

Consent form

1. Title of research

You are being invited to take part in the research study *Pitch and rhythmic motor behaviours* (formal title: *Internal oscillators as frames of reference – effects on individual pitch discrimination ability*). We would like to ask you for your consent to participate in the study and for us to treat your data in agreement with data protection legislation. We would also like to ask for your consent to use your data for educational purposes. Before you decide to participate in this study, it is important that you understand why the research is being done and what it will involve. Please take the time to read the following information carefully. Please ask the researcher if there is anything that is not clear or if you need more information. Also, don't hesitate to ask if you have questions after participation in the study.

2. Project description and aim of the study

Rhythms are all around us. Many everyday events and actions are structured in time, such as walking, talking and making music. When asked to tap a regular rhythm, e.g., with a finger on a tabletop, people do it in different ways. We are interested in how people produce such rhythmic behaviours, and in links between perception and production of rhythmic behaviours. There are different models in cognitive science that try to explain the way in which they are linked. To test those models we would like to assess different motor behaviours that you produce and link them to your perceptual sensitivity, specifically your ability to detect subtle changes in the pitch (tone height) of simple sounds. You can participate in this study if you are between 18 and 35 years of age, have normal hearing and normal motor function (ability to walk and clap your hands), and don't currently suffer from neurological or psychiatric disorders.

3. Data controller, research group and principal investigator

Aarhus University is Data controller for the processing of your personal data. The study group *MIB: Pitch perception and rhythmic motor behaviours* is responsible for the study (hereinafter "study group"). The study group is run by:

Cecilie Møller, Center for Music in the Brain

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Principal investigator: As above

Other researchers:

Ben Engler, ben.engler@clin.au.dk – visiting BA student from University of Salzburg, Austria, will conduct the study

Anna Zamm, azamm@cc.au.dk – Assistant Professor of Cognitive Science, Department of Linguistics, Cognitive Science and Semiotics, Aarhus University

The principal investigator is employed at the Center for Music in the Brain, AU. The Center for Music in the Brain is funded by the Danish National Research Foundation (DNRF117).

4. Study procedure

Before you come to our lab, we ask you to complete a one-minute online assessment of how you naturally tap. Your task is to simply tap your finger on the screen of your smartphone or tablet at a comfortable regular rate. We ask you to do so five times at your convenience but separated by at least two hours. Following instructions given in this online part of the study, you will generate your own identifier code. You have to enter the same identifier code each time and bring the code when you come into the lab such that your in-lab data can be connected to the data you provided in the online part of the study. In the lab you will undergo additional assessments of how you naturally produce other simple rhythmic behaviours such as tapping, clapping, walking, and tapping the rhythms of a simple well-known song. You will also perform different pitch discrimination tasks using a lab computer. Finally, you will answer a questionnaire assessing your musical experience and habits and your demographic background (age, gender, educational level, etc.).

5. Benefits and risks

By investigating how your rhythm perception and production relates to pitch discrimination we hope to better understand how humans' cognitive systems process and integrate timing-related information. Understanding timing in perception is important because it underpins a wide range of human behaviours, such as language processing, motor coordination, and music perception. Such knowledge can inform the development of interventions for individuals with timing-related disorders, e.g., dyslexia and developmental coordination disorder. Results of the study will be published in an international scientific journal. In return for your contribution to this scientific field, you will receive one *Go Dream* cinema voucher (value 159.00 DKK), which can be used for instance at *CineMaxX*, Aarhus C. Your participation entails no risks beyond those encountered in normal everyday life.

The study is expected to last 1 hour.

6. Type of personal data and when it is deleted/anonymised

This study collects normal personal information in the form of name (on this consent form), email address or SONA ID and thereby access to phone numbers (depending on how you contact us), and CPR-number. We process name and CPR-number to make payments for

participation in the study. The CPR-numbers are not connected to any data from the research and are deleted from the project as soon as payments are finalized.

We will store your personal information until all data collection of the study is finalized. This is expected to happen on October 1st, 2023, but could possibly take a few weeks longer.

After that, all data is anonymized by means of data masking (your name will be replaced with a random identifier) and we will only have access to your personal data on this consent form which we are obliged by law to keep for five years.

7. Potential external data processors

Aarhus University is data controller for the processing of your personal data. The experimenter is a visiting BA student enrolled at University of Salzburg, Austria. He is conducting the study for educational purposes under the supervision of the principal investigator. He will collect and have access to the data during the data collection period and will process your anonymized data for educational purposes after this period. Your anonymized data will be shared in a publicly available research data repository for potential use also in new research projects by other researchers after the end of the project.

The research group has entered into a formal collaboration with Ben Engler, which ensures that the cooperation between the principal investigator and Ben Engler complies with the rules and regulations of Aarhus University. The personal data will be disclosed to Ben Engler according to data protection legislation.

8. Withdrawal of consent

Participation is voluntary and you may withdraw your consent at any time during the study without stating a reason. This is done by telling the experimenter in person or by contacting the study's principal investigator, Cecilie Møller, by email: cecilie@clin.au.dk. Because the data will be anonymized as soon as possible after all data collection of the study is finalized (see section 6 above), you can withdraw consent during the study, but the data cannot be withdrawn thereafter, because we are unable to identify your data after anonymization. If you withdraw your consent before anonymization of the data, your data will not be used in the study.

9. Rules for processing data

We are entitled to process your personal data pursuant to the rules of the General Data Protection Regulation and the Danish Data Protection Act. We are obligated to inform you about the rules that apply to our work with your personal data. The following constitutes the legal basis for processing your personal data in this study:

- Article 6(1)(a) entitles Aarhus University to process non-sensitive personal data about you on the basis of your consent.
- Section 11(1) of the Danish Data Protection Act entitles Aarhus University to process your civil registration number for the purpose of unique identification.



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Signature

I confirm to have received, read and understood the above information and that:

- A. My participation is voluntary, and I may withdraw my consent and discontinue participation in the project at any time as specified in point 8. My refusal to participate will not result in any penalty.
- B. By signing this agreement, I do not waive any legal rights or release Aarhus University or its agents from liability for negligence.
- C. I give my consent to process my personal data as specified in point 6 and 7 and to participate as a subject in the study as described above
- D. I consent for the use of my personal data for research (Danish Data Protection Act §10) and to the provision of my personal data to students for use for education, projects or theses at universities in Denmark or in another country within the EU/EEA.
- E. I consent to the storing of my anonymized data in a publicly available research data repository for potential use in new research projects by other researchers and students after the end of the project.

(Signature and date)

(Name of participant, please complete in block capitals)