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## Measuring Outcomes of Occupational Therapy Facilitated in Natural Settings with Young Children

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# MEASURING OUTCOMES OF OCCUPATIONAL THERAPY FACILITATED IN NATURAL SETTINGS WITH YOUNG CHILDREN



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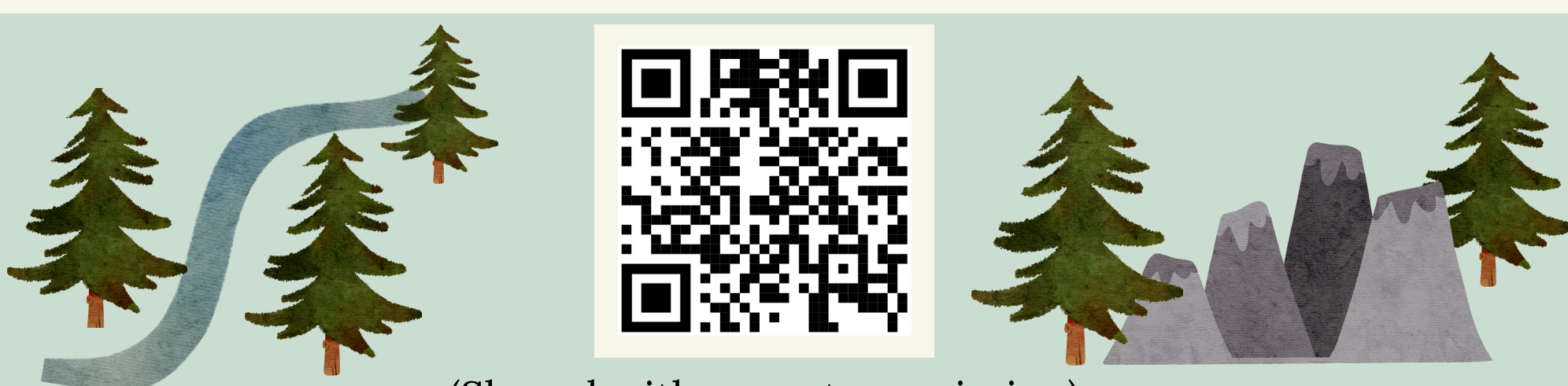
## INTRODUCTION

- The purpose of this study is to examine if OT intervention, facilitated in the unique environment of Natural Settings, facilitates children's ability to develop self-regulation, social skills, motor skills, confidence, and sensory skills.
- Natural Settings (NS)** = "outdoor environments that retain their uncultivated features and have been relatively untouched by human development" (Park Figueroa, 2020, p. 2).
- While benefits of spending time outdoors has been well researched in other fields, there is limited research exploring the benefits of skilled OT facilitated in the outdoors, let alone NS.

## METHODOLOGY

- Quantitative, quasi-experimental pretest/posttest design.
- Seven children, 5 to 12 yo, participating in Friendship Explorations, an 8-week after school outdoor program facilitated by an Occupational Therapist.
- Pre/Post Test Measures:
  - Modified COPM:** includes parent report on self-regulation, social skills, motor skills, confidence, and sensory skills
  - BOT-2:** Balance and Catching Subtests
  - Log Climb:** observation based measures of **Speed**, **Efficiency**, and **Quality** of movement

