Neural correlates of social decision-making before and after acute rejection in stable accepted and chronically rejected children: enriching an ongoing longitudinal study

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Ethical review	Approved WMO
Status	Recruiting
Health condition type	Other condition
Study type	Interventional

Summary

ID

NL-OMON45107

Source
ToetsingOnline

Brief title
Neural correlates of peer rejection and social decision-making in children

Condition

- Other condition

Synonym
neural correlates of social decision making

Health condition

neural correlates of social decision making

Research involving
Human

Sponsors and support

Primary sponsor: Erasmus Universiteit Rotterdam
Source(s) of monetary or material Support: NWO middelgroot

Intervention

Keyword: neural correlates, peer rejection, social decision making, social exclusion

Outcome measures

Primary outcome

1. The change in choice behaviour in the Dictator Game before and after the Cyberball Game between chronically rejected and stable accepted children. Choice behaviour will be measured by the donated percentage of coins (out of 10 coins) per trial between themselves and the recipient (that is, a best friend, an anonymous (neutral) recipient, or a sex matched excluder from the Cyberball Game). Participants can choose from three fixed divisions, namely: 7 for themselves, and 3 for the recipient (7/3); 5 for themselves, 5 for the recipient (5/5); or 3 for themselves, 7 for the recipient (3/7).
2. The difference in blood oxygen dependent (BOLD) signal changes (an indirect measure of neural activation) during choice behaviour in the Dictator Game before and after the Cyberball Game between chronically rejected and stable accepted children.

Secondary outcome

1. Seed based functional connectivity during resting state
2. The brain*s default mode network (DMN)

3. anatomical (frontostriatal) connectivity

Study description

Background summary

Social exclusion is very stressful and results in feelings of hurt, which is reflected in activity in brain regions involved in affective processing and physical pain. Children and adolescents who are rejected by classroom peers suffer from widespread impairments in mental health that can persist across development. A potential mechanism through which peer rejected children may develop mental health problems is a heightened emotional and neural reactivity to negative experiences that accompanies a rejected status (e.g., being ignored, excluded). Such psychosocial stress can have detrimental effects on long-term decision-making and can affect prosocial behaviour both positively towards new sources of and negatively towards excluders. It is unclear, however, whether these tendencies are evoked only after an acute experience of social rejection equally among all children, or whether previous experiences of rejection in classrooms shape the responses of individuals to a new social rejection experience. We hypothesize that prior experiences of peer social rejection enhance children*s sensitivity towards future rejection.
Research on the shaping of responses following social rejection have used adult and adolescent samples. However, peer rejection emerges directly following the transition to elementary school. This childhood period is also a crucial period for the onset and development of internalizing and anxiety problems, as such problems surface in childhood, and are predictive of serious maladjustment later in life such as psychiatric disorders. Furthermore, studying elementary school children in addition to adolescents is important because of a number of relevant differences between the childhood and adolescent period. For example, a disruption of social networks accompanies the transition to high school, as the transition into adolescence is marked by an increase in peer orientation. This fills the need for peer acceptance. Importantly, adolescent changes in this social reorientation co-occur with structural and functional changes in the brain. Consequently, results from studies that focus on peer orientation in young adolescents are not necessarily transferable to elementary school children. It therefore seems crucial to study what the role is of peer rejection on social decision-making in late childhood and what it*s neural correlates are.

Study objective

The overall aim of this study is to elucidate the neural correlates of the effect of social exclusion on social decision-making in chronically rejected and stable accepted children. The secondary aim is to investigate whether

deviant sensitivity towards rejection signals also encompasses task independent functional connectivity differences of brain regions involved in social rejection.

Study design

This study will be a controlled non-randomized observational explorative fMRI study.

Intervention

The Cyberball game (Williams & Jarvis, 2006) will be used as an experimental manipulation. This paradigm was chosen because research has shown that Cybermall results in only temporary effect on mood (Will, van Lier, Crone, & Güro*lu, 2015). Specifically, in this study it was found that all participants showed decreases in mood following Cyberball exclusion, and that these decreases were similar between children with high versus low social preference scores. Importantly, such decreases were temporarily as 30 minutes after Cyberball exclusion both children with low or high social preference scores had similar levels of mood, which were similar to their mood levels at pre-exclusion.

Study burden and risks

There are no risks directly associated with this study if the exclusion criteria are met. The burden associated with participation is minimal. On the testing day, participants will complete questionnaires on their social experiences and mood state and will have a practise session in a mock fMRI scanner. After that, subjects perform computer tasks (Dictator Game and Cyberball Game) in the fMRI scanner (time in scanner max. 50 min). The visit will last 2 hours in total. The risks of MRI scanning are negligible. This study is relevant to gain more insight into the brain function of peer rejected and peer accepted children in social contexts.

Contacts

Public
Erasmus Universiteit Rotterdam

Burgemeester Oudlaan 50
Rotterdam 3062 PA
NL
Scientific
Erasmus Universiteit Rotterdam

Burgemeester Oudlaan 50
Rotterdam 3062 PA
NL

Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Children (2-11 years)

Inclusion criteria

Boys, aged 10 years old, with an low (30% lowest) and high (30% highest) average peer social preference scores across grades kindergarten to third grade

Exclusion criteria

* Intelligence level < 75
* Learning disabilities
* Neurological conditions
* fMRI adverse conditions: Metal objects in or around the body (braces, pacemaker, metal fragments, hearing devices) or claustrophobia
* Left-handedness

Study design

Design

Study type:	Interventional
Intervention model:	Other
Allocation:	Non-randomized controlled trial

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

Recruitment

NL

Recruitment status:	Recruiting
Start date (anticipated):	05-06-2016
Enrollment:	70
Type:	Actual

Ethics review

Approved WMO Date:	22-12-2015
Application type:	First submission
Review commission:	CCMO: Centrale Commissie Mensgebonden Onderzoek (Den Haag)
Approved WMO Date:	23-05-2017
Application type:	Amendment
Review commission:	CCMO: Centrale Commissie Mensgebonden Onderzoek (Den Haag)
Approved WMO Date:	27-06-2017
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	NL53637.000.15