



# Rheinische Friedrich-Wilhelms-Universität

## Institute for Experimental Epileptology and Cognition Research

Director: Prof. Dr. Heinz Beck

Universitätsklinikum Bonn  
D-53127 Bonn

**Priv.-Doz. Dr. Johannes Schultz**  
Institute for Experimental Epileptology and  
Cognition Research  
53127 Bonn  
Venusberg-Campus 1  
Phone: (0228) 287-738282  
Email: johannes.schultz@ukbonn.de

### Participant information

For participants of the study:

### “Studies on social decision-making behaviour.”

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Ladies and gentlemen,

#### (1) Introduction

We would like to ask if you are willing to participate in our planned scientific study.

Your participation in this study is voluntary. You can withdraw your participation at any time and without giving reasons, without having to fear any disadvantages.

The following text explains the aims and procedure of the study. You will then receive a questionnaire that we will use to determine if you are eligible for fMRI scanning. If you are eligible, you will have the opportunity to be selected to be scanned during the experiment. If you are not eligible, you will still be able to participate in the experiment.

#### (2) Background and aims of the study

The aim of this study is to investigate social and economic decision-making and to explore its neural mechanisms using **magnetic resonance imaging (MRI)**. To ensure the validity of the study,

- **you will be interacting with other real participants in real time and**
- **your decisions will have real consequences**, exactly as indicated during the experiment.

Specifically, your decisions will determine how much money you earn and how much money is donated to UNICEF.

#### (3) Study process

**Please note that the data collected during this study will be used exclusively to answer the research question and to ensure compliance with the study's scientific and medical inclusion criteria. We would like to emphasize again that you can withdraw your participation at any time and without giving a reason, without any negative consequences.**

The study consists of three parts, the first and last part are conducted at a laptop, together with the other participants. The middle part will be conducted while you are in an MRI scanner.

The entire experiment should take approximately 90 minutes and includes several short breaks.

The fMRI scan will be performed at the MRI Core Facility of the Medical Faculty of the University of Bonn, within the Medical Center Life and Brain, using a Siemens scanner (3T field strength).



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#### **(4) Information on the principle and procedure of fMRI examinations**

The fMRI procedure is used to examine the function of specific areas inside the body. In this study, activations in different areas of your brain will be visualized while you complete a task. To visualize such brain activations, fMRI uses a strong artificial magnetic field to align atomic nuclei in your body (such as hydrogen nuclei in naturally occurring water molecules) and then measure their magnetic resonance signals. Most participants do not feel this magnetic field at all.

MRI technology is a so-called "non-invasive" procedure, meaning that the patient remains completely unharmed during the measurement; no injections are administered, and no contrast agent is used in our examination. No radioactivity is used in this measurement procedure. The fMRI technique uses only artificially generated magnetic fields. Based on current knowledge and several years of experience with MRI technology, no side effects are expected. In addition to functional measurements (i.e., measuring the oxygen content of blood flow in specific brain regions as an indicator of increased activity in those regions), anatomical images are also taken.

The examination procedure is simple. You will lie on a table and be moved into the cylindrical opening of the MRI scanner. A frame (the magnetic coil) will then be placed around your head. During the scan, you will hear a knocking sound of varying intensity, caused by the electrical switching of the magnetic fields. To prevent hearing damage, you will be given ear protection before the scan. Generally, the confined space inside the scanner can cause anxiety, especially if you suffer from claustrophobia (fear of open spaces). If you suffer from

claustrophobia, you are excluded from participating in this MRI study. Should you feel unwell, you can contact the examiners via an intercom at any time during the examination. Additionally, there is an alarm button (pressure ball) inside the MRI scanner. At your request, you can be moved out of the scanner at any time.

#### **(5) Possible adverse effects, risks, and complications**

MRI is a non-invasive examination method that has been extensively tested in modern clinical practice. Due to the lack of radiation exposure, an MRI examination can be repeated as often as necessary, according to current knowledge. Provided the contraindications are observed (non-removable metal parts in or on the body, electronic devices such as pacemakers, medication pumps), no adverse health effects are to be expected, according to current knowledge.

