Gene-environment interactions in the brain

Published: 10-03-2010
Last updated: 02-05-2024

To test the gene by stress interaction model in humans by investigating how genetic variation alters neural responses to environmental stress.

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

Summary

ID

NL-OMON34630

Source
ToetsingOnline

Brief title
Gene-environment interactions

Condition

- Other condition

Synonym
N/A: healthy indivduals

Health condition

gezonde deelnemers

Research involving
Human

Sponsors and support

Primary sponsor: Radboud Universiteit Nijmegen
Source(s) of monetary or material Support: NWO

Intervention

Keyword: brain, environment, genes, stress

Outcome measures

Primary outcome

Functional Magnetic Resonance Imaging (fMRI)

Secondary outcome

Salivary levels of cortisol and alpha-amylase

Self-report questionnaires

Psychophysiological recordings (electrodermal activity, breathing rate, heart

rate, blood pressure, pupil diameter)

Study description

Background summary

Genetic variation in the corticosteroid and noradrenergic systems affects the acute response to environmental stressors. An animal model suggests that this could be mediated by genetically determined sensitivity of the brain to environmental stress.

Study objective

To test the gene by stress interaction model in humans by investigating how genetic variation alters neural responses to environmental stress.

Study design

A counterbalanced, crossover design.

Study burden and risks

The risk associated with participation can be considered negligible and the burden can be considered minimal. No pharmacological nor (otherwise) invasive interventions are applied. Participants will undergo two MRI sessions including

standard fear conditioning using mild electrical stimulation to the fingers.

Contacts

Public
Radboud Universiteit Nijmegen

Kapittelweg 29
6525 EN
NL
Scientific
Radboud Universiteit Nijmegen

Kapittelweg 29
6525 EN
NL

Trial sites

Listed location countries

Netherlands

Eligibility criteria

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

Inclusion criteria

Male, between 18 and 45 years of age, predominant right-handedness.

Exclusion criteria

History of psychiatric treatment or current psychiatric treatment, history of neurological treatment or current neurological treatment, history of endocrine treatment or current endocrine treatment.

Study design

Design

Study type: Observational non invasive

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

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	16-09-2010
Enrollment:	140
Type:	Actual

Ethics review

Approved WMO

Date:	10-03-2010
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	NL31285.091.10