

## **INFORMATION ABOUT EEG**

Max Planck Institute for Psycholinguistics, 2016

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Information processing in the central nervous system occurs, among other things, by electrical activity of the nerve cells. This continuous electrical activity of the brain, which is produced by the brain itself, can be measured and recorded using electrodes placed on the head. The result of such a measurement is called an ElectroEncephaloGram, or EEG for short. The EEG registration will take place in an electrically shielded booth. Depending on the research aim, the duration of the EEG registration varies from about 30 minutes up to 2,5 hours.

### **Preparation at home**

To make the EEG procedure run more smoothly, it is advised to run through the following steps:

- wash and dry your hair beforehand;
- do not use gel, hairspray, etc.;
- do not use facial make-up (foundation, powder);
- if needed, bring your own comb or hair brush;
- always bring your (reading) glasses.



### **Preparation at the MPI**

A cap (a kind of bathing cap, see picture) will be put on your head. A large number of electrodes will be attached to the cap; they will be clicked into holes in the cap. In addition, a few single electrodes will be attached to your face around your eyes and behind your ears using small stickers. Your eyes, nose, mouth and the lower side of your face will remain free. To obtain a good signal it is important that the resistance of the skin is not too high. The experimenter will reduce the resistance between your skin and the electrodes by using some alcohol and conducting gel. This procedure can take between 30 minutes and an hour.

### **The experiment**

After these preparations, you will be taken to the booth. The researcher will give you instructions about what you have to do during the experiment. You may have to look at a computer screen and read words, listen to sounds, carry out a reaction-time task, make certain movements, or just sit and be relaxed. There will be breaks in between. During the experiment, the door of the booth will be closed, but not locked. From the control room the researcher stays in contact with you over the course of the experiment by means of an intercom. The experimenter can see you by use of a camera. The EEG measurement itself will not be noticeable to you.

After the experiment the experimenter will come in and remove the cap with the electrodes. Then, you will be taken to a washroom where you can rinse out your hair, wash it with shampoo and dry it with a blowdryer. For this purpose shampoo and towels are available. For hygienic reasons it is practical if you bring your own comb or hairbrush.

All experiments are harmless and without any risks - the procedure is non-invasive at all times.

If you have any questions about the procedure at home, or during your visit to the MPI, please feel free to ask the experimenter at any time!