Research
Research Integrity and Assurance

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Updated By: Andre Oliveira Beukers @ 04-Dec-2017 08:52:18 PM

A. Instructions

Thank you for using eRIA for your IRB application. Please read all of the following instructions and complete each step carefully.

1. Complete all required questions in this form. A detailed instruction guide is available here. It is recommended that you save your work often (using the Save button above) as this system will not automatically retain information entered.

2. Attach all related documents such as advertisements, assent forms/scripts, surveys, consent forms/scripts, grants, interview guides, questionnaires and evidence of training in the Supporting Documents section of this form.

3. Check the Locked checkbox to validate all mandatory questions have been answered. Clicking Locked saves the electronic form and verifies all mandatory responses are present. If a message appears indicating mandatory questions have not been completed, then provide responses as indicated. Repeat this step until the "Form Complete Successful" message appears.

4. Click the Close button above to close this form and return to the submission package window.

5. Upon return to the submission package window, click the Submit button (located on the right, below the application status). Wait for the system to complete the operation. Once your application is submitted the status will change to either Intake Review or Pending PI Review and Assurance.

6. Click the Done button to close the main window and return to the Portal.

Icon Legend:

* Required field
Hover over this icon for Help
Add an entry
Upload a file
Delete an entry
Remove a value or file
Edit or choose a value
View an uploaded file

B. General Information

Protocol Number 10374

Submission Number 10374-01

* (1) Study Title

Using Amazon Mechanical Turk to create and validate stimulus materials

* (2) Is your research being funded by any of the U.S. Department of Health and Human Services (DHHS) agencies listed here?

Yes

* (3) Select your study sponsor from the list below.

First click the icon to the right. Then click the icon to select your funder. If you have more than one funder, click the

icon to add a second funder, then click the icon to select the second funder. Repeat as necessary.

If your study is internally funded by Princeton University or is unfunded, please choose "Princeton University" or "Internal" (either choice is fine).

* Sponsor	National Institutes of Health

* (4) Type of Research

Use the icon below to specify if this is a Junior Project, Senior Thesis, Faculty Research, etc.

Graduate Research

Please save your work before proceeding to the next section of this form. Otherwise, your work will not be saved.

C. Research Personnel

(Add)

Name
Beukers, Andre Oliveira

☐ Principal Investigator (PI)

The PI is the person who is ultimately responsible for the conduct of the study. For student-initiated research, the PI is typically the student's faculty advisor. However, the PI does not have to be your faculty advisor. For the eligibility criteria to serve as a PI at Princeton University, please see this document.

☑ Email Communication

The IRB will send all communications to the PI. If you would like this person to also receive IRB communications about this study, please check this box.

Role in Research: Graduate Student Research Assistant

IRB Compliance Training

This information is automatically populated based on data received from the CITI Program or recorded by the IRB Office

Certification	Begin	End
CITI - IRB - Social & Behavioral Research Investigators	03-Jul-2017	

Name
Norman, Kenneth Andrew

☑ Principal Investigator (PI)

The PI is the person who is ultimately responsible for the conduct of the study. For student-initiated research, the PI is typically the student's faculty advisor. However, the PI does not have to be your faculty advisor. For the eligibility criteria to serve as a PI at Princeton University, please see this document.

Role in Research:

IRB Compliance Training

This information is automatically populated based on data received from the CITI Program or recorded by the IRB Office

Certification	Begin	End
NIH - NIH IRB Training	23-Sep-2003	

D. Non-Princeton Personnel

Please list all individuals from non-Princeton institutions who will be working with you on this research project (i.e., investigators from Penn, Columbia, Harvard, etc.).

Please save your work before proceeding to the next section of this form. Otherwise, your work will not be saved.

E. Study Design

The IRB asks the following questions because it must confirm that the study meets certain criteria for approval found in the federal regulations. If you are interested in learning more about these criteria, please visit our resources page.

