The Body in Embodiment: Specifying the Role of Peripheral Input in Grounded Cognition

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

Summary

ID

NL-OMON39132

Source
ToetsingOnline

Brief title
The Body in Embodiment

Condition

- Other condition
- Aural disorders NEC

Synonym
acoustic neuroma, vestibular schwannoma

Health condition

aangezichtsverlamming bij brughoektumor

Research involving
Human

Sponsors and support

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

Intervention

Keyword: cognition, embodiment

Outcome measures

Primary outcome

-Scores on questionnaires regarding quality of social and emotional life.

-Reaction to affective stimuli: reaction times in classification of emotion,

classification of emotionality of the stimuli, interpretation of the stimuli.

-Activity in the facial muscles on both sides during the tasks on the computer

where affective stimuli will be seen (measured with EMG).

These results will all be compared to the results of a control group that does

not have a facial paralysis.

Secondary outcome

House Brackmann grading, marital status, age, education level, emotionality

baselines.

Study description

Background summary

There is increasing scientific attention to the role that the body plays in human mental functioning. The view is bolstered by an exponential growth in supportive evidence revealing that mental contents are often grounded in bodily experiences and that models that rely on symbolic, abstract, and amodal representations are not sufficient to account for such observations. In this

emerging work on embodiment, *simulation*, namely the reenactment of perceptual, motor, and introspective states as a central mechanism for human functioning, has become a central explanatory point of reference. The accumulating empirical evidence has revealed important roles of extero- and interoceptive simulations for many psychological phenomena. The current program is designed to answer a question that is left open in current embodiment research: where are the causal sources of embodiment effects located in the stream between retrieval of motor programs, virtual simulation, signalling motor commands downstream and finally proprioceptive and interoceptive feedback from executing the motor response in the body*s periphery?

Study objective

The goal of the planned studies is to determine the significance of afferent and efferent motor processes in facial expressions that may impact evaluative judgments or responses induced by linguistic and pictorial representations of facial expressions. To specify the nature of the simulation processes, we shall make use of a unique sample of patients who have a left- or a right-sided facial paralysis.

Study design

General:
Affective stimuli (verbal, or pictures of facial expressions) will be shown on a computer screen. Due to the special nature of the patients (one sided facial paralysis), this type of presentation should have distinct effects for the patient sample. Measures of the facial muscles (electromyography, EMG) will be done with use of electrodes placed on the skin. This is a non-invasive type of measurement, of which the patient will not feel anything. Besides EMG, we will also measure reactions and reaction times.

Planned experiments:
1. Questionnaire consisting of: Satisfaction With Life Scale, SF-12, Fear of Negative Evaluation Scale, Social Avoidance and Distress Scale, Beck Depression Inventory-II, Dizziness Handicap Inventory, and a few additional questions. Additionally, the participant will grade himself on the House Brackmann scale.
2: Emotion recognition task, with manipulation of noise. Participants will see emotional (happy, angry) and neutral facial expressions, with different gradations of noise (10-80%). Participants shall decide as quickly and accurately as possible whether the face they see on the screen is an emotional or neutral one. Dependent variables: (i) reaction times, (ii) accuracy, (1 study), and (iii) EMG (corrugator and zygomatic, two sided) (other study).
3. Visual presentation of verbal stimuli (emotional and neutral sentences). Dependent variables: (i) reading time of the different types of sentences, (ii) mistakes in answering questions about the sentences, (1 study), and (iii) EMG (corrugator and zygomatic, two sided) (other study).

4. Chimeric faces test: Participants will see faces, showing the expression (happy or angry) in the left or right half of the face. Participants judge each face on emotionality. Dependent variables: (i) emotionality judgments, (ii) bias to the left or the right visual field, (1 study) and (iii) EMG (corrugator and zygomatic, two sided) (other study).

Study burden and risks

Patients will fill out a questionnaire at home once (approximately 0.5- 1 hour)

Patients will partake in 3 experiments at their home, these will be done on a laptop, all three in one morning or afternoon (total duration about 1.5 hours, including breaks: 2 hours). The experimenter will be there to do the experiments with the patients and to answer any questions.

Patients will be asked to come to Utrecht University once to participate in studies on the computer. Here their facial muscle activity will also be measured, which patients may experience as a bit uneasy. These studies together will take approximately 3 hours in total.

There are no risks tied to these studies, except for the fact that the skin may become somewhat irritated or red on the spots where the electrodes will be placed for the studies taking place at Utrecht University.

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

vestibular schwannoma, one sided facial paralysis

Exclusion criteria

not able to see/read

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:	Other

Recruitment

NL

Recruitment status:	Recruiting
Start date (anticipated):	01-12-2012
Enrollment:	48
Type:	Actual

Ethics review

Approved WMO Date:	18-09-2012
Application type:	First submission
Review commission:	METC Leiden-Den Haag-Delft (Leiden) metc-ldd@lumc.nl

Approved WMO Date:	20-03-2013
Application type:	Amendment
Review commission:	METC Leiden-Den Haag-Delft (Leiden) metc-ldd@lumc.nl

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	NL40223.058.12