香港教育大學
The Education University of Hong Kong

FACULTY OF HUMANITIES 學人院文
人能弘道 Where human defines the world

語言學及現代語言系
LINGUISTICS AND MODERN LANGUAGE STUDIES

LIN4038

Week 3

2023-24

The Methods section / Research ethics

Albert Lee

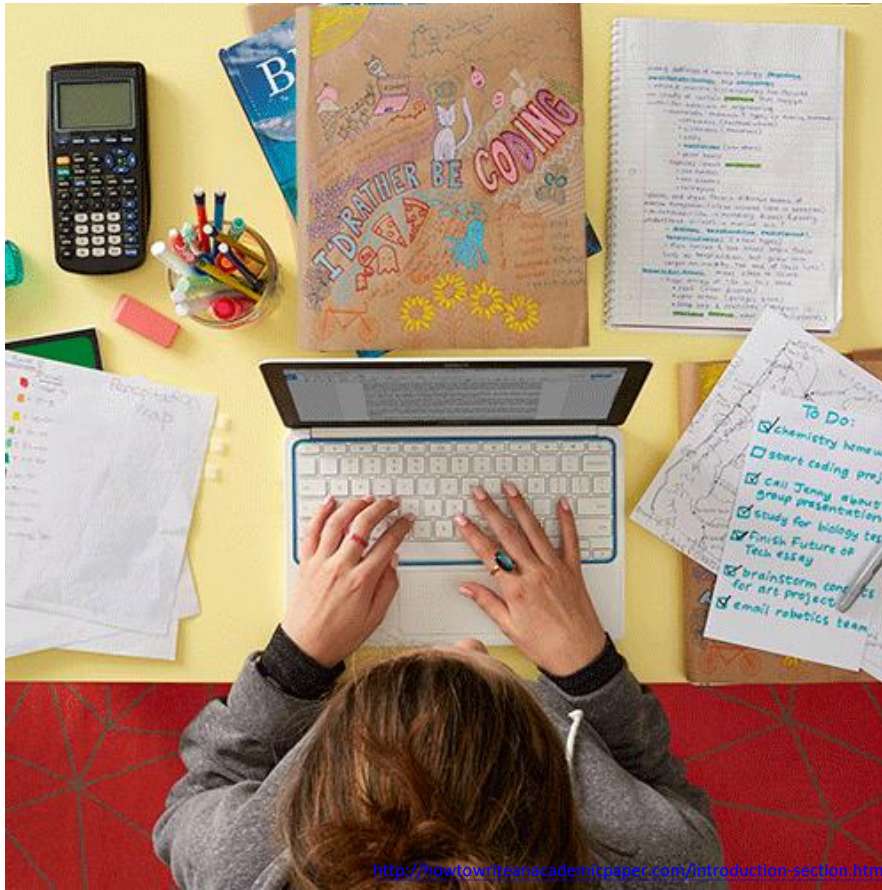
Course schedule

Schedule

	Date	Lecture	Tutorial	Remark
Week 1	Jan 13	Course overview, The scientific method	Brainstorming	
Week 2	Jan 20	The Introduction section	Citation formatting	
Week 3	Jan 27	The Methods section	Research ethics	
Week 4	Feb 3	Stats 1: Descriptive statistics		Exercise
Week 5	**Online**	Stats 2: χ^2		Exercise
Week 6	Feb 24	Stats 3: T-test, Pearson's *r*		Exercise
Week 7	Mar 2	The Results section		Exercise
Week 8	Mar 9	The Discussion section	Hands-on exercises	Exercise
Week 9	Develop proposal and presentation with individual supervisors			
Week 10				
Week 11				
Week 12				
Week 13				

Lecture plan

1. Purpose of the Methods section
2. Structure
3. Ethics application



Purpose

Reading
Please view Steve Kirk's video (parts 1 and 2).

The Methods section should allow readers to understand and **replicate** your experimental procedures, so that they can accept and trust your results. As such, it should:

1. Give a clear description of what was done (if needed, show the procedure in a flow diagram, table, or show a picture of the set-up);
2. Give enough information to replicate your work;
3. Explain the choices made; and
4. Cite commonly used methods, or sources of your procedures (this will show the readers that the procedure has been used successfully before).