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* Objectives

(1) Using language understandable to a non-scientific layperson, provide a summary of the purpose of your research project. Include a description of the background and rationale for the study, explain the research design, research methodology, hypotheses and goal(s). The IRB understands that sometimes hypotheses and rationale emerge as data is collected, but please do your best to specify the following:

- List the problems to be addressed
- Describe what is to be learned
- Identify the specific objectives of the proposed research
- Topics of Conversation/Discussion

Research on the neurobiology of statistical learning typically uses sequences of stimuli that are void of meaning, such as strings of letters. However in real life, perception is rich with semantic information. We recall percepts in the context of the ongoing situation, ongoing situations occur within events and events have structured temporal evolutions. We have developed an algorithm that generates stories with controlled probabilistic structure. Our objective here is to collect data for our stimuli to better characterize the stimuli to be used in future experiments. This protocol only aims to collect norming data on the stimuli, rather than collect any actual neural data using the stimuli. The aim of this norming data is to provide us with information on the predictability of certain event structures. This will provide an empirical validation for our stimulus materials, rather than relying solely on our intuitions. For example, subjects will read the words "Jen got up to the microphone" and be ask to predict whether subsequently "Jen read her poem" or "Was too shy to read her poem". We will ask participants to respond with one of two possible options as by indicating a position on a slider. Based on people's responses, we will be able to empirically characterize how many trials it takes for subjects to learn these probabilistic transitions.

Research Components

The research involves the following components (check all that apply):

* (2) Questionnaires/Surveys/Interview Guide/Topics of Conversation

Yes ☐ No ☑

* (3) Ethnographic/Field Research/Participant Observation/Embedding in the field

Yes ☐ No ☑

* (11) Analysis of tissues or specimens

Yes ☐ No ☑

* (12) Audio/Video Recording

Yes ☐ No ☑

* (13) Data Analysis Only (the research is solely limited to data analysis- no interaction or intervention with the subjects)

Yes ☑ No ☐

* (14) Clinical Trials

Yes ☐ No ☑

* (15) Hazardous Agents

Yes ☐ No ☑

* Study Procedures

(19) Describe in detail the procedures that will be used to achieve the objectives of the research project. Remember to attach the survey, questionnaire, interview guide, and topics of conversation in the Supporting Documents section, if applicable.

We will collect this data using Amazon Mechanical Turk. We will not receive any personal or identifiable information about subjects from Mechanical Turk. We will receive basic demographics about each participant: age, native language, gender, racial and ethnic categories. Amazon Mechanical Turk does not provide any other additional information about the participant. Subjects will be reimbursed for their time at a rate of $6 per survey. In this experiment, they simply read stories, 10 words at a time, and after every two sentences indicate what they predict will happen next with a slider position. We will have approximately 200 participants perform this task.

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* Number of Subjects

(20) Indicate the maximum number of subjects to be accrued across all sites. If a total number cannot be provided, please provide an estimate. If the activity is solely limited to data analysis, indicate the number of subjects' records that will be analyzed.

200

Study Populations

The regulations require that additional protections be given to the subject populations listed below. If you indicate “Yes” to any of these questions, the application will guide you to resources you should consult.

* (21) Does your study involve children?

No

* (22) Does your study involve prisoners?

No

* (23) Does your study involve pregnant women, human fetuses or neonates?

No

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* Inclusion and Exclusion Criteria

(24) Describe the criteria that define who will be included in your study and who will be excluded from your study.

The only requirements will be that the subjects are age 18-65, and that they are native English speakers since the task involves the statistics of language. Participants are drawn from the diverse Amazon Mechanical Turk community, which represents all minorities and both genders.

Multi-Site Research

* (25) Is this is a multi-site study?

☐ Yes ☑ No

Recruitment Methods

* Describe how you will locate, contact, and invite subjects to participate in your study. If you will be using recruitment materials such as advertisements or invitations (printed, audio, visual, online), submit them in the Supporting Documents section of this form.

We will be using Amazon Mechanical Turk to collect these data. Our task will be located on a list of many possible tasks that subjects can choose to complete. We will not perform any additional recruiting such as advertisements or invitations.

* (29) Describe the amount and timing of any payments to subjects.

Subjects will take between 25-45 minutes to complete the task and they will receive $6 for the completing the task. These payment rates reflect standard researcher practices for MTurk studies.

Resources

* (30) Describe your process to ensure that all research personnel are adequately informed about the protocol, the research procedures, and about their duties and functions.

The research personnel involved have reviewed and agreed to the protocol we are proposing. They will receive all future updates to the protocol.

* (31) Describe the availability of medical, psychological, or other resources that subjects may need as a result of participating in your study and explain how these resources will be supplied.

This is a minimal risk study. Participants are not eligible for psychological or medical resources.

Please save your work before proceeding to the next section of this form. Otherwise, your work will not be saved.

