Consent to Participate in a Research Study: Spatial Representations and Attention

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PURPOSE: You are invited to participate in a research study concerning the brain’s involvement in visual perception. The purpose of the study is to determine how the ability to perceive various objects and their properties are represented in the human brain.

PROCEDURES: To be a participant in the study you are required to have no medical history of neurological events that could affect perceptual functions (e.g., epilepsy, head trauma as a result of falls, etc) and to have normal or corrected to normal visual acuity. On your first visit, you may be given a standard visual acuity and basic mental function test to confirm this. If administered, these tests will include your perceptual functions (e.g., color vision, acuity, visual fields) and standard neurophysiological tests (e.g., copying patterns, reading text of various sizes, and naming drawn objects). You may also be asked to describe any visual distortions you may have experienced in the past few years and whether you have a neurological history of head trauma. If you are eligible to participate, Professor Lynn Robertson or one of her associates will administer tests where you will be shown patterns and asked to respond to them either by pressing a key or vocal response. Depending on the study you are in, you may be asked to return to participate in similar tests. The tests are administered in blocks of approximately 100 trials. Typically, several blocks are run in a session that lasts 30-45 minutes.

You may be asked to participate in a functional magnetic resonance imaging (fMRI) as well. fMRI is a procedure that is described in more detail below. If you agree to participate, you will be asked to complete an MRI Contraindications Screening Sheet. This screening sheet contains questions that allow us to determine whether you can safely participate in this portion of the study.

The risk from MRI to a fetus is yet unknown and so if you are a female subject you will be given the choice to: 1) receive an over-the-counter pregnancy test from the researchers to administer at home the day of the MRI, with recommendation to follow directions on the kit; or 2) to self-administer the test in private, in the bathroom, after coming in to the research lab. You must be excluded from the study if a pregnancy test result is positive or if you think you might be pregnant. In order to participate in the study, you will need to sign a separate statement which affirms that you took a pregnancy test that day (at home or at the lab) and the results were negative.

Following completion of the screening procedures, if you qualify, you will be asked to have an fMRI scan. The MRI scanner measures small changes in magnetic fields produced in your brain and generates images of the human brain. An fMRI is designed to detect small changes in blood flow associated with activity in various parts of the brain. You will be asked to lie down on a platform that can be slid into the center of the magnet. A plastic coil will be placed around your head and foam pads will be placed to limit head movement during the study. You will then be slid into the magnet and asked to lie still for approximately 60-90 minutes, during which time MRI images will be acquired. At different points during the scan, you will be asked to perform cognitive tasks that require the pressing of a button while discriminating among visual targets displayed on the screen. You will be given a break from performing the tasks every 5-10 minutes. You can take breaks more frequently if you want.

If you pass the above mentioned behavioral training and qualify for the MRI potion of this study you may be asked to participate in more than one scan session. Specifically, depending on the involvement of the study, scan time may amount to longer than 90 minutes. If this is the case, you will be asked to schedule two scan sessions, split across two days to complete the experiment.
You might be invited to take part in other studies that are ongoing in our lab at UC Berkeley. You would sign a separate consent form before taking part in those studies.

**BENEFITS:** The results of this study will not help you directly but you may gain a sense of satisfaction that you were involved in a scientific investigation and have contributed to scientific knowledge. By doing this research, we hope to gain a better understanding of spatial representation, visual perception, and attention. This may lead to a benefit for those with deficits in the former two areas if treatments can be developed to aid their condition.

**RISKS:** There are no anticipated risks involved in the behavioral portion of this study, though you may become somewhat bored with the procedure. While there is a small chance that confidentiality of the information collected could be compromised, we will take care to prevent this from happening.

The MRI machine acts like a large magnet. It could move iron-containing objects in the MRI room during your exam, which could in the process, possibly harm you. Precautions have been taken to prevent such an event from happening; loose metal objects, like pocket knives or key chains, are not allowed in the MRI room. Researchers will not allow you in the MRI room or have an MRI if you have a piece of metal in your body. Examples would be a fragment in your eye, aneurysm clips, ear implants, spinal nerve stimulators, or a pacemaker.

Having an MRI may mean some added discomfort for you. In particular you may be bothered by feelings of claustrophobia and by the loud banging noise of the MRI during the study. Temporary hearing loss has been reported from this loud noise. You will be screened before entering the MRI for claustrophobia and be asked not to participate if you suffer from fear of confined spaces. You will also be given disposable ear plugs to prevent hearing damage and be asked to wear them for the entirety of all MRI scan sessions. At times during the test, researchers may ask you to swallow for a while, which can be uncomfortable. Swallowing results in a natural movement of the head and if swallowing occurs during a scan it may blur the MRI image. Thus, we may ask you to swallow prior to some of the scans. You may also experience peripheral stimulation, manifested as a gentle tap or sensation of mild electric shock.

It is possible that an abnormality may be detected or suspected in the process of collecting MRI images of your brain. This is a research scan and not a clinical scan and the experimenters are not qualified to make medical assessments, thus the clinical significance of an incidental finding may not be clear. In the case of an incidental finding, the researcher in charge of the study will be notified. The researcher will consult with a doctor (radiologist) about the problem, covering your name and identification for confidentiality. The researcher in charge of the study will discuss the possible problems with you and help you obtain a more complete review of the MRI scan by a specially trained doctor. This doctor can find out if any clinical health condition is present. If the doctor thinks a health problem is present, you will be given a copy of the MRI image, which can be taken to a physician of your choosing or sent electronically. Note that there is a small risk of information being accessed when sent digitally through the internet.

**CONFIDENTIALITY:** All information that we obtain from you is confidential. We will store the records in a locked cabinet and/or on a password protected computer that is used for internal purposes. Only lab members will have access to the data. A code number will be used to identify your records in our data analysis. The information linking your name to its code number will be kept in a locked location. Only the researchers involved in this project will have access to this information. The scientific information obtained from these experiments may be published in scientific papers, but your name will not appear in any public documents. If we find you are ineligible for the study, any information collected from the screening session will be destroyed. Upon completion of the study we may keep your contact information on file for contact about participation in future studies. This information will continue to be kept in a locked cabinet and/or a password protected computer as described above.

If you are interested in participation in future studies and agree to your contact information being held in a secure and confidential location, please initial below.

I permit Dr. Robertson and her associates to contact me about participation in future studies: __________ (Initial on line)
**COMPENSATION:** By participating in this study you will receive $12.00 per hour. If you travel to the laboratory from a long distance, you will be reimbursed for the travel expenses and any expenses incurred due to participation in the study (e.g., meals, accommodations).

**RIGHT TO REFUSE OR WITHDRAW:** Please understand that your participation in the research is voluntary and that you are free to withdraw your consent and discontinue participation in the research at any time. Note that if you participate in the study, you may refuse to answer any question(s) that might make you feel uncomfortable, while still receiving compensation.

**QUESTIONS:** If you have any questions about the study, please contact Dr. Lynn Robertson or one of her associates at the Psychology Department, University of California, Berkeley, (510) 642-6266 or the Veteran’s Administration Northern California System of Clinics, Martinez, CA 94553, (925) 372-2889. If you have any questions about your rights or treatment as a participant in this research project, please contact the University of California at Berkeley’s Committee for Protection of Human Subjects at (510) 642-7461, or email subjects@berkeley.edu.

If you agree to participate please sign below. You can keep the other copy of this form for your own records.

I have been given a copy of this consent form and of the Medical Research Subject’s Bill of Rights to keep, and I agree to participate in this research.

_______________________________________________       _________________________________________________
(Signature of Participant)                                (Date)                    (Signature of Investigator)                               (Date)