EEG checklist

EEG cap fitting

1. measure the distance from nasion to inion. The reference electrode should be placed in the middle
2. put the first bunch of electrodes into the cap housings, according to the numbers
3. put the second buch into the cap housings

EEG cable connections

1. unplug the amplifier charger from power outlet
2. turn on both amplifiers
3. put battery into MOVE receiver, turn on MOVE receiver
4. connect **Triggerbox** to the **simulus presentation computer**
5. connect **Triggerbox** to the **USB adapter and MOVE receiver**
6. connect **USB adapter** to the **data collection computer**
7. connect **license dongle** to the **data collection computer**
8. connect the **data collection computer** to power
9. connect **two 32-channel electrode clusters** to the **control box**
10. connect **REF** and **GND** electrodes to the **control box**
11. connect the **MOVE transmitter** to the **control box** with two ribbon cables
12. put battery into the **MOVE transmitter**
13. connect the control box to the **data collection computer** with USB cable

****** the steps needed for impedance preparation**

EEG impedance preparation

1. open the BrainVision recorder on the **data collection computer desktop**
2. click the impedance button on the toolbar. Now all the LEDs should light up on the cap
3. open a syringe, a needle 4.
5. get the jar of gel from fridge, dispense gel into the syringe with the dispenser
6. get rid of air bubbles in the syringe filled with gel
7. gently insert the needle into the electrode housing gap until touching the skin
8. swirl the needle around for several cycles
9. then push gel (~0.2ml). The LED should turn to green immediately
10. Less gel for frontal electrodes (especially ground)
11. after all impedances reach <25kΩ, disconnect the **control box** from the **data collection computer**
12. put 4 batteries into the **control box**

EEG checklist (page 2)

EEG data sampling

1. organize the EEG electrode cables with velcro
2. ask participants to put the black velcro jacket on
3. place the **MOVE transmitter and the controlbox** on the jacket
4. clip the two electrode blackboxes on the jacket
5. Place the protective cap on top of electrode cap
6. zip the jacket. Enter the treadmill
7. hit the "**Start Monitoring"** button on the toolbar of BrainVision Recorder
8. record the baseline where participants are standing still and freely thinking, with eyes open

EEG instructions

1. avoid forehead pinching
2. avoid speech unless in case of emergency
3. only rotate heads horizontally
4. raise right hand in case of uncomfortable itches/ loose headset
5. if experiencing motion-sickness, remove the headset immediately. This would be an emergency

Post-EEG

1. click "**Stop Monitoring"** button on the toolbar of BrainVision Recorder
2. safely remove participant from treadmill
3. remove velcro jacket from participant
4. remove caps, and place electrodes on a soft surface (for example, a towel)
5. remove shoe covers and sensors from participant
6. pay participant, fill out payment form OR grant credits on SONA system
7. turn off **MOVE transmitter and receiver**, amplifiers, control box
8. charge batteries of amplifiers, MOVE transmitter, receiver, and control box
9. copy raw EEG data files and behavioral Unity log files to backup drive

EEG cleaning procedures

1. fill the bucket with tap water (lukewarm or cold)
2. soak the **electrodes** in water for **10 minutes**. Don't let them sit in water for too long.
3. Make sure the blackboxes of electrodes are placed higher than the water, to avoid water backflow. **COVER THEM WITH DRY AND CLEAN TOWELS to avoid water contact.**
4. use the plastic tool to remove electrodes from cap
5. use toothbrush to gently brush away the residue gel off the electrode metal tip and gap
6. use clean and dry towels gently to absorb the residue water.
7. Then hang them on the shelves for air drying.
8. Use toothbrush to gently clean the residue gel on the cap, then air dry