

IRB #: IRB-FY2019-378

Title: Accelerated CREP -- Turri, Buckwalter, Blouw (2015)

Creation Date: 11-29-2018

End Date:

Status: **Approved**

Principal Investigator: Erin Buchanan

Review Board: MSU

Sponsor:

## Study History

Submission Type	Initial	Review Type	Exempt	Decision	<b>Exempt</b>
Submission Type	Modification	Review Type	Expedited	Decision	<b>Approved</b>

## Key Study Contacts

Member	Melissa Fallone	Role	Co-Principal Investigator	Contact	mfallone@missouristate.edu
Member	Erin Buchanan	Role	Principal Investigator	Contact	erinbuchanan@missouristate.edu
Member	Erin Buchanan	Role	Primary Contact	Contact	erinbuchanan@missouristate.edu
Member	Cara Sibert	Role	Investigator	Contact	sibert911@live.missouristate.edu
Member	Sarah Crain	Role	Investigator	Contact	crain998@live.missouristate.edu
Member	Hannah Johnson	Role	Investigator	Contact	hannah11698@live.missouristate.edu
Member	Samantha Schwegmann	Role	Investigator	Contact	schwegmann917@live.missouristate.edu

**Member** Catherine Norwood

**Role** Investigator

**Contact**

catherine0319@live.missouristate.edu

---

# Initial Submission

---

## 1. General Information

1A. What is the full title of the research protocol?

---

Registered Replication Report: Turri, Buckwalter, & Blouw (2015)

### Abstract/Summary

---

1B. Please provide a brief description of the project (no more than a few sentences).  
This project is part of a replication project of Turri, Buckwalter, and Blouw (2015) in coordination with the Psychological Science Accelerator. The project examines the replicability of justified true belief theory.

Who is the Principal Investigator?

---

1C. *This MUST be a faculty or staff member.*

Name: Erin Buchanan

Organization: Psychology

Address: 901 S National Ave , Springfield, MO 65897-0027

Phone: 417-836-5592

Email: erinbuchanan@missouristate.edu

Who is the primary study contact?

---

- 1D. *This person may be the Principal Investigator or someone else (faculty, staff, or student). This person, in addition to the PI, will be included on all correspondence related to this project.*

Name: Erin Buchanan

Organization: Psychology

Address: 901 S National Ave , Springfield, MO 65897-0027

Phone: 417-836-5592

Email: erinbuchanan@missouristate.edu

Select the Co-Principal Investigator(s).

---

- 1E. *This MUST be a faculty or staff member. **Persons listed as Co-PIs will be required to certify the protocol** (in addition to the PI). This person will also be included on all correspondence related to this project.*

Name: Melissa Fallone

Organization: Psychology

Address: 901 S National Ave , Springfield, MO 65897-0027

Phone: 417-836-6528

Email: mfallone@missouristate.edu

Select the Investigator(s).

---

*An investigator may be faculty, staff, student, or unaffiliated individuals.*

Name: Cara Sibert

Organization: Economics

Address: , Springfield, MO 65897-0027

Phone:

Email: sibert911@live.missouristate.edu

Name: Sarah Crain

Organization: Psychology

Address: 901, S. National Avenue , Springfield, MO 65897-0027

Phone:

Email: crain998@live.missouristate.edu

- 1F.

Name: Hannah Johnson

Organization: Psychology

Address: 901, S. National Avenue , Springfield, MO 65897-0027

Phone:

Email: hannah11698@live.missouristate.edu

Name: Samantha Schwegmann

Organization: Psychology

Address: 901, S. National Avenue , Springfield, MO 65897-0027

Phone:

Email: schwegmann917@live.missouristate.edu

Name: Catherine Norwood

Organization: Psychology

Address: 901, S. National Avenue , Springfield, MO 65897-0027

Phone:

Email: catherine0319@live.missouristate.edu

If you could not locate personnel using the "Find People" button, please request access at [Cayuse Logon Request](#)

For additional help, email [irb@missouristate.edu](mailto:irb@missouristate.edu).

---

## 2. Research Protocol

Describe the proposed project in a manner that allows the IRB to gain a sense of the project including:

- the research questions and objectives,
- key background literature (supportive and contradictory) with references, and
- the manner in which the proposed project will improve the understanding of the chosen topic.

---

### RESEARCH QUESTIONS

What is the effect size of Gettier intuitions? What is the theory and practice of knowledge of the average lay person? How do Gettier intuitions vary across cultures?

### OBJECTIVES

As a replication of Turri, Buckwalter, and Blouw's 2015 Experiment 1, this study will develop a conclusive effect size in the findings of lay people's knowledge of Gettier intuitions. It will do so by giving more attention to matching stimuli in the experiment and by broadening the sample across many cultures.

