

Comparisons among Quality Measures in Child Care Settings: Indicators of Quality in Relation to Child Outcomes

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INTRODUCTION

❖ Due to the relationship between the quality of child care environments and children's developmental outcomes, the assessment of classroom quality is a primary concern within Quality Rating and Improvement Systems (QRIS) across the US. (Child Trends & Mathematica Policy Research, 2010; NICHD 2002; Vandell et al., 2010)

❖ North Carolina's QRIS has used the Environment Rating Scales (ERS) to rate the global quality of child care classrooms for over 10 years. Based on North Carolina's Rated License system, centers can earn 1 to 5 stars based on program standards, education standards, and quality points.

❖ The use of the ERS have supported increases in global quality in infant, toddler, preschool, and school age classrooms. However, scholars have questioned the frequent use of the Environment Rating Scales in QRIS as the scales may not capture all components of quality in child care environments. (Layzer & Goodson, 2006)

❖ Other aspects of quality need to be included in the assessment and rating of child care programs within states' QRIS. Conceptual work describes components of quality that are not included or covered in depth in the ERS, but may be important for child outcomes. Specific aspects that need to be included in future research and accountability include: teacher-child interactions (i.e., process quality), outdoor environments, child engagement and motivation for learning, and children's emotional experiences in the classroom. (Ceglowski, 2004; Chakravathi, 2009; La Paro et al., 2009; Raver et al., 2007; Stipek et al., 1995)

RESEARCH QUESTIONS

As multiple components of classrooms may lead to quality environments and positive child outcomes, it is essential to investigate potential instruments for assessing quality to understand how these tools may contribute to states' QRIS.

The goals of this study were to examine the relationships: 1) among a variety of quality assessment tools, 2) between these tools and children's cognitive, social, and emotional outcomes, and 3) between these tools and the star rated license system.

METHOD: INSTRUMENTS

Teachers and children were observed over two days on various instruments and completed questionnaires on toddler and preschool child outcomes. Preschool children participated in cognitive interview tasks.

Day 1

- ❖ Environment Rating Scales (ITERS-R, Harms, Cryer, & Clifford, 2006; ECERS-R, Harms, Clifford, & Cryer, 2005; SACERS, Harms, Jacobs, & White, 1996)[†]
- ❖ Early Childhood Environment Rating Scale-Extended (Sylvia, Siraj-Blatchford, & Taggart, 2006)

Day 2

- ❖ Classroom Assessment Scoring System (CLASS; Toddler and Pre-K Versions; Pianta, La Paro, & Hamre, 2008)[†]
- ❖ Preschool Outdoor Environment Measurement Scale (DeBord, Hestenes, Moore, Cosco, & McGinnis, 2005)
- ❖ Out of School Time (OST; Pechman, Russell, & Birmingham, 2008)[†]

Child Outcomes

- ❖ Comfort and Contentedness of Children in Child Care (C5; Cassidy, unpublished)[†]
- ❖ Brief Infant Toddler Social Emotional Assessment (BITSEA; Briggs-Gown & Carter, 2006)[†]
- ❖ Social Skills Improvement System (SSIS; Elliot & Gresham, 2008)
- ❖ Flexible Item Selection Task (FIST; Jacques & Zelazo, 2001)
- ❖ Conceptual Perspective Taking Task (CPT; Taylor, 1988)

METHOD: PARTICIPANTS

101 child care centers across 40 counties participated in the study. Among these centers, 247 early childhood lead teachers participated (94 toddler, 98 preschool, and 55 school age). A total of 828 children participated in the study (406 toddlers, 422 preschoolers).

- ❖ Star-level breakdown of participating centers
 - ❖ 17 one-star programs
 - ❖ 13 two-star programs
 - ❖ 25 three-star programs
 - ❖ 22 four-star programs
 - ❖ 24 five-star programs

Table 1. Descriptives for Preschool Lead Teachers and Classrooms

	Mean	Standard Deviation	Range
Teacher years of ECE experience	10.93	7.87	1-37
Teacher education level	4.49	2.34	1-10
Teacher age (in years)	36.99	11.98	19-69
Child-teacher ratio	8.84	3.37	1.71-19
Age youngest child (in months)	41.97	8.61	22-63
Age oldest child (in months)	57.14	9.11	35-96
Number of English Language Learners	.98	1.72	0-10

