

## A Comparison of Quality Assessment Tools Research Project

*The University of North Carolina at Greensboro  
North Carolina Rated License Assessment Project*

### **Measures Used**

This section contains general information on the observation measures used in the Comparison of Quality Assessment Tools research project. It includes details about scoring, administration, and the psychometrics for each measure.

#### Early Childhood Environment Rating Scale-Extension

Age group: Preschool (3-5 years)

Content: Specific curricular materials, activities, and interactions in literacy, math, science, and diversity (18 items)

Scoring: For each item, classrooms can score between and 1 (inadequate) to 7 (excellent). The total score is created by averaging all items.

Administration: Total 2 to 3 hours of observation including teacher interview, often in conjunction with ECERS-R

Psychometric Information:

<b>Subscale</b>	<b>Mean</b>	<b>Range</b>	<b>S.D.</b>	<b>Internal Consistency</b>
Literacy	3.50	2.00 – 5.67	.743	.71
Math	2.36	1.00 – 4.33	.835	.639
Science	1.96	1.00 – 4.00	.693	.801
Diversity	2.72	1.00 – 4.00	.689	.585
<i>Total Scale</i>	2.81	1.73-4.33	.533	.860

Reference: Sylva, K., Siraj-Blatchford, Iram, & Taggart, B. (2006). *Early Childhood Environment Rating Scale-Extension: Four Curricular Subscales*. Stoke on Trent, England: Trentham Brooks.

#### Preschool Outdoor Environment Measurement Scale

Age group: Preschool (3-5 years)

Content: Outdoor environment quality in 5 domains - Physical Environment, Interactions, Play and Learning Settings, Program, and Caregiver Role (56 items)

Scoring: For each item, classrooms can score a Yes (Y) or No (N). The total score is calculated by summing the number of Yes's across domains.

Administration: Total 45 minutes; 30 minutes for observation and 15 minutes for teacher interview

Psychometric Information:

Subscale	Mean	Range	S.D.	Internal Consistency
Physical Environment	7.99	2 – 11	2.04	.462
Interactions	7.56	2 - 13	2.53	.583
Play and Learning Settings	6.67	1 - 13	2.24	.604
Program	3.94	1 - 8	1.42	.405
Caregiver Role	4.78	1 - 8	1.81	.577
<i>Total Scale</i>	30.94	15-48	6.93	.799

Reference: DeBord, K., Hestenes, L.L., Moore, R. C., Cosco, N. G., & McGinnis, J. R. (2005). *Preschool Outdoor Environment Measurement Scale*. Lewisville, NC: Kaplan.

Out of School Time (OST)

Age group: School Age (5 - 12 years)

Content: Process quality in 5 domains - Youth Relationship Building, Relationship Building Among Youth and Staff, Youth Participation in Activities, Activity Content and Structure, and Instructional Strategies (28 items)

Administration: Total 1 to 2 hours of observation ; minimum 4 cycles (15 minutes of observation, 5 – 10 minutes for recording)

Scoring: The OST is scored from a 1 (not evident) to 7 (highly evident). The total score is calculated by creating an average for each item across cycles and then averaging item scores within domains.

Psychometric Information:

Subscale	Mean	Range	S.D.	Internal Consistency
Youth relationship building	3.97	2.30-5.55	.721	.867
Relationship building among youth and staff	3.65	1.71-5.00	.727	.899
Youth participation in activities	3.74	2.20-4.75	.61	.750
Activity content and structure	3.60	2.06-5.25	.74	.861
Instructional strategies	2.63	1.54-4.00	.556	.810
<i>Total Scale</i>	3.46	1.99-4.51	.559	.964

Reference: Pechman, E. M., Russell, C. A., & Birmingham, J. (2008). *Out-of-school Time Observation Instrument*. The Charles Stewart Mott Foundation.