### BACKGROUND LITERATURE

The Justified True Belief (JTB) theory describes knowledge as a belief that is justified and true. To be considered knowledge, a claim has to 1) be believed by a person, 2) be factually accurate, and 3) be justified by the person who claims it to be true. In 1963, the JTB theory was challenged by Edmund Gettier, as he composed philosophical scenarios in which people may know something to be true without being necessarily justified. He created these "Gettier cases" to describe ways in which people may gather knowledge simply because of luck.

Turri, Buckwalter, and Blouw (2015; Experiment 1) applied Gettier's philosophy to lay people to demonstrate the effect of Gettier intuitions. They gave participants three stories as their independent variable. The first consisted of a Gettier case situation in which a person in the story correctly identifies the species of an animal (i.e., target species) as the animal was presented with many other, very similar species (i.e., counterfeit species). The next story, the knowledge control, did not mention the counterfeit species as it did in the first story. In the last story, the ignorance control, the person incorrectly identifies the counterfeit species as the target species.

As they compared the knowledge attribution rates of the people in the Gettier case and control stories, Turri et al. (2015) concluded that people do not demonstrate Gettier intuitions. Participants attributed knowledge to both situations at the same rate, and claims that luck was involved in making correct judgements was not significantly different than justified claims.

Contrastly, Nagel, San Juan, and Mar (2013) conducted a separate study in which they found that participants did, in fact, demonstrate Gettier intuitions. Nagel et al. were among many other researchers (Buckwalter & Stich, 2010; Kim & Yuan, 2015; Machery et al., 2015; 2017; Nichols et al. 2003; Seyedsayamdost, 2015; Turri, 2013; Turri et al., 2015; Weinberg et al., 2001) who found

2A.

variations of results based on participants' cultural differences. This conflicting data has led to inconclusive findings in the implications of lay people's Gettier intuitions.

Another major factor contributing to varying data is the methodology used in past research. These experiments (Kim & Yuan, 2015; Machery et al., 2015; 2017; Seyedsayamdost, 2015) have not utilized control conditions or matched stimuli properly to ensure accurate representations of significance. Furthermore, the lack of an appropriate sample size also begs the suspicion of their results.

#### IMPLICATIONS OF THE STUDY

This study will be conducted to address cross-cultural significance among lay people's knowledge as it attends to the issues within past experimental design. In doing so, it will involve participants and researchers from various parts of the world. This will solve problems involving cultural differences, as well as underpowered samples. Further attention will be focused toward measurement sensitivity, matched control variables, and varied stimulus in the experimental process. These changes will ensure a more concrete resolution in the question of lay people's epistemic intuitions. We are collaborating with the Psychological Science Accelerator to help ensure these goals and our data will be joined with other's research to ensure a heterogeneous sample of diverse participants across the US.

#### 2B. Check all research activities that apply:

---

Audio, video, digital, or image recordings

Biohazards (e.g., rDNA, infectious agents, select agents, toxins)

Biological sampling (other than blood)

Blood drawing

Class Protocol (or Program or Umbrella Protocol)

✓ Data, not publicly available

Data, publicly available

Deception

Devices

Diet, exercise, or sleep modifications

Drugs or biologics

Focus groups

Internet or email data collection

Materials that may be considered sensitive, offensive, threatening, or degrading

Non-invasive medical procedures

Observation of participants

Oral history

Placebo

Record review

Specimen research

Surgical procedures

✓ Surveys, questionnaires, or interviews (one-on-one)

Surveys, questionnaires, or interviews (group)

Other

Describe the procedures and methods planned for carrying out the study. Make sure to include the following:

- site selection,
- the procedures used to gain permission to carry out research at the selected site(s),
- data collection procedures,
- and an overview of the manner in which data will be analyzed.

Provide all information necessary for the IRB to be clear about **all** of the contact human participants will have with the project.

---

We are looking for at least 40 participants to complete the study online using Qualtrics. Before the study begins, participants will be given the Informed Consent form. After they provide consent, the participants will be directed to their randomly assigned reading condition for the one replication



- 2C. vignette. They will be asked to respond to several questions. The first question will be about knowledge attribution, then followed by a comprehension question to control for understanding. Then participants will answer whether it was reasonable or unreasonable for the protagonist of the vignette to believe what they believed. Participants will not be allowed to go back to a previous page and change their answer. Both the original binary option form and a visual analogue scale will be used to assess belief (between subjects, participants only see one or the other). Participants will then be asked to answer a set of demographic questions (participant age, gender (men, women, other), and race/ethnicity).

#### OVERVIEW OF DATA ANALYSIS

The dataset gathered at our site will be submitted using a template dataset provided by the CREP team and will go through a quality check. From there, they will use aggregated individual participant data from each site in order to conduct a pair of multilevel linear regression analyses that account for the nesting of data and treats the tested vignettes as a random factor. The purpose is to determine a more accurate effect size estimate for Gettier institutions. The dataset will be analyzed using a planned R code.

