The interplay between genes and environment in cognitive abilities

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The main objective of this specific study is to examine to what extend differences in cognitive functioning between people are due to complex interactions between genes and environment.

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

Summary

ID

NL-OMON35143

Source
ToetsingOnline

Brief title
The interplay between genes and environment in cognitive abilities

Condition

- Other condition

Synonym
cognition, intelligence

Health condition

Individuele verschillen in normaal cognitief functioneren m.b.t. attentie en geheugen

Research involving
Human

Sponsors and support

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

Intervention

Keyword: cognition, environment, genes

Outcome measures

Primary outcome

Cognitive abilities will be measured by subtests of an intelligence scale, some working memory tests and some language tests.

Environmental factors will be measured by an online questionnaire, that includes questions on factors which are possible correlated with IQ, home-environment in youth, hobby*s and interests, but also work and education and work and education from parents, friends and spouses, personality factors and performance motivation.

Dna will be collected using saliva, which requires subjects to spit in a small tube during 1-3 minutes, only from adults

Secondary outcome

none

Study description

Background summary

This project is part of a large project entitled *Finding Genes through the

Environment*.
In earlier studies cognitive data from twins and siblings have been collected. To be able to measure more complex processes as *cultural transmission* and *assortative mating* cognitive and environmental data will be collected from multiple generations (parents, children and spouses of twins). We will use a general variance components approach in which variation in a trait is decomposed into genetic variation and environmental variation, using structural equation modeling and family based designs (Neale and Cardon, 1992). The complex interplay of genes and environment in the context of cognitive abilities will be investigated by analyzing genotypes and cognitive ability and environmental influences in genetically informative designs.

Study objective

The main objective of this specific study is to examine to what extend differences in cognitive functioning between people are due to complex interactions between genes and environment.

Study design

Test research, questionnaires and statistical analyses.

Study burden and risks

We don*t expect any risks for the subjects in this study. The burden will be kept as small as possible. Questionnaires can be filled out online. It takes about 60 minutes to fill in the questionnaire. All subjects will be asked to make several neuropsychological tests. This will take about 90 minutes, including a 15-minutes break. The test battery consists of some subtests of an intelligence scale, some working memory tests and an attention task.
To be able to draw conclusions about gene functioning in cognition, genetic material (DNA) will be collected, using saliva. This is easily collected by spitting in a small tube during 1-3 minutes.

Contacts

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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

Partners from the general population, aged above 18
This amendment: healthy children aged 8-15 (adjusted protocol)

Exclusion criteria

Illiterate, worse knowledge of the Dutch language, hard of hearing, poor eyesight, neurological diseases.

Study design

Design

Study type: Observational non invasive

Masking:	Open (masking not used)
Control:	Uncontrolled

Primary purpose:	Basic science

Recruitment

NL

Recruitment status:	Pending
Start date (anticipated):	09-01-2006
Enrollment:	1400
Type:	Anticipated

Ethics review

Approved WMO Date:	12-02-2007
Application type:	First submission
Review commission:	METC Amsterdam UMC
Approved WMO Date:	26-07-2010
Application type:	Amendment
Review commission:	METC Amsterdam UMC

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	NL13178.029.06