

APPLIED RESEARCH METHODS COURSEWORK – 2021

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Assessment Type: Coursework

Deadline: 5pm on 14 July 2021

Length: 3000 words excluding the reference section, abstract, and any appendices

Applied Research Methods Coursework

Students are required to demonstrate their knowledge of applied research methods by completing and reporting the analyses for a research project. They will submit independently written reports in the style of a short journal article. They will not be required to design the study or collect data, but they will be required to demonstrate their knowledge of study design and data collection.

In what follows, section A) provides details of the specific research project. The text in section B) then provides guidance as to how the reports should be written. Section B1) provides an overview of what is expected of students, while section B2) provides a more specific indication of how marks will be allocated. The numbers in parentheses (in section B2) provide an estimate of the balance of marks that will be awarded for each section, although this is notional as students may discuss some issues that would gain marks in a number of sections (e.g. the assumptions of statistical tests – or their power - might be discussed in the results or discussion sections), so this is a little fluid. Moreover, a student may write high-quality methods and results sections and then misinterpret everything in the discussion section, thereby suggesting a lack of understanding that was well concealed in the earlier sections.

A) Research Project

In this (simulated) study, employees from three different sectors (IT, Medical and Voluntary) are tested regarding their susceptibility to phishing scams. A sample of companies are selected at random using national data about companies and voluntary sector organisations. Employees are then selected at random from company registers, and no two employees are selected from the same office. Prior to testing, half are randomly selected to complete a standard training package that is intended to reduce the likelihood that employees will fall victim to phishing attacks (half are not). After the training is completed, all sampled employees (whether they received training or not) are sent simulated phishing emails by the experimenter, which invite them to click on a link. If they click on the link, a message is sent to the experimenter informing them of this. Nothing else happens as a consequence of employees clicking on the link. Participants are assessed according to whether they clicked on the link or not within two weeks of being sent the phishing email.

The following data are provided for each participant (see file “Simulated Data.csv”):

1. Whether they fell for the Phishing attack (1=YES), the variable name is *Phish*.
2. Sector (IT, Medical, Voluntary) coded as binary variables, one for each sector (variable names *VOL*, *MED*, and *IT*).
3. Age, coded as a continuous variable (variable name *Age*)
4. Gender, coded as a binary variable (1=Female). The variable name is *Gender*.

5. Whether they received training or not (1=Training received), variable name is *Train*.

In writing up your report, you will need to draw on relevant literature to introduce the study and to formulate a testable hypothesis or hypotheses. While all of the data collected is provided, exactly which data you ultimately analyse is up to you.

B) Report Structure

1. OVERVIEW

Authorship - Students should write their reports and produce any tables/figures independently. Marks will be deducted if it is obvious that students have simply cut and pasted tables/figures produced by another student. Marks will be awarded for originality and insight.

Format - Pick a journal and follow the formatting guidelines associated with that journal. [Please indicate the journal you select on the front page of your assignment.](#)

Word length –3000 words excluding the reference section, abstract, and any appendices. Submissions over 3000 words are not acceptable as part of the task is to communicate using the available word limit.

Focus - As this is a research methods assessment you should devote more words/space to the methods and results section, or the discussion of methodological and statistical issues in other sections. The introduction should introduce the topic but it does not need to be as detailed as a regular journal article. Make sure you specify your hypotheses and that these are motivated by your introduction. You should also discuss any methodological issues associated with the study in the discussion section and articulate how you would improve the study if you were to repeat it.

2. MORE SPECIFIC GUIDANCE

TITLE – should be concise

ABSTRACT (5 marks)

- Should be about 100-200 words (max)
- Describes purpose, techniques, results and implications
- Do not provide a *detailed* description of the methods
- Should be accurate, concise, self explanatory and specific
- Avoid jargon

INTRODUCTION (15 marks)

- Clearly defines the problem or issue.
- Starts general and becomes specific.
- Places the study in the context of previous research (literature review). Useful to present relations, contradictions, gaps and inconsistencies in the literature.
- Use subheadings selectively if they help organise the material better.
- Final paragraph clearly and explicitly states why the study was performed (e.g. the purpose of this study was...). These should be motivated by the text that they follow.

METHODS (25 marks)

- Must contain enough detail so that the study could be replicated by someone else.
- Often the following subheadings are used:
 - Participants
 - Design
 - Materials (e.g. a summary of a questionnaire)
 - Procedure
- Be explicit about (for example) the sampling design used and indicate why participants were randomly allocated to conditions.

RESULTS (35 marks)

Present things in a simple way:

- Start with descriptive statistics (descriptive statistics and/or suitable figures or tables) so that the reader can start to understand the data collected
- Tell a story using appropriate inferential statistical tests. Indicate whether the assumptions of the tests you used were met.
- Do not include raw data
- **Tables/Figures**
 - Make figures as clear as possible, ensuring that all aspects are explained either in the legend or the figure itself.
 - Make figures as uncluttered and as easy to read as possible.
 - Use the style of table specified in the “Instructions to authors” section of the journal website or used in papers in the journal.
 - Be consistent!
 - Output straight from R is bad practice and will be penalised

DISCUSSION (15 marks)

- Summarise aims and central findings
- Evaluate and interpret results.
- How do your findings relate to the literature reviewed in the introduction and your hypotheses?
- Restrict discussion to the results (i.e. do not go beyond the data).
- Discuss any limitations of the current work or any future research that is needed, including that which might use different methods.

REFERENCES (5 marks)

- Make sure that you use the style of referencing that the journal requires (see notes for authors on the website).
- Software such as EndNote, Reference Manager, ProCite, or Zotero makes this easier, but you can also do this manually.
- Ensure **all** items cited in the paper are listed and no listed references are uncited in the text.