

## Background & Rationale

**CASP:** Measures extent to which children participate in home, school and community activities compared to children of the same age as reported by child's caregiver<sup>1</sup>

- Initially developed for children/youth with traumatic brain injury (TBI) and has reliability and validity evidence<sup>1,2</sup>
- 20 items across 4 sections, rated on a 4 point scale (1=unable; 2=very limited; 3=somewhat limited; 4=full/age expected participation)

### Previous research:

- Children and youth with TBI are more restricted in participation as compared to those without TBI<sup>1,2,4,5</sup>
- Children with TBI more restricted in more complex activities compared to more routine activities<sup>1-3</sup>

### Rationale for study:

- Participation is a key aim in rehabilitation
- Responsiveness of CASP items has not been examined
- Examining responsiveness of individual items can help depict patterns of change in specific activities in different types of settings over time
- Identifying patterns of participation change might help direct where potential resources, programs, services, or interventions are needed

## Research Objectives

1. Examine the responsiveness (change) of the items of the CASP for youth with moderate to severe TBI over a 3-year period
2. Describe the patterns of participation and patterns of change in participation over time as reflected by the CASP item scores
3. Compare the patterns across the four sections of the CASP over a 3-year period

## Sample, Procedures & Methods

**Sample:** 48 youth with moderate/severe TBI drawn from larger Rivara et al. longitudinal study (n=769)<sup>5</sup>

- Youth from 3 different hospitals (in WA & PA); admitted between Mar 1, 2007 & Sept 30, 2008.
- Ages: 12 - 18 (mean 15.5);
- Sex: Male N = 33, Female N = 15;
- Race/ethnicity: Asian: 1, Black/AA: 7, Hispanic/Latino: 3, Other: 6, White: 31;
- TBI severity: Moderate TBI: N = 40, Severe TBI: N = 8,

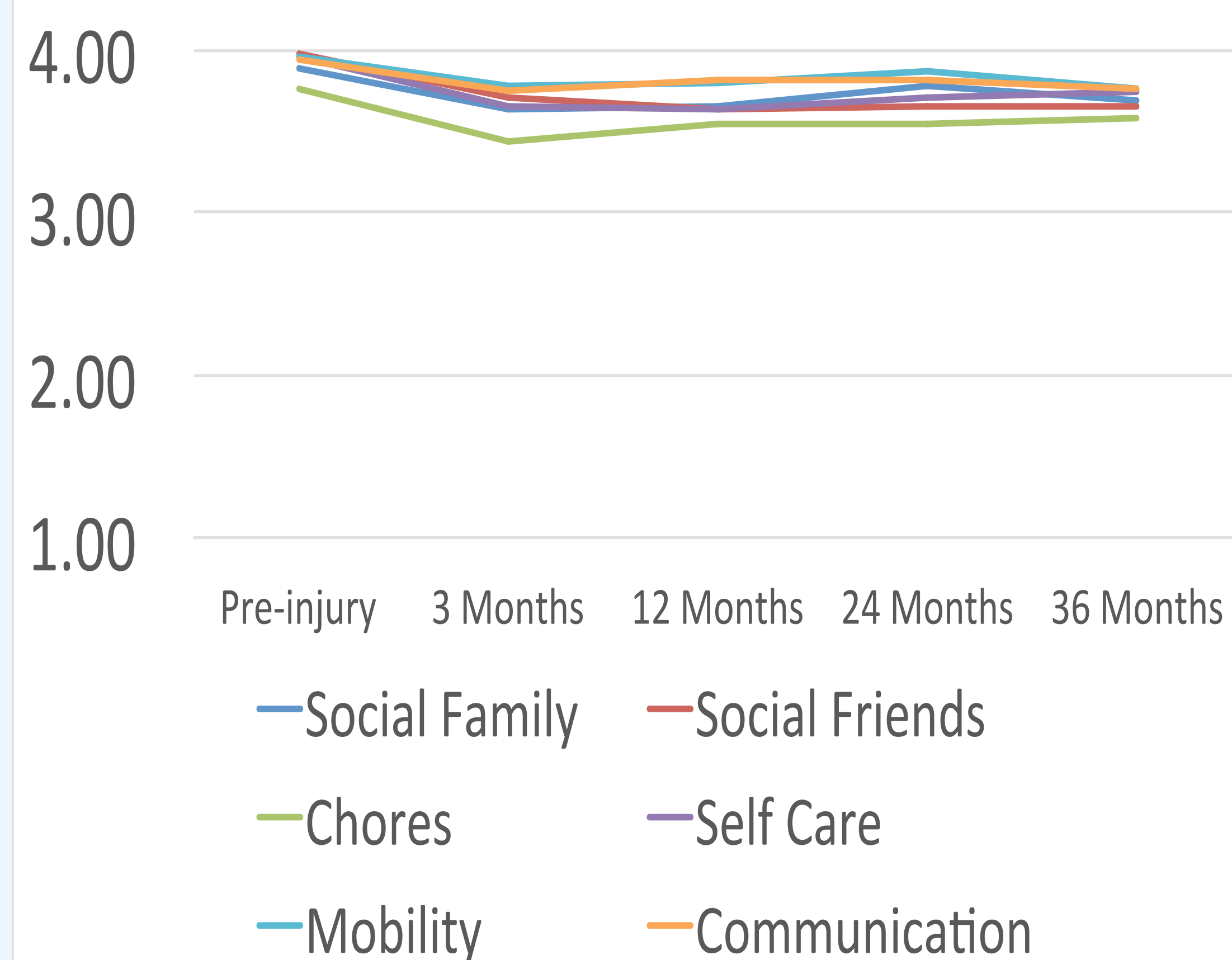
**Study design:** Descriptive, longitudinal