*Classroom Assessment Scoring System*

Age group: Toddlers (15-36 months)\* and preschoolers (3-5 years)

Content: Process quality

*Toddler:* Positive Climate, Negative Climate, Teacher Sensitivity, Regard for Child Perspective, Behavior Guidance, Facilitation of Learning and Development, and Language Modeling

*Pre-K:* Positive Climate, Negative Climate, Teacher Sensitivity, Regard for Student Perspective, Quality of Feedback, Productivity, Instructional Learning Formats, Concept Development, Quality of Feedback, and Language Modeling

Administration: Total 2 hours of observation and recording; minimum 4 cycles (20 minutes of observation, 10 minutes of recording)

Scoring: Each dimension is scored from 1 (low) to 7 (high). There is no total score for the CLASS; domain scores are calculated by averaging the relevant dimensions across the observation cycles.

Psychometric Information: *Toddler*

Domain Dimension	Mean	Range	S.D.	Internal Consistency (across cycles)
<b>Emotional Climate</b>	5.03	1.81 – 6.88	.978	.897
Positive Climate	5.05	1.75 – 7.00	1.24	.873
Negative Climate*	1.69	1.00 – 6.25	.894	.857
Teacher Sensitivity	4.37	2.00 – 7.00	1.19	.848
Regard for Child Perspectives	4.38	1.50 – 6.75	1.12	.793
<b>Behavior Guidance**</b>	4.10	1.75 – 7.00	1.32	.882
<b>Instructional Support</b>	2.85	1.12 – 5.38	1.08	.846
Facilitation of Learning and Development	3.47	1.00 – 6.75	1.25	.835
Language Modeling	2.23	1.00 – 5.00	1.07	.857

\* Negative Climate is reverse coded for domain mean

\*\* The Toddler CLASS has been revised to include Quality of Feedback and revised scales for Behavior Guidance and Facilitation of Learning and Development.

\*\*Behavior Guidance is the only dimension; classroom organization is not a domain for the Toddler CLASS.

Psychometric Information: *Preschool*

Domain Dimension	Mean	Range	S.D.	Internal Consistency (across cycles)
<b>Emotional Support</b>	5.32	2.62 – 6.69	.87	.876
Positive Climate	5.31	2.25 - 7	1.21	.865
Negative Climate*	1.43	1 – 5.5	.730	.886
Teacher Sensitivity	4.79	2 – 6.5	1.06	.871
Regard for Student Perspectives	4.61	2 – 6.5	1.01	.743
<b>Classroom Organization</b>	4.45	1.75 – 6.25	1.01	.865
Behavior Management	4.92	1.75 - 7	1.26	.899
Productivity	4.77	2 – 6.75	.965	.699

Instructional Learning Formats	3.65	1 – 5.75	1.17	.788
<b>Instructional Support</b>	1.64	1 – 3.42	.56	.876
Concept Development	1.70	1 – 4.25	.671	.723
Quality of Feedback	1.56	1 – 3.25	.556	.684
Language Modeling	1.66	1 – 3.50	.648	.782

\*Negative climate is reverse coded for domain mean

Reference: Pianta, R. C., LaParo, K. M., & Hamre, B. K. (2008). *Classroom Assessment Scoring System Manual Pre-K*. Baltimore: Paul H. Brookes.

Infant Toddler Environment Rating Scale-Revised

Age group: Toddlers (12-30 months)

Content: Global quality divided into 7 subscales - Space and Furnishings, Personal Care Routines, Listening and Talking, Activities, Interaction, Program Structure, and Parents and Staff

Scoring: For each item, classrooms can score between and 1 (inadequate) to 7 (excellent). The total score is created by averaging all items.

Administration: Total 3-4 hours of observation and a teacher interview

Psychometric Information:

Subscale	Mean	Range	S.D.	Internal Consistency
Space and Furnishings	4.51	3.00-6.80	.754	.326
Personal Care Routines	2.52	1.33-5.33	.897	.563
Listening and Talking	3.74	1.00-7.00	1.34	.491
Activities	4.74	1.80-6.89	1.27	.864
Interaction	4.50	1.75-7.00	1.27	.738
Program Structure	4.27	1.67-7.00	1.40	.395
Parents and Staff	4.78	3.14-6.57	.758	.626
<i>Total Scale</i>	4.37	2.79-5.85	.816	.915

Reference: Harms, T., Cryer, D., & Clifford, R. M. (2006). *Infant/Toddler environment Rating Scale-Revised Edition*. New York: Teachers College Press.

