Child Caregiver Interaction Scale Early Elementary Education (CCIS-E)

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ABSTRACT

- We adapted the **The Child-Caregiver Interaction Scale** (CCIS, Carl 2007, 2010) used in childcare, for early elementary education (**CCIS-E**). Training and scoring are relatively straightforward.
- This poster provides a preliminary overview of the **reliability** and **validity** of the CCIS-E.
- 53 teachers from kindergarten, Grade 1 and Grade 2 participated in three assessments at school.
- The CCIS-E can be structured into domains using the Three Basic Dimensions framework (Praetorius et al., 2018), with some overlap between the domains.

BACKGROUND

- Classroom observation instruments often have complex training and scoring procedures.
- Teaching quality is conceptualized as a complex social process, co-constructed trough interactions between children and teachers (e.g., Burchinal, 2018, Bell et al., 2019).
- The Child-Caregiver Interaction Scale (CCIS, Carl 2007, 2010) is a comprehensive measure on caregiver-child interaction quality in childcare (Sandilos and DiPerna, 2014).
- We adapted the CCIS for use in early elementary education.

METHODS

Teachers (N=53)
- Teaching Kindergarten (53%), Grade 1 or 2 for 2 to 5 days a week (M = 3.51)
- 94% female
- Average age 42 years (SD = 12)
- Teaching experience ranged from 1 to 44 years (M = 12)

Children (N=53)
- 64% boys
- Average age 6 years (SD = 1.4)

Rater training CCIS-E

Theory	Independent video coding 1 video	Independent video coding 3 video's	Independent video coding 3-4 video's	Certification basic course	Onsite training Max. 5 visits	Certification
	Group discussion	Group discussion	Group discussion		Onsite reliability set 3 visits	

Procedure and measures
- As part of a RCT (Starreveld et al, 2023) teachers and children participated in three assessments at school, once before the (dummy) intervention (pre-test) and twice after (post-test and follow-up).
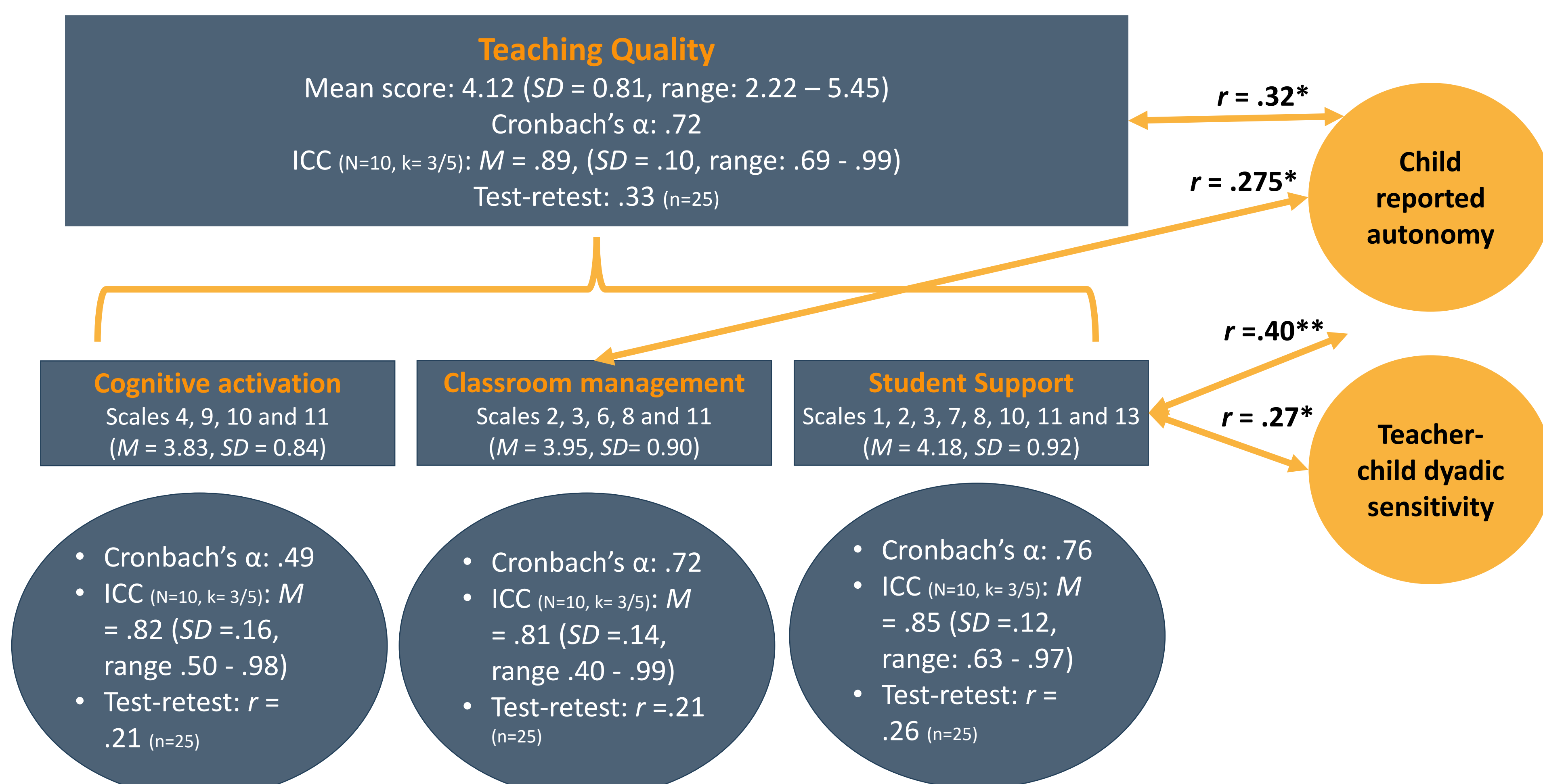
Teacher-classroom interaction: live classroom observation coded with the CCIS-E
Teacher dyadic sensitivity: dyadic teacher-child interaction coded with Erickson Scales (Egeland et al., 1990
Teacher-child relationship as perceived by the child: Y-CATS questionnaire (Mantzicopoulos & Neuharth-Pritchett, 2003)

