Project: The effects of repetition on learning accuracy: online experiment

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Submitted for approval on 09 Nov 2019 10:24 PM

Approval: Granted on 12 Nov 2019

1.1 Title of Study

The effects of repetition on learning accuracy: online experiment

1.2 Type of Project

Staff

1.2.1 If the student is in LEL, has the student completed the online Ethics Training Module

1.2.2 If training has been completed, what was the completion date for the ethics training

1.3a Applicant Details

Name	UUN	Email	Role
Kenny Smith	ksmith7	Kenny.Smith@ed.ac.uk	Staff

1.3b Name of all University of Edinburgh collaborators and their roles on this project

Name	UUN	Email	Role
Mitsuhiko Ota	mota	mota@exseed.ed.ac.uk	Staff (lead)

1.4 If applicable, give the names, email addresses, and institution of any collaborator(s) outwith the University of Edinburgh and their research roles on this project

Name	Email	Institution	Role
XXXXXXXXXX	XXXXXXXXXXXXX	XXXXXXXXX	Co-Investigator

1.5 What subject area / group best matches your project

Language Sciences

1.6 Is another ethics committee outside of PPLS reviewing this project

No

1.6.1a Describe the status of the application at each other institution or ethics committee

1.6.1b Give the details of the current status of that application if not yet approved

1.6.2a Does this research Involve NHS patients/service users or their carers: access to data, organs or other materials from past of present NHS patients; foetal or IVF material from NHS patients; recently dead NHS patients

1.6.2b Does this research Involve, take place in, or use facilities of the NHS

1.6.2c Does this research Involve clinical trials

1.6.3 Have you consulted the Universities Research Governance and NHS R&D Office to get appropriate approvals and costs

1.7 Is there a funding body for the project Yes

- If there is a funder, who is the funder? Does the funder require formal prior ethical review? If yes, by what date is a response for the prior review required
  ERC, they require projects to be reviewed but do not require prior review themselves.

1.8a Project Start date
08-11-2019

1.8b Anticipated end date of data collection or project completion
13-11-2020

1.9a Does this research project involve human or other live participants Yes

1.9b Does this research project make use of any ethically sensitive pre-existing data No

1.9bi If using pre-existing material, what is the source of your pre-existing material

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1.9c Does this research project concern groups that may be construed as terrorist or extremist in any way No

1.9d I hereby declare that I am familiar with the usage guidelines of my data source, or will familiarise myself with the guidelines prior to beginning my project

2.1D.1 Briefly describe the main objectives of your study
This is a follow-up to a lab-based artificial language learning / communication experiment which showed a benefit for consonant repetition in word learning, but not for vowel repetition (e.g. tatako

easier than tapako, but not easier than tateko). We want to verify this difference with a second sample of participants.

2.1D.2 What methods are you using for your study
Artificial language learning experiment run on mturk.

2.1D.3a Who are your participants? What criteria will be used in deciding on the inclusion and exclusion of participants in the study mTurk workers based in the US. Participants must be native speakers of English - we will use
workers with high approval rates on mTurk to maintain data quality, mTurk provide tools for doing this and workers who are not eligible do not see the task.

2.1D.3b How will you recruit your participants? How many will you aim to recruit
Participants will be recruited via advertising on mTurk. We will attempt to recruit at least 40 participants.

2.1D.3c Does the study involve a 'gatekeeper' No

- If you have a gatekeeper, please describe.

2.1D.4a What will your participants be asked to do for your study, and where will you see them/test them
The experiment will be run in a browser, and will take ~20 minutes per participant (TBC after running test trials).
The experiment consists of a training phase and a testing phase. During training participants complete 3 blocks of training, either observing words plus novel objects or clicking on objects in response to words. The first block contains catch trials (easily answerable by English speakers), participants who fail catch trials will finish the experiment after 1 block and be paid a reduced amount (although at the same pro rata rate as participants who complete the full experiment).
Then in the final testing phase, participants are shown images and asked to type their labels in the alien language.

2.1E.4b If you or any study researchers are collecting data in locations where your or their safety could be compromised, explain how you will deal with this

NA

2.1D.5a How will consent be obtained (by the person able to consent on behalf of the participant, if the participant is unable)

Consent indicated by click to the next page on an online form

2.1D.5a.1 If no consent will be obtained, explain what information will be collected, how it will be collected, why lack of direct consent is necessary, and how potential risk will be mitigated

2.1D.5a.2 If other, please specify

2.1D.5b Will participants be given an information sheet separate from obtaining consent Yes

2.1D.6 Are you gathering (potentially) identifiable information about participants Yes

2.1D.6a What (potentially) identifiable information are you gathering

We will have access to mTurk worker IDs (which could potentially principle be used to identify a person's real-life identity). These will be removed before any data is shared with other researchers. Participants do not provide names, or identifiable recordings.