Early Childhood Environment Rating Scale-Revised

Age group: Preschool (3-5 years)

Content: Global quality divided into 7 subscales – Space and Furnishings, Personal Care Routines, Language-Reasoning, Activities, Interaction, Program Structure, Parents and Staff

Scoring: For each item, classrooms can score between and 1 (inadequate) to 7 (excellent). The total score is created by averaging all items.

Administration: Total 3-4 hours of observation and a teacher interview

Psychometric Information:

<b>Subscale</b>	<b>Mean</b>	<b>Range</b>	<b>S.D.</b>	<b>Internal Consistency</b>
Space and Furnishings	4.34	2.63-6.13	.831	.543
Personal Care Routines	3.80	2.17-6.17	.871	.397
Language-Reasoning	4.80	2.00-6.75	.897	.687
Activities	4.67	2.20-6.56	.974	.808
Interaction	5.12	2.20-6.80	1.13	.819
Program Structure	4.70	2.00-7.00	1.33	.544
Parents and Staff	4.94	2.50-6.83	.813	.575
<i>Total Scale</i>	4.65	3.07-6.12	.718	.902

Reference: Harms, T., Clifford, R.M., & Cryer, D. (2005). *Early Childhood Environment Rating Scale-Revised Edition*. New York: Teachers College Press.

School Age Environment Rating Scale

Age group: School age (5-12 years)

Content: Global quality divided into 7 subscales – Space and Furnishings, Health and Safety, Activities, Interactions, Program Structure, Staff Development, Special Needs Supplementary Items

Scoring: For each item, classrooms can score between and 1 (inadequate) to 7 (excellent). The total score is created by averaging all items.

Administration: Total 2-3 hours of observation and a teacher interview

Psychometric Information:

<b>Subscale</b>	<b>Mean</b>	<b>Range</b>	<b>S.D.</b>	<b>Internal Consistency</b>
Space and Furnishings	5.12	3.27-6.64	.637	.531
Health and Safety	3.71	1.83-6.00	.997	.381
Activities	4.74	2.25-6.50	.882	.826
Interactions	5.15	3.25-6.63	.817	.711
Program Structure	4.73	1.67-7.00	1.26	.221
Staff Development	5.19	2.33-7.00	1.21	.444
Special Needs (1 item)	2.34	0.00-7.00	2.61	NA
<i>Total Scale</i>	5.01	3.50-6.29	.586	.848

Reference: Harms, T., Jacobs, E. V., & White, D. R. (1996). *School-age Care Environment Rating Scale*. New York: Teachers College Press.

This section contains tables and figures displaying the results for each age group.

Table 1: Toddler Data – Correlations between Quality Measures

	Star Rating (n = 93)	ITERS-R (n = 93)	CLASS Emotional Support (n = 79)	CLASS Instructional Support (n = 79)	CLASS Behavior Guidance (n = 79)
ITERS-R	.57**	---			
CLASS Emotional Support	.42**	.62**	---		
CLASS Instructional Support	.58**	.59**	.74**	---	
CLASS Behavior Guidance	.47**	.58**	.84**	.65**	---

Note: For all correlation tables, \* indicates correlation is significant at  $p < .05$  level, and \*\* indicates correlation is significant at  $p < .05$  level. If correlations are not starred, they are not significant.

Table 2: Toddler Data – Correlations between Structural Variables and Quality Measures

	Star Rating (n = 93)	ITERS-R (n = 92)	CLASS Emotional Support (n = 79)	CLASS Instructional Support (n = 79)	CLASS Behavior Guidance (n = 79)
Teacher Education	.29**	.22*	.14	.15	.24*
Teacher Experience	-.03	.13	.30**	.17	.23*
Group Size	-.11	-.13	-.12	-.13	-.12
Ratio	-.27**	-.34**	-.41**	-.39**	-.37**