The entire survey has also been attached (along with a corrected informed consent that was from a previous set of methods that has been updated). Subjects will only see the original Turri et al. Exp 1 methods as our contribution to the larger CREP project.

- 2D. Attach surveys, questionnaires, and other social-behavioral measurement tools, if applicable.
- 

[Accelerated\\_CREP\\_-\\_Survey.docx](#)  
[replication methods.docx](#)

### 3. Participants

3A. Specify the participant population(s). Check all that apply.

---

☒ Adults

Children (<18 years)

Adults with decisional impairment

Non-English speaking

☒ Student research pools (e.g. psychology)

Specify:

---

PSY 121

Pregnant women or fetuses

Prisoners

Unknown (e.g., secondary use of data/specimens, non-targeted surveys, program/class/umbrella protocols)

Specify the age(s) of the individuals who may participate in the research.

---

3B. The participants will be over 18 years of age.

Describe the characteristics of the proposed participants, and explain how the nature of the research requires/justifies their inclusion.

---

3C.

The proposed participants will be Missouri State University students over the age of 18. This research has no risk to participants, therefore, there are no limits to who can participate in the study, so a convenience sample is appropriate.

Provide the total number of participants (or number of participant records, specimens, etc.) for whom you are seeking Missouri State IRB approval.

---

3D.

We are seeking IRB approval for 60-100 participants in this study to ensure 40 participants who actively completed the study will be obtained.

Estimate the time required from each participant, including individual interactions, total time commitment, and long-term follow-up, if any.

---

3F.

The estimated time required for this experiment per person is approximately 15 minutes. No long term follow up will be required from participants.

Describe how potential participants will be identified (e.g., advertising, individuals known to investigator, record review, etc.). Explain how investigator(s) will gain access to this population, as applicable.

---

3G.

Potential participants will be recruited by professors in introductory level psychology courses. Participants will volunteer for class credit, through MSU's SONA system.

Describe the recruitment process; including the setting in which recruitment will take place. Provide copies of proposed recruitment materials (e.g., ads, flyers, website postings, recruitment letters, and oral/written scripts).

3H.

---

Recruitment will occur through psychology professors who require their students to participate in research to receive credit in their introductory psychology course.

3H.1. Attach recruitment materials, if applicable.

---

3I. Will participants receive compensation or other incentives (e.g., free services, cash payments, gift certificates, parking, classroom credit, travel reimbursement, etc.) to participate in the research study?

---

✓ Yes

Describe the incentive, including the amount and timing of all payments.

---

Participants will receive classroom credit to participate in the research study, for every thirty minute block of participation one research credit will be awarded.

No

## 4. Informed Consent

From the list below, indicate how consent will be obtained for this study.

4A.

*Check all that apply.*

✓ Written/signed consent by the subject

Written/signed consent (permission) for a minor by a Parent or Legal Guardian

Written/signed consent by a Legally Authorized Representative (for adults incapable of consenting).

Request for Waiver of Documentation of Consent (e.g. Verbal Consent, Anonymous Surveys, etc.)

Waiver of parental permission

Consent will not be obtained from subjects (Waiver of Consent)

Describe the consent process including where and by whom the subjects will be approached, the plans to ensure the privacy of the subjects and the measures to ensure that subjects understand the nature of the study, its procedures, risks and benefits and that they freely grant their consent.

4B.

Participants will be recruited from the SONA system, used by the psychology department to advertise studies to students enrolled in PSY 121. They will sign up on SONA, be given the link to the study, and complete the study online. They will receive the informed consent online as part of the survey and not be able to continue without accepting the consent.

4B.1. Attach all copies of informed consent documents (written or verbal) that will be used for this study.

[Informed Consent.docx](#) Sample documents: [Informed Consent Examples](#)

4B.2. Attach all copies of assent documents that will be used for this study, if applicable.

Sample documents: [Assent Examples](#)

## 5. Risks and Benefits

Describe all reasonably expected risks, harms, and/or discomforts that may apply to the research. Discuss severity and likelihood of occurrence.

5A.

*Consider the range of risks - physical, psychological, social, legal, and economic.*

Risks are minimal the same as that of a typical class or simple quiz from a popular website. The experiments would have few to no severe risks.

Describe the steps that will be taken to minimize risks and the likelihood of harm.

5B.

Investigators will ensure that if students experience any discomfort, they may end their participation with no negative consequences. Data will be stored privately. Consent forms will remain protected, and any experimental data on the computer will be anonymous. All computers with the data will be password protected.

List the potential benefits that participants may expect as a result of this research study. State if there are no direct benefits to individual participants.

5C.

This research study will be able to inform subjects of their own ability to reason, how their perception of luck influences decisions and methods for improving their thought process and analysis of future decisions. Students may also enjoy being part of a laboratory experiment as part of the college experience.

