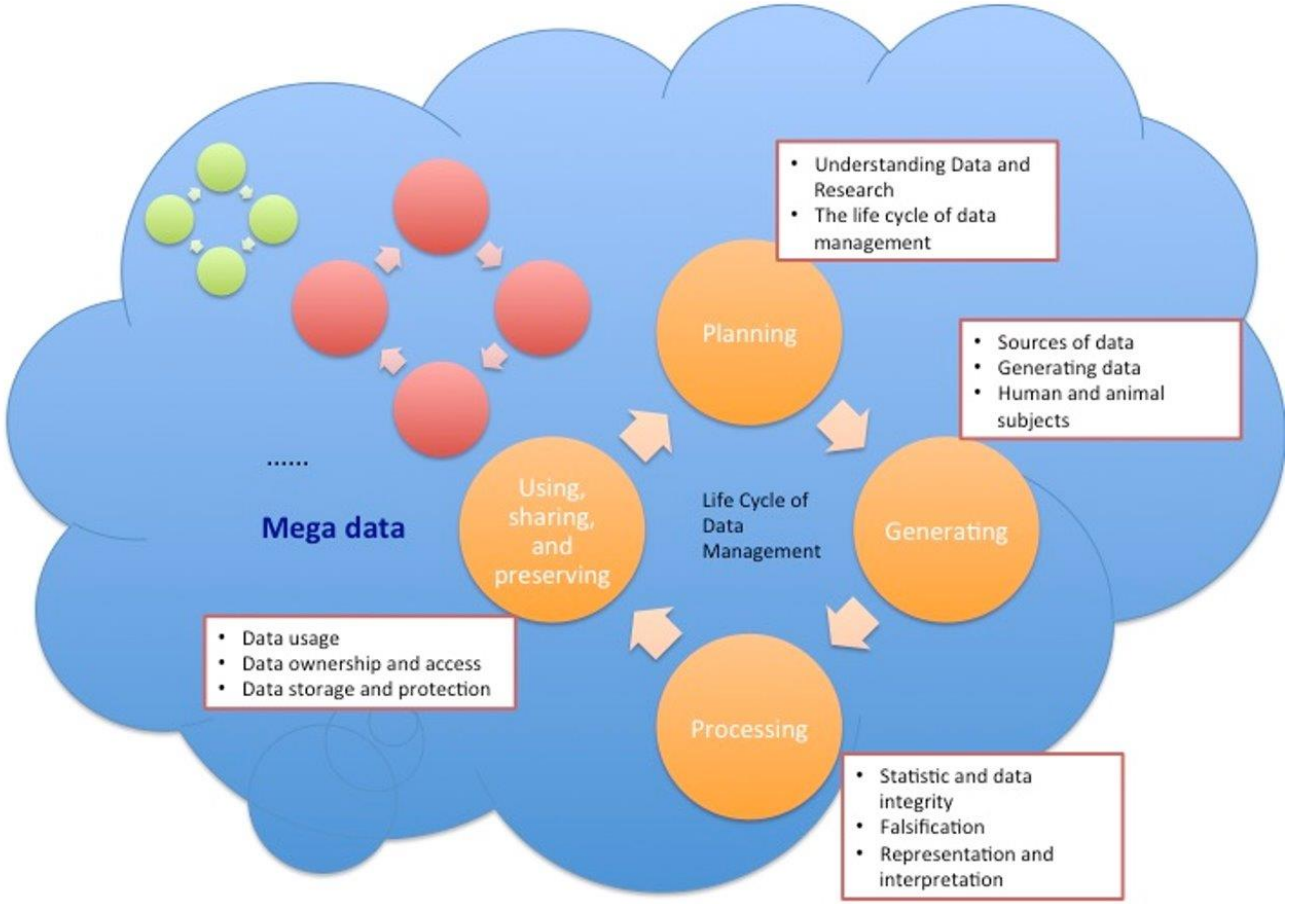
Analyzing Case Studies Ethically

The Ecology of Data Management

How to manage research data ethically?

- Planning
- Generating
- Processing
- Using, Sharing and Preserving



https://sites.psu.edu/ethicsofdatamanagement/

Some Ethical Concepts in Data Management

- Integrity
- Rights
- Impact
- Epistemic Norms

Integrity ~ Replicability

- Researchers must truthfully report their research findings.
- Data integrity is relevant to the collection, selection, interpretation, storage, and distribution of data*.

* Giffels, J., Vollmer, S. H., & Bird, S. J. (2010). Editors' overview: topics in the responsible management of research data. *Science and engineering ethics*, *16*(4), 631–637. https://doi.org/10.1007/s11948-010-9243-1

Rights

- Users should control whether and how their information can be collected, shared and used.
- A right can be transferred (e.g., if a user give consent for their data to be used for marketing purposes, the data collector can share the data with third-parties).
- Some relevant questions:
  - Who will benefit from data collection?
  - Who can use research findings?

  …

(Positive/Negative) Impact

- Why do we do research?
  - Curiosity
  - Economic and social benefits (funders, society, etc.)
- Aiming to maximize benefits while minimizing harms
  - Not straightforward to answer…
- Identification of all the stakeholders is hard, however some decisions should be made to balance the positive/negative impact.