Table 3: Preschool Data – Correlations between Quality Measures

	Star Rating (n = 97)	ECERS-R (n = 96)	ECERS-E (n = 91)	CLASS Emotional Support (n = 96)	CLASS Instructional Support (n = 96)	CLASS Organization (n = 96)	POEMS (n = 95)
ECERS-R	.52**	---					
ECERS-E	.44**	.51**	---				
CLASS Emotional Support	.26*	.48**	.60**	---			
CLASS Instructional Support	.38**	.48**	.52**	.51**	---		
CLASS Organization	.29**	.49**	.59**	.91**	.48**	---	
POEMS	.51**	.45**	.47**	.35**	.22*	.39**	---



Table 4: Preschool Data – Correlations between Structural Variables and Quality Measures

	Star Rating (n = 94)	ECERS-R (n = 96)	ECERS-E (n = 91)	CLASS Emotional Climate (n = 96)	CLASS Instruct Support (n = 96)	CLASS Classroom Organization (n = 96)	POEMS (n= 95)
Teacher Education	.12	.27*	.35**	.29**	.14	.34**	.28**
Teacher Experience	.22*	.09	.16	.13	-.06	.07	.06
Group Size	.06	-.09	.24*	.04	-.16	-.01	.10
Ratio	-.23*	-.40**	-.17	-.30**	-.25*	-.28*	-.21*

Table 5: School Age Data – Correlations between Quality Measures

	Star Rating (n = 55)	SACERS (n = 55)	OST Youth Relationship Building (n = 55)	OST Youth Participation In Activities (n = 55)	OST Relationship Building – Youth/Staff (n = 55)	OST Instructional Strategies (n = 55)	OST Activity Content & Structure (n = 55)	OST Total Scale (n = 55)
SACERS	.54**	--						
OST Youth Relationship Building	.23	.34*	--					
OST Youth Participation in Activities	.18	.33*	.59**	--				
OST Relationship Building – Youth/Staff	.13	.45**	.61**	.77**	--			
OST Instructional Strategies	.19	.42**	.49**	.61**	.73**	--		
OST Activity Content & Structure	.02	.34*	.44**	.70**	.62**	.72**	--	
OST Total Scale	.17	.46**	.75**	.86**	.91**	.85**	.81**	--

Table 6: School Age Data – Correlations between Structural Variables and Quality Measures

	Star Rating (n = 55)	SACERS (n = 55)	OST Youth Relationship Building (n =55)	OST Youth Participation In Activities (n=55)	OST Relationship Building – Youth/Staff (n=55)	OST Instructional Strategies (n=55)	OST Activity Content & Structure (n=55)	OST Total Scale (n=55)
Teacher Education	.19	.22	-.003	-.008	-.02	.14	-.04	.02
Teacher Experience	-.10	.08	-.11	.002	.06	.11	.18	.05
Group Size	.20	.13	.05	-.04	-.19	-.11	.001	-.09
Ratio	.03	.06	.03	-.14	-.23	-.22	-.14	-.18

Table 7: Toddler Data – Regressions Predicting Children’s Outcomes

Quality Measure	BITSEA: Social Skills	BITSEA: Problem Behaviors	C5: Positive Emotions	C5: Negative Emotions
Star Rating			2.683***	
ITERS-R		-1.836*	9.004***	-5.984***
CLASS: Emotional Support		-2.605**		
CLASS: Behavior Guidance		-2.473**		-2.027**
CLASS: Instructional Support				

Note: For all regression tables, the coefficient provided is a t-value. All regressions are controlling for child age, and all regressions on newer measures have controlled for star-rating and ERS scores. \* indicates significance at p <.1, \*\* indicates significance at p <.05, \*\*\* indicates significance at p <.01.