**Descriptive Statistics:** Means, Standard Deviation (SD), Cohen's d effect sizes (pre-injury to 3 months, pre-injury to 36 months, and 3 to 36 months)

**Effect sizes:** Negligible: <0.2; Small: 0.2; Medium: 0.5; Large: ≥ 0.8 (↑ scores increased; ↓ scores decreased)

## Results

### Home



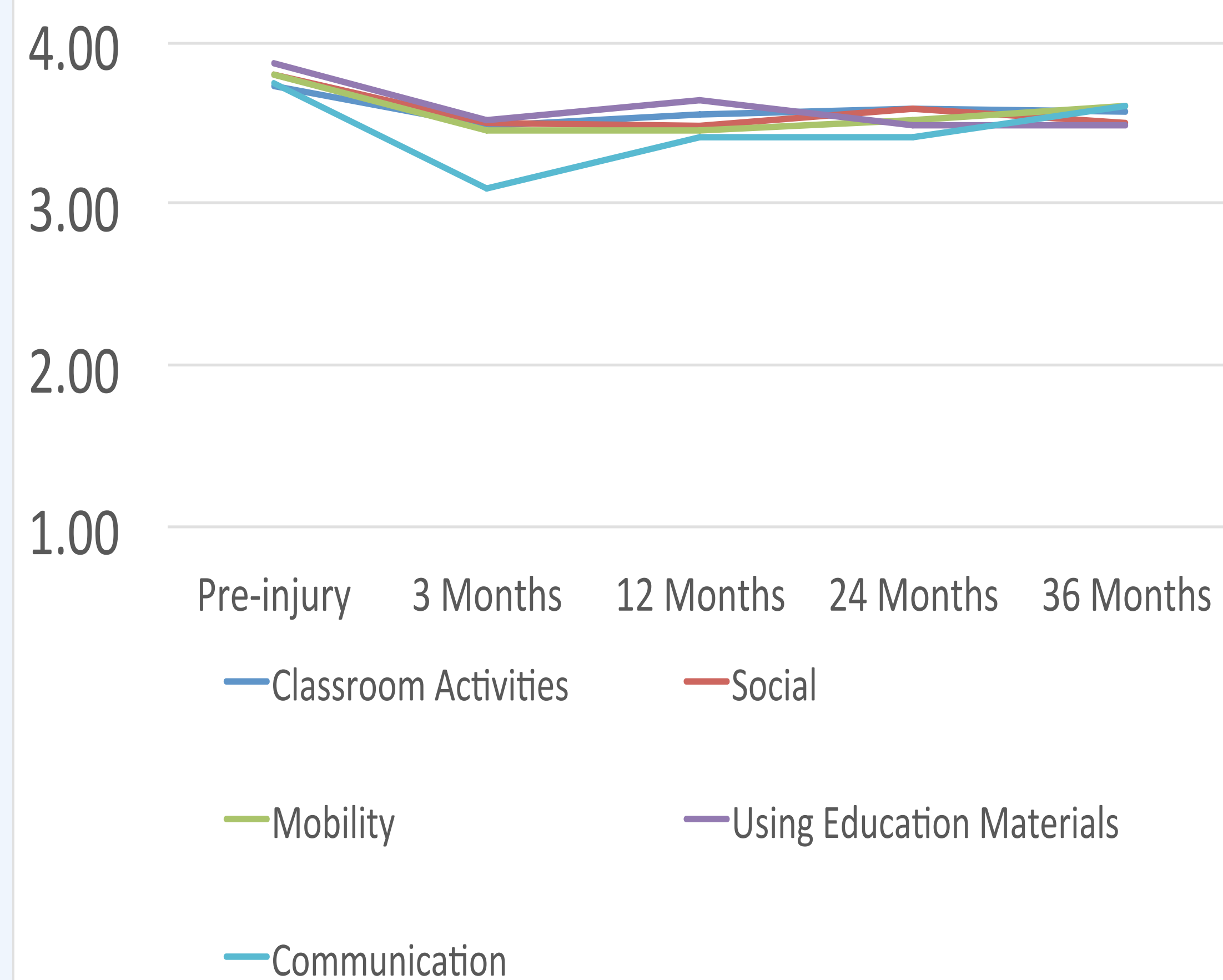
- **Pre-Injury - 36 months:** All items had small to medium effect sizes (↓ 0.28 to 0.72)
- **Pre-Injury - 3 months:** All items had small to medium effect sizes (↓ 0.35 to 0.61)
- **3 - 36 months:** All items had negligible effect sizes. Chores approached a small effect size (↑ 0.17)

