Date: 3-12-2021

IRB #: IRB-2020-1811
Title: Effects of Discourse and Experience on Student Choice of Biology STEM Majors in Higher Education
Creation Date: 12-14-2020
End Date:
Status: Approved
Principal Investigator: MARISA EXTER
Review Board: Exempt Reviewer FY2021
Sponsor:

Study History

Submission Type Initial	Review Type Limited	Decision Exempt - Limited IRB

Key Study Contacts

Member MARISA EXTER	Role Principal Investigator	Contact mexter@purdue.edu
Member Nathanial Hilliard	Role Primary Contact	Contact nhilliar@purdue.edu

Initial Submission

Study Personnel

*required

Study Personnel

In this section you will name all staff who will participate in the study.

*required

A Principal Investigator (PI) is responsible for all aspects of a research study.
STUDENTS ARE NOT AUTHORIZED TO BE PRINCIPAL INVESTIGATORS

Provide the name of the Principal Investigator of this study.
All faculty (tenured, tenure-track, research and clinical) are eligible to be Principal Investigators. Others requesting to submit proposals as the Principal Investigator for the first time must obtain special approval.

Once the name is selected, training courses from the CITI system should appear when you click "View". If the courses are not appearing. Click the "?" on the top of this question to find out how to sync your accounts.

Name: MARISA EXTER
Organization: PWL CURRICULUM & INSTRUCTION
Address: 100 N. University Street , West Lafayette, IN 47907-0000
Phone:
Email: mexter@purdue.edu

If you cannot find the name of the Purdue University personnel that you are looking for using the "Find People" button above, please list them here. We will need to verify their information and load into the system.

(First Name: Last Name: Purdue e-mail address)

*required

Please check your Purdue University PI classification.

- ✓ Faculty (tenured, tenure-track, research and clinical)
- Student

Purdue non-faculty staff member granted special PI status.

*required

Primary Contact

Provide the name of the Primary Contact of this study. The Primary Contact will be copied on all correspondence regarding the IRB review. Note that the Primary Contact and the Principal Investigator may be the same. The Primary Contact must be a current Purdue University faculty, staff, postdoc, or student and must have a role as Key Personnel on the study.

Once the name is selected, training courses from the CITI system should appear. If the courses are not appearing. Click the "?" on the top of this question to find out how to sync your accounts.

Name: Nathanial Hilliard
Organization: PWL FORESTRY & NATURAL RES
Address:
Phone:
Email: nhilliar@purdue.edu

If you cannot find the name of the Purdue University personnel that you are looking for using the "Find People" button above, please list them here. We will need to verify their information and load into the system.

(First Name: Last Name: Purdue e-mail address)

If you wish to provide a campus phone number for the Primary Contact, you may list it here.

This field is optional. Most correspondences from the IRB will arrive via the Cayuse system.

*required

Key Personnel

Below is a definition of Key Personnel. Please read the definition and decide who will need to be listed as Key Personnel on the study. The PI defines the roles of each staff member based on the definition below.

Key personnel: The Principal Investigator and any project staff, students, postdoctoral staff, internal or external to Purdue University who contribute in a substantive way to the scientific development or execution of a project (including, but not limited to, consent, data collection or analysis).

*required

Does your study have additional Key Personnel besides the PI and Point of Contact?

Once the name is selected, training courses from the CITI system should appear. If the courses are not appearing. Click the "?" on the top of this question to find out how to sync your accounts.

Yes

✓ No, the only personnel on the project are the PI and Point of Contact.

*required

Provide a brief description of each person's position at Purdue (e.g. student, staff, faculty) and their role in the study.

Examples:
Prof. Principal (faculty) will oversee all aspects of the study design and conduct
John Researcher (graduate student) will recruit and consent participants and collect data
Purdue Pete (staff) will analyze collected study data.

Marisa Exter (PI, Faculty)
- Wi*ll oversee all aspects of the study design and conduct*

Nathanial Hilliard (Graduate student)
- Contributed to study design
- Contributed to creation of protocols
- Scheduling interviews (requires emailing with participants)
- Follow-up email contact with participants

- Data collection (conduct interviews)
- Data analysis

Research Sites

*required

Where will the study take place?

