Washington University in St. Louis

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INFORMED CONSENT DOCUMENT

Project Title: Testing Behavioral and Neural Mechanisms of Cognition

Principal Investigator: Zachariah Reagh

Research Team Contact: Sarah Morse, morse@wustl.edu, 314-935-0212

This consent form describes the research study and helps you decide if you want to participate. It provides important information about what you will be asked to do during the study, about the risks and benefits of the study, and about your rights and responsibilities as a research participant.

- You should read and understand the information in this document including the procedures, risks and potential benefits.
- If you have questions about anything in this form, you should ask the research team for more information before you agree to participate.
- You may also wish to talk to your family or friends about your participation in this study.
- Do not agree to participate in this study unless the research team has answered your questions and you decide that you want to be part of this study.

WHAT IS THE PURPOSE OF THIS STUDY?

We invite you to participate in this research study because you are a healthy adult, or because you are taking an introductory psychology class.

The purpose of this research study is to understand how the brain learns and retrieves information using behavioral and/or neuroimaging techniques. At the end of the study, we will explain which questions motivate this line of research and describe the potential implications.

WHAT WILL HAPPEN DURING THIS STUDY?

If you agree to participate, you will be asked to read instructions and perform certain tasks, such as making decisions between different possible actions, being presented with and later recalling audio/visual materials, or learning how to respond to different pictures. You may be asked to complete a questionnaire before or after completing these tasks. You will be free to skip any questions that you would prefer not to answer. This study may be completed virtually, in a private testing room at the Danforth campus, or inside an MRI scanner at the medical campus. Some experiments involve only a single visit, while others may occur across up to 6 visits. No single visit is estimated to exceed 3 hours. Some visits only gather behavioral data, while others involve brain measures via MRI.

An MRI scanner takes pictures of the inside of your body based on magnetic signals in the blood and various tissues. Because the MRI scanner contains a very strong magnet, you may not be able to have an MRI scan if you have certain kinds of metal in your body (for example, from medical devices or an iron-containing metal plate). If you sign up to participate in an MRI study, someone will ask you questions about this before you have the MRI to ensure safety. The MRI scanner is a large machine that contains a hollow tube. You will be asked to lie on your back on a special table that slides into the tube. The sides of the tube will be fairly close to your body and the scanner makes loud noises while you are inside (hearing protection is provided).

Will you save my research data to use in future research studies?

As part of this study, we are obtaining data from you. We would like to use this data for studies going on right now as well as studies that are conducted in the future. These studies may provide additional information that will be helpful in understanding how the brain processes and retrieves information. It is unlikely that what we learn from these studies will have a direct medical benefit to you. By allowing us to use your data you give up any property rights you may have in the data. Note that all kinds of data are de-identified, and that only password-protected documents accessible to key research staff can be used to link individual identities to the data.

If you change your mind and do not want us to store and use your data for future research, you should contact the research team member identified at the top of this document. The data will no longer be used for research purposes. However, if some research with your data has already been completed, the information from that research may still be used. Also, if the data has been shared with other researchers it might not be possible to withdraw the data to the extent it has been shared.

- Identifiers may be removed from your private information, including behavioral and MRI data, and used for future research or shared with others. If this occurs, we will not ask you for additional consent.

Audio Recording

One aspect of this study involves making audio recordings of you. For example, we may ask you to describe what you remember about a stimulus you encountered with as much detail as possible. Recording your response allows us to analyze your answers so that we can better understand how the brain stores and recalls information. Audio recordings will be de-identified and stored on password-protected computers that can only be accessed by lab members. We will store these recordings for up to 3 years after the study is published, after which they may be destroyed.

HOW MANY PEOPLE WILL PARTICIPATE?

Approximately 1000 people will take part in this study conducted by investigators at Washington University.

HOW LONG WILL I BE IN THIS STUDY?

If you agree to take part in this study, your involvement will last for 1-10 hours. Most experiments will consist of a single visit ranging from 30 minutes to 2 hours. Some experiments consist of up to 6 visits, separated by 24 hours to 1 week. Accounting for informed consent, surveys, data collection, and debriefing, no single visit is anticipated to exceed 3 hours. The particular timeframe for a given experiment will be clearly communicated by the experimenter, and will be based around your availability.

