STUDY: MINT

Make EEG great again.

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Purpose:
Protocol template for an EEG session with a test subject aged 6-12 month.

EEG-PROTOCOL

1 Preparation   [Time: 20 Min.]

- All data, Enter subject (right)
- Check completeness of equipment
- All explanations / consent present/signed
- EEG disentangled and connected (Caution: EEG splitter **always** turn off when handling the cap!)
- Air conditioning running: 18 degrees room temperature (TODO)
- Room darkened: TODO brightness measurable

2 Prepare Subject   [Time: 20 Min.]

- Measure head circumference & adjust the cap.
- Explain the cap to the parent: Children often dislike it initially but calm down quickly; advise them not to flick the white bands, and if needed, let the parent try on the adult cap.
- Apply gel to the electrodes from the inside.
- Put on and secure the cap.
- Attach the eye electrode and mark the position of the eye electrode in BabyFace.
- Impedance check: For high impedances, refill gel using the needle (+ rubber stopper) (most important: GND REF); all $< 50k\Omega$, but ideally lower.

3 During the experiment   [Time: 30 Min.]

- Parents help keep the child happy (toys, breaks, snacks)
- In cooperation with parents, pay attention to reducing artifacts (hand in cable, pulling on cable, lots of head movement)
- Take a Polaroid for your researcher's badge

4 After the experiment   [Time: 15 Min.]

- First switch off the EEG, then remove the cap
- Wash head with lukewarm water
- Make a follow-up appointment
- Bring your researcher ID card with you
- Choose a toy, give money & confirm receipt

5 Reprocess equipment   [Time: 25 Min.]

- Wash the cap & clean the electrodes (important: clean the contacts well, not a drop of water on the splinter)
- Take away towels, stow equipment
- Get scarce/used up materials for the next appointment

EXPERIMENTAL MANAGEMENT

Subject:

Session:

Date:

Birth date:

Cap size:

EEG Person:

Technology Person:

Other person:

EQUIPMENT TEST SUBJECT

EEG cap (measure size)   Abdominal belt
Electrode array

Polaroid camera   Researcher ID
Signed consent form
Database registration

Gel   Syringe(s) with blunt needle
Rubber stopper
Adhesive stick for eye electrode

Toy (for use during the experiment)
Toy/gift (for the child)   Snacks   Towel
Lukewarm water bath

TECHNOLOGY PROTOCOL

1 Pre-Subject preparation [Time: 10 Min.]

- `EEG PC`
  - Open BrainVision project workspace File > Open Workspace
    - "C:/Users/Willi/Desktop/MINT" > MINT_workspace.rwksp
  - Check visualization and impedance test
- `PsycoPy PC`
  - Start PsyPy-2024.2.1
  - On the PsychoPy Coder, open "C:/Users/user/Desktop/MINT/experiment-new/experiment.py"
  - Chose the modality: 'audio' or 'visual'
  - 30 for audio volume
  - Start the paradigm correctly with subject data
- `Camera`
  - Start recording for both modalities
- `Splitterbox`
  - Turn on (Power symbol).
  - Plug in electrodes (Slot "Channel 1-32 Splitter Box") + REF/GND.
  - Start impedance test (press Z).
  - Check if amplifier is *ON*.

2 Impedance Check [Time: 5 Min.]

- Use BrainVision Recorder; the data will be saved automatically as long as a recording takes place after the impedance check (without restarting the program).
- impedance should be $< 50k\Omega$, ideally lower
- REF and GND are the most important
- Note any irreparable channels (see right).
- This step must be completed very quickly, as every minute reduces the experiment time.

3 Experiment [Time: 25 Min.]

- Start recording with name: [subjectname]_ses-XX_[modality]
- Take a break if the child is not cooperating well.
- Monitor the EEG, and provide instructions to reduce artifacts if observed.

4 Post-processing [Time: 10 Min.]

- EEG Recording Stop
- Camera Recording Stop
- Upload EEG/Psychopy/Video on Datashare "MINT/raw-baby"
- Thank you for your hard work!

STIMULATION TECHNIQUE CHECKS

Audio volume   Camera focus

BrainVision correct workspace

BrainVision test (visual and impedance check)

Correct EEG-PC wiring   Camera recording

CHANNELS

EOG used:

Bad channels:

CONTROL BUTTONS

P Pause
Q Quit Experiment (!)
R Restart

PRIORITIES

Number of trials ●●●●●
Continuous focus ●●●○○
Silence ●●○○○

OTHERWISE. NOTES

CONTACT PERSONS

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