2.1D.6b Will the information include special categories of personal data No

2.1D.6b.1 Explain what safeguards e.g. technical or organisational you have in place

2.1D.6b.2 Please indicate how your research is in the public interest

2.1D.6b.2b If other, explain how your research is in the public interest

2.1D.6c Please identify all risks to the privacy of research participants resulting from collection of identifiable data in your study. Then consider and indicate the likelihood of the risks actually manifesting and the severity of harm if the risks actually manifest

- Likelihood of risk manifesting: Identifiable due to data linkage
  Remote
- Severity of harm: Identifiable due to data linkage
  Minimal
- Likelihood of risk manifesting: Identifiable due to location
  Remote
- Severity of harm: Identifiable due to location
  Minimal
- Likelihood of risk manifesting: Identifiable due to low participant numbers
  Remote
- Severity of harm: Identifiable due to low participant numbers
  Minimal
- Likelihood of risk manifesting: Identifiable due to data access breach
  Remote
- Severity of harm: Identifiable due to data access breach
  Minimal
- Descriptiion of Risk: Other (1)
- Likelihood of risk manifesting: Other (1)
- Severity of harm: Other (1)
- Descriptiion of Risk: Other (2)

- Likelihood of risk manifesting: Other (2)
- Severity of harm: Other (2)
- Descriptiion of Risk: Other (3)
- Likelihood of risk manifesting: Other (3)
- Severity of harm: Other (3)
- Descriptiion of Risk: Other (4)
- Likelihood of risk manifesting: Other (4)
- Severity of harm: Other (4)

2.1D.6d If you have identified risks which are possible or probable and, if manifest, either significant or severe, please explain in more detail, and identify measures you will take to reduce or eliminate these risks

NA

2.1D.6e How will the identifiable data (including consent forms) be stored during the data collection period? What will happen to the data after the data collection period has finished? How will you maintain secure storage of this data? What data formats will you use to ensure long-term usability

The data will always be stored on password-protected computers and GDPR-compliant cloud storage. A large CSV file will be generated to store each participant's responses (e.g. clicked images and typed labels).

2.1D.6f How will the identifiable data be used? Who will have access to them? How will you share them? How will participants be informed about these issues

Identifiable data will only be used at the initial stages of the study, during recruitment and data collection. Only members of the research team will have access to identifiable information. We are not planning on sharing any identifiable information.

2.1D.6g Will information containing personal and/or identifiable data be transferred to, shared with, supported by, or otherwise available to third parties outside the University — Yes

We will share participant data, including worker IDs, with XXXXX (XXXXX). We will share data using GDPR-compliant cloud storage.

2.1D.6h Other than the use by third parties under the section above, will the data be used, accessed or stored away from University premises — No

2.1D.7 Are you collecting non-identifiable data — Yes

2.1D.7a What non-identifiable data are you collecting

All other participant responses - clicks and typed labels, plus basic demographic information.

2.1D.7b How will this non-identifiable data be stored during the data collection period? What will happen to the data after the data collection period has finished? How will you maintain secure storage of your data? What data formats will you used to ensure long-term usability

See above - it will be stored in CVS files on password-protected computers. On completion of the study, as required for e.g. publication, we may make non-identifiable data (excluding demographic data, i.e. just clicks and typed labels) more widely available, e.g. through sharing online.

2.1D.7c How will this non-identifiable data be used? Who will have access to it? How will you share it? How will participants be informed about these issues

See above - we may make non-identifiable data more widely available for research purposes, e.g. through sharing online.

2.1D.7d If any non-identifiable information is likely to be passed on to external companies or organisations in the course of the research, please describe. If the project is a funded collaboration with an external company, please give that information here

See above - we may make non-identifiable data more widely available for research purposes, e.g. through sharing online.

2.1D.8 Explain how you will allow participants to withdraw from the study after data collection

Participants can withdraw by emailing members of the research team – who will be able to withdraw their data based on their worker ID.

2.1D.9 How will you ensure that potential participants do not feel compelled or coerced into taking part

mTurk workers will reply to ads on a voluntary basis. They will be provided with the information sheet and consent form, which explain the study and explaining that they may decline to participate or stop their participation at any time without explanation or consequence.

2.1D.10 How will the data be fed back to the public

We have no plans to do this, other than through the usual routes, e.g. green open access versions of any publications arising from this research.

2.1D.11 Does your research involve a conflict of interest or any situation which could be construed as a conflict of interest

No

2.1D.12 Could any aspect of the proposed research bring the University into disrepute

No

2.1D.13a Vulnerable participants	No
2.1D.13b Potential psychological stress or discomfort to participants, beyond the risks encountered in everyday life	No
2.1D.13c Physically invasive or potentially physically harmful procedures	No
2.1D.13d Pain more than mild discomfort	No
2.1D.13e The investigation of any illegal behavior	No
2.1D.13f The investigation of highly sensitive topics	No
2.1D.13g A real risk of disclosure of activities which should be reported to the authorities	No
2.1D.13h Deception	No
2.1D.13i Risk to the researcher(s)	No

3.1.1 State which professional organisation guidelines you are using

British Psychological Society Code of Conduct

3.1.1b Other organisation Name

3.1.1c Other organisation URL

Submission Signatories

Forename/Initials	Surname	E-mail	Date	Auth. User
Kenny	Smith	Kenny.Smith@ed.ac.uk	07 Nov 2019	ksmith7
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