WHAT ARE THE RISKS OF THIS STUDY?

You may experience one or more of the risks indicated below from being in this study. In addition to these, there may be other unknown risks, or risks that we did not anticipate, associated with being in this study.

Behavioral Study Potential Risks:
. A possible discomfort in the general behavioral studies is that you may feel fatigued after a long study. Some stimuli used can elicit an emotional response, such as scenes of violence. You will be informed at the beginning of the session if you will see emotionally negative images, and may choose to opt out of the experiment then. There will be no negative consequences regarding compensation for doing so.

fMRI Scan Potential Risks:
Other possible risks of participation are related to fMRI experiments, and are listed below. Researchers will use a specific screening form to verify your eligibility for fMRI experiments, and ensure that every safety precaution is taken before you enter the scanner. During the procedure, you will be able to talk with the MRI staff through a speaker system. If you experience any of these symptoms and do not wish to continue, you can ask that the scan be stopped immediately at no penalty, and you will be compensated for the time you have completed.

Common risks:

- discomfort inside the MRI scanner if you do not like to be in closed spaces ("claustrophobia")
- muscle stiffness from lying still
- feeling warm
- feeling a twitching sensation briefly during the scan

Rare risks:

- a loud hammering noise which has caused hearing loss in a small number of patients.
    - to minimize this risk you will be given earplugs
- temporary sensation of flashing lights while in the MRI scanner
- temporary dizziness associated with lying in the MRI scanner
- burns that could be serious
    - to minimize this risk we will ask you to wear MRI-safe clothing and remove jewelry and piercings.

Devices:
If you have a device such as a pacemaker, bone hardware, cardiac stent, or device placed in your uterus there may be additional risks. We will review what device you have and inform you of these risks. In general, these risks could be:

- heating or movement of the device
- device malfunction
- damage to the tissue that surrounds the device.

One risk of participating in this study is that confidential information about you may be accidentally disclosed. We will use our best efforts to keep the information about you secure. Please see the section in this consent form titled *"How will you keep my information confidential?"* for more information.

WHAT ARE THE BENEFITS OF THIS STUDY?

You will not benefit from being in this study. However, we hope that, in the future, other people might benefit from this study because it will provide insights about how people learn and remember information. This may lead to the development of interventions to assist in improving memory, or identifying disorders that affect memory.

WHAT OTHER OPTIONS ARE THERE?

Instead of being in this research study, you have other options for receiving credit for courses in Psychological & Brain Sciences. Check with your course instructor for more information.

WILL IT COST ME ANYTHING TO BE IN THIS STUDY?

You will not have any costs for being in this research study.

WILL I BE PAID FOR PARTICIPATING?

You will be paid for being in this research study. You may need to provide your social security number (SSN) in order for us to pay you. You may choose to participate without being paid if you do not wish to provide your social security number (SSN) for this purpose. You may also need to provide your address if a check will be mailed to you, which can take up to 3 weeks. If your social security number is obtained for payment purposes only, it will not be retained for research purposes.

You will receive $25 per hour for participating in this study. If you decide to withdraw before the study is completed, you will be compensated for the amount of time that you completed.

Alternatively, you may receive course credit for being in this research study. If you elect to receive course credit, you will not be paid. Course credit will be provided through the Psychological and Brain Sciences Research Participation Portal. You will receive 1 point per hour of participation.

WHO IS FUNDING THIS STUDY?

The University and the research team are not receiving payments from other agencies, organizations, or companies to conduct this research study.

HOW WILL YOU KEEP MY INFORMATION CONFIDENTIAL?

Other people such as those indicated below may become aware of your participation in this study and may inspect and copy records pertaining to this research. Some of these records could contain information that personally identifies you. We will keep your participation in this research study

confidential to the extent permitted by law.

