

ATHK1001 ANALYTIC THINKING: ASSIGNMENT 1, 2024

Due date: 11:59pm Thursday, March 28th (Week 6). Late penalty of 5% per calendar day applies.

Online submission: All submissions are to be made online via the link on the ATHK1001 Canvas website. All submissions must be a single PDF file. Do not submit files that contain images (except the graph can be an image) because they may not be readable. Unreadable files may be treated as non-submissions. Submissions are checked for plagiarism. Artificial Intelligence tools such as ChatGPT that assist with writing are not permitted.

Incorrect submissions: If you submit a file after the due date but before the closing date that the file you submitted on was incorrect, you will receive a 50% penalty. You may be given the option to resubmit a corrected version with a 50% penalty. Lateness penalty, whichever is greater.

Word length: 1000 words across all questions (excluding references in Question 13). A penalty of 10% will apply to papers that exceed this limit by up to 10%, a 20% penalty if you exceed up to 20% of the limit, and a 30% penalty if you exceed the limit by more than 20%.

Total marks: 60 (20% of total grade for class)

Background and Aims

Moral psychology tries to understand how people make decisions when faced with moral dilemmas. The most studied form of moral dilemmas are sacrificial dilemmas, in which a choice must be made between sacrificing one person in order to allow the survival of a larger number of people. The classic example is the Trolley Dilemma in which a Trolley train is on track to kill five unsuspecting people, but you can save them by diverting the Trolley onto another track where it kills only one person. Studying such dilemmas has yielded a number of interesting findings and implications for moral psychology (see Andrade, 2019). Although the Trolley Dilemma itself is unlikely to occur, some realistic moral dilemmas are versions of the Trolley problem, including whether a self-driving car should be programmed (or not) to drive into a wall killing the car's occupant when the alternative is killing many people. The extent to which people are prepared to accept the sacrifice of the one to save many may be related to their belief on the philosophical concept of Utilitarianism, the idea that we should do the greatest good for the greatest number of people.

A sacrificial dilemma in which most people seem to be against sacrificing one to save many is the Transplant Dilemma. In this dilemma a surgeon has the choice to sacrifice one person and use their organs to save five people who need transplants (Andrade, 2019). Andrade describes studies that have explored why people appear less likely to sacrifice one to save many in the transplant dilemma than in most versions of the Trolley Dilemma. However, he suggests one possibility that has not been tested, that an action that might be considered good now may be considered very bad in the long term if they became rules (Andrade, p.12). If doctors were prepared one time to take the organs of one person to save five, when would they stop?

In the experiment you did in tutorials we investigated whether varying the likelihood of the situation recurring made a difference to how people responded to the Transplant Dilemma. In the *One-off Condition* participants were told that the situation would only occur once, whereas in the *Repeat Condition* participants were told that the situation may occur repeatedly. We predicted that people would look more favourably on sacrificing the individual in the One-off Condition than in the Repeat Condition.

We would expect participants' responses to the Transplant Dilemma to be associated with the extent to which they believed in Utilitarianism as a moral principle. Everett and Kahane (2020) suggest that the relationship between utilitarianism and responses to sacrificial dilemmas may be complicated because they distinguish between two aspects of utilitarianism: Impartial Beneficence, and Instrumental Harm. Everett and Kahane define Impartial beneficence as the belief that we should maximize the well-being of all people regardless of who they are, whereas Instrumental harm is willingness to harm others for the greater good. They suggest only degree of belief in Instrumental harm should be related to how people respond to sacrificial dilemmas.

A third issue we investigated was how to measure people's responses to sacrificial dilemmas. It is common for participants to be asked how permissible they think it is to take the action that sacrifices the one for the many. It is rare to ask about the permissibility of NOT taking the action, as researchers appear to assume that it would just be the opposite of taking action, thus it would be redundant information. However, what if some participants think both the action and the nonaction are somewhat permissible (or not permissible)? In such cases you would need to ask both questions and look at the relative permissibility. So in this experiment we asked about the permissibility of both the action and nonaction and examined whether it was both.



Method

Participants

The experiment was conducted with 111 students from an analytic thinking course who participated as part of a class experiment. Their data was eliminated if it was not given by 70 participants so that the proposed hypotheses participants had to complete the Transplant Dilemma and the Oxford Utilitarianism Scale. Only 111 participants fit this criterion for analysis. Of the analysed participants 62 identified as female and 43 as male, and they had a mean age 19.6 years.

Materials

Every participant received one version of the Transplant Dilemma. The first paragraph was the same for both conditions:

You are a transplant surgeon. Five of your patients need new parts: one needs a new heart, the others need, respectively, liver, stomach, spleen, and spinal cord transplants. The five patients will die very soon without transplants. However, all are of the same, relatively rare, blood type. By chance, you are currently operating on a patient with the same blood type, who is also confirmed as an organ donor.

Participants in the One-off Condition read the following text:

You realise that if you let this one patient die during the operation, you will be able to transplant their organs to the other five patients, who will survive. You have never been in a situation like this, where the problem has been so straightforward. Usually, there are more considerations and rules that must be followed. You are also certain that you will never be in a situation like this again. No one will ever know that you let the patient die to transplant their organs to the others.

