Language and Attention

Published: 02-06-2010
Last updated: 02-05-2024

The study has three main objectives:a) to investigate whether autistics can achieve normalized levels of language processing when receiving explicit attentional instructions. b) to study if (and if yes, how) an instructed attentional change towards...

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

Summary

ID

NL-OMON34708

Source
ToetsingOnline

Brief title
Language and Attention

Condition

- Developmental disorders NEC

Synonym
autism spectrum disorder, contact disorder

Research involving
Human

Sponsors and support

Primary sponsor: Radboud Universiteit Nijmegen
Source(s) of monetary or material Support: Ministerie van OC&W

Intervention

Keyword: Attention, Autism, Central coherence, Language

Outcome measures

Primary outcome

The effect of an instructed attentional focus on language processing is tested

a) on a behavioral level measuring reaction times and accuracy rates and b) on

a neuropsychological level measuring ERP-effects

Secondary outcome

Not applicable.

Study description

Background summary

Language and communication problems are key characteristics of autism spectrum disorders. According to several theories, language problems in autism arise from a bias towards detailed information, resulting in a failure to process higher levels of language such as semantics, syntax and pragmatics. Yet, recent results suggest that although individuals with autism are biased to attend to details, they are actually able to process information for its global meaning when instructed to do so. It therefore is assumed that autistic information processing is caused by superior local information processing, rather than a deficit in global information processing.
However, from our point of view, the drive to process language for its details might very well stem from a deficit. We expect the focus on details to be a necessary adaptation of the autistic individual. We propose that during normal language development, children become increasingly automatised in language processing, enabling them to attend to increasingly higher levels of language (e.g. semantics, syntax), without jeopardizing lower level processing (e.g. orthography). In individuals with autism, however, lower level processing remains relatively attention demanding, leading to performance deterioration at this lower level, whenever attention is directed at a higher level. This is in contrast with current theories about information processing in autism, which assume superior processing of local aspects of language regardless of performance at other levels of language.

Study objective

The study has three main objectives:

a) to investigate whether autistics can achieve normalized levels of language processing when receiving explicit attentional instructions.

b) to study if (and if yes, how) an instructed attentional change towards higher levels of language affects the simultaneous processing of lower language levels.

c) to examine whether differences in attention needed for language processing can be observed not only on a behavioural, but also on a neuropsychological level, measuring Event Related Potentials.

Study design

The proposed theory will be studied in a series of experiments during which autistic and typically developing participants will be tested on lower levels (orthography) and higher levels (semantics, syntax) of visual language processing.
During the experiments, the participants will be reading sentences from a computer screen. Each participant will be tested on three conditions; a) a low-level condition in which participants are instructed to focus only on lower-level information, b) a high-level condition in which participants are instructed to focus only on higher-level information, c) a dual-level condition in which participants are instructed to analyze both lower-level and higher-level information.
It will be examined how the instructed attentional focus affects the proficiency of processing on various levels of language. The experiments only differ in the high-level aspect of language that is included. The experiments will be conducted twice with different participants; once measuring behavioral parameters and once measuring Event Related Potentials.

Study burden and risks

The burden associated with participation is minimal. Autistic participants are free to choose how many experiments they would like to participate in. They can decide to participate in one or more experiments (45-60 minutes per experiment). In addition, autistic participants are offered the possibility to participate in multiple experiments at one day. Only when psychological background information about the autistic participant is absent or outdated, psychological tests will be administered to the participant under supervision of a GZ-psychologist working at the institution. The non-autistic participants will participate in only one of the experiments, and they have to perform only one psychological test.
Furthermore, we expect the risks associated with participation to be minimal. The study does not involve a clinical trial. We do not intervene on any aspect of a participant*s life. We do not administer a drug or other forms of treatment to the participants. The tasks we use to observe language processing

are similar to tasks that have to be performed at school (reading sentences). Duration of the experiments is less than one hour, and the participants decide for themselves how many experiments they will be participating in. We therefore do not expect the study to lead to significant disabilities, incapacities or mental health problems.

Contacts

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Trial sites

Listed location countries

Netherlands

Eligibility criteria

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

Inclusion criteria

Autistic participants:
- Diagnosis Autistic Disorder;Autistic and non-autistic participants:
- 18-21 years of age

- Normal to above-normal intelligence

Exclusion criteria

Non-autistic participants:
- Diagnosis Autistic Disorder;Autistic and non-autistic participants:
- Diagnosis Pervasive Developmental Disorder Not Otherwise Specified
- Diagnosis Asperger's Disorder
- Diagnosis attention deficit disorder
- Reading disorders

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):	01-06-2010
Enrollment:	60
Type:	Anticipated

Ethics review

Approved WMO

Date:	02-06-2010
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	NL30384.091.10