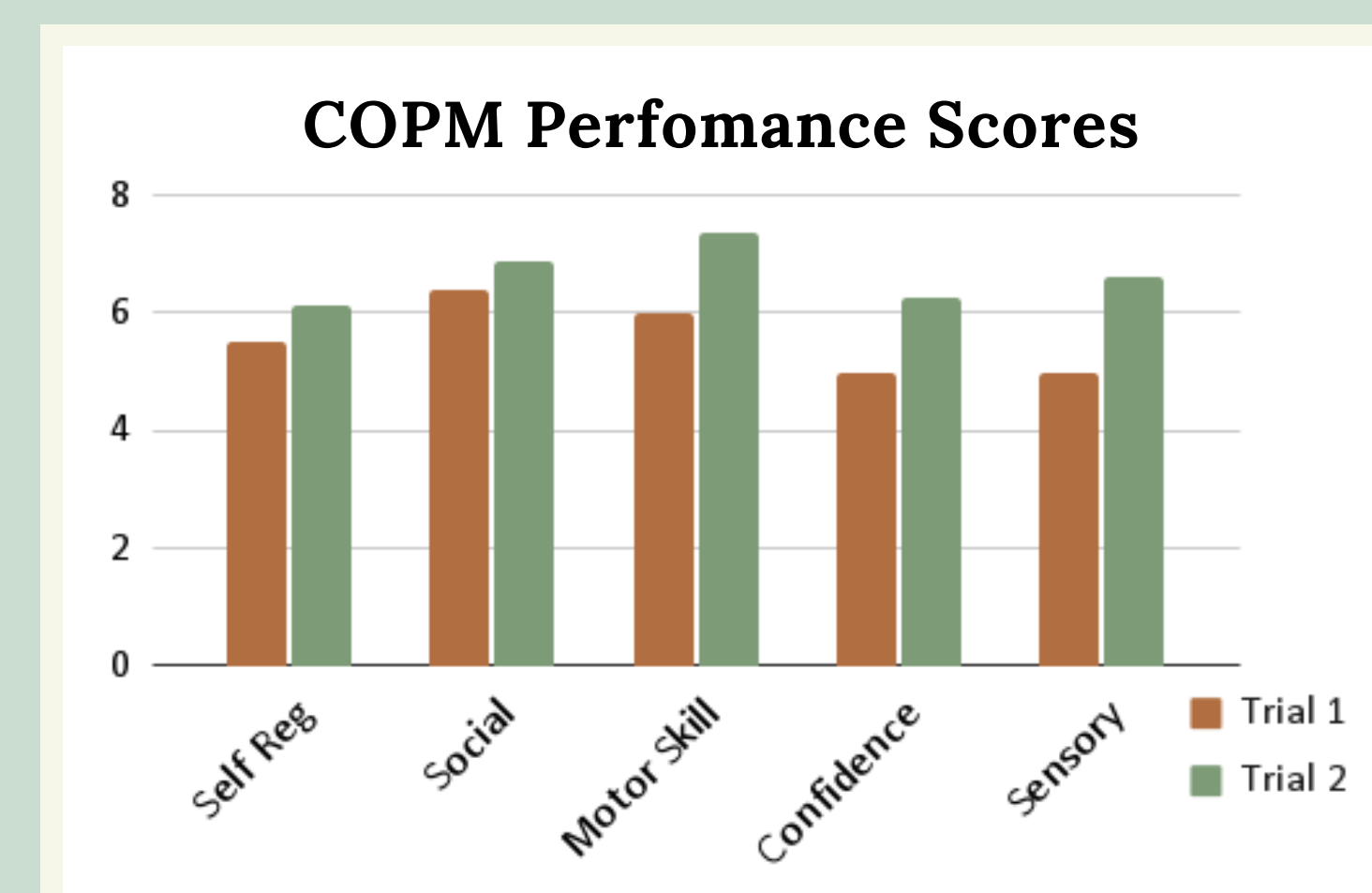
Watch a Pre/Post Log Climb Video



(Shared with parent permission)