✓ Purdue University

*required

Please check the following locations.

✓ West Lafayette

Regional Campus (PFW, PNW, IUPUI)

Polytechnic Institute Statewide Sites

Extension Sites

*required

Please provide a brief description of the Purdue University location(s).

Provide building names, course titles, event names as applicable.

Project personnel work out of Beering (BRNG) and Pfendler (PFEN) halls. Actual data collection will occur over either teleconferencing software or phone, adhering to all currently applicable university COVID-19 guidelines.

External Site (non Purdue University)

Getting started with your submission

*required

Welcome to the submission system for the Purdue HRPP/IRB. Before you begin, you should be familiar with the framework of human research protections and how they relate to your proposed study. The materials to help you appear on our website.

Be certain that all personnel have completed online training prior to submitting the protocol.

Helpful Tip: Use the Create PDF button at the top of the page if you need to share a PDF version of this protocol for discussion with a reviewer outside of the Cayuse system.

The choices you make on the first two sections will help populate the required sections for your submission. Please look through the options and make the choice closest to your research. You can always seek assistance by scheduling an appointment with the HRPP Office or reviewing the materials at www.irb.purdue.edu.

Exempt study

Please look at the list of studies below. Determine if your proposed study design might fit into one of these descriptions.

Exempt research still requires review by the Human Research Protection Program. Choose this option if you believe your study is:

- ✓ Research in a common educational setting (e.g. school, daycare) about normal educational practices.
- Educational Test, Survey, Interview, or Observation of Public Behavior
- A benign intervention involving short puzzles, games and their outcomes on human behavior conducted during a single day.
- Secondary Analysis of data, documents, records, pathological or diagnostic specimens that are publicly available or properly deidentified.
- Taste and Food Quality Evaluation or Consumer Acceptance Studies.

*required

Please choose a category. The proper sections will populate based on your selection.

Category 1 Research conducted in established educational settings with normal education practices like:

1. *Research on regular and special education instructional strategies*
2. *Research on the effectiveness of, or the comparison, among instructional techniques, curricula, or classroom management methods*

Category 2 Research that ONLY includes interactions through:

- *Surveys with adults*
- *Interviews with adults*
- ✓ *Focus Groups with adults*
- *Educational Tests (cognitive, diagnostic, aptitude, achievement)*
- *Observation of public behavior*

Category 3 Benign Behavioral Interventions.

Interventions that are brief in duration, harmless, painless, not physically invasive, not likely to have a significant adverse lasting impact on the subjects, and the investigator has no reason to think the subjects will find the interventions offensive or embarrassing.

Examples of Benign Behavior Interventions can include having participants:

- play an online game,
- solve puzzles under various noise conditions
- decide how to allocate a nominal amount of received cash between themselves and someone else

Category 4 Secondary analysis of samples or data.

NOTE: Before you will be able to submit this protocol, you will need to know the terms and conditions associated with receiving the existing data or specimens. You might also need to know the original intended use from the study's consent form. Contact the provider of the data or specimens to obtain this information before proceeding. You may also contact the Purdue IRB (irb@purdue.edu) for guidance.

Category 6 Food and Taste Acceptance

The research is only a taste and food acceptance quality evaluation or food consumer acceptance study

Non-exempt study

Research that does not fit into an exempt category typically involves the collection of new data from a participant.

Just-in-time

I have been contacted by a sponsor (often NSF or NIFA/USDA) to provide documentation of IRB approval, (such as Just-in-Time or JIT) but my application to the IRB is dependent on other factors such as:

- *completion of instruments*
- *prior animal studies*
- *purification of compounds*

Note: This category should be utilized ONLY if the above criteria apply. If study procedures are discernible at the time of the sponsor request, please do not select this option. The research team should affirm that their sponsor will accept documentation for a development protocol.

If you request this study type, the title of the IRB protocol must exactly match the title of the grant proposal. Most funding agencies will not accept protocols with different titles.

Quality Improvement

My research involves activities without a plan to conduct research (Case Report or Quality Improvement project)

I need to know if my project is considered "Human Subjects Research"

I would like to request that another IRB Review this study. (Request for Purdue IRB to defer to another site).

