Examining the validity of the ECERS–R: Results from the German National Study of Child Care in Early Childhood

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A B S T R A C T

The psychometric properties of the revised Early Childhood Environment Rating Scale (ECERS–R) were examined using data from the German National Study of Child Care in Early Childhood (NUBBEK). Our findings on the validity of the ECERS–R replicate prior research on the scale's response process validity, structural validity, and criterion validity. The Partial Credit Model (PCM) identified disorder of rating categories. Factor analyses did not identify a single global factor of quality of child care, but three factors. Regression analyses revealed small effect sizes for predicting child outcomes and small to moderate effect sizes for predicting alternative measures of quality. Implications for the use and revision of the scale and the development of other measures of child care quality are discussed.

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1. Introduction

In many countries, the roles of women and men in family life have changed over the last few decades and the two-income family has become an economic necessity. The use of center-based child care and the amount of time children spend in non-parental child care has therefore increased considerably and researchers have started to focus on the quality of center-based child care and its impact on child development. The Early Childhood Environment Rating Scale and its revised versions (ECERS/Harms & Clifford, 1980; ECERS–R/Harms, Clifford, & Cryer, 1998; ECERS–3/Harms, Clifford, & Cryer, 2015) are widely used observational measures of the quality of preschool classroom environments in the field of early childhood education and care for more than 30 years in the U.S. and more than 20 countries worldwide. The ECERS and ECERS–R have also played an important role in documenting positive, but small, relations between child care quality and child development (e.g., Early et al., 2006; Howes et al., 2008; Mashburn et al., 2008; Sylva et al., 2006). Moreover, policymakers have paid increasing attention to the measurement of child care quality and have used the ECERS–R (alone or in combination with other measures) to evaluate and monitor the quality of state child care in order to determine subsidy funding levels.

1.1. Conceptual framework of the ECERS–R

The definition of process quality used in the ECERS–R is based on a large number of empirical studies on early child care settings and reflects quality standards considered to be important by experts, researchers and professional associations independent from their cultural or theoretical background (Tietze, Schuster, Grenner, & Roßbach, 2007). The broad definition of process quality refers to the experience of children in the child care environment including their engagement with materials and activities, and their interactions with caregivers and children (Phillipsen, Burchinal, Howes, & Cryer, 1997). According to the authors' of the ECERS/ECERS–R, "high quality care environments for children must provide for three basic needs that all children have: protection of their health and safety, the facilitation of building positive relationships, and opportunities for stimulation and learning from experience. All three components must exist to create a high quality environment" (Clifford, Reszka, & Rossbach, 2010; p. 2). Although the ECERS/ECERS–R is not based on a specific pedagogical concept or orientation, nor on a specific developmental theory, the emphasis on the fulfillment of children's basic physiological and psychological needs, as an important condition for healthy development, is well in line with developmental theories like self-determination theory (SDT, e.g., Deci & Ryan, 1985; Ryan & Deci, 2000) or attachment theory (e.g., Bowlby, 1969; Ainsworth, 1979). Both theories stress the importance of safe and trustful relationships on the one hand, and the role of autonomous exploration and learning on the other hand as determinants for healthy development.

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The ECERS–R consists of 43 items organized into seven subscales that guide the observer to relevant areas in early childhood classrooms. These include aspects of space and furnishings, personal care routines, language-reasoning, activities, interaction, program structure, and parents and staff (see Table 1). Recently the third edition ECERS-3 (Harms et al., 2015) was released. It encompasses some changes consisting of refining some indicators and removing

the items depending on teacher interview (in particular the subscale Parents and Staff). However, it retains much of the structure of the earlier versions.

The children's basic needs are represented in the qualitative indicators of the items: each item is described by several qualitative indicators for the odd-numbered response categories (1 indicating inadequate quality, 3 indicating minimal quality, 5 indicating

Table 1
Subscales and items of the ECERS–R (Harms et al., 1998; Tietze et al., 2007) ($N = 270$).

Subscales/items	M	SD	Min	Max
Space and Furnishings				
1. Indoor space	2.56	1.01	1	4
2. Furniture for routine care, play and learning	2.65	1.70	1	5
3. Furnishing for relaxation and comfort	2.93	1.42	1	6
4. Room arrangement for play	3.75	1.56	1	6
5. Space for privacy	3.38	1.31	1	6
6. Child-related display	3.01	1.38	1	6
7. Space for gross motor play	3.18	1.41	1	5
8. Gross motor equipment	3.61	1.31	1	5
Personal Care Routines				
9. Greeting/departing	4.96	1.59	1	6
10. Meals/snacks	1.38	0.87	1	4
11. Nap/rest[a]				
12. Toileting/diapering	1.22	0.58	1	3
13. Health practices	1.83	1.16	1	5
14. Safety practices	1.18	0.49	1	3
Language-Reasoning				
15. Books and pictures	3.44	1.35	1	6
16. Encouraging children to communicate	3.24	1.33	1	5
17. Using language to develop reasoning skills	2.97	1.41	1	6
18 Informal use of language	3.81	1.52	1	6
Activities				
19. Fine motor	2.94	1.32	1	5
20. Art	3.70	1.50	1	6
21. Music/movement	3.46	1.47	1	7
22. Blocks	3.70	1.28	1	6
23. Sand/water	2.69	1.34	1	5
24. Dramatic play	3.35	1.18	1	5
25. Nature/science	3.61	1.21	1	6
26. Math/number	2.98	1.31	1	6
27. Use of TV, video, and/or computers[a]				
28. Promoting acceptance of diversity	2.55	1.16	1	5
Interaction				
29. Supervision of gross motor activities	2.28	1.64	1	6
30. General supervision of children (other than gross motor)	2.24	1.73	1	6
31. Discipline	3.56	1.60	1	6
32. Staff–child-interactions	4.76	1.63	1	6
33. Interactions among children	4.62	1.54	1	6
Program Structure				
34. Schedule	2.50	1.06	1	5
35. Free play	2.97	1.48	1	6
36. Group time	4.09	1.50	1	6
37. Provisions for children with disabilities[a]				
Parents and Staff				
38. Provisions for parents[b]				
39. Provisions for personal needs of staff[b]				
40. Provisions for professional needs of staff[b]				
41. Staff interactions and cooperations[b]				
42. Supervision and evaluation of staff[b]				
43. Opportunities for professional growth[b]				
Total score	3.90	0.76	2.21	6.09
Factor 1 score: SpcActStruct	4.26	0.87	1.62	6.62
Factor 2 score: LangInt	5.05	1.22	1.71	7.00
Factor 3 score: SanSaf	2.24	1.13	1.00	6.14

[a] We excluded these items (items 11, 27, and 37) because data were coded as "not applicable" for the majority of the classrooms.

[b] The subscale Parents and Staff (items 38–43) was excluded from the analyses to secure comparability of the results with the publication of Gordon et al. (2013). The remove of the Parents and Staff subscale is also consistent with prior research (e.g., Clifford et al., 2005; Mashburn et al., 2008) and the new version ECERS–3 (Harms et al., 2015). SpcActStruct = items from Space and Furnishings, Activities, and Program Structure subscales; LangInt = items from Language-Reasoning and Interaction subscales; SanSaf = items from Personal Care Routines subscale.