Participants in the Repeat Condition instead read the following text:

You realise that if you let this one person die during the operation, you will be able to transplant their organs to the other five patients, who will survive. You also realise that this is a situation you are in frequently, where you can let one patient die and use their organs to transplant to other patients. There are many times in the future you might be faced with this decision again. No one will ever know that you let the patient die to transplant their organs to the others.

After reading both paragraphs, participants answered the following two questions on a scale of 1-7 where 1 was labelled "Completely unacceptable" and 7 was labelled "Completely acceptable":

How acceptable is it to let the patient die to transplant their organs to the other five, saving them?
How acceptable is it to NOT let the patient die to transplant their organs to the other five, saving them?

So, participants rated the moral permissibility of both taking the action of sacrificing the individual and of NOT taking the action of sacrificing the individual.

Participants also completed the Oxford Utilitarianism Scale (see Everett and Kahane, 2020). This is consistent of nine statements that participants rated on a scale of 1-7 where 1 was labeled "Strongly disagree" and 7 was labelled "Strongly agree". The Appendix shows the nine statements.

Procedure

During tutorials for the class Analytic Thinking at the University of Sydney participants completed the experiment individually on computers in the classroom setting. All participants were randomly assigned to either the One-off Condition or the Repeat Condition for the Transplant Dilemma. As well as the Transplant Dilemma and Oxford Utilitarianism Scale participants completed other tasks, but these were not analysed for this assignment. After completing the experiment participants indicated whether or not they con data included in the data set.



Hypotheses

We proposed five hypotheses for the 147 participants performed in our experiment.

Hypothesis 1: Mean permissibility of taking the action is different to the mean permissibility of not taking the action. We predict permissibility of taking the action would be lower than the permissibility of not taking the action.

Hypothesis 2: There will be a correlation between permissibility of taking the action and the permissibility of not taking the action. We predict not just that this correlation will be negative but that it will be high.

Hypothesis 3: The mean relative permissibility of taking the action will be different for the One-off Condition and the Repeat condition. We predict it will be higher for the One-off Condition.

Hypothesis 4: Relative permissibility of taking the action will correlate with the Permissible Harm measure of utilitarianism. Based on Everett and Kahane (2020) we predicted that such a correlation should be positive.

Hypothesis 5: Relative permissibility of taking the action will correlate with the Impartial Beneficence measure of utilitarianism. Based on Everett and Kahane (2020) we predicted that there will be no statistically significant correlation.

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Results

The data set for our class can be found on the Canvas site for ATHK1001 on the page “Assignment 1” under the “Other Assessments” tab. This assignment description can be found there as well as an Excel file called “Assignment1_dataset.xlsx”. This Excel file contains all the data necessary for the assignment and has 111 data lines, one for each participant. Each participant has values for seven variables, and the values of each variable are in a single column of the file.

The first variable is an arbitrary id number generated by the computer. The “condition” column gives each participant’s condition: “1” means participants were in the One-off Condition and “2” means they were in the Repeat Condition. The third variable “Permissibility action” is the participant’s rating of the permissibility of sacrificing the individual. The fourth variable “Permissibility no action” is the participant’s rating of the permissibility of not sacrificing the individual. The fifth variable “Permissibility relative” is the participants rating of the permissibility of taking the action minus their rating of the permissibility of not taking the action of sacrificing the individual.

The sixth variable “OUS-IB” is participants score for Impartial Beneficence as calculated from their responses to the OUS scale (higher scores indicate high belief in Impartial Beneficence). The seventh variable “OUS-H” is participants score for Instrumental Harm as calculated from their responses to the OUS scale (higher scores indicate high belief in Instrumental Harm).

WHAT YOU WILL WRITE

Your task is to analyse the data in order to test the five hypotheses proposed above. You will do this by addressing each of the following 10 questions. Answer the questions with complete sentences, not with just numbers, notes or tables. You will be penalized if you do not use complete sentences. **Do not include the text of the questions in your assignment (this will trigger a plagiarism warning)**, but you should include the number of the question being addressed.

A note on how many digits to report in your answers. Excel will give answers with a huge string of digits, many more than you need. To understand the results, so the question arises of how many digits to report in your answer. You should use the same number of significant digits as the data used in the calculation, however, quality ratings have just one significant figure. So you should report all statistics to this level of precision.



