

# Construction and Validation of the Early Social Communicative Behavior Questionnaire

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## Introduction

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 development 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 (Buruma & Blijd-Hoogewys, 2010). Infants can show problems with social interest, eye contact, response to name, social smile, interest in social games, comfort seeking, imitation, (non-verbal) communication and play. They also often have problems with joint attention. Joint attention behaviors are defined as three way exchanges that involve self, another and an object, and may be expressed in the form of referential looks between people and objects, pointing and showing gestures.

Once diagnosed, early intervention is considered important for infants with ASD, since it may lead to better short- and long-term outcomes. 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 JA problems, are one of the most distinctive features in infants with ASD.

## Methods

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.

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: 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. These result in 18 subscores.

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).

## 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,  $M_1 = 93.19$  vs.  $M_2 = 95.63$ ,  $r = .91$ ,  $p = .001$ ).

All skills are mastered before the age of 2, in typically developing children. Some skills diminish after the age of four. They become less functional and are being replaced by language (looking, pointing & giving) (see Table 1).

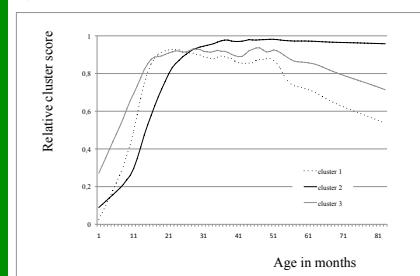
Table 1: Age of mastering skills, according to parents

	Mastery in 80 % of children at age
Eye contact	1
Social interest	1
Sharing pleasure	3
Reaction to name	9
Interaction games	10
Attachment	11
Delayed imitation	12
Emotions	14
Following a pointing finger	14
Looking	15*
Showing	15
Pointing	16*
Taking turns	17
Gestures	17
Giving	18*
Language	22
Following gaze	23
Play	23

Note. \*: These skills diminish after the age of four.

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).

Figure 1: Loess of 3 clusters



## Discussion

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 (Stickles Goods et al., 2013).



## References

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