Structure

Stylistic tips

- Be direct and orderly (~~florid~~);
- Present information clearly, logically, and chronologically;
- Organise with sub-sections according to topic;
- Within each sub-section, organise by topic from most to least important.

Source: http://rc.rcjournal.com/content/49/10/1229.short

Structure

Further reading
Relevant sections in Nelson and Brunetto (2021)

Stylistic tips

- Simple past tense; (*cf*. PolyU tense guide)
- Both the active voice and the passive voice should be used, depending on the focus of the sentence;
- Use full grammatical sentences (no ‘shopping lists’);
- Connect sentences together using words like first, next, after that, finally.

Further reading
Choi and Pak (2010)

Structure

The Methods section contains the following parts:

- ~~Subjects or~~ participants
- (Study design)
- Materials or stimuli
- Procedures
- (Data analysis)
  - Skip if you are using only very simple tests

Structure

Participants

Participant descriptions from journal articles involving people

More specific characteristics for research that studies social or cultural variables:

One hundred and twelve introductory psychology students (56 same-sex pairs) participated in the study in exchange for partial course credit. There were 22 White-White pairs, 19 White-Chinese pairs, and 15 Chinese-Chinese pairs. The ratio of male to female pairs was approximately the same across the three pair types... Students were assigned to pairs on the basis of scheduling convenience... (Vorauer & Sakamoto, 2006, p. 327).

Highly specific characteristics required for understanding the research:

Residents' ages ranged from 69 to 97 years (M = 82.9, SD = 8.2). Of those residents, there was one African-American male, four Caucasian males, and 15 Caucasian females. Participants' functional status was obtained using the Activities of Daily Living Scale with scores ranging from 7 to 52 (M = 29.6, SD = 10.5), with higher scores indicating greater dependency of residents on caregivers. The Minimum Data Set Cognition Scale (MDS-COGS) ranged from 4 to 9 (M = 6.4, SD = 1.4), indicating that participants were in the moderate stage of dementia (see Table 1)(Lann-Wolcott et al., 2011, p. 92).

Adapted from:

Beins, B. C. (2012). *APA style simplified: Writing in psychology, education, nursing, and sociology.* Chichester, England: Wiley-Blackwell.

Structure

Participants

Demographics of research participants

Characteristic	What to report
Age	Older children, adolescents, and adults - Average age of sample, in years - Range and/or standard deviation of age *Young children* - Age in months - Range and/or standard deviation
Sex	Number of female and male participants
Ethnicity	*General designations* - White - Black (or African-American) - Indian (or Native American) - Hispanic (or Latino/Latina) - Asian
Recruitment method	*Nonprobability samples* - Convenience samples (e.g., solicitation in psychology classes) - Notices posted in public spaces, newspapers, etc. - Purposive (judgmental) sampling - Chain-referral sampling *Probability samples* - Simple random sampling (for which you specify your population) - Stratified random sampling
Inducement to participate	Extra credit in class Possibility of winning a prize in a raffle for all participants Money (including amount) No inducement

Adapted from:

Beins, B. C. (2012). *APA style simplified: Writing in psychology, education, nursing, and sociology.* Chichester, England: Wiley-Blackwell.

Structure

Materials

When you write, you need to tell the reader about **materials** (e.g. questionnaires, stimuli) and **apparatus** (e.g. voice recorders) that you used. It is not necessary to mention ordinary instruments, such as stopwatches and computers (except when the model can affect your results), beyond mentioning that you used them. For **specialised** or unusual equipment, you should produce a clear and complete description of what you used.

https://mynewmicrophone.com/top-best-circumaural-over-ear-headphones-under-200/

https://pstnet.com/products/chronos/

https://www.dma-audio.com/

Structure

Materials

Examples of details of materials in published research articles

Description of Questionnaires

Marsh's (1990) Self-Description Questionnaire (SDQII) is designed to measure self-concept in adolescents. Three scales, each containing 10 items, were used in this study: the general school scale (academic self-concept), the general self scale (global self-esteem), and the emotional stability scale. The coefficient alpha estimate of reliability of scores on each of the SDQII scales has a median of .87. To measure test anxiety, Sarason's (1972) 37-item Test Anxiety Scale (TAS), with test-retest reliability at least .80 (Spielberger, 1976) was adapted. It incorporated Sarason's later (1984) work that differentiated the TAS into four components—test-irrelevant thinking, worry, tension, and bodily reactions (Matters & Burnett, 2003, pp. 243–244).