### Neighborhood & Community



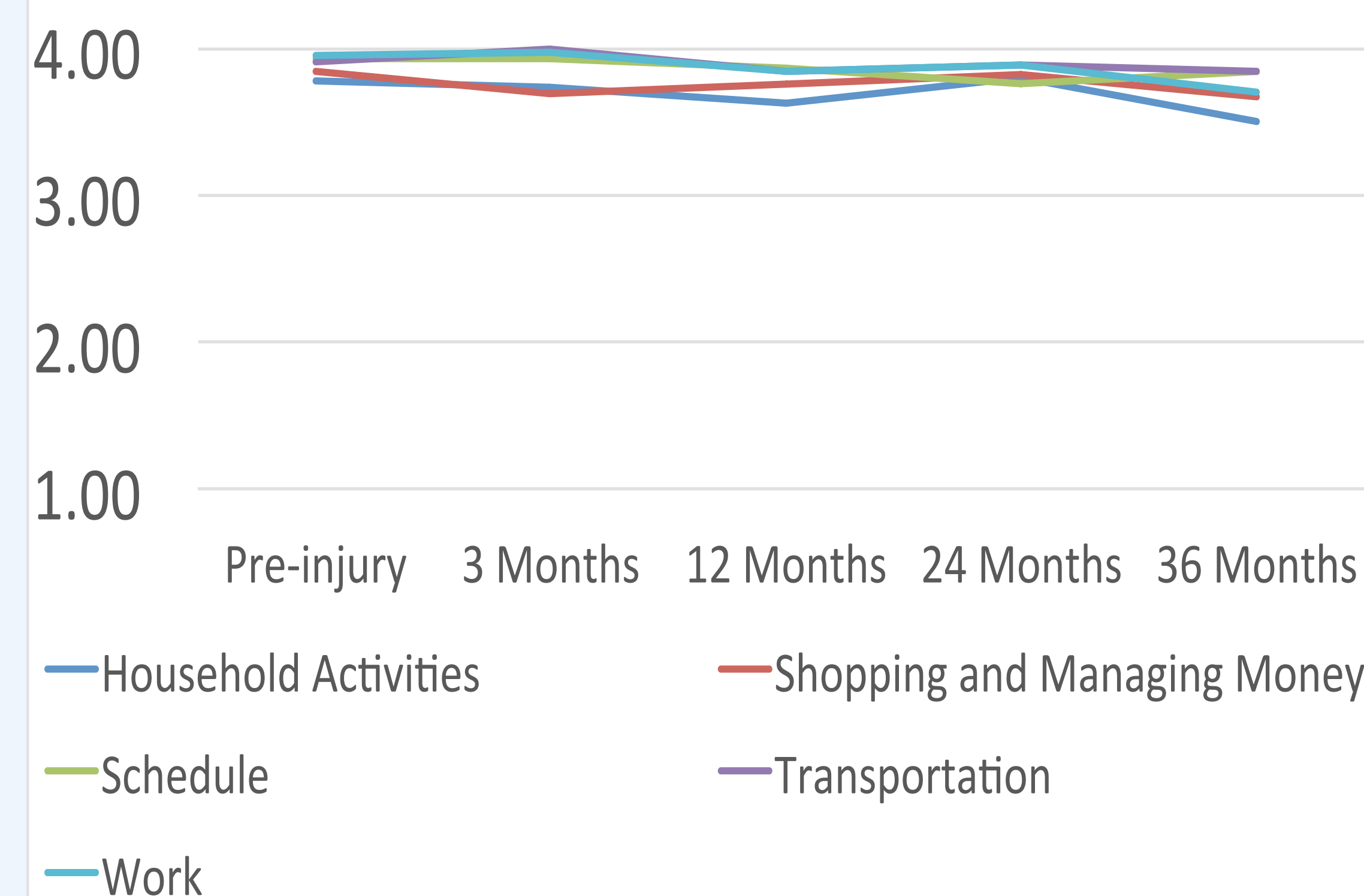
- **Pre-Injury - 36 months:** Structured activities had largest effect size (↓ 0.49), Communication the smallest (↓ 0.31)
- **Pre-Injury - 3 months:** All items had small to medium effect sizes (↓ 0.35 to 0.69)
- **3 - 36 months:** All items had negligible to small effect sizes (↑ 0.04 to 0.24)