Describe any potential indirect benefits to future subjects, science, and society.

5D.

These results can contribute to society's beliefs about knowledge and luck, and contribute to nationwide replication efforts in psychology. This study allows for several researchers to ensure adequate power analyses, effect sizes, and a better understanding of the relationship between knowledge, success and luck.

Discuss how risks to participants are reasonable when compared to the anticipated benefits to participants (if any) and the importance of the knowledge that may reasonably be expected to result.

5E.

---

The risks to participants are similar to risks that they would face in a classroom setting. The risks outlined previously are small compared to the knowledge that students can gain about their beliefs on luck and success and how to make future decisions.



## 6. Data Collection

Missouri State University is committed to keeping data and information secure. Please review the Missouri State [Information Security policies](#). Discuss your project with the MSU Information Security Office or your College's IT support staff if you have questions about how to handle your data appropriately.

---

### Statement of Principal Investigator Responsibility for Data

- 6A. The principal investigator of this study is responsible for the storage, oversight, and disposal of all data associated with this study. Data will not be disseminated without the explicit approval of the principal investigator, and identifying information associated with the data will not be shared.
- 

- ✓ By checking this box, all personnel associated with this study understand and agree to the Statement of Principal Investigator Responsibility for Data.

- 6B. How will the data for this study be collect/stored?
- 

*Check all that apply.*

- ✓ Electronic storage format

On paper

Describe where the data will be stored (e.g., paper forms, flash drives or removable media, desktop or laptop computer, server, research storage area network, external source) and describe the plan to ensure the security and confidentiality of the records

(e.g., locked office, locked file cabinet, password-protected computer or files, encrypted data files, database limited to coded data, master list stored in separate location).

---

6C.

*At minimum, physical data should always be secured by lock and key when stored. Electronic data should be stored on University secure servers whenever possible (Office 365 or other secure campus server). If data has to be stored off campus, the file should be encrypted and the device password protected. Additionally, any data to be shared outside the University network will require a SUDERS request be filed and approved. See <https://mis.missouristate.edu/Central/suders/creat...>*

The data will be stored on a password protected OneDrive account. After the experiment is completed, the de-identified data will be stored at: <https://osf.io/rhs64/>.

Describe how data will be disposed of and when disposal will occur.

---

6D.

*At minimum, Federal regulations require research records to be retained for at least 3 years after the completion of the research (45 CFR 46). Research that involves identifiable health information is subject to HIPAA regulations, which require records to be retained for at least 6 years after a participant has signed an authorization. Finally, funded research projects may require longer retention periods, you may need to follow the sponsoring agency guidelines.*

The data will not be disposed, as it is part of a larger replication project with the purposes of combining and sharing a large dataset.

## 7. Funding

Is this study externally funded?

7A.

---

*For example, this research is funded by a source outside Missouri State; a federal agency, non-profit organization, etc.*

Yes

✓ No

Potentially (this study is being submitted for funding, but has not yet been awarded)

Is this study internally funded?

7B.

---

*For example, this research is funded by a source inside Missouri State; departmental funds, the Graduate College, etc.*

Yes

✓ No

Potentially (this study is being submitted for funding, but has not yet been awarded)

Does your study contain protected health information (PHI)?

---

8A.

*PHI is any information in a medical record or designated record set that can be used to identify an individual and that was created, used, or disclosed in the course of providing a health care service, such as a diagnosis or treatment.*

Yes

✓ No

## 9. Supporting Documentation

### Human Subjects Training Certificates

---

- 9A. *Attach human subjects training certificates for all listed personnel. To access your training documents, please go to [CITI Training](#).*
- [buchanan msu citi.pdf](#)  
[cara\\_sibert1.pdf](#)  
[hannah\\_johnson.pdf](#)  
[melissa\\_fallone.pdf](#)  
[Sam\\_schwegmann.jpg](#)  
[sarah\\_crain.pdf](#)  
[catherine\\_norwood.pdf](#)

### HIPAA Training Certificates

---

- 9B. *Attach HIPAA training certificates for all listed personnel, if applicable. To get more information about HIPAA training and/or to access your training documents, please go to [HIPAA Information for Researchers](#).*

### Informed Consent Documents

---

- 9C. *Attach all copies of informed consent documents (written or verbal) that will be used for this study.*
- [Informed Consent.docx](#) Sample documents: [Informed Consent Examples](#)

### Assent Documents

---

- 9D.

*Attach all copies of assent documents (written or verbal) that will be used for this study.*

Sample documents: [Assent Examples](#)

#### Recruitment Tools

9E.

---

*Attach copies of proposed recruitment tools.*

#### Surveys/Questionnaires/Other Social-Behavioral Measurement Tools

9F.

---

*Attach surveys, questionnaires, and other social-behavioral measurement tools.*

[Accelerated\\_CREP\\_-\\_Survey.docx](#)

[replication methods.docx](#)

#### Other Documents

9G.

