

Clinical Trial Protocol

Iranian Registry of Clinical Trials

16 Sep 2026

The Impact of Transcranial Direct Current Stimulation on Positive Emotions and Working Memory in Healthy People

Protocol summary

Study aim

- Determine the effect of direct excitement stimulation on the level of positive emotions - Determine the effect of excitement direct stimulation on working memory

Design

Sample size of 40 people, experimental study design with control group and random assignment with pre-test and post-test. design is double blinded.

Settings and conduct

The subjects are randomly assigned to test and control groups. Subsequently, by manipulating an independent variable, the effect of the intended test on the dependent variable is studied. Researchers are completely unaware of the placement of the subjects. Blind duplicate test will be performed. This test will be carried out in a laboratory environment. The intervention group will receive an electrical stimulus from the brain. In such a way that a given intensity will pass through his brain within 20 minutes. The control group also receives artificial brain electric stimulation from the skull, but it does not know if the device is off.

Participants/Inclusion and exclusion criteria

The criteria for entering the study include the absence of any kind of psychiatric illness, right-handed, and age between 20-45 years. Exit criteria include the presence of a current neurological disorder or its positive history (in particular seizure attacks), any other psychiatric disorder based on DSM-IV-TR axis 1 and 2, the use of drugs affecting the central nervous system, A history of epilepsy, brain surgery, a tumor, hit on the head.

Intervention groups

The intervention group will receive an electrical stimulus from the brain. In such a way that a given intensity will pass through his brain within 20 minutes. The control group also receives artificial brain electric stimulation from the skull, but it does not know if the device is off.

Main outcome variables

Transcranial Direct Current Stimulation! Enhance working memory; Create positive emotions

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20171022036932N2**

Registration date: **2018-11-30, 1397/09/09**

Registration timing: **registered_while_recruiting**

Last update: **2018-11-30, 1397/09/09**

Update count: **0**

Registration date

2018-11-30, 1397/09/09

Registrant information

Name

Nima Ganji

Name of organization / entity

Faculty Member of Cognitive Science Research Group of Academic Center of Education, Culture and Res

Country

Iran (Islamic Republic of)

Phone

+98 77600055

Email address

nimaganji.psy@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2018-11-04, 1397/08/13

Expected recruitment end date

2018-12-16, 1397/09/25

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The Impact of Transcranial Direct Current Stimulation on Positive Emotions and Working Memory in Healthy People

Public title

The Impact of Transcranial Stimulation on Positive Emotions and Working Memory

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Absence of any type of mental illness right-handedness age between 20-45 years signing the consent form of the company in the study

Exclusion criteria:

The presence of a current neurological disorder or its positive history (especially seizure attacks) Any psychiatric disorder based on DSM-IV-TR axis 1 and 2 Using of drugs affecting the central nervous system Epileptic seizures brain surgery The presence of a tumor A hit on the head that has led to anesthesia

Age

From **20 years** old to **45 years** old

Gender

Both

Phase

3

Groups that have been masked

- Participant
- Care provider

Sample size

Target sample size: **40**

Randomization (investigator's opinion)

N/A

Randomization description

Blinding (investigator's opinion)

Double blinded

Blinding description

Subjects are unaware of which of the two experimental or control groups are assigned. Measurement is done by one of the research colleagues who is completely unaware of the placement of the subjects. In other words, it will be done blindly.

Placebo

Used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Avicenna Research Institute of the Ethics Committee

on Biomedical Research

Street address

Department of Cognitive Science, Jahad Alborz University, Dara Building, Poone Street, Golshahr

City

Karaj

Province

Alborz

Postal code

3138744746

Approval date

2017-10-21, 1396/07/29

Ethics committee reference number

IR.ACECR.Avicenna.REC.1396.15

Health conditions studied

1

Description of health condition studied

working memory, positive emotion

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

The Positive and Negative Affect Schedule (PANAS) - N Back Test

Timepoint

At the beginning of the study (before the study began) and one day after the intervention