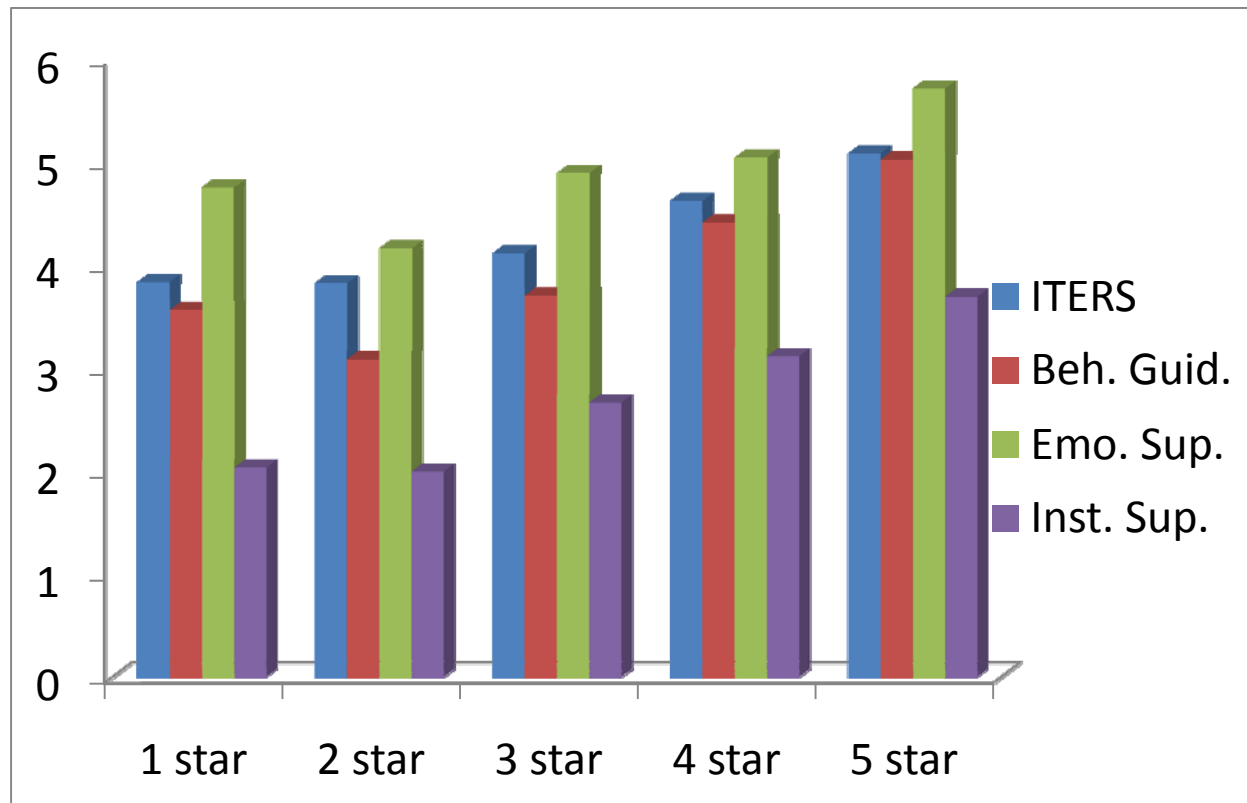
Table 8: Preschool Data – Regressions Predicting Children’s Outcomes

Quality Measure	FIST: Thinking Skills	CPT: Perspective Taking	SSIS: Social Skills	SSIS: Problem Behaviors	C5: Positive	C5: Negative
Star Rating				-2.855***	-3.507***	
ECERS-R					11.096***	-5.10***
ECERS-E		1.860*	-2.219**			
CLASS: Emotional Support					1.965**	-2.114**
CLASS: Classroom Organization					2.971***	-2.909***
CLASS: Instructional Support		2.866***			1.956*	
POEMS	3.405***				4.188***	-2.35**

Table 9: School Age Data – Regressions Predicting Children’s Outcomes

Quality Measure	C5: Positive Emotions	C5: Negative Emotions
Star Rating	1.790*	
SACERS		
OST: Youth Relationship Building	2.888***	-1.904*
OST: Youth Participation		
OST: Staff Relationship Building		
OST: Instructional Strategies		-1.80*
OST: Activity Content & Structure	2.221**	

