Reading problems in a developmental perspective: the influence of auditory problems.

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Uncover the role of auditory and phonological factors in early literacy.

Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Other condition
Study type	Observational non invasive

Summary

ID

NL-OMON31908

Source
ToetsingOnline

Brief title
Auditory problems and Dyslexia

Condition

- Other condition

Synonym
Developmental dyslexia

Health condition

leesontwikkelingsstoornissen

Research involving
Human

Sponsors and support

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

Intervention

Keyword: children, developmental dyslexia, ERP, speech discrimination

Outcome measures

Primary outcome

This research project involves the use of three well-established ERP components to tap into different levels of phonological processing in the brain: 1) Mismatch negativity to explore the development of phonological representations, 2) ERP auditory rhyming effect to investigate early stages of phonological awareness, and 3) the go/no-go N200 effect to track the development of phonological segment recognition. Also the behavioral responses of the subjects like response latencies and accuracy will be measured.

Secondary outcome

n.v.t.

Study description

Background summary

In the first few months of first grade children learn how to read. This process is preceded by the development of an awareness that the stream of spoken language can be divided in sentences, words and phonemes: phonological awareness. Phonological awareness develops during childhood, but continues to grow in first grade and has a reciprocal relationship with the reading process (Blachman, 2000). About five percent of the population develops reading problems as a result of a phonological deficit. It is still unclear why some children with an auditory deficit develop a phonological deficit and reading problems, and some not. Therefore research is needed into the specific nature

of an auditory deficit and the causal relationship between phonological awareness and reading.

Study objective

Uncover the role of auditory and phonological factors in early literacy.

Study design

This study is designed as a behavioral longitudinal study in which children with a genetic risk for dyslexia and phonological problems will be followed from the last year of kindergarten to the end of second grade and compared to a control group of normally developing children.

Study burden and risks

There are no risks associated with the study. The burden for the children is extremely low. The EEG will be recorded using ActiCap electrode sets. These caps are easy to apply, and especially suited for testing children. EEG measurement will take place in a minivan that is especially designed to test children at the location of their school or home, which minimizes the burden even further. Momentarily the minivan and all products are successfully used at the Behavioural Science Institute and the F.C. Donders Centre for Cognitive Neuroimaging for EEG recording in kindergartners, primary school children, and young children suffering from cerebral palsy. Experimental tasks are designed in such a way that they can be easily carried by the study population to keep the cognitive burden at a minimum.

Contacts

Public
Katholieke Universiteit Nijmegen

Postbus 9104, Montessorilaan 3
6500 HE Nijmegen
NL
Scientific
Katholieke Universiteit Nijmegen

Postbus 9104, Montessorilaan 3
6500 HE Nijmegen
NL

Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Children (2-11 years)

Inclusion criteria

-One of the parents and one other family member is diagnosed with dyslexia.
-A child is healthy and in the second year of kindergarten at the start of the study.
-Children with normal intelligence (IQ > 85).
-Native language is Dutch.

Exclusion criteria

-Children with developmental, psychiatric, or neurological disorders.
-Children who*s native language is not Dutch
-Children being able to read at the start of the study
-Children with severe hearing or vision problems (auditory or visual problems that cannot be corrected to normal by the use of an aid).

Study design

Design

Study type: Observational non invasive

Masking:	Open (masking not used)
Control:	Uncontrolled
Primary purpose:	Diagnostic

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	28-01-2009
Enrollment:	100
Type:	Actual

Ethics review

Approved WMO Date:	05-11-2008
Application type:	First submission
Review commission:	CMO regio Arnhem-Nijmegen (Nijmegen)
Approved WMO Date:	24-02-2009
Application type:	Amendment
Review commission:	CCMO: Centrale Commissie Mensgebonden Onderzoek (Den Haag)
Not approved Date:	25-01-2010
Application type:	Amendment
Review commission:	CCMO: Centrale Commissie Mensgebonden Onderzoek (Den Haag)

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	NL22975.091.08