# The effects of cognitive reappraisal on attentional bias and craving in alcohol dependence: an ERP study

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Subproject 1: To investigate the neurophysiological correlates of implicit and explicit selective attention to alcohol cues and emotional cues in alcohol-dependent patients compared to healthy controls Subproject 2: To investigate whether it is...

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

## Summary

## ID

NL-OMON36741

**Source** ToetsingOnline

**Brief title** Cognitive reappraisal in alcohol dependence

## Condition

• Other condition

**Synonym** alcohol dependence, Alcoholism

**Health condition** 

Verslaving

**Research involving** Human

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## **Sponsors and support**

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

### Intervention

Keyword: Alcoholism, Attentional bias, Cognitive reappraisal, Event-Related Potentials

## **Outcome measures**

#### **Primary outcome**

The main study parameters are ERP amplitudes in response to the two pictorial

tasks. The end of this study will be reached when all 60 participants are

included and tested successfully.

#### Secondary outcome

1) Mean craving scores before and after each task/block.

2) Valance and arousal ratings of the presented pictures.

# **Study description**

#### **Background summary**

Substance use disorders, including alcohol dependence, are characterized by cognitive processing biases, such as automatically detecting and orienting attention towards drug-related stimuli. These biases have been associated with drug use and relapse after periods of abstinence and can be measured on the electrophysiological level. Drug users compared to healthy controls display more enhanced Event-Related Potentials (ERPs; i.e., P300 and Late Positive Potential (LPP) amplitudes) in response to drug-cues than in response to neutral cues, probably indicating facilitated and elaborated attentive processing of drug-related material. However, it is unclear whether this enhanced attentive processing as observed in alcohol-dependent patients is implicit or explicit in nature. Furthermore, it is unknown whether alcohol-dependent patients are hypersensitive to alcohol-related cues in particular or motivationally significant cues in general.

There are some preliminary indications that processing biases can be influenced

by cognitive control strategies. Several studies demonstrate that it is possible to retrain attentional biases in attentional retraining programs. However, it is not known whether these processing biases can be intentionally modulated. A recent study showed that in smokers craving for cigarettes could be intentionally modulated by employing cognitive regulation strategies. However, only subjective measures were used. Within the field of emotion research it has been demonstrated that ERP techniques provide a powerful tool to investigate the cognitive control that can be exerted upon the attentive processing of emotional stimuli. Applying these techniques to the field of substance use, it can be studied whether substance dependent individuals have intentional control over their processing of substance-related stimuli.

### Study objective

Subproject 1: To investigate the neurophysiological correlates of implicit and explicit selective attention to alcohol cues and emotional cues in alcohol-dependent patients compared to healthy controls

Subproject 2: To investigate whether it is possible for alcohol-dependent patients to reduce neural reactivity to alcohol-related cues using cognitive regulation strategies

## Study design

Participants will perform two tasks while their EEG is recorded. The first task is an oddball task by which implicit and explicit selective attention can be measured. The second task is a cognitive reappraisal task designed to examine the possibility to reduce neural reactivity ro alcohol-related stimuli. Before and in between tasks, participants will fill out several questionnaires. 30 alcohol patients will be comapred to 30 matched, healthy controls. Participants have to appear at the lab in a sober condition.

### Study burden and risks

EEG is known to be a non-invasive and safe method to observe task-related brain activity, and therefore no risks are related to participation in the study. Since participants have to sit relatively still, effort will be made to make the test session as comfortable as possible (comfortable chair, pillows, breaks between blocks of trials).

# Contacts

### Public

Erasmus Universiteit Rotterdam

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Postbus 1738 3000 DR Rotterdam NL **Scientific** Erasmus Universiteit Rotterdam

Postbus 1738 3000 DR Rotterdam NL

## **Trial sites**

## **Listed location countries**

Netherlands

# **Eligibility criteria**

#### Age

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

## **Inclusion criteria**

Signed informed consent Age between 18 and 55 years Meeting the DSM-IV criteria of alcohol dependence (alcohol patients only) Normal or corrected-to-normal vision

## **Exclusion criteria**

History of significant medical illness and/or psychiatric disorders History gross neurological disorders Signs of dementia or Korsakoff\*s disease (alcohol patients only) Excessive alcohol consumption (healthy controls only) Alcohol intoxication on the day of testing

# Study design

## Design

Study type:	Observational non invasive
Intervention model:	Other
Allocation:	Non-randomized controlled trial
Masking:	Open (masking not used)
Control:	Active
Primary purpose:	Basic science

## Recruitment

NL	
Recruitment status:	Recruitment stopped
Start date (anticipated):	01-02-2011
Enrollment:	60
Туре:	Actual

# **Ethics review**

Approved WMO	
Date:	16-03-2011
Application type:	First submission
Review commission:	METC Erasmus MC, Universitair Medisch Centrum Rotterdam (Rotterdam)

# **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

ССМО

**ID** NL34596.078.10