Solid line: 2 SD < mean; * represents p<0.05







Procedure:

- 4 assessments in one year in children's homes.
- Parents completed the Bayley-III AB questionnaire.

Bayley-III AB:

- Measures children's ABs relative to scales that examine responses to communication (Com), community use (CU), functional pre-academics (FA), home living (HL), health and safety (HS), leisure (LS), self-care (SC), self-direction (SD), social (Soc) and motor (MO). Higher scores represent better function.

Data Analysis:

- Compared with the normative data from test developers
- Scores of change over time were analyzed using Friedmen tests.

Conclusions

- Children with neuromotor delay showed difficulties in ABs, especially in self-care and motor domains in their early age.
- At least 50% of infants and toddlers had some problems in functional pre-academics, home living, health and safety, self-care, social, and motor domains, and across time, they appeared to have greater difficulties in AB functions.
- ***Medical professionals should consider assessments for early onset limitations in AB and development of intervention strategies.***

Acknowledgement:
This project was supported by Efficacy of the START-Play Program for Infants with Neuromotor Disorders. Harbourne, R and Galloway JC (Overall Co-PIs), Boviard J, Dusing S, Lobo M, McCoy SW, Sheridan S. Department of Education Institute of Education Sciences, R324A150103