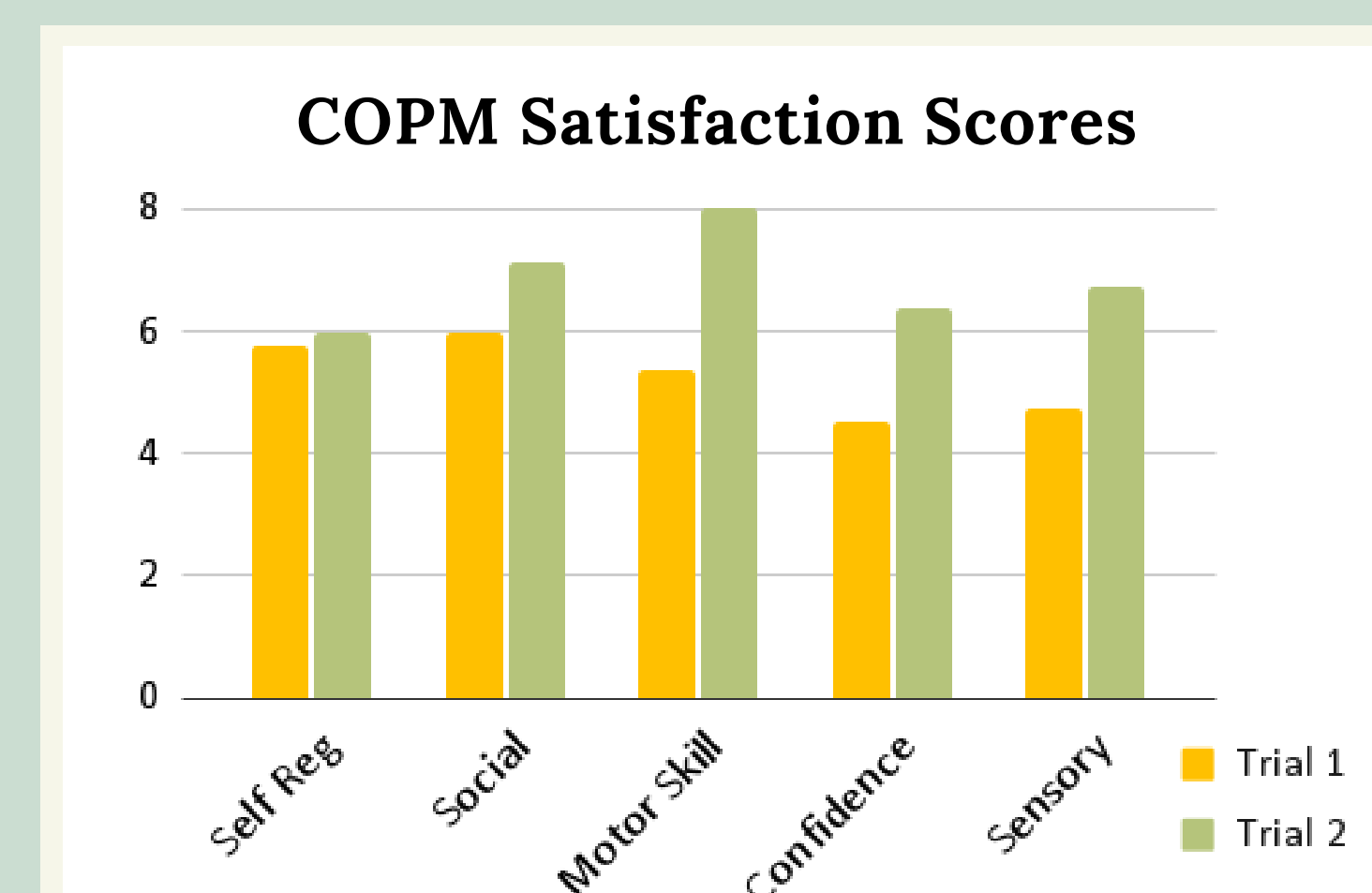
## RESULTS

### MODIFIED COPM



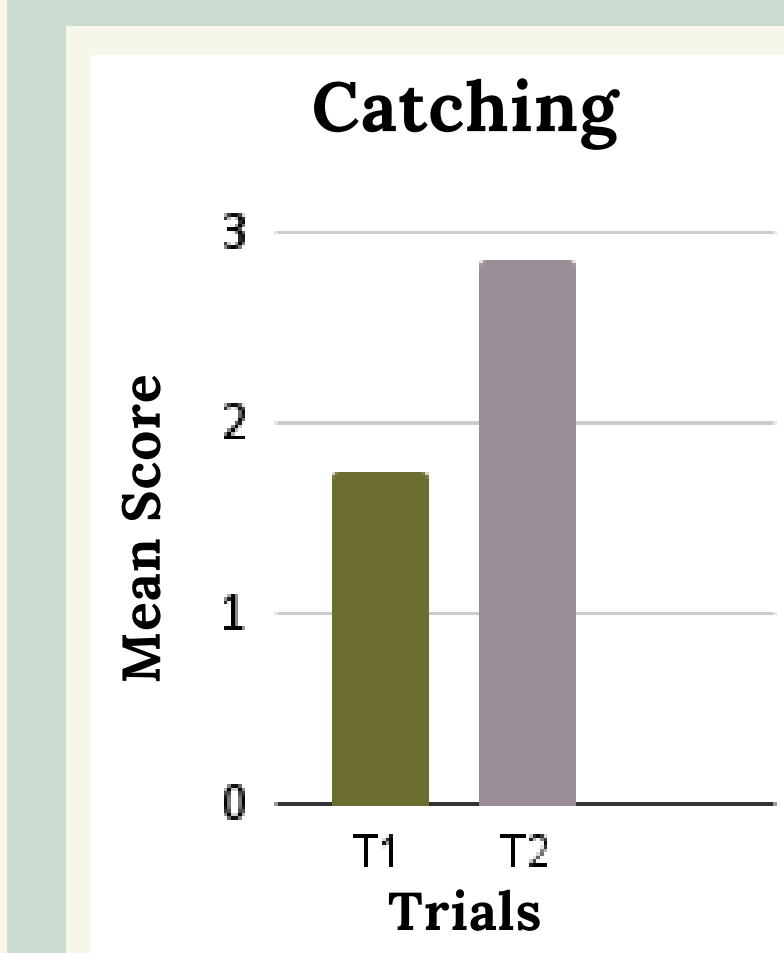
All five areas assessed with the COPM showed an improvement.