---

*Attach any other documents that have not been specified in previous questions, but are needed for IRB review.*

## 10. Additional Information

10A. Would you like to add additional information?

---

Yes

☒ No

# Modification Submission

---

## Modification Summary

Please make changes to the original protocol sections below. In addition, provide a summary of the changes by completing the questions on this page.

---

A. To which of the following aspects of research does this modification request apply?

---

*Check all that apply.*

Change in personnel

☒ Research design

Risks to participants or others in relation to anticipated benefits

Participant selection or recruitment process

Consent process and/or compensation

Methods for documenting consent

Change in supporting documentation or attachments

Potential willingness of research participants to continue to take part in this study

Monitoring of the data being collected

Privacy of the research participants and/or confidentiality of research participants' data

Other

Please provide a brief rationale for each of the changes being requested.

---



B.

We previously completed data collection for the replication of Turri et al. only. We are part of a larger project that is replicating and extending the Turri study. Therefore, we are adding the new conditions to the study, which has several more vignettes that participants might see. We will collect approximately 100 more participants in this extension. We have attached the new survey with the additional vignettes - the consent form attached will be put in the spot it says institution specific consent form.

## 1. General Information

What is the full title of the research protocol?

1A.

Registered Replication Report: Turri, Buckwalter, & Blouw (2015)

Abstract/Summary

1B.

Please provide a brief description of the project (no more than a few sentences).

This project is part of a replication project of Turri, Buckwalter, and Blouw (2015) in coordination with the Psychological Science Accelerator. The project examines the replicability of justified true belief theory.

Who is the Principal Investigator?

1C.

*This MUST be a faculty or staff member.*

Name: Erin Buchanan

Organization: Psychology

Address: 901 S National Ave , Springfield, MO 65897-0027

Phone: 417-836-5592

Email: erinbuchanan@missouristate.edu

Who is the primary study contact?

1D.

*This person may be the Principal Investigator or someone else (faculty, staff, or student). This person, in addition to the PI, will be included on all correspondence related to this project.*

Name: Erin Buchanan  
Organization: Psychology  
Address: 901 S National Ave , Springfield, MO 65897-0027  
Phone: 417-836-5592  
Email: erinbuchanan@missouristate.edu

Select the Co-Principal Investigator(s).

---

- 1E. *This MUST be a faculty or staff member. **Persons listed as Co-PIs will be required to certify the protocol** (in addition to the PI). This person will also be included on all correspondence related to this project.*

Name: Melissa Fallone  
Organization: Psychology  
Address: 901 S National Ave , Springfield, MO 65897-0027  
Phone: 417-836-6528  
Email: mfallone@missouristate.edu

Select the Investigator(s).

---

*An investigator may be faculty, staff, student, or unaffiliated individuals.*

Name: Cara Sibert  
Organization: Economics  
Address: , Springfield, MO 65897-0027  
Phone:  
Email: sibert911@live.missouristate.edu

Name: Sarah Crain  
Organization: Psychology  
Address: 901, S. National Avenue , Springfield, MO 65897-0027  
Phone:  
Email: crain998@live.missouristate.edu

- 1F. Name: Hannah Johnson  
Organization: Psychology  
Address: 901, S. National Avenue , Springfield, MO 65897-0027  
Phone:  
Email: hannah11698@live.missouristate.edu

Name: Samantha Schwegmann  
Organization: Psychology  
Address: 901, S. National Avenue , Springfield, MO 65897-0027  
Phone:  
Email: schwegmann917@live.missouristate.edu

Name: Catherine Norwood  
Organization: Psychology  
Address: 901, S. National Avenue , Springfield, MO 65897-0027  
Phone:  
Email: catherine0319@live.missouristate.edu

If you could not locate personnel using the "Find People" button, please request access at  
[Cayuse Logon Request](#)

For additional help, email [irb@missouristate.edu](mailto:irb@missouristate.edu).

---

## 2. Research Protocol

Describe the proposed project in a manner that allows the IRB to gain a sense of the project including:

- the research questions and objectives,
- key background literature (supportive and contradictory) with references, and
- the manner in which the proposed project will improve the understanding of the chosen topic.

---

### RESEARCH QUESTIONS

What is the effect size of Gettier intuitions? What is the theory and practice of knowledge of the average lay person? How do Gettier intuitions vary across cultures?

### OBJECTIVES

As a replication of Turri, Buckwalter, and Blouw's 2015 Experiment 1, this study will develop a conclusive effect size in the findings of lay people's knowledge of Gettier intuitions. It will do so by giving more attention to matching stimuli in the experiment and by broadening the sample across many cultures.