Adapted from:

Beins, B. C. (2012). *APA style simplified: Writing in psychology, education, nursing, and sociology*. Chichester, England: Wiley-Blackwell.

Structure

Procedures

Specify the sequence of steps associated with the data collection, including what the researcher does and what the subjects / participants do. Typical elements in this paragraph include:

- DVs and IVs; W1
- how participants are assigned to groups;
- the role of the researcher in the session;
- the directions that participants received;
- the activities in which the participants engaged.

Structure

Other common sub-sections

- Measurement protocol
  - If you followed specific procedures to measure DVs
- Data analysis
  - Data processing procedures (e.g. speech or EEG recordings)
  - Less common statistical tests

Methods checklist

A great Methods section typically contains these elements:

Domain	Expectation
Materials	• Clearly describes the ***object(s)*** of the experiment (e.g. microphone, computer), ***set-up*** (i.e. dimensions, materials used & source, and other necessary information), and ***treatment conditions*** (i.e. where appropriate, quantifiable descriptions of time periods, intensity, etc.).
Controls and replication	• Controls consider all relevant factors; • Replication is robust (sample size with good statistical power); • Explanations of why these controls/replication matter to this experiment are thorough and clear.

Methods checklist

A great Methods section typically contains these elements:

Domain	Expectation
Experimental design	*Methods are:* • Appropriate; • A synthesis of multiple approaches or an example of a well-considered and planned approach; • Sufficiently describing the ***procedures for data collection and analysis*** (i.e. how measurements were done, and equations & statistical analysis used, etc.).
Language	• Information is arranged into subsections (with descriptive subheadings); • Verbs used are appropriately in the past tense and personal pronouns are generally avoided#; • Sentences focus on the activity rather than the doer; • Where needed, tables and/or figures are shown to supplement the narrative and aid in the understanding of protocols, treatment groups/conditions, set-up, etc.

Personal stylistic choice

Ethics application

https://www.youtube.com/watch?v=nX4c3V23DZI

Ethics application

As a Researcher with Integrity

- Staff should consistently strive to attain a high degree of integrity; when interacting with others, they should be honest, fair, and respectful of other people, regardless of their race, gender, age, physiological conditions, and/or status.

As a Researcher Responsible to the Profession

- Staff should uphold standards of professional conduct, avoiding any act that may be deemed fabrication, falsification, and misrepresentation of data and findings.
- Staff should fully and accurately report their research questions, hypotheses (where applicable), procedures, analyses and results in their reports or publications.
- Staff should avoid plagiarism. Plagiarism is defined as using another person's data, phrasing or ideas without appropriate acknowledgement. Self-plagiarism is the reuse of one's own previously published work without appropriate acknowledgment. Reference to previously published work using the data set should be given as appropriate.
- Plagiarism and self-plagiarism may be intentional or unintentional. Regardless, plagiarism violates the principles of moral responsibility and integrity.
- Staff should decline requests to review work of others when there is strong conflict of interest.

Source: Summary of the EdUHK's Guidelines on Ethics in Research (May 2016)

Ethics application

As a Researcher Responsible to Participants

- Staff should respect the basic human rights to decency, privacy, confidentiality, equality, and self-determination of the participants of the research.
- Staff should disclose fully and accurately to participants the aims and consequences, both real and potential, of the respective research, as well as the likely outcomes, such as publications.
- Staff should allow participants of the respective research to have the right to withdraw without prejudice at any stage of the research.
- Staff should at any stage of the research be mindful of cultural, religious, age, and physiological (particularly gender) differences and act in ways that the differences would not become a source of hardship for participants of the respective research.

Source: Summary of the EdUHK's Guidelines on Ethics in Research (May 2016)

Ethics application

As a Researcher Responsible to the Public

- Staff should, whenever feasible and appropriate, apply their research findings and/or make public their research in order to contribute to human welfare.
- Staff should present the findings and the practical significance of research to the public in clear, straightforward, and appropriate language to ensure effective communication.
- Staff should, whenever appropriate and/or promised, must observe the right of the informants and/or participants to remain anonymous, and Staff should take appropriate measures to protect confidentiality of the participants and of data.

