Brain development between ages 8 and 25: Development of the social brain

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The key objectives of this study is to examine i) the neural correlates of social interactions with peers, ii) to examine the development of these neural patterns across adolescence, and iii) to focus on their links with psychosocial adjustment.

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

Summary

ID

NL-OMON34442

Source
ToetsingOnline

Brief title
SBD

Condition

- Other condition

Synonym
n.a.

Health condition

Geen aandoening!! Onderzoek naar gezonde hersenontwikkeling, hersenfunctie, hersenstructuur en gedrag

Research involving
Human

Sponsors and support

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

Intervention

Keyword: decisionmaking, fMRI, peer relationships, social brain development

Outcome measures

Primary outcome

1. Behavior as assessed by computer tasks on decision-making

2. Functional MRI to gain information on task-related brain activity during

decision-making

3. Structural MRI, to gain information on gray and white matter properties

4. DTI, to gain specific information on white matter microstructure and

fibertracking

Secondary outcome

Problem behavior levels and psychosocial functioning (depressive symptoms and

scores on the Child Behavior Checklist)

Study description

Background summary

The formation and maintenance of peer relationships is one of the most important developmental tasks across adolescence. During this period peer relationships become more diverse and complex. The current project aims to study the neural mechanisms underlying social interactions with peers across adolescence. We will examine various aspects of social interactions, such as fairness, trust and reciprocity, and helping, with different relationship partners, namely positive peers (friends), negative peers (antagonists), and neutral classmates as well as anonymous (not personally known) peers. The proposed innovative approach will not only help to examine neural mechanisms

involved in peer relationships across adolescence, but will also provide us with insights into the role of brain development in links between positive interactions with peers and psychosocial adjustment.

Study objective

The key objectives of this study is to examine i) the neural correlates of social interactions with peers, ii) to examine the development of these neural patterns across adolescence, and iii) to focus on their links with psychosocial adjustment.

Study design

This study uses an experimental design. Participants will perform computerized decision-making tasks and we will measure brain activation using functional Magnetic Resonance Imaging (fMRI) while they are performing the tasks.

Study burden and risks

There are no known risks associated with participating in an fMRI study. (see also p. 29-30)

This is a noninvasive technique involving no catheterizations or introduction of exogenous tracers. Numerous children and adults have undergone magnetic resonance studies without apparent harmful consequences. Some people become claustrophobic while inside the magnet and in these cases the study will be terminated immediately at the subject's request. The only absolute contraindications to MRI studies are the presence of intracranial or intraocular metal, or a pacemaker. Relative contraindications include pregnancy and claustrophobia. Subjects who may be pregnant, who may have metallic foreign bodies in the eyes or head, or who have cardiac pacemakers will be excluded because of potential contraindications of MRI in such subjects. Although there is no direct benefit to the participants from this proposed research, there are greater benefits to society from the potential knowledge gained from this study. This knowledge about normal development is critical to aid in the understanding of cases of abnormal development, as seen in children with autism, schizophrenia, Attention Deficit Hyperactivity Disorder, Obsessive-Compulsive Disorder, Tourette*s syndrome, or traumatic brain injury.

Contacts

Public
Selecteer

Postbus 9555
2300RB Leiden
NL
Scientific
Selecteer

Postbus 9555
2300RB Leiden
NL

Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Adolescents (12-15 years)
Adolescents (16-17 years)
Adults (18-64 years)
Children (2-11 years)
Elderly (65 years and older)

Inclusion criteria

See also page 21 in the protocol
1. Healthy children, adolescents and young adults without a history of neurological disorders
2. Right-handedness
3. No counter-indications for MRI
4. Native Dutch speakers

Exclusion criteria

1. Left-handedness
2. A history of psychiatric and/or neurological disorders
3. Counter-indications for MRI (such as metal implants, heart arrhythmia, claustrophobia and possible pregnancy)

Study design

Design

Study type: Observational non invasive

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

Recruitment

NL

Recruitment status:	Recruiting
Start date (anticipated):	01-02-2011
Enrollment:	400
Type:	Actual

Ethics review

Approved WMO

Date:	17-12-2010
Application type:	First submission
Review commission:	METC Leids Universitair Medisch Centrum (Leiden)

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	NL34045.058.10