Effort during listening: disentangling the contribution of auditory and cognitive functions to the listening effort during speech comprehension.

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This project examines their relative contribution using pupil dilatation and concentration cortisol and alpha amylase in saliva as objective measures of mental effort and questionnaires. Young and elderly normally hearing and hearing impaired...

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

Summary

ID

NL-OMON38108

Source
ToetsingOnline

Brief title
Effort during listening

Condition

- Hearing disorders

Synonym
hearingdamage, hearinglos

Research involving
Human

Sponsors and support

Primary sponsor: Vrije Universiteit Medisch Centrum
Source(s) of monetary or material Support: NWO

Intervention

Keyword: Mental listening effort, Speech comprehension

Outcome measures

Primary outcome

Performance on speech in noise task, pupil dilatation during listening,

concentration cortisol and alpha amylase in saliva, subjective listening efford

and scores on cognitive tasks.

Secondary outcome

n.v.t.

Study description

Background summary

A major complaint of hearing impaired people is increased mental distress and fatigue caused by extra effort needed during listening, leading to adverse societal effects like sick-leave. Both auditory and cognitive functions (working memory, linguistic skills) are involved in speech comprehension. It is unknown to what extent each of those factors contributes to listening effort.

Study objective

This project examines their relative contribution using pupil dilatation and concentration cortisol and alpha amylase in saliva as objective measures of mental effort and questionnaires. Young and elderly normally hearing and hearing impaired individuals will participate. Within- and between subject differences will be examined.

Study design

Both normally hearing and hearing impaired participants will be included.

Normally hearingparticipants will serve as controls. The groups of normally hearing and hearing impaired participants will be matched on age. The inclusion of both young (mean age of about 25 years) and elderly (mean age of about 65 years) participants enables the examination of the effects of age on the measures of cognition, auditory functioning and listening effort.

Study burden and risks

Participants will perform a listening task containing background noise. Measuring pupil dilatation and sampling of saliva are non-invasive. In addition participants will fill out some forms. This will take 2 hours of the participants time. This research is of no risk for the participants.

Contacts

Public
Vrije Universiteit Medisch Centrum

Boelelaan 117
1081 HV Amsterdam
NL
Scientific
Vrije Universiteit Medisch Centrum

Boelelaan 117
1081 HV Amsterdam
NL

Trial sites

Listed location countries

Netherlands

Eligibility criteria

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

Inclusion criteria

able to give informed consent.
Dutch as first language.
Normal or corrected vision.

Exclusion criteria

Jonger than 18 years, older than 80 years.
Additional bad ailments, to prevent extra stress within this group.
Diabetes, because of the relation between diabetes and pupil dialation.
Cardiovascular disease and use of medication for cardiovascular disease, because of cortisol and alpha amylase measures in saliva.
Smoking (> 6 cigarettes per day)
Dyslexia or other limitations that affect reading
- Hearinglos more than 20 dB. (normal hearing)
-Hearinglos more than 60 dB. (hearing impared)

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:	Diagnostic

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	22-01-2010
Enrollment:	410
Type:	Actual

Ethics review

Approved WMO Date:	21-01-2010
Application type:	First submission
Review commission:	METC Amsterdam UMC
Approved WMO Date:	12-03-2012
Application type:	Amendment
Review commission:	METC Amsterdam UMC

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	NL30883.029.09