### BACKGROUND LITERATURE

The Justified True Belief (JTB) theory describes knowledge as a belief that is justified and true. To be considered knowledge, a claim has to 1) be believed by a person, 2) be factually accurate, and 3) be justified by the person who claims it to be true. In 1963, the JTB theory was challenged by Edmund Gettier, as he composed philosophical scenarios in which people may know something to be true without being necessarily justified. He created these "Gettier cases" to describe ways in which people may gather knowledge simply because of luck.

Turri, Buckwalter, and Blouw (2015; Experiment 1) applied Gettier's philosophy to lay people to demonstrate the effect of Gettier intuitions. They gave participants three stories as their independent variable. The first consisted of a Gettier case situation in which a person in the story correctly identifies the species of an animal (i.e., target species) as the animal was presented with many other, very similar species (i.e., counterfeit species). The next story, the knowledge control, did not mention the counterfeit species as it did in the first story. In the last story, the ignorance control, the person incorrectly identifies the counterfeit species as the target species.

As they compared the knowledge attribution rates of the people in the Gettier case and control stories, Turri et al. (2015) concluded that people do not demonstrate Gettier intuitions. Participants attributed knowledge to both situations at the same rate, and claims that luck was involved in making correct judgements was not significantly different than justified claims.

Contrastly, Nagel, San Juan, and Mar (2013) conducted a separate study in which they found that participants did, in fact, demonstrate Gettier intuitions. Nagel et al. were among many other researchers (Buckwalter & Stich, 2010; Kim & Yuan, 2015; Machery et al., 2015; 2017; Nichols et al. 2003; Seyedsayamdost, 2015; Turri, 2013; Turri et al., 2015; Weinberg et al., 2001) who found

2A.

variations of results based on participants' cultural differences. This conflicting data has led to inconclusive findings in the implications of lay people's Gettier intuitions.

Another major factor contributing to varying data is the methodology used in past research. These experiments (Kim & Yuan, 2015; Machery et al., 2015; 2017; Seyedsayamdost, 2015) have not utilized control conditions or matched stimuli properly to ensure accurate representations of significance. Furthermore, the lack of an appropriate sample size also begs the suspicion of their results.

#### IMPLICATIONS OF THE STUDY

This study will be conducted to address cross-cultural significance among lay people's knowledge as it attends to the issues within past experimental design. In doing so, it will involve participants and researchers from various parts of the world. This will solve problems involving cultural differences, as well as underpowered samples. Further attention will be focused toward measurement sensitivity, matched control variables, and varied stimulus in the experimental process. These changes will ensure a more concrete resolution in the question of lay people's epistemic intuitions. We are collaborating with the Psychological Science Accelerator to help ensure these goals and our data will be joined with other's research to ensure a heterogeneous sample of diverse participants across the US.

#### 2B. Check all research activities that apply:

---

Audio, video, digital, or image recordings

Biohazards (e.g., rDNA, infectious agents, select agents, toxins)

Biological sampling (other than blood)

Blood drawing

Class Protocol (or Program or Umbrella Protocol)

✓ Data, not publicly available

Data, publicly available

Deception

Devices

Diet, exercise, or sleep modifications

Drugs or biologics

Focus groups

Internet or email data collection

Materials that may be considered sensitive, offensive, threatening, or degrading

Non-invasive medical procedures

Observation of participants

Oral history

Placebo

Record review

Specimen research

Surgical procedures

✓ Surveys, questionnaires, or interviews (one-on-one)

Surveys, questionnaires, or interviews (group)

Other

Describe the procedures and methods planned for carrying out the study. Make sure to include the following:

- site selection,
- the procedures used to gain permission to carry out research at the selected site(s),
- data collection procedures,
- and an overview of the manner in which data will be analyzed.

Provide all information necessary for the IRB to be clear about **all** of the contact human participants will have with the project.

---

We are looking for at least 40 participants to complete the study online using Qualtrics. Before the study begins, participants will be given the Informed Consent form. After they provide consent, the participants will be directed to their randomly assigned reading condition for the one replication

- 2C. vignette. They will be asked to respond to several questions. The first question will be about knowledge attribution, then followed by a comprehension question to control for understanding. Then participants will answer whether it was reasonable or unreasonable for the protagonist of the vignette to believe what they believed. Participants will not be allowed to go back to a previous page and change their answer. Both the original binary option form and a visual analogue scale will be used to assess belief (between subjects, participants only see one or the other). Participants will then be asked to answer a set of demographic questions (participant age, gender (men, women, other), and race/ethnicity).

#### OVERVIEW OF DATA ANALYSIS

The dataset gathered at our site will be submitted using a template dataset provided by the CREP team and will go through a quality check. From there, they will use aggregated individual participant data from each site in order to conduct a pair of multilevel linear regression analyses that account for the nesting of data and treats the tested vignettes as a random factor. The purpose is to determine a more accurate effect size estimate for Gettier institutions. The dataset will be analyzed using a planned R code.