As a Researcher Responsible to the Funding Agencies

- Staff should ensure that the aims and sponsorship of the research be made explicit.
- Staff should not agree to conduct research that conflicts with academic freedom or undue influence by the grantor.
- Staff should strive to have the intellectual property right of the data and study results, and they should comply with the provisions of the respective grant agreement, including transfer of ownership of the said data and results if so required in the agreement.
- Staff should remain free to interpret and publish their findings without censorship or approval from the grantor.

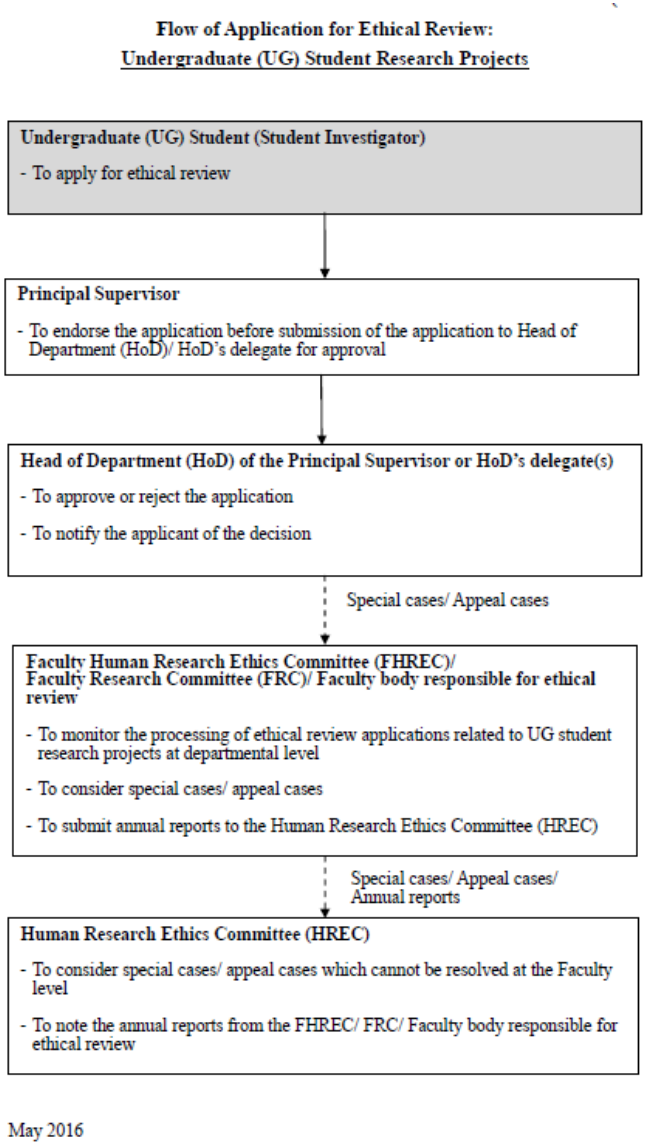
Source: Summary of the EdUHK's Guidelines on Ethics in Research (May 2016)

Ethics application

- In principle, all HPs in the linguistics stream must obtain either **ethics approval** or **exemption** from LML HoD (or delegate);
- Approval is not guaranteed – please work with your supervisor;
- Without ethical clearance, you are not allowed to start data collection;
- Typically due in mid-November (check LIN4039 Moodle page).