#### **(6) Participant insurance**

Since no participant insurance has been taken out, claims for compensation can only be made in cases of negligently caused damage, which would be covered by the liability insurance of the University Hospital Bonn.

#### **(7) Benefits and time commitment of study participation**

You have a potential benefit insofar as organic brain diseases can be discovered incidentally through MRI examinations – see **9) Incidental findings**.

The time commitment for the entire study is approximately 2.5 hours. The compensation for your time is €25-40.

#### **(8) Circumstances under which participation in the study may be terminated even without your consent:**

- The participant no longer meets the requirements of the study, including the inclusion and exclusion criteria.
- There are not enough participants to conduct the study at the scheduled time. In this case, you would still receive a participant fee of €7.50.
- The study is prematurely interrupted or terminated.

#### **(9) Incidental findings**

When using imaging techniques, including MRI, there is a possibility of incidentally discovering existing organic brain diseases. However, since these examinations do not pursue diagnostic goals, it is also possible that such diseases will go undetected. If indications of possible diseases are discovered, the following procedure is followed in accordance with the statement and recommendations of the Ethics Committee of the Faculty of Medicine at the University of Bonn: To assess these findings and decide whether to inform the subject, a qualified clinical neuroradiologist is contacted immediately. In this case, care is taken to ensure that the subject's identity cannot be deduced from the data provided (see also section **(11) Data Processing and Analysis**).

**The discovery of an incidental finding relevant to treatment may have consequences for you under insurance law. For example, you may be required to disclose the finding before taking out a new insurance policy and may consequently receive less favorable insurance terms. If you do not wish to be informed of incidental findings relevant to your treatment, you cannot participate in this study.**

#### **(10) Data Processing and Analysis**

The legal basis for data processing (informed consent) is Article 6(1)(a) in conjunction with Article 9(2)(a) GDPR. The data collected within the scope of this study will be treated confidentially and will not be disclosed to third parties. For statistical analysis, your data will be encrypted using a special code. Each code consists of abbreviations for the current study, the principal investigator, and a sequential number. This ensures that your data is stored without your name and date of birth. The stored data is further protected against unauthorized access by a password. The code will be retained for 10 years (from the end of the study) and then destroyed, thereby completely anonymizing your data. Before your data is anonymized, you retain the right to rectification, erasure, or restriction of the processing of your personal data. You also retain the right to object to the processing of your personal data. Your right to lodge a complaint remains unaffected.

The person responsible for processing the data is:

PD Dr Johannes Schultz (responsible head of the study)  
Center for Economics and Neuroscience (CENS) & Institute for Experimental Epileptology  
and Cognition Research (IEECR)  
University Hospital Bonn  
Venusberg-Campus 1  
53127 Bonn  
Email: [Johannes.Schultz@ukbonn.de](mailto:Johannes.Schultz@ukbonn.de)  
Phone: 0228 - 73 8282

The responsible data protection officer at the University Hospital Bonn is:

Achim Flender  
University Hospital Bonn  
Venusberg-Campus 1  
53127 Bonn  
Email: [datenschutz@ukbonn.de](mailto:datenschutz@ukbonn.de)  
Phone: 0228 - 287 160 75

With regard to the data collected, you have the right to obtain information (including a free copy) about the personal data concerning you and, if applicable, to request its correction or deletion. In case of complaints, you have the right to contact the competent supervisory authority:

Landesbeauftragte für Datenschutz und Informationsfreiheit Nordrhein-Westfalen  
Kavalleriestr. 2-4  
40213 Düsseldorf

## **(11) Summary**

The most important points are summarized below:

- The ongoing study can be terminated at any time at your request without any negative consequences for you.
- Your personal data will be stored and processed. Organizational measures have been implemented to protect this data and prevent unauthorized disclosure to third parties.

If you have any further questions, the study physicians or members of our research group will be happy to assist you.