1) For both Permissibility of Action and Permissibility of no action report the means and standard deviations. **(4 marks)**

2) Based on the means you calculated in Question 1 use a t-test to test Hypothesis 1, that mean permissibility of taking the action is different to the mean permissibility of not taking the action. Report the p-value for the t-test and state clearly whether or not Hypothesis 1 was supported, and state why. (Note that we will be discussing hypothesis testing in lectures in Week 4 and practicing using Excel to test hypotheses in tutorials in Week 5. So you may need to wait to answer this question until we have covered the relevant material in class.) **(3 marks)**

3) Present one graph that illustrates the relationship between the permissibility of taking the action and the permissibility of not taking the action. **(4 marks)**

4) Calculate the correlation between the permissibility of taking the action and the permissibility of not taking the action, and test Hypothesis 2. Report the p-value for this test and state whether Hypothesis 2 was supported and why. **(4 marks)**

5) Do your answers for Questions 1-4 justify analysing relative moral permissibility (i.e., permissibility of taking the action minus permissibility of not taking the action) rather than simply the permissibility of taking the action? Explain your answer. **(3 marks)**

6) For Relative Permissibility of taking the action report the means and standard deviations for both the “One-off condition” and the “Repeat condition”. **(4 marks)**

7) Based on the means you calculated in Question 6 use a t-test to test Hypothesis 3, that mean relative permissibility of taking the action will be different for the One-off and the Repeat conditions. Report the p-value for the t-test and state clearly whether or not Hypothesis 3 was supported, and state why. **(3 marks)**

8) Report the correlation of Instrumental Harm with Relative Moral Permissibility, and test Hypothesis 4. Report the p-value for this test and state whether Hypothesis 4 was supported and why **(4 marks)**

9) Report the correlation of Impartial Beneficence with Relative Moral Permissibility, and test Hypothesis 5. Report the p-value for this test and state whether Hypothesis 5 was supported and why **(4 marks)**

10) Identify three different issues with the way we collected data which could limit our ability to draw conclusions from it. These issues could relate to one or more of the hypotheses. Clearly differentiate the three issues as “Issue 1”, “Issue 2” and “Issue 3” and explain how each of these issues relates to a data

collection consideration raised in ATHK1001 lectures, readings or tutorials. For each issue suggest a way it might be resolved in future research on this topic or if it cannot be resolved then explain why. To receive full marks you must specify how and why this issue applied to this experiment. Broad issues, such as the possibility of using a larger sample which could be said of almost any experiment, will not receive full marks unless a strong case for considering them is made. (12 marks)

11) Summarize what you think the data analysis you have carried out for this assignment tells us about the Transplant Dilemma. You must make explicit reference to the results of your testing of the hypotheses and possibly the results of the experiment described in Question 10. You should cite Andrade (2019) in your answer. (6 marks)



12) Summarize what you think the data analysis you have carried out for this assignment tells us about Utilitarianism. Explain the results of your testing of the hypotheses and possibly the results of the experiment described in Question 10. You should cite Everett and Kahane (2020) in your answer. (6 marks)

13) Include a reference section which lists the full reference for any paper you have cited when addressing these questions. You must include Andrade (2019) and Everett and Kahane (2020) in this question, and include other references when appropriate. You should use APA style for citations and references, but we will accept other standard journal article referencing formats. (3 marks)

Reference

Title: Medical ethics and the trolley problem

Author: Gabriel Andrade

Source: Journal of Medical Ethics and History of Medicine, 2019, volume 12, pages 1-15.

Title: Switching Tracks? Towards a Multidimensional Model of Utilitarian Psychology

Author: Jim A.C. Everett and Guy Kahane

Source: Trends in Cognitive Sciences, 2020, Vol. 24, pp. 124-134

THESE ARE NOT IN A STANDARD REFERENCING FORMAT; YOU WILL NEED TO REFORMAT THIS FOR QUESTION 13 USING A STANDARD FORMAT (E.G., APA STYLE)

Note that these papers provide background so you do not have to understand every aspect of them. Also, you do not have to use other sources for answering these questions, but if you do then you must correctly cite and reference these sources.

Formatting Recommendations

Our preferences

- Use the font "Times New Roman", 12-point size, and double-space all the lines.
- Indent the beginning of each paragraph using one tab space.
- Use APA referencing style

Appendix: The Oxford Utilitarianism Scale

The Oxford Utilitarianism Scale consists of the following nine statements which participants rate for how much they agree with on a scale of 1 to 7. Items 1-5 measure Impartial Beneficence and Items 6-9 measure Instrumental Harm.

1. If the only way to save another person's life during an emergency is to sacrifice one's own leg, then one is morally obliged to make this sacrifice.
2. From a moral point of view, one should feel obliged to give one of our kidneys to a person with kidney failure since we have two kidneys to survive, but really only one to be healthy.
3. From a moral point of view, one should care about the well-being of all human beings on the planet equally; this includes people who are either physically or emotionally close to them as well as the well-being of people who are especially close to them.
4. It is just as wrong to neglect the needs of people as it is to actively harm them yourself.
5. It is morally wrong to keep money that one doesn't really need if one can donate it to causes that provide effective help to those who will benefit a great deal.
6. It is morally right to harm an innocent person if harming them is a necessary means to helping several other innocent people.
7. If the only way to ensure the overall well-being and happiness of the people is through the use of political oppression for a short, limited period, then political oppression should be used.
8. It is permissible to torture an innocent person if this would be necessary to provide information to prevent a bomb going off that would kill hundreds of people.
9. Sometimes it is morally necessary for innocent people to die as collateral damage, if more people are saved overall.

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