In order for COPM results to be clinically significant, change scores ( $\Delta$ ) must be greater than or equal to 2 ( $\Delta \geq 2$ ).



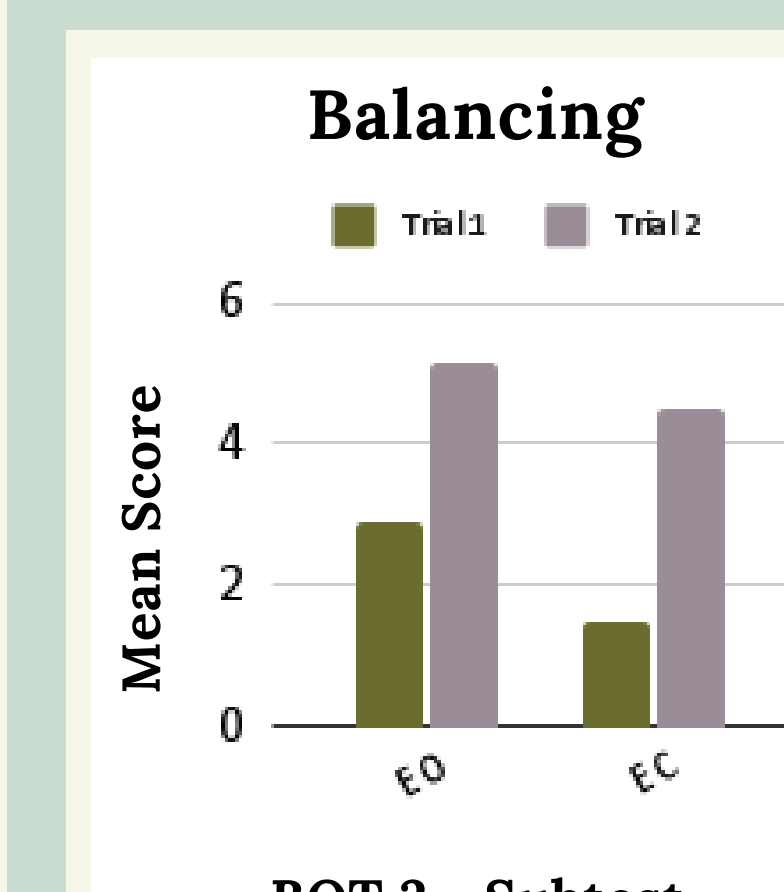
Parent Satisfaction scores in participants Motor Skill ( $\Delta=2.62$ ) & Sensory Processing ( $\Delta=2$ ).

