

# Autism spectrum disorders in preschool children

## - Cognitive aspects and interventions

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### ABSTRACT

**Aim:** The overarching aims of this thesis were to (a) gain further insight into the developmental/cognitive aspects of autism spectrum disorders (ASD) in young children, and (b) assess outcome after interventions of varying intensity. **Methods:** In a prospectively designed longitudinal naturalistic study, 208 preschool children with ASD were comprehensively assessed - including with a variety of cognitive tests and other structured neurodevelopmental/adaptive interviews, observation schedules and questionnaires - before start of intervention and at the end of intervention after two years. Interventions given were based on principles of applied behaviour analysis (ABA) and were classified as intensive or non-intensive. The primary outcome variable was change in Vineland Adaptive Behavior Scales composite scores. Subgroups with Good outcome and Poor outcome were identified by  $\geq 15\%$  positive/negative change in VABS composite scores. **Results:** Considerable changes with regard to ASD type, general cognitive level, adaptive behaviour and expressive speech were found, especially in children with atypical autism and in those with developmental delay/borderline intellectual functioning at the first assessment. About half the total group met criteria for intellectual disability (ID) at the two-year follow-up. Adaptive behaviour levels corresponded well with the level of intellectual functioning. Low processing speed negatively affected general adaptive skills, including in the domains communication, daily living skills, and motor skills. There was no difference in outcome between the intensive and non-intensive intervention groups. The single most important outcome predictor was cognitive level when dichotomized into  $IQ < 70$  vs  $> 70$ . **Conclusions:** Development profiles changed considerably in many children over the two-year period. Low processing speed - possibly indicative of executive dysfunction - was common even in relatively high functioning children. There was no significant difference between the intensive and non-intensive groups with regard to outcome; instead the child's general cognitive level seemed to be the most important factor for prognosis. Children who are diagnosed with ASD at a very young age need to be followed up prospectively over several years. The naturalistic findings do not provide support for the use of very intensive as compared with less intensive ABA intervention in a community-based group of children with ASD.

**Keywords:** Autism Spectrum Disorders, cognition, intervention, children

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