CCIS-E INSTRUMENT

The CCIS-E measures teaching quality with a focus on teacher- classroom interaction.

The CCIS-E consists of 13 subscales with 7-point rating scales detailing behavioral criteria at four anchor points: 1 (inadequate), 3 (minimal), 5 (good), and 7 (excellent).

Two subscales were not included in the analysis since they were not appropriate for the school context (Scale 5 - Health and Safety and Scale 12 - Arrival and Contact with Family)

CONCLUSION & FUTURE

- The CCIS-E can be structured into the three domains from the Three Basic Dimensions framework. Total Teaching Quality, Student Support and Classroom Management have good internal consistency.
- Training MA students to reliability on the domains is feasible.
- Student Support correlates with similar constructs of observed teacher dyadic sensitivity and child-reported autonomy, demonstrating construct validity.
- There are weak correlations between pre-test and post-test scores on the CCIS-E.
- We currently analyse interview qualitative data from a focus group of raters about their experiences with the CCIS-E.
- Expected publication date of the study is 2024.

RESULTS

- The scales of the CCIS-E can be structured into the three domains of the Three Basic Dimensions framework (Cognitive Activation, Classroom Management, Student Support), with some overlap between the domains.

- The number of days a teacher works with the class has significant negative associations with Teaching Quality (r = -.29, p < .05), Student Support (r = -.31, p < .05) and Classroom Management (r = -.33, p < .05). More teaching experience is associated with higher scores on Classroom Management (r = .32, p < .05).

- The model below shows the domains measured by the CCIS-E, the reliability coefficients and the correlations with associated constructs (child reported autonomy and teacher-child dyadic sensitivity).

Teaching Quality
Mean score: 4.12 (SD = 0.81, range: 2.22 – 5.45)
Cronbach's $α$: .72
ICC (N=10, k= 3/5): M = .89, (SD = .10, range: .69 - .99)
Test-retest: .33 (n=25)

r = .32*
r = .275*

Child reported autonomy

r =.40**
r = .27*

Teacher-child dyadic sensitivity

Cognitive activation
Scales 4, 9, 10 and 11
(M = 3.83, SD = 0.84)
- Cronbach's $α$: .49
- ICC (N=10, k= 3/5): M = .82 (SD =.16, range .50 - .98)
- Test-retest: r = .21 (n=25)

Classroom management
Scales 2, 3, 6, 8 and 11
(M = 3.95, SD= 0.90)
- Cronbach's $α$: .72
- ICC (N=10, k= 3/5): M = .81 (SD =.14, range .40 - .99)
- Test-retest: r =.21 (n=25)

Student Support
Scales 1, 2, 3, 7, 8, 10, 11 and 13
(M = 4.18, SD = 0.92)
- Cronbach's $α$: .76
- ICC (N=10, k= 3/5): M = .85 (SD =.12, range: .63 - .97)
- Test-retest: r = .26 (n=25)

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