Table 2. Descriptives for Preschool Participating Children

	Mean	Standard Deviation	Range
Child sex (1=male)	.48	.500	-
Child age	48.47	8.22	32-69
Number of hours in care (per week)	37.42	8.851	6-60

Table 3. Percentages of Preschool Teacher and Child Ethnicity

	Teacher	Children
African American	46.3	29.4
Asian American	1.2	1.4
European American	48.8	55.2
Latino	1.2	6.7
Native American	2.4	0
Other	0	7.9

RESULTS

Quality Assessment Tools

The results indicated significant relationships among all of the quality assessment tools. Correlations among the different instruments ranged from small ($r = .22, p < .05$) to moderate ($r = .60, p < .01$), with the majority of the correlations above ($r = .45, p < .01$). The tools are all capturing unique aspects of child care quality.

Quality and Child Outcomes

Regression results indicated that various aspects of quality are significant predictors of children's cognitive, social, and emotional outcomes. All regressions controlled for child age, and all regressions on newer measures have controlled for star-rating and ERS scores.

Table 4: Regressions on Preschool Children's Cognitive, Social, and Emotional Outcomes (t-values)

Quality Measure	FIST: Flexible Attn.	CPT: Perspec-tive Taking	SSIS: Social Skills	SSIS: Problem Beh.	C5: Positive	C5: Negative
Star Rating				-2.86***	-3.51***	
ECERS-R					11.10***	-5.10***
ECERS-E		1.86*	-2.22**			
Emotional Support					1.97**	-2.11**
Classroom Organization					2.97***	-2.91***
Instructional Support		2.87***			1.96*	
POEMS	3.41***				4.19***	-2.35**

* indicates $p < .10$; ** indicates $p < .05$; *** indicates $p < .005$

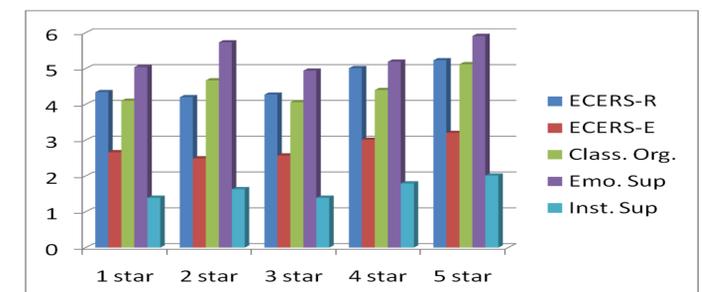
Quality and Star-Rating

Correlation results demonstrate significant relationships between centers' star-rating and their scores on all of the quality measures. These coefficients ranged from ($r = .26, p < .05$) to ($r = .52, p < .01$).

ANOVA's indicated that centers with a rating of 5 stars had significantly higher ratings of quality on all of the measures (ECERS-R, CLASS domains, ECERS-E, and POEMS) than 1, 2, and 3 stars, except CLASS Emotional Support. On the ECERS-R, ECERS-E, and POEMS, 4 star centers also scored significantly higher from 1, 2, and 3 star centers. There was no significant difference in any of the quality measures between 4 and 5 star centers.

[†]Indicates measures used in Toddler and School age classrooms. These findings, as well as the descriptions and references for observational tools are shown in the handout accompanying this presentation.

Figure 1: Analysis of Variance on Quality across Star-Ratings



IMPLICATIONS

The results show that instruments other than the Environment Rating Scales are capturing components of classroom quality that are currently unaccounted for in North Carolina's QRIS. These aspects of quality include process variables such as teachers' emotional and instructional support of children (CLASS), curricular elements as seen in the ECERS-E, and outdoor environments and materials measured by the POEMS.

Each of the instruments predicted at least one aspect of children's cognitive, social, or emotional development. It is important that QRIS begin to explore the use of such other measures that may capture elements of children's environments that are promoting positive development in young children.

Centers rated at 4 or 5 stars provide significantly higher quality than centers rated at 1, 2, or 3 stars. Quality enhancement efforts need to focus on improving the quality of 1, 2, and 3 star centers. Future research should investigate other program quality factors that may be able to distinguish between 4 and 5 star centers.

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