When Purdue University will be engaged in human subject research with one or more institutions, investigators may submit a Request for Deferral asking that the review be deferred to one institution's Institutional Review Board (IRB).

Category Two Exemption Educational Test, Survey, Interview, or

*required

Educational Test, Survey, Interview, or Observation of Public Behavior

Researchers are reminded that while the submission of an informed consent document is not reviewed as part of an exempt application, researchers still have an ethical obligation to ensure that participants are fully informed about the nature of a research project so that they can make an informed decision to participate

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Confirm that your research involves the collection of information ONLY using one or more of the following:

- Surveys (not involving children)
- Interviews (not involving children)
- Focus Groups (not involving children)
- Educational Tests (cognitive, diagnostic, aptitude, achievement)
- Observation of public behavior (e.g. a public place where there would not be an expectation of privacy such as a public street or park but not a public school, a business, or a hospital)

✓ Yes

No

*required

Which best describes the interaction(s) involved in your study?

Use of educational tests (cognitive, diagnostic, aptitude, achievement)

✓ Survey procedures

✓ Interview procedures

Focus groups

Observation of public behavior

*required

Does the research involve children?

Yes

✓ No

*required

Will your research project involve any visual or auditory recording?

✓ Yes

No

*required

Please describe the audiovisual data you will collect. Detail if there will be any practices to reduce disclosure of a person's identity (facial blurring, darkened lighting, voice masking etc.)

Online virtual interviews will be audio recorded to maintain data fidelity and facilitate transcription of the interviews for further analysis. Data will be transcribed and deidentification to protect participants. Transcriptions and deidentification will be completed by the researcher (Nathan Hilliard). Audio files will be maintained until transcriptions are completed and verified for final accuracy, then all audio files will be securely deleted.
Multiple interviews may create delays in transcription, but each audio file should take no more than one week to complete (from the time the transcription begins). (roughly 1.5 hours of audio x 5 hours per 1 hour of audio / 0.2 FTE student).

*required

Does the research require access to student education or health records?

Education records include any records held by the educational institution that contain personally identifiable information about students, including records related to an individual student's performance, such as written or electronic records typically found in transcripts (grades/courses/GPA/test scores), student work products such as tests, homework assignments and interactions with online student learning systems. Education records of students in most K-12 and colleges/universities are subject to regulations under the Family Educational Rights and Privacy Act (FERPA).

Protected Health Information (PHI) is covered under the HIPAA Privacy Rule which provides federal protections for personal health information held by covered entities and gives patients an array of rights with respect to that information.

- Yes
- ✓ No

*required

Will the research generate information that, if revealed outside the research, could reasonably place the subjects at risk of criminal or civil liability, or damage their financial standing, employability, educational advancement or reputation?

This means that the research involves the collection of sensitive information about the subject, such as information about illegal behaviors, mental health issues, sensitive health conditions, genetic information, or negative opinions/attitudes about employers or teachers. A disclosure of this information outside of the research (breach of confidentiality) could pose legal risks or risks of social stigmatization to the subjects.

- ✓ Yes
- No

*required

Does the research collect information about the subject in such a manner that their identity can be readily ascertained by the study team, directly or through identifiers linked to the subjects?

This means that the information is collected with direct identifiers (name, address, email, phone number, social security number, student ID, patient ID) OR indirect identifiers, such as a code that can link back to the subject or data elements that could be combined to readily re-identify an individual (dates, employment history, etc.).

- ✓ Yes
- No

*required

Identify the potential risk for harm that would occur if the security of the data was compromised.

This study collects participants' opinions and attitudes toward various academic programs on campus, including activities personally experienced while enrolled in these programs. Disclosure of such information could lead to negative bias toward the participants by university instructors or administrators involved in those programs.

While transcript data will be deidentified, a master list linking participants codes to individuals will be maintained and stored securely, separate from working datasets, until the study has completed.

Also, participant email addresses may be collected if the participants agree to receive follow-up questions for the purposes data clarification or if they agree to receive a $5 digital gift card as incentive for successful completion of interview process.

*required

Please describe your plans for securing data.

All answers are considered investigator assertions and are certified. Storage procedures, like all IRB protocol materials are subject to post approval monitoring at any time.

Check all that apply.