- Government representatives (including the Office for Human Research Protections) to complete federal or state responsibilities
- University representatives to complete University responsibilities
- Washington University's Institutional Review Board (a committee that oversees the conduct of research involving human participants) and Human Research Protection Office. The Institutional Review Board has reviewed and approved this study.
- Any report or article that we write will not include information that can directly identify you, such as your name or identifiable images. The journals that publish these reports or articles may require that we share participants' data, and occasionally demographic information that was collected for this study. This is to ensure the results of this study are valid, and help develop new ideas for research. Your information will be shared in a way that cannot directly identify you.

To help protect your confidentiality, we will encrypt and password-protect your data. We will assign a code number to the information you give us. A master list linking the code number and your identity will be kept separate from the research data. Only the PI and people helping him/her will be able to see the list. We will protect your information, but there is a chance somebody might see it.

We will keep information about you in a special kind of computer listing called a registry. A registry keeps information about you on file for two reasons. The first is to keep track of participants who have participated in previous studies in our lab, which may make you more or less appropriate for future studies conducted by our group. The second is so that *other* researchers, not involved in this particular study, may contact you in the future about whether you are interested in being in *different* research studies. The registry will contain information such as your name, address, age, and contact information**.** We will keep the information in this registry secure by encryption and password protection. You may request that your personal information be removed from this file at any time by contacting Sarah Morse (morse@wustl.edu, (314)935-0212). You may still participate in this study if you choose not to have your information included in this registry.

I give you permission to put my name and personal information in a registry so that other researchers can contact me in the future about different research studies.

_____ Yes **_____ No**
Initials **Initials**

IS BEING IN THIS STUDY VOLUNTARY?

Taking part in this research study is completely voluntary. You may choose not to take part at all. If you decide to be in this study, you may stop participating at any time. Any data that was collected as part of your participation in the study will remain as part of the study records and cannot be removed.

If you decide not to be in this study, or if you stop participating at any time, you won't be penalized or lose any benefits for which you otherwise qualify. If you are recruited to participate in the study, and you are presently a student in a course taught by the PI, you may decline to participate or withdraw at no

penalty. Any interactions with you or your data in such a case will occur independently of the PI's involvement, via the lab manager or a trainee overseeing the study.

What if I decide to withdraw from the study?

You may withdraw by telling the study team you are no longer interested in participating in the study. You may do this at any time.

Can someone else end my participation in this study?

Under certain circumstances, the investigator might decide to end your participation in this research study earlier than planned. This might happen for no reason, due to a technical failure (e.g., a computer crash or an issue with MRI data quality), or due to noncompliance with tasks or procedures (e.g., excessive motion in the MRI scanner). If the study is ended before completion, there will be no penalty to you, and you will be compensated for the time you completed.

WHAT IF I HAVE QUESTIONS?

We encourage you to ask questions at any point. If you have any questions about the research study itself, or if you feel that you have been harmed in any way by your participation in this study, please contact Zachariah Reagh, zreagh@wustl.edu, (314)935-5176. If you have questions, concerns, or complaints about your rights as a research participant please contact the Human Research Protection Office at 1-(800)-438-0445, or email hrpo@wustl.edu. General information about being a research participant can be found on the Human Research Protection Office web site, http://hrpo.wustl.edu. To offer input about your experiences as a research participant or to speak to someone other than the research staff, call the Human Research Protection Office at the number above.

This consent form is not a contract. It is a written explanation of what will happen during the study if you decide to participate. You are not waiving any legal rights by agreeing to participate in this study.

Your signature indicates that this research study has been explained to you, that your questions have been answered, and that you agree to take part in this study. You will receive a signed copy of this form.

Do not sign this form if today's date is after EXPIRATION DATE: N/A.

_____ _____

(Signature of Participant) (Date)

_____

(Participant's name – printed)

Statement of Person Who Obtained Consent

The information in this document has been discussed with the participant or, where appropriate, with the participant's legally authorized representative. The participant has indicated that they understand the risks, benefits, and procedures involved with participation in this research study.

_____ _____

(Signature of Person who Obtained Consent) (Date)

_____

(Name of Person who Obtained Consent - printed)