

Sampling: Ethics

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$ echo "Data Science Institute"
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Learning Outcomes

- *How do we ensure we are administering our surveys ethically?*
 - i. Familiarize with ethical requirements for survey sampling in professional settings
 - ii. Use the concept of respondent burden

Key Texts

- Peter Bacchetti, Leslie E. Wolf, Mark R. Segal, Charles E. McCulloch, Ethics and Sample Size, *American Journal of Epidemiology* , Volume 161, Issue 2, 15 January 2005, Pages 105–110, <https://doi.org/10.1093/aje/kwi014>
- Patrick Dattalo, Ethical Dilemmas in Sampling, *Journal of Social Work Values and Ethics* , Volume 7, Issue 1, 2010, <https://jswve.org/download/2010-1/2dattalo-Ethical-dilemmas-in-sampling.pdf>
- Bornstein, M. H., Jager, J., & Putnick, D. L. (2013). Sampling in Developmental Science: Situations, Shortcomings, Solutions, and Standards. *Developmental review: DR* , 33(4), 357–370. <https://doi.org/10.1016/j.dr.2013.08.003>

Case Study: Research Ethics Approval At U of T

- Let's go through a real example of U of T ethics review application form (approved)

Respondent Burden

Respondent Burden

- **Respondent burden** refers to any risk, inconvenience, or discomfort respondents endure as a result of their participation in a study or survey
 - Low respondent burden: filling out a survey that takes 15 minutes of a participant's free time
 - High respondent burden: taking an experimental medication with potential negative side effects
- **Net burden** occurs when respondent burden outweighs the personal benefit received for a given respondent

Total participant burden = Net burden per participant · Number of participants

Impacts of Respondent Burden

- 'Do no harm'
- Unit or item non-response
 - Respondent may avoid parts of a survey that they feel are most involved, or may avoid responding entirely
- Measurement error
 - Respondents providing rushed or inaccurate answers as a result of feeling overly burdened
- Sustainability
 - Inability to recruit new or repeat respondents once potential participants become aware of the burden involved

We weigh burden against study value

- **Study value** refers to the projected societal or clinical benefits of the results of a given study
 - Low study value: a survey measuring university students' opinions on local coffee shops
 - High study value: a clinical trial of a new cancer treatment
- Value can also include benefit to individual participants in the study (i.e. compensation or insight/knowledge)
- Value is sometimes measured in terms of the probability of generating statistically significant results (also known as statistical power)

Respondent Burden and Sample Size

- If there is no net burden for each participant, ethical considerations do not need to constrain sample size
- If there is a net burden for each participant, the total burden increases as sample size increases
- However, a larger sample may increase the probability of achieving statistically significant or reliable results, which would increase the study value

A sample size could be considered ethically acceptable if the projected value of the study is greater than the total participant burden generated by the sample size

- How do we minimize respondent burden while maximizing the chance of 'valuable' results?
- What is ethically optimal vs. ethically acceptable?

Next

Privacy