**Harrisburg University of Science and Technology**

**Institutional Review Board**

**APPLICATION TO USE HUMAN SUBJECTS IN RESEARCH**

**For Expedited Studies Only**

**IRB ETHICS TRAINING**: The participating Faculty member(s), Graduate Student Researcher(s), and any External Researcher(s) MUST have a valid completion certificate from the CITI Course in Human Subjects Online Training before submitting an IRB application for projects involving human subjects. Include a copy of your CITI Training Completion Certificate with your IRB application if one is not already on file.

1. PROPOSED DATA COLLECTION DATES: From (07/20/2023) to (07/20/2024)

Data collection dates should allow time for the IRB to review your protocol. *Please allow at least one (1) week from the date you turn in the application for processing.*

2. INVESTIGATOR(S):Copy and paste additional investigator names as needed. If an undergraduate student project, the faculty advisor should be listed as a Co-Investigator and as the approving faculty advisor).

Investigator Name: Erin M. Buchanan

Program: ANLY

Email: [ebuchanan@harrisburgu.edu](mailto:ebuchanan@harrisburgu.edu)

Faculty Advisor Name: Click or tap here to enter text.

Program: Click or tap here to enter text.

Email: Click or tap here to enter text.

For all students, this research is for (*check all that apply*):

Master’s Thesis/Project  Independent Study

PhD Dissertation   GRAD695 Course requirement

Undergraduate Project  Other: (describe other project here)

Other: (describe other project here)

3. **PROJECT TITLE**: Semantic Priming Multiverse Expert Consensus Survey

4. PARTICIPANTS:

a. Number of participants proposed/anticipated: 100

b. Type(s) of participants:

Children (17 or younger)  Adults (18 years of age or older)

Patients in institutions  HU students (18 years of age or older)

Prisoners  Faculty or external collaborators

Pregnant women  Other: (describe population here)

This project is in collaboration with the Psychological Science Accelerator. We will recruit from the project team involved in the Semantic Priming Across Many Languages Study. Participants will be required to have expertise in reaction time processing or semantic priming.

5. FUNDING: Total project period from (MM/DD/YYYY) to (MM/DD/YYYY)

Are you seeking funding for this project/research?  No  Yes

*If yes, submit one copy of the proposal summary or abstract with the application*.

Does the funding agency require IRB approval?  No  Yes  N/A

*If yes, provide all relevant forms, instructions, etc. with this application*.

6. REVIEW CATEGORY: **Please mark all items that apply**.

*Note: Research with children or pregnant women often cannot be reviewed under expedited review. Please consult with the IRB Administrator to see if your protocol involving these subjects would require full board review.*

**Expedited** **Review** (based on the following categories):

Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, **if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.**

Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior that is not exempt, if:(i) the human subjects are elected or appointed public officials or candidates for public office; or (ii) federal statute(s) require(s) without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter.

Collection of data from voice, digital, or image recordings made for research purposes

Moderate exercise, muscular strength testing, body composition and

flexibility testing from healthy volunteers (excludes x-rays, or microwaves)

Non-manipulative, non-stressful research on individual or group behavior

Collection of biological specimens by noninvasive means

Collection of blood samples by finger prick, heel stick, ear stick or

venipuncture

Study of existing data, documents, records, or pathological or diagnostic

specimens

7. **ATTACHMENTS OR TEXT ENTRY REQUIRED**:

1. Project or Research Question(s):   
     
   The so-called crisis of confidence in psychology (Pashler & Wagenmakers, 2012) has prompted the field to do some (much needed) sole-searching. The last decade has shown that far too many findings turned out to be fragile and unreplicable (Nosek et al., 2022), which has inspired various initiatives to improve transparency and rigor (see van Ravenzwaaij et al., 2022, for an overview). Among other things, researchers have become increasingly aware of the notion that there is typically not a single path from a study’s raw data to its conclusion (e.g., Silberzahn et al., 2018). Instead, one needs to make a number of decisions along the way, sometimes without there being a clear-cut, “right” answer. For example, there have been many suggestions of how to deal with missing data (Schafer & Graham, 2002). Even though some missing data approaches are arguably suboptimal (e.g., listwise deletion), there isn’t one clearly superior option, and a similar argument applies to other decisions (e.g., outlier detection, exclusion criteria, transformations, analysis steps, etc.).   
     
   That being said, most empirical studies in psychology tend to report and base their conclusions on the outcome of a single data analysis pathway. That is, researchers often chose one potential approach of dealing with missing values, outliers, data exclusions, and so on, based on, for instance, lab standards, other papers, personal preferences, or, more problematically, the desire to obtain a particular results (e.g., *p*-hacking). As a consequence, it is unclear how robust or fragile the findings may be. In other words, one remains agnostic as to whether other plausible data-processing and-analysis choices would have yielded similar outcomes.   
     
