Stress Reactivity and Social Actions: An explorative longitudinal study of the control of socio-emotional behaviour

Published: 14-05-2014
Last updated: 21-04-2024

The primary objective of this study is to investigate the neuro-endocrine development of socio-emotional control related to automatic and defensive action tendencies and how this contributes to social interactive behaviour across adolescence and...

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

Summary

ID

NL-OMON40733

Source
ToetsingOnline

Brief title
Stress Reactivity and Social Actions

Condition

- Other condition

Synonym
n.a.

Health condition

The study is not primarily aimed at disorders, but research in healthy subjects concerning stress reactivity and social actions that may have implications for anxiety and aggresssion

Research involving
Human

Sponsors and support

Primary sponsor: Radboud Universiteit Nijmegen
Source(s) of monetary or material Support: Ministerie van OC&W,NWO - Research Talent Grant for Hannah Niermann,ERC Starting Grant "Neural control of human freeze-fight-flight" for Karin Roelofs

Intervention

Keyword: Adolescence, Approach - Avoidance, Social Actions, Stress

Outcome measures

Primary outcome

The main parameters in our study are the neural (brain activation patterns),

behavioural, and physiological measurements of the control of socio-emotional

behaviour and stress reactivity.

Secondary outcome

Secondary parameters include measures of functioning and adjustment (i.e.,

social communication, decision-making, aggression/anxiety tendencies).

Study description

Background summary

The ability to control socio-emotional behaviour is essential in everyday societal functioning. However, in challenging or stressful situations this control can fail causing us to fall back on automatic responses and defensive stress reactions. Chronic failures in socio-emotional control are found in anxiety- and aggression-related disorders, which are often resistant to current therapeutic methods (Carver & White, 1994; Chronis-Tuscano et al., 2009). These disorders not only heavily impact an individual*s societal functioning, but also affect society as a whole (e.g., increased health costs).

Late adolescence (17 years) constitutes the ending phase of adolescence - a critical transition period from childhood into full adulthood. During this time a wide range of changes take place on the neuro-endocrine and social levels (Blakemore, 2010). The age of 17 years is a particularly sensitive period when

late adolecents are preparing to make the transition into legally recognized adulthood and take on new societal roles. This is considered a time of heightened stress that poses new demands on the individual as they must quickly adapt to new social, sexual, and intellectual challenges (Romeo, 2010; Spear, 2010). Given that this is a time marked by the greatest onset risk for social disorders, which often continue developing into adulthood (Kessler, 2005), it is essential to investigate the mechanisms that underlie the control of socio-emotional and stress-related behaviour.

Previous neuroimaging studies have indicated that adolescence (age 14-17 in specific) is a critical transition where socio-emotional control shifts from subcortical to cortical control. However, this transition has never been investigated in relation to stress coping, socio-affective symptoms, and social action. The Nijmegen Longitudinal Study on Infant and Child Development (NLS) offers a unique possibility to test this transition and its impact on stress coping, symptoms, and social-affective decision making and behaviour. We will examine these aspects of social-emotional control in emerging adulthood at age 17 when the critical transition from adolescence to emerging adulthood is beginning to take place and social symptoms may have started to develop.

In order to create more effective preventive or therapeutic measures, it is crucial to investigate the development and control of socio-emotional behaviour during a time period that is particularly sensitive to external as well as internal influences. Little is known about the developmental roots of socio-affective disorders and the mechanisms underlying associations between antecedents early in life and later outcomes. The present project has been designed to gain more insight into this issue as it will constitute the 9th measurement wave in the Nijmegen Longitudinal Study that includes theoretically relevant predictors of the individual*s social and emotional experiences from infancy onwards. Furthermore, this project is unique in providing the opportunity to examine the developmental processes specifically taking place during adolescence as it will compare measurements taken from the same individuals at an earlier age when they were 14 years old. As such it will enable us to elucidate properties of the neural and behavioural mechanisms underlying the control of socio-emotional behaviour.

Study objective

The primary objective of this study is to investigate the neuro-endocrine development of socio-emotional control related to automatic and defensive action tendencies and how this contributes to social interactive behaviour across adolescence and into young adulthood. To this end, participants of the NLS, on average 17 years of age, will perform a set of tasks that they have completed at age 14 as part of a previous assessment wave (approved by CMO NL34758.091.10 / CMO 2010/420). A secondary goal of the study is to relate individual differences in socio-emotional control and stress reactivity, including their neural-endocrine correlates to 1) various measures of

functioning and adjustment (i.e. social communication, decision-making, aggression/anxiety tendencies) assessed at age 17, as well as 2) earlier measures within the longitudinal study acquired from early childhood through adolescence.

Study design

This is a consecutive wave of an ongoing longitudinal study. Participants within the Nijmegen Longitudinal Study (NLS) will be asked to complete several behavioural tasks (measuring stress reactivity, risky decision making, and social communication). Additionally, brain activation will be measured using functional Magnetic Resonance Imaging (fMRI) during task performance (socio-emotional control of approach/avoidance tendencies and stress reactivity).

Study burden and risks

The risk of participation in this (f)MRI study can be considered negligible with a minimal burden on the participants. Before definite inclusion the participant will fill out an MRI questionnaire to determine whether the individual can participate, including all aspects of MRI contra-indication and claustrophobia. 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. The knowledge about normal development is critical in understanding cases of abnormal development in order to create more effective preventive and therapeutic techniques.

Contacts

Public
Radboud Universiteit Nijmegen

Kapittelweg 29
Nijmegen 6525 EN
NL
Scientific
Radboud Universiteit Nijmegen

Kapittelweg 29
Nijmegen 6525 EN
NL

Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Adolescents (12-15 years)
Adolescents (16-17 years)

Inclusion criteria

- participant of the Nijmegen Longitudinal Study
- no history of neurological disorder/disease
- no counter-indications for MRI
- right-handed (for fMRI participants)
- native Dutch speakers
- capable of understanding the experimental procedures

Exclusion criteria

- history of neurological or psychiatric illness
- history of using psychotropic medications
- learning disabilities
- Dutch as a second language

Study design

Design

Study type: Observational invasive

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

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	06-07-2014
Enrollment:	116
Type:	Actual

Ethics review

Approved WMO Date:	14-05-2014
Application type:	First submission
Review commission:	CMO regio Arnhem-Nijmegen (Nijmegen)
Approved WMO Date:	11-11-2014
Application type:	Amendment
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	NL49289.091.14