Defeasible inferences in Autistic Spectrum Disorders - An EEG study

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The primary objective of this study is to investigate defeasible inference in ASD in order to obtain more insight into the reasoning capacities of ASD patients. This study is part of the NWO-project Reasoning and the brain.

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

Summary

ID

NL-OMON31159

Source
ToetsingOnline

Brief title
Reasoning and the brain

Condition

- Developmental disorders NEC

Synonym
autism

Research involving
Human

Sponsors and support

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

Intervention

Keyword: autism, EEG, language comprehension, reasoning

Outcome measures

Primary outcome

EEG data

Secondary outcome

neuropsychological data

Study description

Background summary

Although a lot of experimental work has been done in the psychology of reasoning, little is known about the reasoning capacities of patients with ASD. This study will therefore investigate the reasoning capacities of ASD patients and focus on defeasible inferences. These are inferences that can be cancelled when there is enough evidence to do so. We will look at implicatures and suppression of conditional inferences:

1) Although ASD patients have difficulties with reasoning about other people*s belief, we found in a behavioral task that ASD participants are more sophisticated pragmatic reasoners than we thought, in the sense that they were capable in drawing implicatures. However, reaction times showed the task was harder to process for the ASD participants than the control group. Because reaction times are a coarse measure of information processing and sensitive to strategies that people are applying, the current study will further explore the processing of implicatures in autism by means of EEG.

2) We found that ASD patients have specific problemswith integrating an exception in a reasoning task. However, they have no problems with integrating new information in general. To get more insight into how the autistic brain deals with suppression of conditional inferences, the current study will further investigate the suppression effect by means of EEG

Study objective

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patients. This study is part of the NWO-project Reasoning and the brain.

Study design

Brain activity will be registered by using ERPs. After electrode application, participants will be seated in a sound-attenuating booth and they will be presented sentences at a computer screen. Participants will be told that EEG recording occurs as they read the sentences, and that during recording they should avoid all movements, including eye movements and blinks. After reading the sentences, participants have to judge whether a statement was correct by pressing a button

In this study, between-subject comparisons will be made.

Study burden and risks

For participation participants have to visit the F.C. Donders Centre onetime and the experiment will take around 4-5 hours (including breaks and preparation).

EEG is a noninvasive method to record brain activation and there are no known risks.

Contacts

Public
Universitair Medisch Centrum Sint Radboud

Postbus 9101
6500 HB Nijmegen
Nederland
Scientific
Universitair Medisch Centrum Sint Radboud

Postbus 9101
6500 HB Nijmegen
Nederland

Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Adults (18-64 years)
Elderly (65 years and older)

Inclusion criteria

diagnosis of autistic disorder or Asperger disorder based of DSM-IV criteria

Exclusion criteria

- sensory impairments
- neurological impairments
- experienced any neurological trauma
- used neuroleptics.
- severe comorbidity
- non-native speakers of Dutch

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:	Other

Recruitment

NL

Recruitment status:	Pending
Start date (anticipated):	01-07-2007
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	NL17664.091.07