

# Construction and Validation of the Early Social Communicative Behavior Questionnaire

M.E. Buruma, MSc, & E.M.A. Blijd-Hoogewys, MSc, PhD

## Background

In recent years, there has been an increasing interest in the diagnosis of Autism Spectrum Disorders (ASD) in infants (children younger than 3 years). Research has shown that well-trained clinicians can diagnose ASD reliably in children from 18-24 months on (Mossman Steiner et al., 2012). However, the diagnosis of this age group is complex. First, because the presentation of ASD symptoms can be substantially different than that of an older child with ASD. Second, because the distinction between typical development - which does show a lot of variation at this age - and atypical developmental is difficult. Third, because some characteristics of ASD (such as less social responsiveness, delayed development of language, and repetitive behaviors) also may occur in other developmental disorders and syndromes.

In the second year of life, social communication problems become more prominent. Infants can show less/no social interest, deviant eye contact, less response to name, no social smile, less interest in social games and/or less comfort seeking. They also often have problems with joint attention. Joint attention behaviors are defined as three way exchanges that involve another, self and object and may be expressed in the form of referential looks between people and objects, pointing and showing gestures. Next to that, children will show problems with imitation, (non-)verbal communication and symbolic play.

Once diagnosed, early intervention is considered important for infants with ASD, since it may lead to better short- and long-term outcomes. Such programs focus mainly on fostering early social communication, especially joint attention and symbolic play. In order to measure the effect of early intervention programs, there is a need for an instrument that can measure the level of this social communicative functioning. Such an instrument could also be used in diagnostics, since early social communicative problems, including joint attention problems, are one of the most distinctive features in infants with ASD.

## Objective

The objective of this study was to develop a questionnaire that can be easily used to measure early social communicative behavior in infants in a reliable and valid way.

## Methods

The items for the Early Social Communicative Behavior Questionnaire (ESCBQ) are based on 1) extensive research of literature on both typical and atypical development of early social communicative behavior in infants, 2) existing (international) instruments concerning this topic, and 3) clinical expertise with young children with ASD.

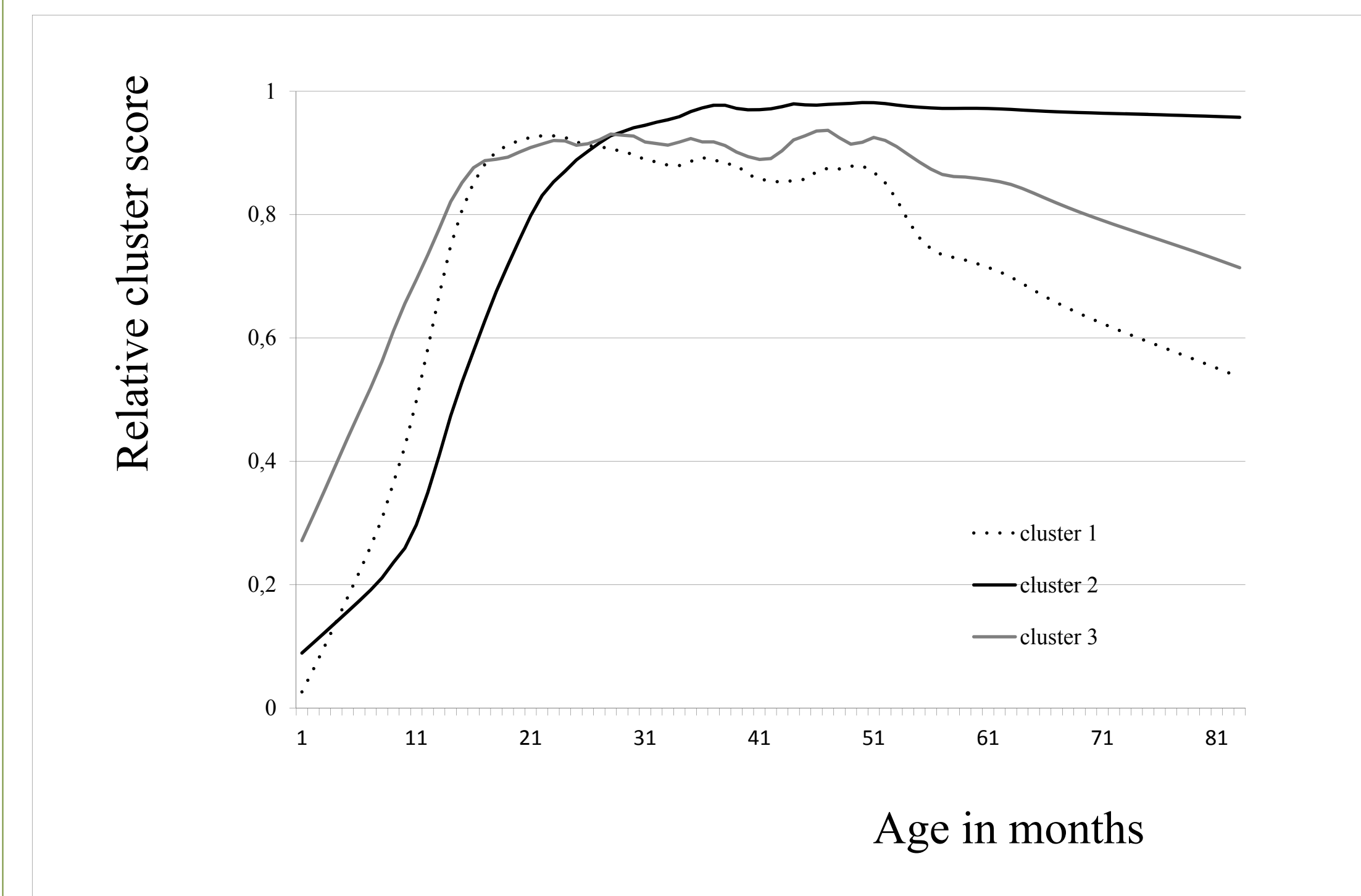
There are 108 dichotomous questions formulated: concerning the first year of life, eye contact, social interest, reaction to name, emotions, attachment, sharing pleasure, taking turns, looking, following gaze, following a pointing finger, pointing, showing, giving, playing, interaction games, imitation, gestures, and language.