   To address that issue, one could perform a so-called multiverse analysis (Steegen et al., 2016). Note that the same or similar proposals are known under the names specification curve analysis (Simonsohn et al., 2020), vibration of effects analysis (Patel et al., 2015), and multimodel analysis (Young & Holsteen, 2017). The general idea is to unveil the various decisions one must make during the data-processing and -analysis phases in order to answer a certain research question. In particular, multiverse analyses aim to explore the potential impact that different plausible choices might have on the outcome of a study. To do so, it systematically combines the different envisioned alternatives, leading to a multitude of unique pathways, also referred to as the garden of forking paths (Gelman & Loken, 2014). For example, say one has identified three different ways of handling missing data, two approaches to deal with outliers, and four data exclusion procedures, then one would get 3 x 2 x 4 pathways. If all or most of these yield qualitatively similar results, one could conclude that the effect of interest seems relatively robust, else it may be too fragile to be considered relevant, or there may be a moderator in play. However, it is important to point out that a multiverse analysis is no replacement for a replication. Even if an effect appears to be robust in a multiverse analysis, it might not generalize to a different sample or another context.   
     
   A crucial aspect of the multiverse approach is to properly justify the various pathways (Del Giudice & Gangestad, 2021). Including poorly-motivated or clearly inferior choices could dilute the findings and give the impression that a certain effect is less robust than it really is. The reverse can also be true; one could (accidentally) exclude relevant pathways that might have yielded different insights. Furthermore, researchers might disagree as to whether certain alternatives are truly equivalent from a theoretical or statistical point of view. Consequently, one might wonder if it’s appropriate to incorporate such pathways in the multiverse (see Heyman et al., 2022 for example).   
     
   In sum, even though the multiverse approach has been successfully applied to yield new insights (e.g., Credé & Phillips, 2017), it is often done in a rather haphazard and idiosyncratic fashion. The present study seeks to address this issue by proposing guidelines on how to conduct multiverse analyses in a more structured and systematic matter. We break down the process in different steps from inception to the eventual multiverse (i.e., all unique data-processing and -analysis pathways; see Figure 1 for a visualization of the procedure). Data collection itself is not part of this overview, because it is not different from any other empirical study. Moreover, multiverse analyses are regularly conducted on pre-existing datasets, provided they are properly documented and available in a raw enough format to allow for different data-processing options. However, it is important to keep in mind that pathway selection ought not to be influenced by the eventual outcome. So, when using pre-existing data, one should take protective measures (e.g., blinding) to avoid bias.
2. Methodology (the design of the study): Click or tap here to enter text.
3. Data Collection (who, what, when, where, and how you will collect data)
   1. Explanation of how the collected data will be extracted, stored, and archived/destroyed to assure confidentiality and blinding of anyone participating in its analysis: Click or tap here to enter text.
   2. Explanation of why the personally identifiable data collected is necessary to answer your question(s): Click or tap here to enter text.

**Method**

**Participants:**

Participants will be recruited from the current contributors to the Semantic Priming Across Many Languages project. They will be emailed from the recruitment list kept for the SPAML project by the lead investigator (Erin M. Buchanan). They will be recruited using the following:

Hello everyone!

We are inviting everyone who contributed to the SPAML project (PSA 007) for a spin off study regarding the processing of semantic priming data. More specifically, we are interested to find out how researchers would process some of the priming data collected in the SPAML project to examine whether priming effects are consistent across languages. To this end, we would like to invite SPAML-collaborators with *experience in analyzing reaction time data* and/or *experience with semantic priming research* to fill in this survey: [link]. Filling in the survey will take about 15 minutes.

Everyone who meets the above criteria, and who completes this survey *and* a follow-up survey in a few months’ time, will qualify to become a co-author on a paper that will describe the outcome of this process. Make sure to fill in your email address at the end of the survey, if you want to be involved in the project ([see collaboration agreement](https://docs.google.com/document/d/13k_7redFtsXFptNpy05nquN2ewxxRunL/edit)). To be clear, this will be a different paper from the primary SPAML paper (<https://osf.io/q4fjy/>), and participation in the current spin off study has no implications for authorship of the primary SPAML paper.

Let us know if you have any questions.

Thanks in advance!

**Materials:**

Please see attached part 1 survey. Part 2 survey will be determined by the results from part 1 survey, and we will file a modification when this survey is available.

**Procedure**:

Participants will be emailed a link to a Qualtrics survey. They will complete the survey on their own internet connected device in their own time. They will be sent a reminder about the survey in approximately 2 weeks after the first announcement.

We will collect emails in order to send a second round of the survey and send information about co-authorship for those who are interested in working on the final draft of the manuscript. Email will be separated from the survey before sharing online on an open sharing platform like the Open Science Framework. We will deidentify all responses from Qualtrics (i.e., all latitude-longitude, IP address, and email information). We will also review the responses and deidentify any that potentially indicate an author (i.e., they include a citation). We will use a completely separate survey for authorship information which will not be shared (but, obviously, will put their name on the final manuscript).