F. Risks to Subjects

* (1) List the reasonably foreseeable risks, discomforts, hazards, or inconveniences to the subjects related to the subjects' participation in the research.

We do not foresee many risks, discomforts, hazards, or inconveniences to the subjects related to the subjects' participation in the research. Amazon Mechanical Turk is a webservice where subjects complete the task at their leisure on their own computer, and no identifiable information is given to us regarding the subjects. Subjects are indicating responses using their mouse and keyboard. If they find reading unpleasant or typing unpleasant, then they may find that inconvenient and they can choose to stop the task at any time. Amazon Mechanical Turk is used by thousands of researchers, and most surveys involve reading or typing so subjects who are choosing to complete surveys on Mechanical Turk are most likely subjects who will not find reading or writing as a inconvenience or a discomfort.

* (2) Describe the probability, magnitude, duration, and reversibility of the risks. Consider physical, psychological, social, legal, and economic risks.

We are not aware of any risks.

* (3) Describe any financial costs (for example, medical tests, tolls, parking) that subjects may be responsible for because of participation in the research.

There are no financial costs that subjects will be responsible for because of participation in the research.

* (4) Please describe the medical treatment and compensation that will be provided to subjects in the event of an injury caused by your research. If medical treatment and compensation will not be provided to subjects, indicate that.

Subjects are reading words and indicating responses using the mouse and keyboard. We are not aware of any medical treatment or compensation that will be necessary for the subjects, and therefore we will provide no medical treatment or compensation to the subjects.

* (5) Do you think the study poses more than Minimal Risk to subjects?

☐ Yes ☑ No

Please save your work before proceeding to the next section of this form. Otherwise, your work will not be saved.

G. Potential Benefits

IRB must determine that the risks to subjects are reasonable in relation to the expected benefits. Describe the direct benefits to individual subjects, as well as to society collectively, including contributions to the collective knowledge base of a scientific discipline.

* (1) Describe the potential benefits, if any, that individual subjects may experience from taking part in the research. Include the probability, magnitude, and duration of the potential benefits.

We are not aware of any potential benefits that individual subjects may experience.

* (2) What is the value of this study to society?

The value of this study to society is that we will learn more about the cognitive processes of language and how they are represented in the human brain. Language is one of the most fundamental human skills and we know little about how the human brain processes meaning. The results from this study will allow us to perform analyses to discover how meaning are represented in the human brain.

Please save your work before proceeding to the next section of this form. Otherwise, your work will not be saved.

H. Withdrawal of Subjects

* (1) Describe anticipated circumstances under which subjects may be withdrawn from the research without their consent.

This task is simple and straightforward to complete. We do not anticipate many situations in which subjects are withdrawn from the research without their consent. It may be that some subjects who complete the task have an unidentified language disorder in which case their responses may deviate from the group average. If their average responses across the entire task deviate by more than 4 standard deviations from the mean, then their responses may be eliminated from the group results.

Please save your work before proceeding to the next section of this form. Otherwise, your work will not be saved.

I. Confidentiality

* (1) Is your study federally funded and will you collect identifiable, sensitive information? Examples of "sensitive" information include research on mental health and research on the use and effect of alcohol and other psychoactive drugs.

☐ Yes ☑ No

Please refer to the following resources:

- Research Data Security Guidelines
- Protecting Your Research Data -- Summary Table
- Research Data Management Guidelines

Given the above guidelines, describe the procedures to secure and maintain the confidentiality of data in the following areas:

* (2) Desktop and laptop computers used in the study (see row 3 of the table):

Subjects complete the surveys using Amazon Mechanical Turk on their own computers. No identifiable, sensitive information is given to us by Amazon Mechanical Turk. Our lab computers are password protected.

* (3) File server(s) used in the study (see row 4 of the table):

The file servers to be used in this study require authentication for access to data; file server is configured in a manner consistent with University security practices.

* (4) Removable media used in the study (see row 5 of the table):

N/A

* (5) Paper forms used in the study (see row 6 of the table):

N/A

* (6) Cloud storage services used in the study (see row 7 of the table):

N/A

* (7) Encryption methods used in the study (see row 8 of the table):

N/A

* (8) Data transfer methods used in the study (see row 9 of the table):

N/A

Please save your work before proceeding to the next section of this form. Otherwise, your work will not be saved.

