The Development of Advanced Reading Skills: An Investigation of Normalization and Compensation Effects among Children with a Familial Risk of Dyslexia.

Published: 16-05-2012 Last updated: 30-04-2024

Our main objective is to investigate if and how advanced reading skills such as text comprehension and text reading develop among children who have a familial risk of dyslexia in comparison to a control group. Furthermore we would like to...

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

Summary

ID

NL-OMON37633

Source ToetsingOnline

Brief title

Normalization and Compensation among Children At-Risk for Dyslexia

Condition

• Other condition

Synonym Dyslexia, Specific Reading Disorder, Wordblindness

Health condition

dyslexie

Research involving

1 - The Development of Advanced Reading Skills: An Investigation of Normalization an ... 5-05-2025

Human

Sponsors and support

Primary sponsor: Rijksuniversiteit Groningen Source(s) of monetary or material Support: NWO

Intervention

Keyword: Dyslexia, EEG, Longitudinal study, Reading

Outcome measures

Primary outcome

- Performance (reaction times and accuracy) on behavioural tests investigating

reading comprehension, text reading, word reading, vocabulary, spelling and

executive functioning.

- Brain measures during phonological, orthographic and semantic judgement tasks

Secondary outcome

There is data available from earlier measurements with the same children, these

data may be linked to the data from the present study.

Study description

Background summary

In our modern society reading is a very important skill. However, for a small subgroup of about 5 percent of the population reading is a skill that is very hard to acquire. This group of children is often diagnosed with dyslexia. They show persistent difficulties with the decoding of words from letters to sounds despite a normal intelligence and adequate schooling. Dyslexia is partially hereditary, children with a parent with dyslexia have a risk of 30-60% to develop dyslexia themselves. It has been shown that children and adults with dyslexia show different patterns of brain activity during reading tasks in comparison to control groups.

Some but not all children with dyslexia have, in addition to word reading difficulties, also problems with more advanced reading skills such as reading

comprehension and text reading. Furthermore, the final reading level that children with dyslexia achieve is highly variable. There is relatively little research that has investigated the different outcomes of dyslexia. The present study aims to change this by linking patterns of brain activity to advanced reading skills, and to data collected in a longitudinal study of dyslexia.

Study objective

Our main objective is to investigate if and how advanced reading skills such as text comprehension and text reading develop among children who have a familial risk of dyslexia in comparison to a control group. Furthermore we would like to investigate whether at-risk children with and without dyslexia differ quantitatively or qualitatively on measures of brain activity, and whether normalisation or compensation (in comparison to the control group) takes place in the brain among the better at-risk readers.

Study design

A quasi-experimental approach will be used. Children with a familial risk for dyslexia will be compared with a control group, and within the at-risk group a comparison will be made between children with and without dyslexia.

Study burden and risks

The children and their parents will be invited to the NeuroImaging Centrer (NIC) for one whole-day or two half-day visits close together in time, depending on the preference of the parents and the child. During one 90-120 minute session the behavioural measures will be conducted, and during another session the ElectroEncephaloGraphy (EEG) will be recorded while the children perform judgement tasks. Including application of the EEG this will take another 90-120 minutes. In addition, the children will be asked to complete a digital test of reading comprehension, listening comprehension and vocabulary at home at the end of grade 6. If the children have not been tested at the NIC at the end of grade 6, a short 30 minute measurement will take place at the end of grade 6. There are no risks associated with the EEG or the behavioural tests used during this study.

Contacts

Public Rijksuniversiteit Groningen

P.O. Box 716 9700 AS Groningen NL **Scientific** Rijksuniversiteit Groningen

P.O. Box 716 9700 AS Groningen NL

Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age

Adolescents (12-15 years) Adolescents (16-17 years) Children (2-11 years)

Inclusion criteria

- Children who have participated in the Dutch Dyslexia Program (for the pilot not applicable)
- Attending a regular primary or secondary school
- Parental informed consent for participation
- Child*s informed consent for participation if the child is older than 12

Exclusion criteria

- Uncorrected vision or hearing problems
- Brain damage as a result of injury or a medical condition
- Serious health or psychiatric problems as reported by the parents
- When children wear contact lenses they have to have glasses with a similar strength in order to take part in the EEG part of this study
- Children with an IQ below 85 (determined on the basis of previous research)

- Children with a history of serious speech and language problems (determined on the basis of previous research)

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:	Recruitment stopped
Start date (anticipated):	14-08-2012
Enrollment:	80
Туре:	Actual

Ethics review

Approved WMO	
Date:	16-05-2012
Application type:	First submission
Review commission:	METC Universitair Medisch Centrum Groningen (Groningen)

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 CCMO ID NL39988.042.12