Method of measurement

The Positive and Negative Affect Schedule (PANAS) - N Back Test

Secondary outcomes

empty

Intervention groups

1

Description

The intervention group will be assessed before the intervention using the positive and negative affect scale (PANAS) and n-back task due to computer. Measurement is accomplished by one of the research partners who are completely unaware of the placement of the subjects in the two groups of intervention and control. This test will be carried out in a laboratory environment. Variables such as temperature, light and sound are controlled in all sessions. During the test, first, the performance of the tDCS device will be explained to the subjects, and the Consent letter will be signed by the subjects with the possible side effects of the test. Subjects will be given further details on the test process. A direct electric current is received from an electric current-generator device and transmitted to a pair of electrodes. The

electrodes are carbon-based and placed inside the sponge coating that has been contained with serum. The intervention group will receive an electrical stimulus from the brain. In such a way that a certain intensity will pass through his brain in 20 minutes. After a short break, the subjects will again perform the Positive and Negative affective questionnaire (PANAS) and the n-back task due to computer. Then the money will be paid as a fee and subjects will be discharged at the end.

Category

Rehabilitation

2

Description

Control group: The control group will be assessed before the intervention using the positive and negative affect scale (PANAS) and n-back task due to computer. Measurement is accomplished by one of the research partners who are completely unaware of the placement of the subjects in the two groups of intervention and control. This test will be carried out in a laboratory environment. Variables such as temperature, light and sound are controlled in all sessions. During the test, first, the performance of the tDCS device will be explained to the subjects, and the Consent letter will be signed by the subjects with the possible side effects of the test. Subjects will be given further details on the test process. Then, the control group receives artificial brain electric stimulation from the skull. To artificially stimulate the location of anode and cathode electrodes, it will be the actual stimulation. While the flow generator outputs the current to 2 mA for 30 seconds, then it gradually returns to zero for 30 seconds, and the device turns off. But the electrodes will be on the subject for 20 minutes, and he will not be aware of the power off. After a short break, the subjects will again perform the Positive and Negative Affective Questionnaire (PANAS) and the n-back task due to computer. Then the money will be paid as a fee and subjects will be discharged at the end.

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Jahad Alborz University

Full name of responsible person

Nima Gangi

Street address

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nimaganji.psy@gmail.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Iranian academic center for education culture and research

Full name of responsible person

Mohammad Reza Poorabedi

Street address

Central buliding of Jihad-e-Daneshgahi, Facing the main door of Tehran University, Enghelab Avenue

City

Tehran

Province

Tehran

Postal code

4364 - 14155

Phone

+98 21 6695 2949

Fax

Email

secretariat@acecr.ac.ir

Web page address

Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?

Yes

Title of funding source

Iranian academic center for education culture and research

Proportion provided by this source

100

Public or private sector

Public

Domestic or foreign origin

Domestic

Category of foreign source of funding

empty

Country of origin

Type of organization providing the funding

Academic

Person responsible for general inquiries

Contact

Name of organization / entity

Iranian academic center for education culture and research

Full name of responsible person

Nima Gangi

Position

instructor

Latest degree

Master

Other areas of specialty/work

Psychology

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Person responsible for scientific inquiries

Contact

Name of organization / entity

Iranian academic center for education culture and
research

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Position

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Person responsible for updating data

Contact

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

Yes - There is a plan to make this available

Study Protocol

Yes - There is a plan to make this available

Statistical Analysis Plan

Yes - There is a plan to make this available

Informed Consent Form

Yes - There is a plan to make this available

Clinical Study Report

Yes - There is a plan to make this available

Analytic Code

Yes - There is a plan to make this available

Data Dictionary

Yes - There is a plan to make this available

Title and more details about the data/document

The total potential data includes the scores that subjects
have received from positive emotional questionnaire and
working memory task after unidentifying can be shared.

When the data will become available and for how long

Start the access period 6 months after sharing the
results

To whom data/document is available

Researchers working in academic and research institutes

Under which criteria data/document could be used

The publication, or presentation or analysis of data
should be done with the research author's permission

From where data/document is obtainable

Department of Cognitive Science, Jahad Alborz
University, Dara Building, Poone Street, Golshahr
telephon: 02634574607 E-mail:

cognitivescience.acecr@gmail.com Responsive person:
Dr.Nima Gangi

What processes are involved for a request to access data/document

If people want to ask for documents by e-mail, they must
email the email address mentioned in the previous
option. A response will be sent about a week to ten days
later. In case of needing a personal appointment, the
contact person will be contacted first by phone and
appointment will be sent to the Office of the Department
of Cognitive Science.

Comments