The entire survey has also been attached (along with a corrected informed consent that was from a previous set of methods that has been updated). Subjects will only see the original Turri et al. Exp 1 methods as our contribution to the larger CREP project.

- 2D. Attach surveys, questionnaires, and other social-behavioral measurement tools, if applicable.

---

[AccCREP\\_Turri.pdf](#)



### 3. Participants

3A. Specify the participant population(s). Check all that apply.

---

☒ Adults

Children (<18 years)

Adults with decisional impairment

Non-English speaking

☒ Student research pools (e.g. psychology)

Specify:

---

PSY 121

Pregnant women or fetuses

Prisoners

Unknown (e.g., secondary use of data/specimens, non-targeted surveys, program/class/umbrella protocols)

Specify the age(s) of the individuals who may participate in the research.

---

3B. The participants will be over 18 years of age.

Describe the characteristics of the proposed participants, and explain how the nature of the research requires/justifies their inclusion.

---

3C.

The proposed participants will be Missouri State University students over the age of 18. This research has no risk to participants, therefore, there are no limits to who can participate in the study, so a convenience sample is appropriate.

Provide the total number of participants (or number of participant records, specimens, etc.) for whom you are seeking Missouri State IRB approval.

---

3D.

We are seeking IRB approval for 60-100 participants in this study to ensure 40 participants who actively completed the study will be obtained.

Estimate the time required from each participant, including individual interactions, total time commitment, and long-term follow-up, if any.

---

3F.

The estimated time required for this experiment per person is approximately 15 minutes. No long term follow up will be required from participants.

Describe how potential participants will be identified (e.g., advertising, individuals known to investigator, record review, etc.). Explain how investigator(s) will gain access to this population, as applicable.

---

3G.

Potential participants will be recruited by professors in introductory level psychology courses. Participants will volunteer for class credit, through MSU's SONA system.

Describe the recruitment process; including the setting in which recruitment will take place. Provide copies of proposed recruitment materials (e.g., ads, flyers, website postings, recruitment letters, and oral/written scripts).

3H.

---

Recruitment will occur through psychology professors who require their students to participate in research to receive credit in their introductory psychology course.

3H.1. Attach recruitment materials, if applicable.

---

3I. Will participants receive compensation or other incentives (e.g., free services, cash payments, gift certificates, parking, classroom credit, travel reimbursement, etc.) to participate in the research study?

---

✓ Yes

Describe the incentive, including the amount and timing of all payments.

---

Participants will receive classroom credit to participate in the research study, for every thirty minute block of participation one research credit will be awarded.

No

## 4. Informed Consent

From the list below, indicate how consent will be obtained for this study.

4A.

*Check all that apply.*

✓ Written/signed consent by the subject

Written/signed consent (permission) for a minor by a Parent or Legal Guardian

Written/signed consent by a Legally Authorized Representative (for adults incapable of consenting).

Request for Waiver of Documentation of Consent (e.g. Verbal Consent, Anonymous Surveys, etc.)

Waiver of parental permission

Consent will not be obtained from subjects (Waiver of Consent)

Describe the consent process including where and by whom the subjects will be approached, the plans to ensure the privacy of the subjects and the measures to ensure that subjects understand the nature of the study, its procedures, risks and benefits and that they freely grant their consent.

4B.

Participants will be recruited from the SONA system, used by the psychology department to advertise studies to students enrolled in PSY 121. They will sign up on SONA, be given the link to the study, and complete the study online. They will receive the informed consent online as part of the survey and not be able to continue without accepting the consent.

4B.1. Attach all copies of informed consent documents (written or verbal) that will be used for this study.

[Informed Consent.docx](#) Sample documents: [Informed Consent Examples](#)

4B.2. Attach all copies of assent documents that will be used for this study, if applicable.

Sample documents: [Assent Examples](#)

## 5. Risks and Benefits

Describe all reasonably expected risks, harms, and/or discomforts that may apply to the research. Discuss severity and likelihood of occurrence.

5A.

*Consider the range of risks - physical, psychological, social, legal, and economic.*

Risks are minimal the same as that of a typical class or simple quiz from a popular website. The experiments would have few to no severe risks.

Describe the steps that will be taken to minimize risks and the likelihood of harm.

5B.

Investigators will ensure that if students experience any discomfort, they may end their participation with no negative consequences. Data will be stored privately. Consent forms will remain protected, and any experimental data on the computer will be anonymous. All computers with the data will be password protected.

List the potential benefits that participants may expect as a result of this research study. State if there are no direct benefits to individual participants.

5C.

This research study will be able to inform subjects of their own ability to reason, how their perception of luck influences decisions and methods for improving their thought process and analysis of future decisions. Students may also enjoy being part of a laboratory experiment as part of the college experience.

Describe any potential indirect benefits to future subjects, science, and society.

5D.

These results can contribute to society's beliefs about knowledge and luck, and contribute to nationwide replication efforts in psychology. This study allows for several researchers to ensure adequate power analyses, effect sizes, and a better understanding of the relationship between knowledge, success and luck.