### School



- **Pre-Injury - 36 months:** Using educational materials had largest effect size (↓ 0.59); Communication the smallest (↓ 0.19)
- **Pre-Injury - 3 months:** All items had small to medium effect sizes (↓ 0.34 to 0.72); Communication had the largest (↓ 0.72)
- **3 - 36 months:** All items had negligible effect sizes except Communication (↑ 0.50)

### Home & Community Living



- **Pre-Injury - 36 months:** Transportation had smallest effect size (↓ 0.18), Work had the largest (↓ 0.59)
- **Pre-Injury - 3 months:** Managing daily schedule had smallest effect size (0), Transportation the largest (↑ 0.63)
- **3 - 36 months:** Shopping and managing money had smallest effect size (0), Work the largest (↓ 0.58)

## Discussion & Implications

### DISCUSSION

- **On average,** scores on most CASP items declined from pre-injury to 3 months, as expected.
- Items which described more complex activities were found to be more responsive (↓↑) over time than simpler / more routine items.
- Scores on several items in Home & Community Living and one item in Neighborhood & Community (structured activities) declined from 24 months to 36 months.
- Decline in item scores from 24 to 36 months may be attributed to lack of services, increasing activity demands and/or heightened parent / societal expectations as youth age.
- After 3 months, scores for routine activities remained consistent over time across settings.
- The lack of change after 3 months may be due to unwavering demands for routine activities, which began high at pre-injury and were thus not expected to change.
- Lack of change also may be due to the limited response options (1-4) used in the CASP and/or because the items are rated in comparison to same age peers (i.e., participation might increase but still be lower than age expectations).

### LIMITATIONS

- Did not control for age, type of injury, race or gender
- Used raw scores rather than other scaled scores
- Parent retrospective report of pre-injury participation done when youth hospitalized (influenced by memory)
- Small sample so unable to generalize

### IMPLICATIONS & FUTURE DIRECTIONS

- Several CASP items were responsive to changes in participation of youth with moderate and severe TBI.
- **Future research** will need to include a larger sample and explore ways to improve responsiveness of the items (e.g., different scoring, modifying scale).
- The ultimate aim is to have a tool that can detect participation patterns and changes to inform allocation of resources needed to promote participation.

## References & Acknowledgement

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