### BOT-2



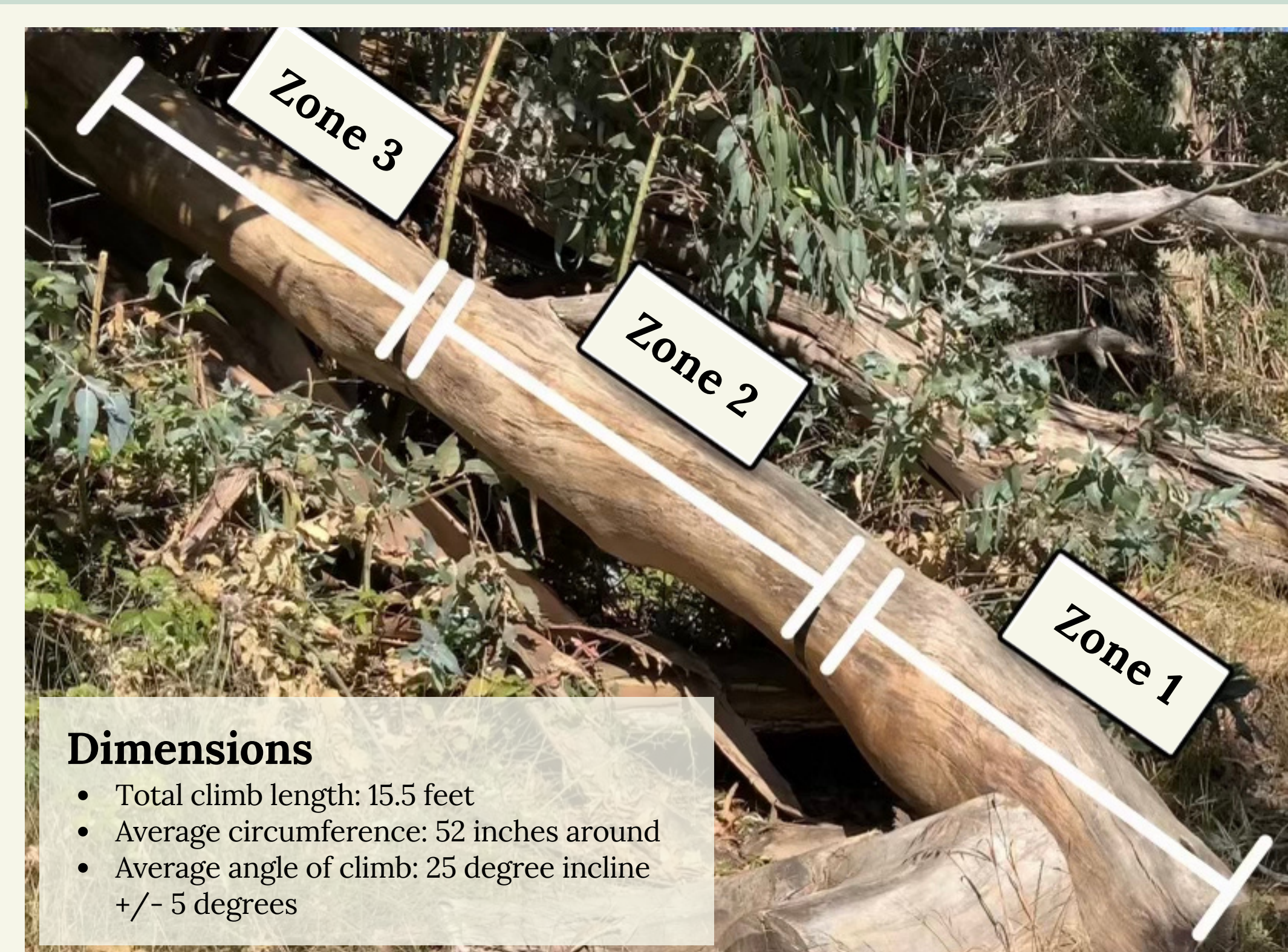
Balance and Catching assessed with BOT-2 showed an improvement.

Balance scores showed significant change in Trial 1 to Trial 2 with a score of 2.875 to 5.143 with eyes open (EO), and a score of 1.5 to 4.5 with eyes closed (EC).



Average catching scores increased from 1.75 to 2.86 from Trial 1 to 2.