It takes 20 minutes to fill in the questionnaire. In order to explore the psychometric properties of the ESCBQ, 1200 parents of typically developing children aged 0-6 years filled in the questionnaire (5201 questionnaires were distributed).

Table 1: Instruments

Instrument	Reference
AOSI	Autism Observation Scale for Infants Bryson et al., 2008
CHAT	Checklist for Autism in Toddlers Baron-Cohen et al., 1992
CSBS-DP	Communication and Symbolic Behavior Scales- ontwikkelingsprofiel Wetherby & Prizant, 2002
ESAT	Early Screening of Autistic Traits Questionnaire Dietz et al., 2006
ESCS	Early Social-Communication Scales Mundy et al., 1996
FYI	First Year Inventory Reznick et al., 2007
M-CHAT	Modified Checklist for Autism in Toddlers Robins et al., 2001
PDDST	Pervasive Developmental Disorder Screening Test Siegel, 1996
Q-CHAT	Quantitative Checklist for Autism in Toddlers Allison et al., 2008
SCATA	Social Communication Assessment for Toddlers with Autism Drew et al., 2007
STAT	Screening Tool for Autism in Two-Year-Olds Stone et al., 2000

Figure 1: Loess of 3 clusters



## Results

The total score of the ESCBQ shows a steady increase with age, with a plateau at 30 months. The internal consistency, based on inter-item reliability, is good (Cronbach's alpha=.97). Also the test-retest reliability (second measurement after 1 week) is good (N=43, Wilcoxon Signed Rank test, M1=93.19 vs. M2=95.63,  $r=.91$ ,  $p=.001$ ). A Principal Component Analysis conveyed three clusters (56% explained variance) (see Figure 1): 1) language, gestures, pretending and symbolic play; 2) pointing and giving; 3) gaze shifting and following attention (gaze and points).

## Conclusions

The ESCBQ is a new test with good psychometric properties. The three clusters found coincide with what is expected from literature. More research is underway, focusing on the use of the ESCBQ as a 'diagnostic' tool and as an indication for effect in the JASPER training in infants with ASD. Kasari, Paparella and Gulsrud developed the JASPER - Joint Attention, Symbolic Play, and Emotion Regulation - training.

## References

- Mossman Steiner, A., Goldsmith, T.R., Snow, A.V., & Chawarska, K. (2012). Practitioner's Guide to Assessment of Autism Spectrum Disorders in Infants and Toddlers. *Journal of Autism and Developmental Disorders*, 42(6), 1183-1196.
- Stickles Goods, K., Ishijima, E., Chang, Y.C., Kasari, C. (2013). Preschool Based JASPER Intervention in Minimally Verbal Children with Autism: Pilot RCT. *Journal of Autism and Developmental Disorders*, 43(5), 1050-1056.