✓ Use of Purdue Box, REDCaP, Qualtrics, or other Purdue administered system.
*required

Please describe the data storage and how this system secures the data.

Secure access storage on Purdue Box. Survey data collection on Qualtrics (secure access).

✓ Paper/hard copy identifiable data and records under lock and key with controlled access to only the research team.

Another electronic storage procedure.

*required

Privacy refers to a person's desire to control access of others to themselves. Describe the steps that will be taken to protect and assure the privacy of the subject.
Detail specific actions the research team will take to ensure that privacy is protected through each phase of the study
(e.g. recruitment, mailings to subjects, phone calls with subjects, research visits).

Examples of issues:

- *Potential subjects may not want to be approached for research purposes by someone they do not know.*
- *Potential subjects may not want others to know they have a disease or were previously treated for a condition; therefore, you may want to avoid sending a recruitment letter in the mail that may be opened by others.*
- *Subjects may not want to be seen in areas that may stigmatize them or reveal a certain belief or physical/mental health condition.*

Participants are targeted (through IDA+A) only by whether they have been enrolled in a certain campus academic program. Recruitment flyers and emails are general announcements and do not imply that any given recipient fulfills the study criteria. Study participants may receive follow-up email contact only if the participant expressly grants permission. Surveys are conducted through Qualtrics and may be completed in any area the participant deems safe. Virtual interviews may be completed in any area the participant deems safe.

All collected data will be stored securely on Purdue maintained digital systems or physically locked away from public access. Transcripts will be deidentified and participant identification keys and follow-up email or gift card distribution email addresses will be securely stored separately (physical copy in locked cabinet) from study datasets.

*required

Will subjects receive payment or other incentives for their participation in the study?

✓ Yes

*required

Describe the payment or incentive.

Estimate the maximum total payment. Please indicate what information you will be collecting from subjects who will be paid for their participation.

A $5.00 digital gift card will be offered for completing the study interview process. This will be sent to a preferred email address as provided by participant.

No

*required

Provide a brief summary of your research.

- Describe study procedures. How will the research team conduct the study?
- Include the methods that will be used and provide a list of questions or attach study instruments and questionnaires.

For purposes of recordkeeping, the HRPP/IRB will need to have a Word or PDF version of any Qualtrics or electronic survey questionnaires. Please include more than a link to the survey.

Helpful hint: Survey responses from bots can occur in common survey platforms. Utilizing ReCAPTCHA or another feature can help to prevent automated responses.

How long will participants be asked to be in the study?
Pre-interview survey: about 5 minutes.
Semi-structure interview: 60 to 90minutes.
Optional: Follow up via email to clarify unclear responses or request additional information: about 15 minutes.

Specific Study Procedures
Participants will fill out a brief pre-survey that includes verification of their feelings of discontent toward their selected college biology major, and demographic information regarding their current or previous biology major, their current program major if no longer biology, and the participant inclusion criteria for this study. Inclusion criteria include:

- Participants will include undergraduate college students who currently or previously were enrolled in a Bachelor of Science biology major AND express discontent with their current or previous biology major.
- Participants previously enrolled in biology will be currently enrolled in another non-STEM (i.e., not science, technology, engineering, or math) undergraduate major.
- Participants will be undergraduate students aged between 18 and 30 years who matriculated directly from high school with no intervening gap years in their education.

Next, we will conduct semi-structured interviews (approximately 60 to 90 minutes) via telephone or online virtual platform, as deemed most convenient by both parties. Each session will be audio recorded and transcribed. If participants wish to share any additional information or documentation, they may do so via Purdue Filelocker and we will include such documentation as part of the data. Although we do not ask for such documentation as part of the protocol, some participants volunteer it.
We may follow up with participants (if permission is granted) to clarify interview responses. Participant responses will be included as part of the data.
We may also ask the participants to forward the study invitation to other individuals they may know who fit the inclusion criteria.

Please utilize this space to attach any study instruments, scripts, or questionnaires.

