

The impact of social context and reversal learning on error-monitoring in criminal antisocial individuals

Published: 14-01-2008

Last updated: 09-05-2024

The first objective discussed in this proposal is an attempt to investigate the effect of a social setting on the susceptibility of criminal psycho-pathic individuals to cues signaling error commission. The second objective is aimed at exploring the...

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| Ethical review | Approved WMO |
| Status | Pending |
| Health condition type | Personality disorders and disturbances in behaviour |
| Study type | Observational non invasive |

Summary

ID

NL-OMON31068

Source

ToetsingOnline

Brief title

Error-monitoring in violent antisocial offenders

Condition

- Personality disorders and disturbances in behaviour

Synonym

psychopathy

Research involving

Human

Sponsors and support

Primary sponsor: Universitair Medisch Centrum Sint Radboud

Source(s) of monetary or material Support: Ministerie van OC&W

Intervention

Keyword: Error-monitoring, Observed ERN, Psychopathy, Reversal learning

Outcome measures

Primary outcome

- 1: Error-Related Negativity as a response to observed errors.
- 2: Error-Related Negativity as a response to negative feedback about performance adjustment

Secondary outcome

- Mini Neuropsychiatric Interview (MINI): assessment of Axis-I disorders
- SCID-II: assessment of personality disorders (Axis-II)
- PCL-R: checklist designed for measuring level of psychopathy
- PPI: self-report assessment of psychopathy
- GIT: IQ-test

Study description

Background summary

Observational learning is based on the ability to dissociate between favorable and unfavorable outcomes based on the actions of others. Observing errors plays a key role in learning and adjusting one's own behavior in the future based on unfavorable outcomes as a consequence of another individual's behavior. Research has shown that errors are associated with the occurrence of an ERP termed the error-related negativity (ERN), which is elicited by error commission and negative feedback. The ERN has been found to be generated in situations in which participants observe errors committed by a computer in a simulation of a choice reaction time task and when observing errors committed by other individuals. The pathologies observed in psychopaths have been linked to deficits in the amygdala and the orbitofrontal cortex. An increasing body of evidence is pointing out that the ACC shows great connectivity to the same areas that are believed to be dysfunctional in psychopathic individuals. Thus, functions of the ACC may have an impact on the neural network underlying

psychopathy. Another possible area of research on which the role of the ACC might shed light on the understanding of the processes involved is reversal learning. Reversal learning deficiencies have been linked to OFC and amygdala dysfunction. Psychopathic individuals failed to make this reversal, suggesting that they were less sensitive to negative feedback after an erroneous response had been given. Taking into account that the ACC plays a role in the same network involving reversal learning, measuring the ERN is a way to quantify to which extent PP are less sensitive to the error-feedback involved in the task.

Study objective

The first objective discussed in this proposal is an attempt to investigate the effect of a social setting on the susceptibility of criminal psycho-pathic individuals to cues signaling error commission. The second objective is aimed at exploring the occurrence of the ERN when previously learned stimulus-reward mappings are changed.

Study design

The study has a cross-sectional design with a healthy control group matched to the patient groups on age, sex and IQ.

Study burden and risks

There are no risk associated with participation

Contacts

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Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age

Adults (18-64 years)

Elderly (65 years and older)

Inclusion criteria

- Patients sentenced for commission of nonsexual violent crime(s)
- Patients meeting the DSM-IV criteria for antisocial personality disorder (ASPD) scoring below 26 on the PCL-R
- Patients scoring ≥ 26 on the PCL-R (meeting criteria for psychopathy)

Exclusion criteria

- Axis I disorders
- Axis II disorders
- Somatic disorders
- Pre-test use of drugs and substances

Study design

Design

| | |
|---------------------|---------------------------------|
| Study type: | Observational non invasive |
| Intervention model: | Other |
| Allocation: | Non-randomized controlled trial |
| Masking: | Open (masking not used) |

Primary purpose: Other

Recruitment

NL
Recruitment status: Pending
Start date (anticipated): 01-11-2007
Enrollment: 60
Type: Anticipated

Ethics review

Approved WMO
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 | NL19650.091.07 |