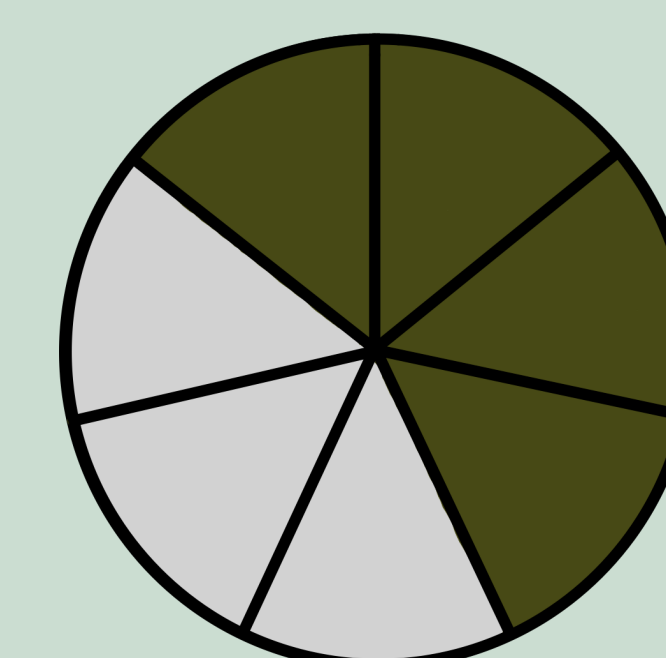
### LOG CLIMB



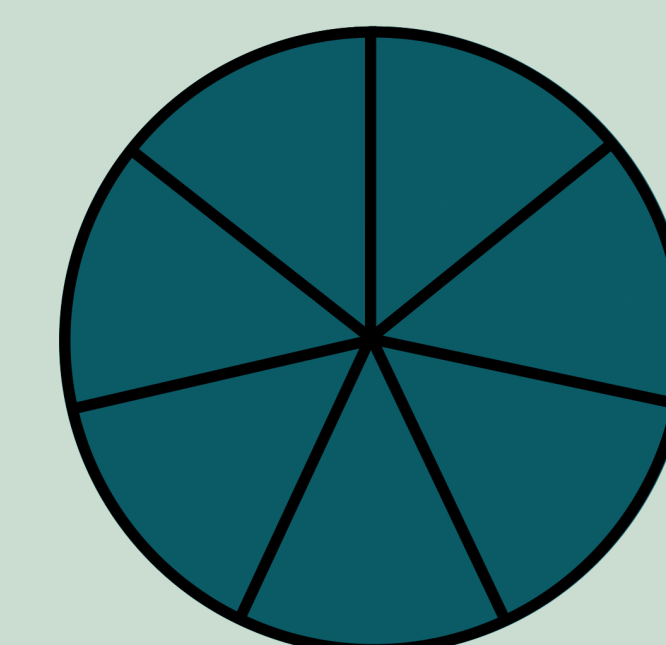
#### Log Climb Measures:

- Speed:** duration of ascent (seconds)
- Efficiency:** hand and foot touch points during ascent (total number)
- Quality:** movement categorized as disorganized or organized (organized includes: homologous, homolateral, and contralateral)

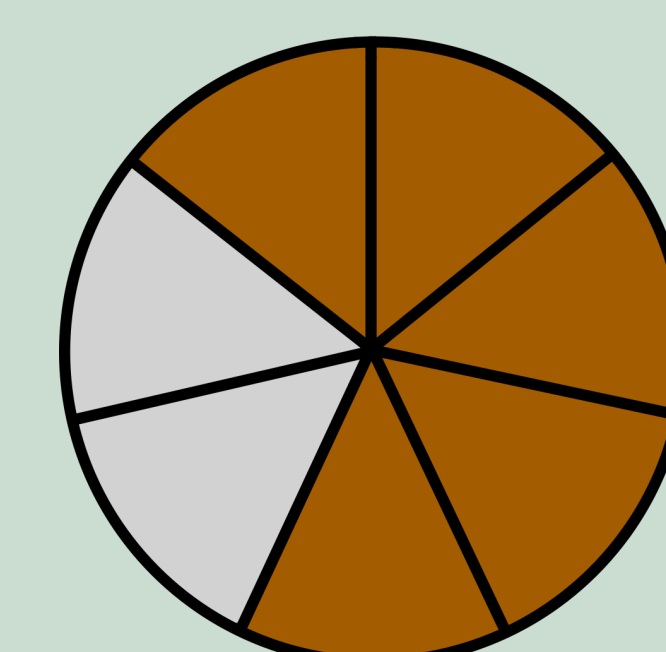
#### Individual Improvement Trial 1→Trial 2



Improvement in **speed** was seen in at least one zone for **4 of 7** children.



Improvement was seen in **efficiency** in at least one zone by **all 7** children.



Improvement in **quality** of movement (from disorganized to organized) was seen in **5 of 7** children.

## CONCLUSION

- Modified COPM: Majority of parents reported improvement in average scores addressing self-regulation, social skills, motor skills, confidence, and sensory skills. Overall improvement of satisfaction scores in Motor & Sensory sections were clinically significant.
- BOT-2: Average mean scores of participants improved for both balance and catching.
- Log Climb: Trial comparison for each individual child improved overall in every measure (**Speed**, **Efficiency**, and **Quality**).

## IMPLICATIONS

- In this study we have shown preliminary evidence of the benefits of OT facilitated in NS.
- OTs have opportunities to skillfully scaffold children's development in NS.
- OTs adapt environments and tasks to best support a client's function and growth.
- Pairing the dynamic environment of NS with skilled OT intervention is an under researched topic that warrants further exploration.

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