Please do not duplicate any attachments. Utilize this space if you have not already added items in a field above.
For purposes of recordkeeping, the HRPP/IRB will need to have a Word or PDF version of any Qualtrics or electronic survey questionnaires. Please include more than a link to the survey.
Interview_Protocol_MExter_STEM_Choice.docx

PreScreen_Survey_Export_MExter_STEM_Choice.docx

Exempt-Your research appears to be eligible for exemption under Category 2. You will be guided to answer just a few more items before submitting your protocol.

This exemption determination is subject to review by the HRPP Office. Please do not begin your research until you receive the final determination letter. All personnel listed in the application must complete training prior to conducting research.

Please click continue to move on to the next required sections.

Funding Source(s)

*required

CURRENT Funding Source(s)

To review your protocol appropriately with differing sponsor standards, the HRPP must have the accurate funding source. It is a PI's responsibility to update funding sources as a modification to the protocol and associated forms (such as the consent form) when funding changes.

Please list any sources of funding that are **confirmed** by contract, agreement, or other support of a sponsor.
You will list any pending sources in the next question.

If the research is funded by a subcontract, please add both the subcontract source and the prime sponsor.

Externally sponsored (federal, state, corporate, foundations, industry, donor)

Internal Purdue University Funds (Includes departmental funds, start-up funds.)
✓ *(Note, this does not include Purdue Research Foundation or Purdue Research Park companies-please list as external sponsor above).*

None - There are no confirmed funding sources at this time.

ANTICIPATED Funding Source(s) - Required

To review your protocol appropriately with differing sponsor standards, the HRPP must have the accurate funding source. It is a PI responsibility to update funding sources as a modification to the protocol and associated forms when funding changes.

If you are a student or staff member filling this out on behalf of a Principal Investigator (PI), please be certain to affirm with the PI that this information is accurate.

Please list any sources of funding where sponsorship is **anticipated** or pending a final decision.

Externally sponsored (federal, state, corporate, foundations, industry, donor)

✓ There are no pending funding sources at this time.

If the protocol does not have a sponsor, please detail how the study will be conducted without funding.

Gift cards will be funded with Dr. Exter's (internal) discretionary funds within Learning Design & Technology program under Department of Curriculum and Instruction.

Conflict of Interest and/or Outside Activities Disclosure

Conflicts of Interest or outside activities must be disclosed and managed prior to IRB approval. For more information about these policies, please consult the resources listed in the question marks in each section.

The IRB may request confirmation of proper disclosures.

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*required

Does this IRB protocol involve any work, advice, or service for an entity other than Purdue University?

For example, if this activity is done as an outside consulting activity, or employee's start-up company, this activity will not qualify for review by the Purdue IRB and an outside IRB or service must be sought.

✓ I attest that I understand the outside activities policy and Individual Financial Conflict of Interest policies and that all members of the research team are conducting this project on behalf of Purdue University.

*required

Do you or any investigator(s) participating in this study have a significant financial interest (SFI) related to this research project?

Receiving more than $5,000 in compensation from, or having ownership interests in, outside entities, constitute Significant Financial Interests that need to be disclosed. Definitions of SFI, Investigator and Institutional Responsibilities, can be found at https://www.purdue.edu/policies/ethics/iiib2.html#definitions.

Yes

✓ No

*required

Do you or any person affiliated with the protocol have or know of any arrangement or understanding, tentative or final, relating to any future financial interest, financial relationship, future grant, position, or advisory role either related to the protocol, or dependent on the outcome of the research under the protocol?

Yes

✓ No

*required

Is there anything not disclosed above which you believe might constitute a conflict of interest or an appearance of a conflict of interest in connection with the protocol?

Yes

✓ No

Other attachments

*required

Do you have any other supporting documents to attach?

You may attach COVID-19 Research Space Standard Operating Procedures here if this is a new protocol submitted during the COVID-19 pandemic.

Investigators are invited to submit reference lists, study instruments, supporting information, training data, device pictures, or other relevant items for their study that were not addressed in the application.

✓ Yes

Attach any other documents. Please use a file name that describes the document.

You may attach multiple files to this entry.

PLEASE DO NOT UPLOAD PARTICIPANT DATA OR IDENTIFIABLE RESEARCH DATA.

Flyer_MExter_STEM Choice.docx

RecruitmentEmail_MExter_STEM Choice.docx

StudyInfoSheet_MExter_STEM Choice.doc

No