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## Brain-environment synchrony and the auditory perception problem

#### Information for Behavioral studies

Thank you for your interest in this study. You are being invited to participate in a research study about human perception of rhythm. The purpose of this study is to investigate how synchronization of brain rhythms with the rhythms of sounds influences what we hear. The purpose of this letter is to provide you with information required for you to make an informed decision regarding participation in this research. It is important for you to understand why the study is being conducted and what it will involve. Please take the time to read this carefully, and feel free to ask questions if anything is unclear or if there are words or phrases you do not understand.

#### Study procedures

The experiments conducted as part of this study will test how humans hear or move when they listen to auditory rhythms (including music and speech). If you agree to participate, you will be asked to listen to rhythmic sounds. You may be asked to make simple responses about whether you detect the presence of or differences between stimuli, to tap your finger, and/or to make ratings about your impressions of the stimuli. It is anticipated that the entire task will take no more than 1 hour. You may be asked to return for one or more additional testing sessions. At the end of the experiment, you will be asked to fill in a questionnaire. The questionnaire asks you about your musical experience and hearing abilities. It will take 5-10 minutes to fill in the questionnaire. The task(s) will be conducted at the Max Planck Institute for Empirical Aesthetics or online via secure web platforms that have been approved by the Max Planck Institute for Empirical Aesthetics as meeting the data protection standard of the MPG. In case you have any further questions, do not hesitate to ask the investigator.

### Voluntariness and anonymity

Participation in this study is voluntary. You may withdraw from participation in this study at any time without stating reasons and without negative consequences. If you should withdraw from the study before its completion, you are still entitled to a reimbursement. The above-described data collected in this study is treated as confidential. Furthermore, the results of this study will be published in anonymous form, i.e., it will not be possible to link the data to your person.

#### Data protection and open data

The collection and processing of your data is carried out using a pseudonym number and without stating your name. There is a coding list on paper that connects your name with the number. The coding list is only accessible to the investigators, who are the only persons able to link the collected data to your name. The coding list is kept in a lockable cabinet and will be destroyed after the completion of the research project. You can withdraw your consent to the storage of your personal data at any time, without this resulting in any disadvantages for you. You can also request the deletion of all data collected from you. However, if the coding list has already been destroyed, individual data records can no longer be identified and therefore no longer deleted. The data collected as part of this study will be treated as strictly confidential. They are used exclusively for research purposes and published in the context of scientific publications. For publications, the data are anonymized so that no conclusions can be drawn about the participants. This means that all identifiable information will be deleted from the dataset collected so that individual participant's anonymity will be protected.

At the end of the study or when the results are published, the anonymized data will be made available to the broader scientific community. The data may be placed online in a secure, Internet-based repository, for example, Open Science Framework (<a href="https://osf.io">https://osf.io</a>) or may be made available by request to other researchers. This study follows the recommendations of the German Research Foundation (DFG) and the German Society of Psychology (DGPs) on the handling of research data. The aim is an open and comprehensible science within which data and results can be reviewed, reproduced and re-used by others. The purpose, nature and extent of any subsequent use of this data cannot be predicted at this time.

## Compensation and exclusion criteria

For your participation in the examination you will receive a reimbursement of  $7 \in \text{per half hour for}$  in-lab studies or  $5 \in \text{per half hour for online studies}$ . The reimbursement will be paid to you in cash or via a secure and online platform approved by the Max Planck Institute of Empirical Aesthetics. You must sign the receipt for the reimbursement in person or online with your name and address. All information concerning this matter is kept completely separate from the experimental data. Individuals who are currently students of or being evaluated by the Principal Investigator or members of the research team will be excluded from the study.

## Risks of participation

There are no known or anticipated risks or discomforts associated with participating in this study.

# **Principal Investigator**

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Thank you for your participation!

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