Further validation of the Child & Adolescent Scale of Environment (CASE): Youth with disabilities

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BACKGROUND & PURPOSE

- Physical, social, & attitudinal environmental factors affect participation of children & youth with disabilities in home, school & community contexts [1-5].
- The Child & Adolescent Scale of Environment (CASE) [6] has been identified as a promising measure of environmental factors [7, 8].
- The CASE is an adaptation of the Craig Hospital Inventory of Environmental Factors (CHIEF), an instrument initially designed to assess environmental barriers experienced by adults with disabilities [9].
- The CASE was designed as part of the Child & Family Follow-up Survey (CFFS), a parent-report measure to assess outcomes & needs of children & youth with acquired brain injuries & their families. Now it can be used separately from the CFFS & for children/youth with other conditions [10, 11].
- The CASE is brief but has good coverage of environmental domains in the International Classification of Functioning [12] & is free, publically available & requires no formal training to use [6-8].
- It has reported evidence of test-retest reliability (ICC = 0.75), internal consistency (Cronbach’s α = 0.84 & 0.91) & construct validity [2-6, 8-13].
- Prior factor analyses identified 4 main factors (56% of the variance explained):
  - School-related problems (support, assistance, services, equipment, attitudes);
  - Problems with physical design of school, home & community;
  - Other family / neighborhood problems (family stress, problems with finances, inadequate transportation, & neighborhood crime / violence) [5].
- A key criticism of the CASE is that most psychometric evidence comes from studies on children with disabilities who have acquired brain injuries, & its use is limited for children with other conditions [9].

RESULTS: Internal Structure & Consistency

- Exploratory Factor Analysis:
  - CASE items: Physical design, School Resources, Physical Design / Access, Community / Home Resources, Community / Home / Resources, School Resources, Physical Design / Access
  - Factor 1: Physical design
  - Factor 2: School Resources
  - Factor 3: Physical Design / Access

- Factor loadings indicate items used to create factor subscales:
  - Internal Consistency: Cronbach’s alphas were moderate to high for the CASE (0.89); & factor subscales:
    - Community / Home Resources:
    - School Resources:
    - Physical Design / Access


- Discriminant Validity: No significant CASE score differences for age category (p = 0.68) or sex (p = 0.15)

- Significant CASE score differences for age category (p = 0.004) for cognitive, physical & psychological impairment severity, but not for Social Resources
  - Significant CASE score differences for condition (p = 0.001), but not for For School Resources Subscore (p = 0.037)

- Overall, youth with cleft lip / palate & amputation had lower CASE scores than youth with cerebral palsy, autism spectrum disorder, spina bifida & developmental delay

REFERENCES