The role of visual complexity in the development of typical and autistic children. B: children 4- 7 years old

Published: 13-02-2007
Last updated: 09-05-2024

The overall aim of this prospective study is identifying early markers for Autistic Spectrum Disorders by following the developmental track of visual perception in normal and abnormal development, eventually leading to a basis for effective...

Ethical review	Approved WMO
Status	Pending
Health condition type	Developmental disorders NEC
Study type	Observational non invasive

Summary

ID

NL-OMON30252

Source
ToetsingOnline

Brief title
Visual Complexity in Autism: B

Condition

- Developmental disorders NEC

Synonym
autism, pervasive developmental disorders

Research involving
Human

Sponsors and support

Primary sponsor: Universitair Medisch Centrum Sint Radboud
Source(s) of monetary or material Support: NWO

Intervention

Keyword: Autistic Disorder, Child, Visual Perception

Outcome measures

Primary outcome

For the eye tracking studies, number of gaze shifts and (proportion) looking times will be analysed overall, and for predefined areas of interest. Repeated measurements general linear model analyses of variance shall be performed.

Reaction times shall be measured by means of a touch screen and analysed by a repeated measurements general linear model analyses of variance

For the ERP study, repeated measures analyses shall be performed separately for peak amplitudes and peak latencies.

Secondary outcome

n.a.

Study description

Background summary

Autistic Spectrum Disorder (or ASD) is a pervasive developmental disorder characterized by impairments in reciprocal social interaction, in verbal and nonverbal communication domain, and by restricted/stereotypical behavior (DSM-IV). This lifelong handicap has an estimated prevalence of 13 per 10,000. For a long time, it was thought that ASD was due to a fundamental problem in processing social and emotional information. However, lately evidence is emerging for differential perceptual processing in individuals with ASD that points to a more general underlying cognitive problem. Especially in the field of visual perception, clear indications of abnormal processin have been found, that could be the basis for the wide range of symptoms found in ASD. A recent theory that seeks to explain the perceptual abnormalities in ASD is the complexity-specific theory, which emphasizes diffuse neural dysfunction of neuro-integrative mechanisms. Complexity of different stimuli is thus seen as the detrimental factor for ASD. As compensatory processes can conceal the

"core" disfunction, it is critical to shed light on the early evolvement of perceptual organization and follow the developmental path of normal and abnormal development. This project will investigate the influence of different dimensions and degrees of visual complexity on perceptual organisation in early development of ASD.

Study objective

The overall aim of this prospective study is identifying early markers for Autistic Spectrum Disorders by following the developmental track of visual perception in normal and abnormal development, eventually leading to a basis for effective treatment of Autistic Spectrum Disorders. To achieve this overall aim, we have the following short-term aims:
1. to characterize how various levels of complexity of objects and contexts affect visual intake in typical and abnormal development.
2. to characterize how various levels of complexity of objects and contexts affect interpretation of visual information-intake in typical and abnormal development.

Study design

Children will be taking part in the observational experiments twice, with a year interval. The eye tracking and reaction time research for the infants with Autistic Spectrum Disorder shall take place at Karakter Nijmegen - University Center for Child and Adolescent Psychiatry of the Radboud University Medical Centre. The control groups shall be tested in the lab of Prof. Dr. H. Bekkering of the Nijmegen Institute for Cognition and Information (NICI, Radboud University Nijmegen). The ERP measurement for all groups shall take place in the EEG babylab of the FC Donders Centre.

Study burden and risks

n.a.

Contacts

Public
Universitair Medisch Centrum Sint Radboud

Reinier Postlaan 10
6500HB Nijmegen
NL
Scientific
Universitair Medisch Centrum Sint Radboud

Reinier Postlaan 10
6500HB Nijmegen
NL

Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Children (2-11 years)

Inclusion criteria

-The participant should meet the criteria for Autistic Disorder, or Asperger Disorder, or PDD-NOS as specified in DSM-IV.
-Age between 4 and 7 year

Exclusion criteria

-Participant has also been diagnosed with organic brain disorder.
-Level of intelligence as measured with standard test, or as estimated is below 30.

Study design

Design

Study type:	Observational non invasive
Intervention model:	Other
Allocation:	Non-randomized controlled trial
Masking:	Open (masking not used)
Control:	Active

Primary purpose:	Basic science

Recruitment

NL

Recruitment status:	Pending
Start date (anticipated):	01-01-2007
Enrollment:	120
Type:	Anticipated

Ethics review

Approved WMO

Application type:	First submission
Review commission:	CMO regio Arnhem-Nijmegen (Nijmegen)

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

Register	ID
CCMO	NL15084.091.06