Ethics application

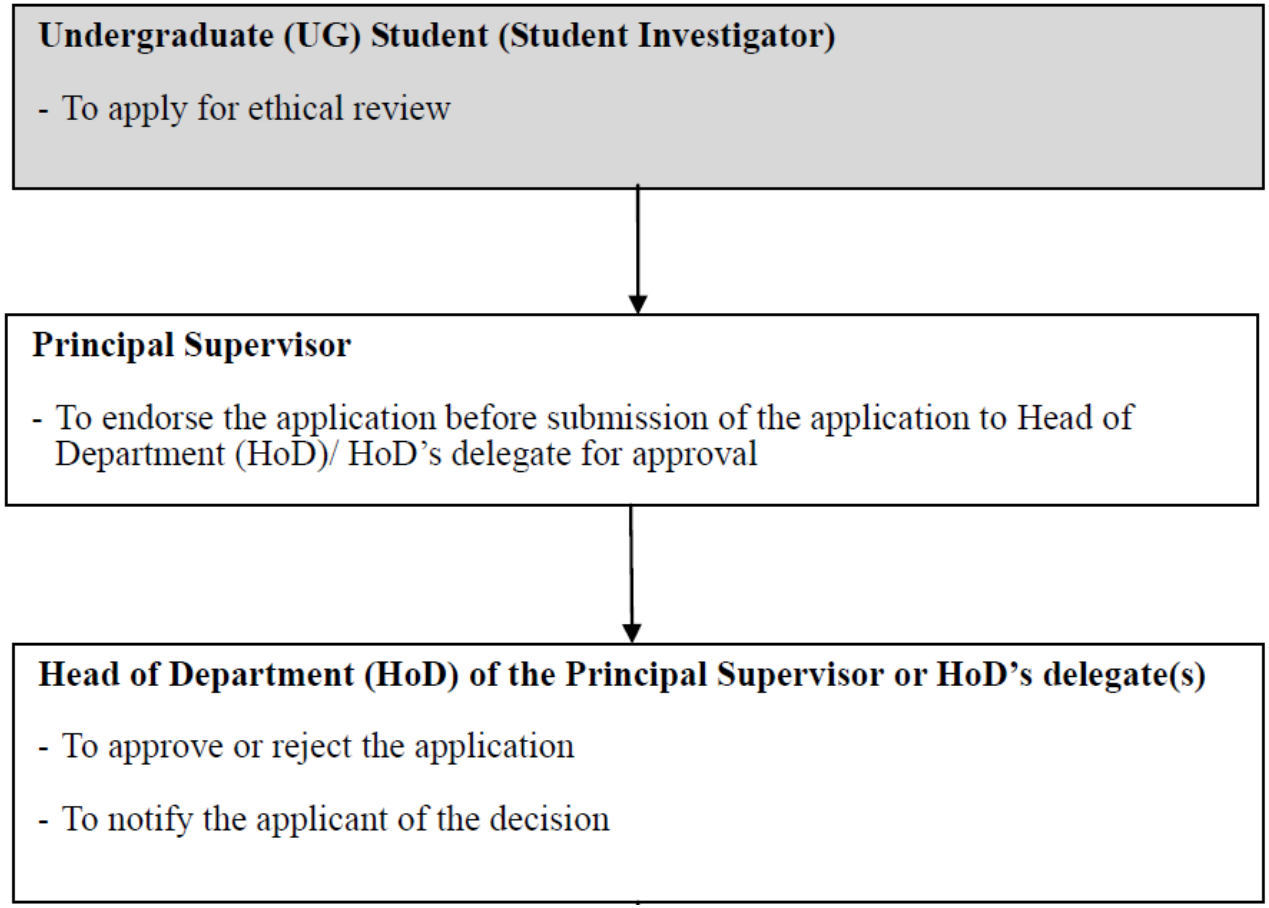
- You will prepare, and your supervisor will submit on your behalf:
  - Ethics application form signed with supervisor signature; or
  - Ethics exemption application form signed by supervisor; and
  - Draft questionnaire (if any); and
  - Revised proposal; and
  - Draft consent form; and
  - Draft information sheet