J. Privacy

* (1) Describe the steps that will be taken to protect subjects' privacy interests.

This data is very private. The subjects complete the surveys online in the privacy of their own home. The data that we receive from Amazon Mechanical Turk has no identifiable or personal information associated with it.

Please save your work before proceeding to the next section of this form. Otherwise, your work will not be saved.

K. Consent

* (1) Will subjects consent?

☑ Yes ☐ No

The IRB recommends that you use the Princeton University IRB consent form template. The consent form template contains approvable language and its use will minimize delays in the IRB review process.

* (2) Will any information about the study be withheld during the consent process (a.k.a., deception)?

☐ Yes ☑ No

* (3) Will subjects sign the consent form?

☐ Yes ☑ No

* You must request a waiver of written documentation of consent by providing sufficient information such that the IRB can justify that the following criteria are met:

- The research involves no procedures for which written consent is normally required outside of the research context, or
- The only record linking the subject and the research would be the consent document; and the principal risk of a signed consent document would be the potential harm resulting from a breach of confidentiality; and each subject will be asked whether the subject wants documentation linking the subject with the research, and the subject's wishes will govern.

We are respectfully requesting that the IRB consider a waiver of written documentation of consent at this time. We are only collecting indirect identifiers from the Amazon Mechanical Turk participants such as gender, native language, age, racial and ethnic categories. We are in no way are collecting any information that would allow us to identify Amazon Mechanical Turk participants at a future date. We also have no interest in being able to identify participants at a later date and are only using the Amazon Mechanical Turk to create and norm stimulus materials for potential use in future experiments. Therefore, the only record linking the subject and the research would be the consent document, and the principal risk of a signed consent document would be the potential harm resulting from a breach of confidentiality. Each subject will be asked whether the subject wants documentation linking the subject with the research, and the subject's wishes will govern. Subjects will be given all of the contact information for us (the researchers) as well as the Princeton IRB contact information, in case they have any questions or concerns at any time. The research involves no procedures for which written consent is normally required outside of the research context.

* (4) Are you obtaining consent of non-English-speaking subjects?

☐ Yes ☑ No

* (9) Subjects are adult students or employees.

☐ Yes ☑ No

* (11) Subjects are adults who are cognitively impaired.

☐ Yes ☑ No

* (13) Subjects are adults who are unable to consent.

☐ Yes ☑ No

Please save your work before proceeding to the next section of this form. Otherwise, your work will not be saved.

L. International Research

* (1) Will this project be conducted in whole, or in part, at a location outside the United States?

☐ Yes ☑ No

Please save your work before proceeding to the next section of this form. Otherwise, your work will not be saved.

M. Conflict of Interest

* (1) Does the PI or any research personnel have a financial or other potential conflict of interest affecting objectivity in the study? For more information, please review the COI website for details.

Yes ☐ No ☑

Please save your work before proceeding to the next section of this form. Otherwise, your work will not be saved.

N. Supporting Documents

Attach supporting documents here. Supporting documents include advertisements, assent forms/scripts, surveys, consent forms/scripts, grants, interview guides, questionnaires and verification of human subjects training (if not completed via CITI and while at Princeton).

Please save your work before proceeding to the next section of this form. Otherwise, your work will not be saved.

O. PI Assurance

By electronically approving this protocol and submitting it to the IRB, the PI agrees to follow the following obligations outlined in Princeton University SOP 207: Obligations of the Principal Investigator for Human Subjects Research

