

Aspects of Communication, Language and Literacy in Autism

Child Abilities and Parent Perspectives

Akademisk avhandling

Som för avläggande av medicine doktorsexamen vid Sahlgrenska akademien, Göteborgs universitet kommer att offentligen försvaras i hörsal Arvid Carlsson, Academicum, Medicinargatan 3, fredagen den 8 mars 2019, klockan 13.00

av Emilia Carlsson

Fakultetsopponent:

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Avhandlingen baseras på följande delarbeten

- I. Åsberg Johnels, J., Carlsson, E., Norbury, C., Gillberg, C., & Miniscalco, C. (2018). Current Profiles and Early Predictors of Reading Skills in School-Age Children with Autism Spectrum Disorders: A longitudinal, retrospective population study. *Autism*, Published online 7 Dec.
- II. Carlsson, E., Miniscalco, C., Gillberg, C., & Åsberg Johnels, J. (2018). Assessing False-Belief Understanding in Children with Autism Using a Computer Application: A Pilot Study. *Journal of Psycholinguistic Research*, 1-15.
- III. Carlsson, E., Åsberg Johnels, J., Gillberg, C., & Miniscalco, C. Narrative Skills in Primary School Children with Autism: Relation to Language and Nonverbal Event Sequencing. *Manuscript*.
- IV. Carlsson, E., Miniscalco, C., Kadesjö, B., & Laakso, K. (2016). Negotiating knowledge: parents' experience of the neuropsychiatric diagnostic process for children with autism. *International Journal of Language & Communication Disorders*, 51: 328–338.

**SAHLGRENKA AKADEMIN
INSTITUTIONEN FÖR NEUROVETENSKAP OCH
FYSIOLOGI**



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Abstract: The main aim of this thesis was to investigate literacy, ‘theory of mind’ (ToM) and narrative ability in children who had screened positive for autism spectrum disorders (ASD) (comprehensively assessed for neuropsychiatric problems), and relate the findings to their structural linguistic capacity, as measured by language tests at the word and sentence levels. Considering the important roles of families in shaping children’s language socialisation, another aim was to explore the parental experiences of having a child go through the neuropsychiatric and language diagnostic process. The thesis includes four substudies. Almost 200 children participated in one or several of the substudies. Children with ASD were recruited after general population screening and non-ASD comparison children were recruited from schools. Eleven parents of the children with ASD were also included.

Study I, aimed to investigate early and concurrent predictors of reading ability in children who had screened positive for ASD. Children were grouped into three types of reading profiles at 8 years of age: approximately one third were skilled readers, half had difficulties with both word reading and reading comprehension and one fifth were ‘*hyperlexic*’ (i.e. strong word decoding but poor comprehension). Children who showed poor reading comprehension also displayed oral language difficulties concurrently and already at age 3 years. In Study II, a computer application, manipulated in three conditions, was used to investigate the influence of verbal support in ToM. Neither verbal support during the ToM conditions nor higher language ability in the children with ASD was obviously linked to a better outcome on the ToM task. As expected, the ASD group performed poorer than age-matched peers without ASD on the ToM task. Study III, aimed to describe oral narrative ability in children with ASD and determine how it is related to structural language ability) and non-verbal cognitive abilities in children with and without ASD. The results for the ASD group were compared with those for both an age-matched and a younger language-matched group of children without ASD. The ASD group used shorter sentences and fewer subordinate clauses in their retold narratives. Further analyses showed that nonverbal sequential reasoning and language ability explained unique variance in their narrative performance. In Study IV, in-depth interviews were conducted with parents of 11 children with ASD included in the thesis. Following a qualitative phenomenological hermeneutic method, the essence that emerged was ‘negotiating knowledge’ and three main themes were: ‘seeking knowledge’, ‘trusting and challenging experts’, and ‘empowered but alone’.

To conclude, a clear influence of language was shown for both literacy and narrative ability in children with ASD, implicating a need for a comprehensive assessment of language abilities, in order to better clinically and educationally support children and families. However, the current study also provides evidence that structural language alone cannot explain all aspects of communicative difficulties in ASD. Future studies should continue to focus on structural language ability and other possible predictors of communication development in ASD, and also place more emphasis on the families’ experiences, by involving them in developing future research.

Keywords: Autism spectrum disorders, communication, language, theory of mind, literacy, reading, narrative ability, children, parents