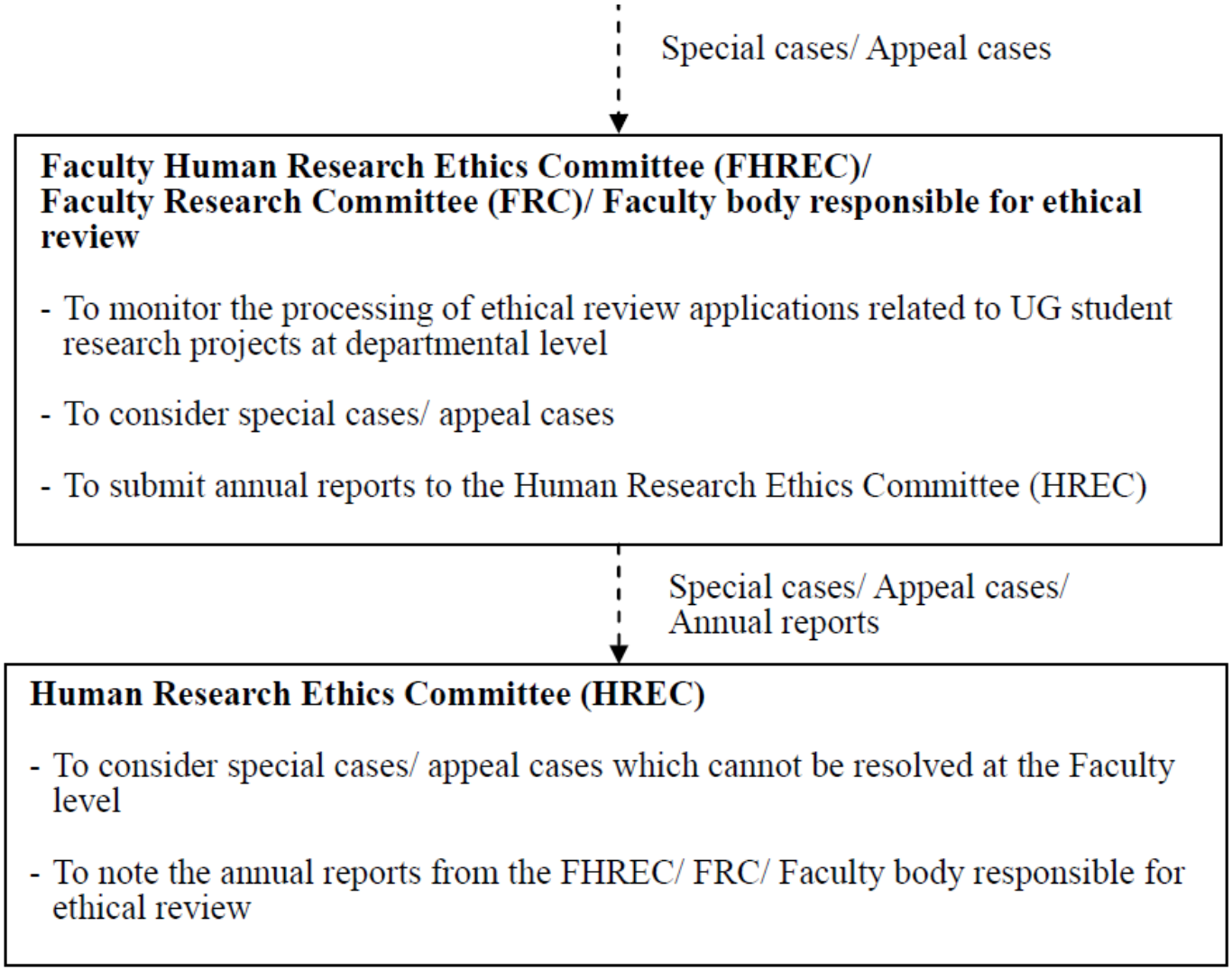
Ethics application

Flow of Application for Ethical Review:

Undergraduate (UG) Student Research Projects



Ethics application



Exercise

Task:

- Choose a journal article in linguistics that reports on an experimental study
- Identify and highlight the following elements, then post annotated screenshots on Padlet:

DV	IV	Participants (who, how many)
Task	How many trials?	
Role of experimenter		Where?

References

- Beins, B. C. (2012). *APA style simplified: Writing in psychology, education, nursing, and sociology*. Wiley-Blackwell.
- Choi, B., & Pak, A. (2010). Methods section. In N. J. Salkind (Ed.), *Encyclopedia of Research Design* (pp. 799–801). SAGE.
- Nelson, D., & Brunetto, V. (2021). Good writing in linguistics. In M. Whong & Jeanne Godfrey (Eds.), *What is good academic writing?: Insights into discipline-specific student writing* (pp. 159–177). Bloomsbury Publishing.
- Wells, D. L., Coleman, D., & Challis, M. G. (2006). A note on the effect of auditory stimulation on the behaviour and welfare of zoo-housed gorillas. *Applied Animal Behaviour Science*, *100*(3-4), 327-332.