The neural correlates of 'social-oriented' and 'drug-oriented' drinking behavior

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

Summary

ID

NL-OMON40495

Source
ToetsingOnline

Brief title
Neural correlates of drinking behavior

Condition

- Other condition
- Lifestyle issues

Synonym
addiction, alcohol use

Health condition

verslaving

Research involving
Human

Sponsors and support

Primary sponsor: Radboud Universiteit Nijmegen
Source(s) of monetary or material Support: Ministerie van OC&W

Intervention

Keyword: alcohol, developement, dinking, neuroimaging

Outcome measures

Primary outcome

The main study parameters are self-reported measures of drinking behaviour at follow up, brain activity during the two cognitive tasks, behavioural indices of task performance, drinking imitation scores and self reported drinking at baseline. The end of the study will be reached when 101 participants are included and tested successfully.

Secondary outcome

- Demographics (age, gender, education)

- Drinking motives: Drinking motive questionnaire (DMQ-R, (Cooper, 1994))

- Alcohol problem drinking measure: the Rutgers Alcohol Problem Index (RAPI-18 (White & Labouvie, 1989))

- Alcohol use: Alcohol Use Disorder Identification Test (Babor, Higgins-Biddle, Saunders, & Monteiro, 2001)

- Breath analyzer to tests for alcohol use and smoking.

- Questionnaires

o smoking behaviour

o general well being

o self control

- Weekly drinking (Hajema & Knibbe, 1998)

- Urge to drink: Dutch version of the Desires for Alcohol Questionnaire (DAQ;

Dutch version (Franken, Rosso, & van Honk, 2003).

- General psychopatholgy: Brief Symptom Inventory (BSI, (de

Beurs & Zitman, 2005))

- Self-efficacy: The Young*s Drinking Refusal Self-Efficacy

Questionnaire Revised Adolescents Version (DRSEQ-RA: (Oei et al., 2005; Young

et al., 2007))

Study description

Background summary

Alcohol use increases dramatically during (late) adolescence and is related to alcohol abuse later in life. By getting more insight in processes driving adolescent drinking behaviour, we may eventually be able to identify individuals at risk. The incentive sensitization theory (Robinson & Berridge, 1993) proposes that due to repeated drug use, neutral cues associated with drug use (i.e., drug-related cues) become sensitized through conditioning and thereby acquire rewarding properties themselves. As adolescent drinking occurs mostly in social settings and people tend to imitate their drinking company, it is useful to investigate social alcohol drinking cues. However, the sensitization of social cues is hardly investigated. Therefore, this study will investigate the rewarding effects of social alcohol-related cues. Increased neural reactivity to these social alcohol-related cues may drive a social-oriented drinking style.
In addition to the reactivity to social alcohol-related cues, we hypothesize that heavy drinking patterns may be specifically associated with increased anticipation for alcohol intake itself. Anticipation for reward is strongly linked to activity in the ventral striatum. We suggest that ventral striatal brain activation during anticipation of actual alcohol intake is associated with drinking frequency, with heavy drinkers showing stronger anticipation effects (i.e., they are more drug-oriented).

Study objective

With this study we aim to predict drinking behaviour at follow-up based on

brain activation reflecting reactivity to social alcohol cues and brain activation reflecting anticipation of alcohol intake. In addition, brain activation in response to social alcohol related cues will be related to real-life imitation of alcohol intake in a social setting. Brain activation will be measured using fMRI during two different cognitive tasks; 1) a social alcohol cue exposure task (SACE) which is an alcohol cue exposure task including social relevant pictures, 2) a drug incentive delay task (DID) which is a monetary incentive delay task with alcohol (i.e. sips of beer) incentives.

Study design

The study involves three evening test sessions as well as a follow-up questionnaire battery. The first two sessions will be scheduled in a laboratory specifically designed to look like a typical Dutch bar (Bar-Lab). The current study includes a cover story (i.e. evaluation of alcohol advertisements), as participants should be unaware of the purpose of the study while imitation of alcohol intake is measured. In the third session, participants will perform the SACE and DID task while brain activation will be measured using fMRI. 18 months after study entry, participants are asked to report on their drinking behaviour through questionnaires.

Study burden and risks

fMRI is a safe and non-invasive method for measuring brain activity. Importantly, we will only study the effect of a low-to-moderate alcohol dose, a dose that is relatively low in the context of the levels of alcohol intake typical for the population from which our sample will be drawn. Additionally, the session will be immediately terminated when participants consume more than 4 alcoholic drinks, and are only allowed to leave the university building once their Blood Alcohol Concentration (BAC) falls below <0.05%.The total amount of beer consumed in the fMRI scanner is approximately 10 ml, and therefore the BAC values can be neglected. The study has no therapeutical goals; there are no benefits for the participants.

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

- Singed informed consent
- Between 18-25 years old
- Ability to read from a computer screen
- Right-handedness
- Male
- Beer as their alcohol drink of choice

Exclusion criteria

- Head injury
- History of major neurological diseases or psychiatric disorders.
- Regular use of other addictive substances except for nicotine and alcohol
- Use of (psychoactive) medication
- Standard exclusion criteria for MRI scanning.
- Never exposed to alcohol before or currently abstinent
- Alcohol intoxication before testing

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):	05-02-2015
Enrollment:	101
Type:	Actual

Ethics review

Approved WMO Date:	05-06-2014
Application type:	First submission
Review commission:	CMO regio Arnhem-Nijmegen (Nijmegen)
Approved WMO Date:	02-09-2014
Application type:	Amendment
Review commission:	CMO regio Arnhem-Nijmegen (Nijmegen)
Approved WMO Date:	03-02-2015
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	NL46095.091.14