Discuss how risks to participants are reasonable when compared to the anticipated benefits to participants (if any) and the importance of the knowledge that may reasonably be expected to result.

5E.

---

The risks to participants are similar to risks that they would face in a classroom setting. The risks outlined previously are small compared to the knowledge that students can gain about their beliefs on luck and success and how to make future decisions.

## 6. Data Collection

Missouri State University is committed to keeping data and information secure. Please review the Missouri State [Information Security policies](#). Discuss your project with the MSU Information Security Office or your College's IT support staff if you have questions about how to handle your data appropriately.

---

### Statement of Principal Investigator Responsibility for Data

- 6A. The principal investigator of this study is responsible for the storage, oversight, and disposal of all data associated with this study. Data will not be disseminated without the explicit approval of the principal investigator, and identifying information associated with the data will not be shared.
- 

- ✓ By checking this box, all personnel associated with this study understand and agree to the Statement of Principal Investigator Responsibility for Data.

- 6B. How will the data for this study be collect/stored?
- 

*Check all that apply.*

- ✓ Electronic storage format

On paper

Describe where the data will be stored (e.g., paper forms, flash drives or removable media, desktop or laptop computer, server, research storage area network, external source) and describe the plan to ensure the security and confidentiality of the records



(e.g., locked office, locked file cabinet, password-protected computer or files, encrypted data files, database limited to coded data, master list stored in separate location).

---

6C.

*At minimum, physical data should always be secured by lock and key when stored. Electronic data should be stored on University secure servers whenever possible (Office 365 or other secure campus server). If data has to be stored off campus, the file should be encrypted and the device password protected. Additionally, any data to be shared outside the University network will require a SUDERS request be filed and approved. See <https://mis.missouristate.edu/Central/suders/creat...>*

The data will be stored on a password protected OneDrive account. After the experiment is completed, the de-identified data will be stored at: <https://osf.io/rhs64/>.

Describe how data will be disposed of and when disposal will occur.

---

6D.

*At minimum, Federal regulations require research records to be retained for at least 3 years after the completion of the research (45 CFR 46). Research that involves identifiable health information is subject to HIPAA regulations, which require records to be retained for at least 6 years after a participant has signed an authorization. Finally, funded research projects may require longer retention periods, you may need to follow the sponsoring agency guidelines.*

The data will not be disposed, as it is part of a larger replication project with the purposes of combining and sharing a large dataset.

## 7. Funding

Is this study externally funded?

7A. 

---

*For example, this research is funded by a source outside Missouri State; a federal agency, non-profit organization, etc.*

Yes

✓ No

Potentially (this study is being submitted for funding, but has not yet been awarded)

Is this study internally funded?

7B. 

---

*For example, this research is funded by a source inside Missouri State; departmental funds, the Graduate College, etc.*

Yes

✓ No

Potentially (this study is being submitted for funding, but has not yet been awarded)

Does your study contain protected health information (PHI)?

---

8A.

*PHI is any information in a medical record or designated record set that can be used to identify an individual and that was created, used, or disclosed in the course of providing a health care service, such as a diagnosis or treatment.*

Yes

✓ No

## 9. Supporting Documentation

### Human Subjects Training Certificates

---

- 9A. *Attach human subjects training certificates for all listed personnel. To access your training documents, please go to [CITI Training](#).*
- [buchanan msu citi.pdf](#)  
[cara\\_sibert1.pdf](#)  
[hannah\\_johnson.pdf](#)  
[melissa\\_fallone.pdf](#)  
[Sam\\_schwegmann.jpg](#)  
[sarah\\_crain.pdf](#)  
[catherine\\_norwood.pdf](#)

### HIPAA Training Certificates

---

- 9B. *Attach HIPAA training certificates for all listed personnel, if applicable. To get more information about HIPAA training and/or to access your training documents, please go to [HIPAA Information for Researchers](#).*

### Informed Consent Documents

---

- 9C. *Attach all copies of informed consent documents (written or verbal) that will be used for this study.*
- [Informed Consent.docx](#) Sample documents: [Informed Consent Examples](#)

### Assent Documents

---

- 9D.

*Attach all copies of assent documents (written or verbal) that will be used for this study.*

Sample documents: [Assent Examples](#)

#### Recruitment Tools

9E.

---

*Attach copies of proposed recruitment tools.*

#### Surveys/Questionnaires/Other Social-Behavioral Measurement Tools

9F.

---

*Attach surveys, questionnaires, and other social-behavioral measurement tools.*

[AccCREP\\_Turri.pdf](#)

#### Other Documents

9G.

---

*Attach any other documents that have not been specified in previous questions, but are needed for IRB review.*

## 10. Additional Information

10A. Would you like to add additional information?

---

Yes

☒ No