

Reliability and validity of a revised version of the self-care domain of the Child Engagement in Daily Life Measure



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PURPOSE

- Participation in self-care is an important outcome for young children with cerebral palsy (CP).
- This study aimed to examine reliability and validity of a revised version of the self-care domain of the Child Engagement in Daily Life Measure (CEDL).

PARTICIPANTS

- 692 children with CP ages 18-months to 11-years and their families participated in the validity portion
- A subset of 43 children participated in test retest reliability
- 54% were boys and 81% of participating parents were mothers
- Participants were a sample of convenience across Canada and the United States

PROCEDURES

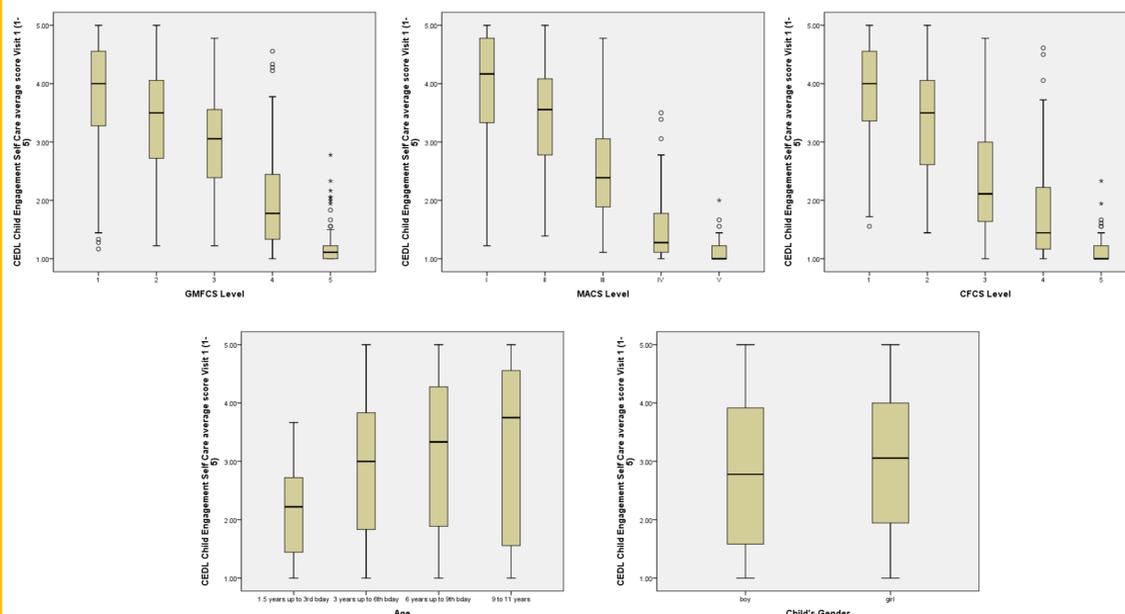
- The self-care domain of the CEDL contains 18-items asking parents to rate the degree their child is able to participate in daily self-care activities.
- Items are scored on a 5-point Likert scale from 1- does not do the activity to 5- does the activity independently most of the time.
- Parents completed this measure during the initial assessment of a longitudinal study on developmental trajectories.
- During the same assessment session, children's abilities were classified using:
 - Gross Motor Function Classification System (GMFCS)
 - Manual Abilities Classification System (MACS)
 - Communication Function Classification System (CFCS)
- For the test-retest reliability, parents completed the CEDL a second time on average 21-days later.

DATA ANALYSIS

- Children were placed into four age groupings:
 - 18-months to 3 years
 - 3 to 6 years
 - 6 to 9 years
 - 9 to 11 years.
- Test-retest reliability was calculated using intraclass correlation coefficient.
- Construct validity was established using known group methods with data analyzed using one-way ANOVAs with post hoc pairwise Tukey tests to compare group means for the GMFCS, MACS, CFCS and age groupings. An independent t-test to compare means between boys and girls.
- An alpha level of $p < .01$ was used to determine significance.

RESULTS

- Test-retest reliability was excellent (ICC (2,1) = .984).
- Significant differences existed in participation in self-care across all GMFCS (All $p < .001$) and CFCS levels (All $p < .001$). Significant differences also existed across MACS levels (All $p < .001$), except levels IV and V ($p = .021$). For all classifications, children with higher functioning abilities participated in self-care with more independence than children with lower functioning abilities.
- Children ages 1.5 to 3 years had significantly lower self-care abilities than all other ages (All $p < .001$). No differences in self-care participation were found for children 3-6 years through 9-11 years.
- Differences between boys and girls were not observed ($p = .109$).



CONCLUSIONS

- The self-care domain of the CEDL demonstrates excellent test-retest reliability and strong known groups validity across functional classification systems.
- Communication, manual abilities and gross motor function support children to be able to participate more independently in self-care abilities.
- CEDL can be used as a descriptive and discriminative measure of participation in self-care for children with CP.
- Future research with larger sample sizes should examine multivariate interactions between age and functional classification.

FUNDING



Patient-Centered Outcomes Research Institute (#5321): The statements presented in this work are solely the responsibility of the authors and do not necessarily represent the views of the Patient-Centered Outcomes Research Institute (PCORI), its Board of Governors or Methodology Committee.

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ACKNOWLEDGEMENTS

We acknowledge the rest of the OnTrack Study Team: Doreen Bartlett (Western University), Robert Palisano (Drexel University), Lynn Jeffries (Oklahoma University of the Health Sciences), and Steven Hanna and Jan Willem Gorter (McMaster University), overall study coordinators, Barbara Galuppi (CanChild, McMaster University) and Monica Smersh (Washington University), and regional coordinators, Tracy Stoner, Allison Yocum, Amanda Porter, Jenn Miller, and Erin Wentz.