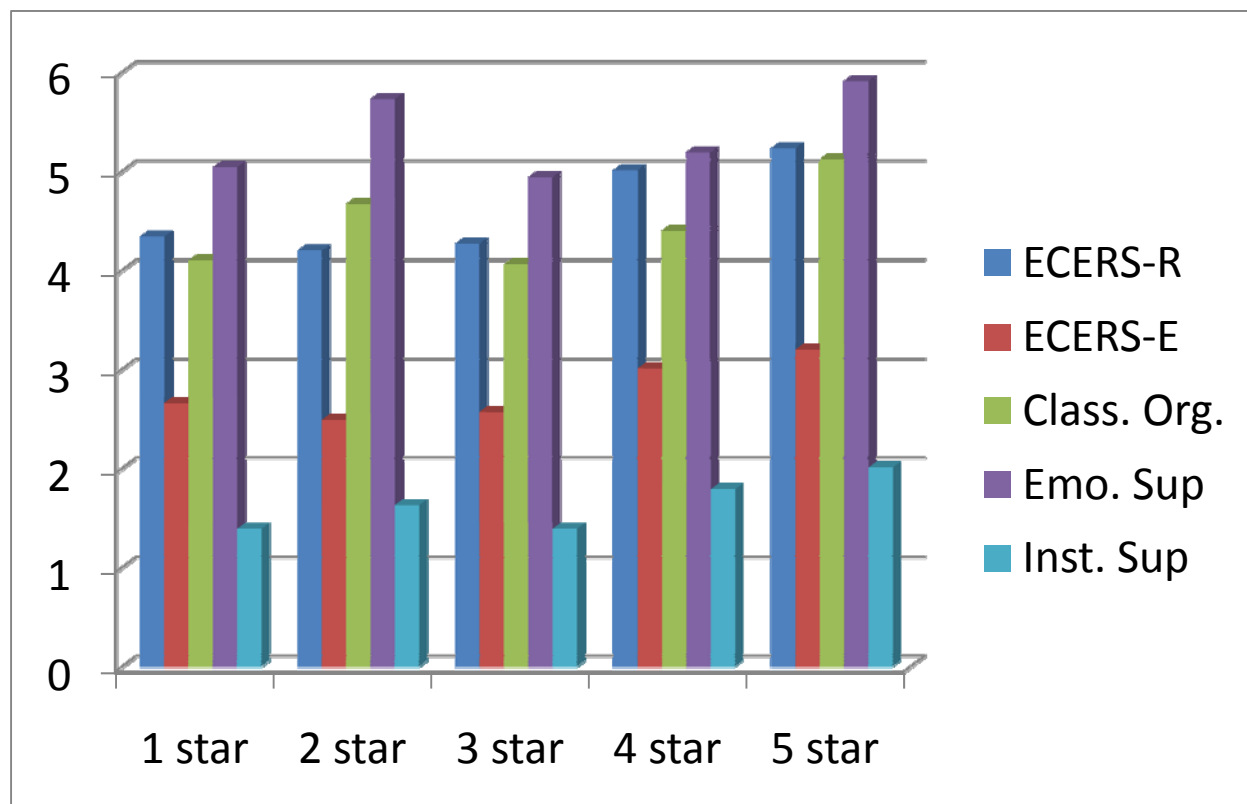
Figure 1: Toddler Data – Differences among stars



Note: All figures are graphic representations of ANOVA's testing the differences in quality measures across star-levels. The y-axis represents average score (all measures scored 1-7).

Interpretation for toddlers: Overall centers with a rating of 5 stars have significantly higher ratings of quality on both the ITERS and the CLASS than 1, 2, and 3 stars. Four-star centers are also significantly different from 1 or 2 star centers on ITERS total average, CLASS Behavior Guidance, and CLASS Instructional Support. Therefore, the rating of 4 stars (in some cases) and 5 star (in all cases) means that children are experiencing higher levels of quality than those children at 1, 2, and/or 3 stars. There is no difference in quality measures between 4 and 5 stars.