1. If the PI has any questions about whether s/he is conducting research involving human subjects, the PI must contact the IRB before commencing the study.
2. Principal investigators must not commence research until the PI has the IRB approval letter and obtained all other required approvals, such as approvals of departments or divisions that require approval of the use of their resources.
3. PIs must conduct the research in accordance with the most recent protocol approved by the IRB.
4. PI must protect the rights, safety, and welfare of subjects involved in the research.
5. The PI must comply with all requirements and determinations of the IRB.
6. The PI must use sound study design in accordance with the standards of his/her discipline and design studies in a manner that minimizes risks to subjects.
7. The PI must ensure that there are adequate resources to carry out the research safely. This includes, but is not limited to, sufficient investigator time, appropriately qualified research team members, equipment, and space.
8. PIs are required to provide verification of human subjects training. This requirement is described in greater detail in SOP 202.
9. The PI must ensure that research staff are qualified including, but not limited to, appropriate human subjects training, education, expertise, credentials, protocol requirements and privileges, to perform procedures and duties assigned to them during the study.
10. PIs must not make modifications to the research without prior IRB review and approval, unless necessary to eliminate apparent immediate hazards to subjects.
11. The PI must report the information items listed in SOP 206: Reporting Requirements for Investigators to the IRB within 5 business days of learning of the information.
12. PIs must submit continuing reviews to avoid a lapse in approval of their study. If approval of the research expires, the PI must stop all research activities immediately and contact the IRB.
13. PIs must close the research (end the IRB's oversight) when all the following criteria are met:
    - The protocol is permanently closed to enrollment and
    - All subjects have completed all protocol-related interventions and interactions and
    - No additional identifiable private information about the subjects is being obtained and
    - The PI's analysis of private identifiable information is completed.
14. Unless the IRB approved a protocol to include the following populations, the PI must not enroll the following subjects in the study:
    - Adults unable to consent
    - Children
    - Neonates of uncertain viability: a newborn that may not be viable (able to survive after delivery, given the benefit of available medical therapy to the point of independently maintaining heartbeat and respiration)
    - Nonviable neonates: a newborn that is not viable
    - Pregnant women
    - Prisoners
    - Individuals unable to speak English
15. When consent, permission, or assent are required by the IRB, the PI must ensure that it is obtained and documented in accordance with the most recent approved protocol.
16. The PI must retain research records (including signed consent documents) for three years after completion of the research. "Completion of the research" means when the definition of human subjects research is no longer met: the protocol is permanently closed to enrollment; and all subjects have completed all protocol-related interventions and interactions; and no additional identifiable private information about the subjects is being obtained; and analysis of private identifiable information is completed. Completion of the research is typically evidenced by the PI submitting a closure form or the study's lapse (expiration) of approval.
17. If the PI is a lead investigator of a multi-site study, the PI must manage information that is relevant to the protection of subjects across all study sites, such as reporting Unanticipated Problems Involving Risks to Subjects or Others to the IRB(s); reviewing interim study results; and securing approval of modifications from the IRB(s) before their implementation.
18. For studies regulated by a federal department or agency, the PI must follow the additional obligations of that federal department. These agencies include, but are not limited to, the Department of Defense; Department of Energy; Department of Justice; Environmental Protection Agency; Education Department; Federal Drug Administration; and the National

Institutes of Health.

* Select the appropriate response below.

I am not the PI

You are welcome to save this document and return later to complete and submit it. If you're ready to submit it, you have two submission options:

a. If the PI will review documents in this electronic system, you can advance this submission to the PI for his/her review or
b. If the PI will not review documents in this electronic system, you can submit this to the IRB Office. If you choose this option, you'll have to include an attachment of a hardcopy of this form signed by the PI.

* Given the options above, select the desired response below.

Attach the signed PI approval and advance this submission to the IRB

* After completing the steps below, please upload a scan or picture of the signed PI Approval Form here.

Please follow these steps to complete and then submit your application to the IRB.

1. Click the link P. PI Approval Form - Initial Application.

2. Print the form.

3. Have your PI sign the printed form on the signature line.

4. Attach/upload the scan or image file to this application (using the Upload icon above).

5. Check the Locked checkbox to validate all mandatory questions have been answered. Clicking Locked saves the submission form and verifies all mandatory responses are present. If a message appears indicating "Incomplete mandatory field(s) found", please provide responses as indicated. Repeat this step until you have answered all the mandatory questions. Checking the Locked checkbox when all mandatory questions are answered closes the form automatically and returns you to the submission package window.

6. Upon return to the submission package window, click the Submit button (located on the right, below the application status). Wait for the system to complete the operation. Once your application is submitted the status will change to Submit to IRB.

7. Click the Done button to close the submission package window and return to the Portal.

P. PI Approval Form - Initial Application

Protocol Number:10374

Submission Number:10374-01

PI:Beukers, Andre Oliveira

Study Title:

Using Amazon Mechanical Turk to create and validate stimulus materials

Date: 04-Dec-2017

By signing this form and submitting it to the IRB, I am agreeing to follow the obligations outlined in Princeton University SOP 207: Obligations of the Principal Investigator for Human Subjects Research.

PI Signature : _____

Date:_____

PRINCETON UNIVERSITY

IRB Office- Hide Form: ☐ Yes ☐ No

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