8. **CONFIDENTIALITY OF DATA**: Include the confidentiality of data section below:

We will collect emails in order to send a second round of the survey and send information about co-authorship for those who are interested in working on the final draft of the manuscript. Email will be separated from the survey before sharing online on an open sharing platform like the Open Science Framework. We will deidentify all responses from Qualtrics (i.e., all latitude-longitude, IP address, and email information). We will also review the responses and deidentify any that potentially indicate an author (i.e., they include a citation). We will use a completely separate survey for authorship information which will not be shared (but, obviously, will put their name on the final manuscript).   
  
The Qualtrics account can only be accessed by people with a password that have been invited (i.e., PI Buchanan and other main admin authors). The raw data will be stored in Qualtrics, and all downloaded data will be cleaned before sharing.

9. **INFORMED CONSENT**:

Informed consent is usually written; however, in some circumstances it may be oral or electronic in nature. Waivers of informed consent may be granted under certain limited conditions, and any request for such should include explicit justification. Remember that the informed consent should be unique to each study being proposed and should also be written at the 7th grade reading level or lower if needed. (An example of an informed consent format is provided on the IRB website though you do not have to follow this example, but it must include the below items a through i).

The IRB requires a text of the proposed statement to be used for oral or electronic consent. Like the written consent document, they should include:

1. Identification of the researcher(s)
2. The nature and purpose of the study
3. Expected duration of participant involvement
4. How confidentiality or anonymity will be maintained
5. The voluntary nature of participation
6. Participants’ right to withdraw at any time without penalty
7. Information about foreseeable risks and benefits (or none)
8. Contact information for questions or additional information
9. First paragraph should have a statement that the research has been approved by the Institutional Review Board of Harrisburg University of Science and Technology

A copy of the Informed Consent or text for oral consent must be provided to the IRB. For non-English-speaking participants, be sure to include an accurate translation.

10. **DEBRIEFING STATEMENT**:

**A debriefing statement is usually *required only if any type of deception is used*** in the study. Participants may also be debriefed about their behavioral response(s) to the study. The two major goals of debriefing are de-hoaxing and de-sensitizing. Any undesirable influences the study may have on participants should be minimized or eliminated.

The debriefing statement should describe the reason(s) for conducting the research, how participants can obtain results of the study, and contact information for additional details or answers to questions. Any potential predictions about study outcomes should be non-directional. It would also be advisable, for methodological purposes, to request that participants not reveal the nature of the study to other potential participants. Note that debriefing is normally only used when deception is utilized in the research otherwise it does not need to be included. If you are a student researcher, please check with your faculty advisor on whether you should include a debriefing statement.

Also, some researchers use an information form at the end to include relevant follow-up contact information of the faculty or student investigator(s). This may also include additional information for counseling services or emergency hotline numbers for those experiencing distress after a research/study procedure has ended and results in the participant recalling past instances of psychological or physical trauma. You may include an information or emergency contact form (so titled) if needed but please refer to your faculty advisor if you are a student researcher.

NA – we do not use deception.

11. **AFFIRMATION OF COMPLIANCE:**

**Note: Investigators or researchers are required to notify the IRB of substantive changes to protocol, unanticipated adverse, serious events experienced by participants, and project completion. Projects lasting longer than one year require an annual Request for Continuation (Protocol Renewal) or Notice of Project Ending by emailing the IRB Chair. Failure to submit may result in adverse actions IAW IRB Policy All consent forms and data must be kept at least three years after the study ends.**

***I agree to follow the procedures outlined herein and to ensure that the rights and welfare of human participants are properly protected. I will commence the study only after receiving approval from the IRB) and having complied with required modifications. I will promptly report additions, changes, or problems involving the rights or welfare of human participants to the IRB by contacting the IRB Chair. If the project continues for more than one year from the approval date, I will submit the required documentation.***

***I affirm that I have read and reviewed the accuracy of this application and accept responsibility for the ethical conduct of this research, supervision of human participants, and maintenance of data and informed consent documentation as required by the IRB.***

erin m. buchanan [ebuchanan@harrisburgu.edu](mailto:ebuchanan@harrisburgu.edu) 7/3/23

Signature of Investigator HU E-mail Address Date

Signature of Co-investigator HU E-mail Address Date

*(Cut and Paste additional investigator signature lines as needed).*

**APPROVAL OF FACULTY ADVISOR OR SPONSOR:**

***I affirm that I have read and reviewed the accuracy of this application and accept responsibility for the ethical conduct of this research, supervision of human participants, and maintenance of data and informed consent documentation as required by the IRB.***

***I agree to follow the procedures outlined herein for my student(s) and to ensure that the rights and welfare of human participants are properly protected. I will ensure the study does not commence until the study has been approved by the HU IRB and have complied with required modifications. I will promptly report additions, changes, or problems involving the rights or welfare of human participants to the IRB by contacting the IRB Chair. If the project continues for more than one year from the approval date, I will submit the required documentation.***

*(Copy and paste additional faculty advisor approval signatures and contact information lines as needed below.)*

Printed Name of Faculty Advisor: Click or tap here to enter text.

Program: Click or tap here to enter text.

Phone: Click or tap here to enter text.

HU E-mail Address: Click or tap here to enter text.

Signature of Faculty Advisor Date