Figure 2: Preschool Data – Differences among stars

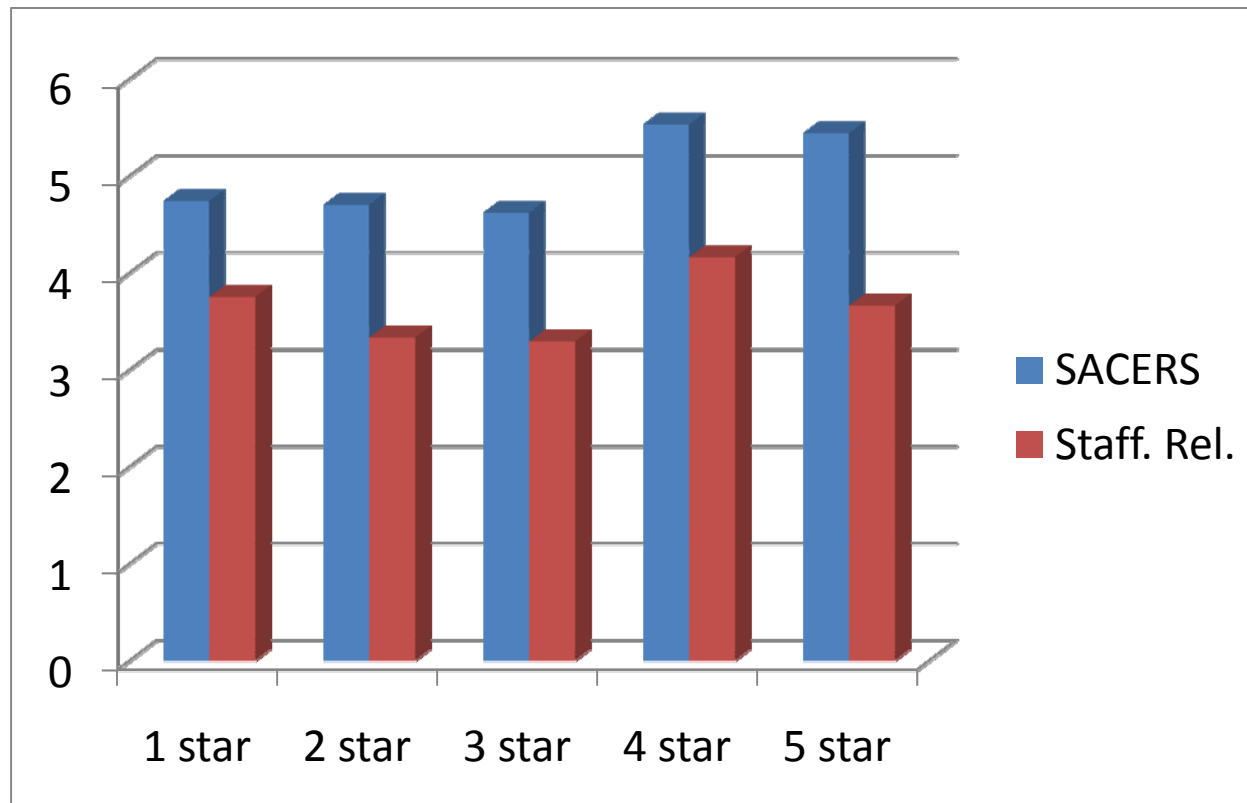


Note: Because POEMS is not scored from 1-7, the ANOVA for the POEMS is not included in this figure. The text below discusses the differences among star-levels for POEMS data.

Interpretation for preschoolers: Overall, centers with a rating of 5 stars have significantly higher ratings of quality on all of the measures (ECERS-R, CLASS, ECERS-E, and POEMS) than 1, 2, and 3 stars. There are some cases in which 4 stars are also significantly different from 1, 2, and 3 star centers including ECERS-E total average, ECERS-E total average, and POEMS total score. Therefore, the rating of 4 stars (in some cases) and 5 star (in all cases) means that children are experiencing higher levels of quality than those children at 1, 2, and/or 3 stars. There is no difference in quality measures between 4 and 5 stars. It is important to note, however, on all of the CLASS domains there is no difference between 2 and 4/5 stars. This is most likely due to less variability among CLASS domain scores.



Figure 3: School age Data – Differences among stars



Interpretation for school agers: Overall, there are few differences among the quality of school age classrooms by star level. The only significant mean differences were found between 3 and 4 stars on OST Staff Relationship Building and between 1, 2, 3, and 4/5 stars on the SACERS. It seems children in 4 and 5 star centers are experiencing higher global quality than children in 1, 2, and/or 3 star centers. However, the OST is either not capturing the differences in process quality for school age children or there is no difference in interactions and processes among school age classrooms of different star levels.