

REIT6811 Tutorial 4

Involving people in Research and Ethics

Please go through this handout before the tutorial session. **Some activities are meant to be done before the class, these are indicated in blue.** You will not be given time to do these activities during the session.

Tutorials are evaluated for each student; therefore, all students are required to participate. Every student should be actively involved in discussions among your groups and participate when your tutor discusses the answers. The marking rubric for tutorials is on Blackboard

The aim of this session is to think about and learn to discuss issues that occur in research involving people and human ethics related to technology. **Before class, read the Conversation Article 'The trolley dilemma: would you kill one person to save five?':**

<https://theconversation.com/the-trolley-dilemma-would-you-kill-one-person-to-save-five-57111>

Part 1: The Trolley Problem

The trolley problem describes a group of classic thought exercises. The scenarios are difficult ethical problems that put common moral intuitions and ethical principles in direct conflict with each other. Trying to decide what you would do in each scenario and justifying the decision can be really tough - but *there are no right or wrong answers*. The goal of the problem is to think about the primacy of some ethical principles over others, you are asked to balance or even compromise some of your usual values.

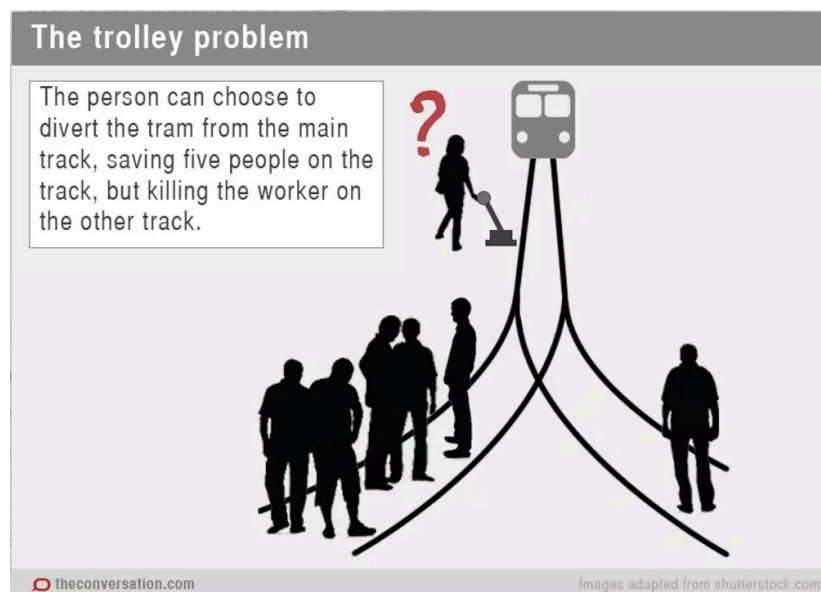


Figure 1. A visualization of Scenario 1. Source: <https://theconversation.com/the-trolley-dilemma-would-you-kill-one-person-to-save-five-57111>

Activity 1 (45 min class discuss +10 min for write up)

Your tutor will go through multiple variants of the trolley problem with you.

Discuss each scenario, what would you do and *why*. Think about different reasons that people in your tutorial group give for different answers, and what might change your own thinking. The rationale behind your answer is the most important aspect of these problems. Your tutor will help the class to understand other possibilities or ways to approach the problem that might go unnoticed.

After the class discussion, **write up in your journals** (2-3 sentences per scenario) what you would do and your rationale for each scenario in your journals.

Part 2: Worksheet Questions

The following activities are to be discussed in the groups, and then individual answers written and submitted to Blackboard by the end of the time allocated.

Activity 2 (15 min)

You're conducting a usability test for a fitness tracking website you've just launched. You reach out to friends and family members who are fitness enthusiasts to participate in the study. You ask them, "How do you feel about the layout and features of this fitness tracking site? Please be as honest as possible."

- (a) What quality issues may arise from how you recruited your participants and who was in your study? **(1 - 2 sentences)**
- (b) What quality issues may arise from how you asked for feedback? **(1 - 2 sentences)**
- (c) What steps may improve the rigour (quality/strength) and validity of your approach **(1 - 2 sentences)**

Activity 3 (10 min)

You have collected and analysed medical image data to test the quality of a commonly used AI segmentation model. You are in the final stages of writing up a conference article on your findings which will be sent to a prestigious conference in your field. How would you handle the following scenarios?

- (a) You have collected data for 20 healthy participants, and one participant comes to you and says they no longer wish to participate in the study. **(2-3 sentences)**
- (b) You are writing up a detailed case-study using data from one participant to show all the possible errors that can occur in the AI segmentation model in one data set alone. The participant comes to you and says they no longer wish to participate in the study. **(2-3 sentences)**

Activity 4 (20 min)

Your research group is planning a study to test a new software designed for monitoring cognitive functions in dementia patients. The clinical cohort for this study will include elderly individuals diagnosed with mild cognitive impairment (MCI) and a control group of similar age without cognitive impairment. The methodology for the clinical cohort study is not yet finalised. To finalise the experimental plan, a pilot study will be conducted using healthy subjects with no history of dementia. Your group already has ethics approval for the development and testing of your software in healthy subjects, as small studies with healthy subjects have been conducted to validate and test the software functionality through its development.

Your research group's experimental timeline is:

1. Develop clinical cohort experimental plan, details to be finalised
2. Develop pilot study experimental plan with healthy subjects
3. Conduct pilot study including data analysis
4. Refinement of clinical cohort experimental plan based on pilot study results
5. Conduct clinical cohort study

Based on this timeline, answer the following questions:

- (a) Explain why your research group needs to apply for a separate human research ethics approval for the clinical cohort study. **(2-3 sentences)**
- (b) Where in the timeline would you fit the step "Apply for Human Ethics Research Approval and include any committee recommendations". Explain your rationale. **(2-3 sentences)**
- (c) Who is responsible for approving the ethics of research projects at the University of Queensland? What guidelines must they follow and assess the application against to ensure projects comply with ethical standards? **(1-2 sentences)**