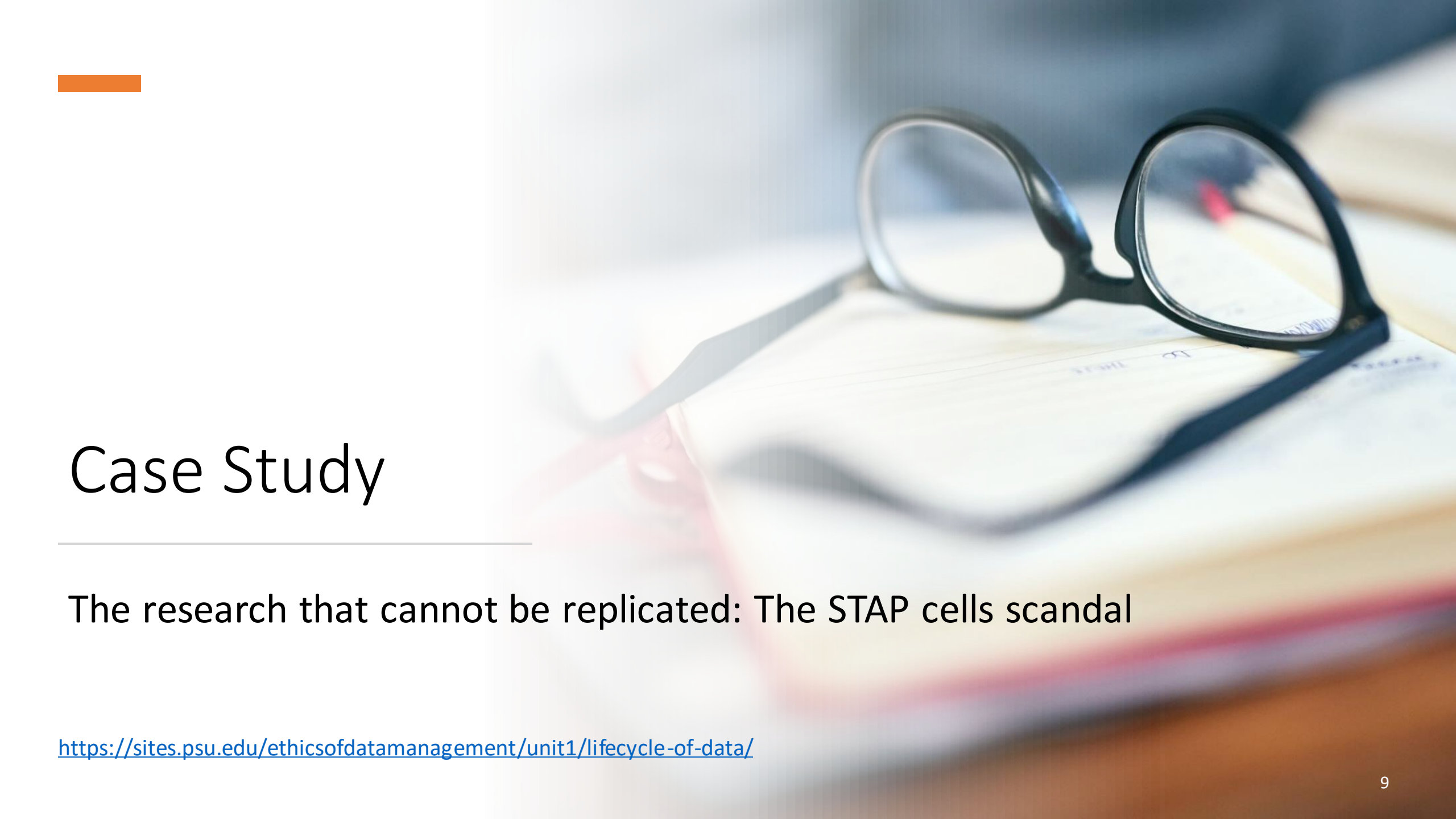
Epistemic Norms

- ’What is true?’, ‘How do we know it?’
- The quality of research should be measured:
  - Rigor, Objectivity, Robustness
- Epistemic norms can be defined per organization, country and such.
- Research is not only about good results but also how the research was conducted (i.e., honesty).
- Epistemic norms suggest avoiding questionable research practices.

Questionable Research Practices from a Data Perspective

- Failing to retain significant research data for a reasonable period;
- Maintaining inadequate research records, especially for results that are published or are relied on by others;
- Refusing to give peers reasonable access to unique research materials or data that support published papers;
- Using inappropriate statistical or other methods of measurement to enhance the significance of research findings;
- Misrepresenting speculations as fact or releasing preliminary research results, especially in the public media, without providing sufficient data to allow peers to judge the validity of the results or to reproduce the experiments.

https://sites.psu.edu/ethicsofdatamanagement/unit1/lifecycle-of-data/



Case Study

The research that cannot be replicated: The STAP cells scandal

https://sites.psu.edu/ethicsofdatamanagement/unit1/lifecycle-of-data/

How to analyze case studies ethically?

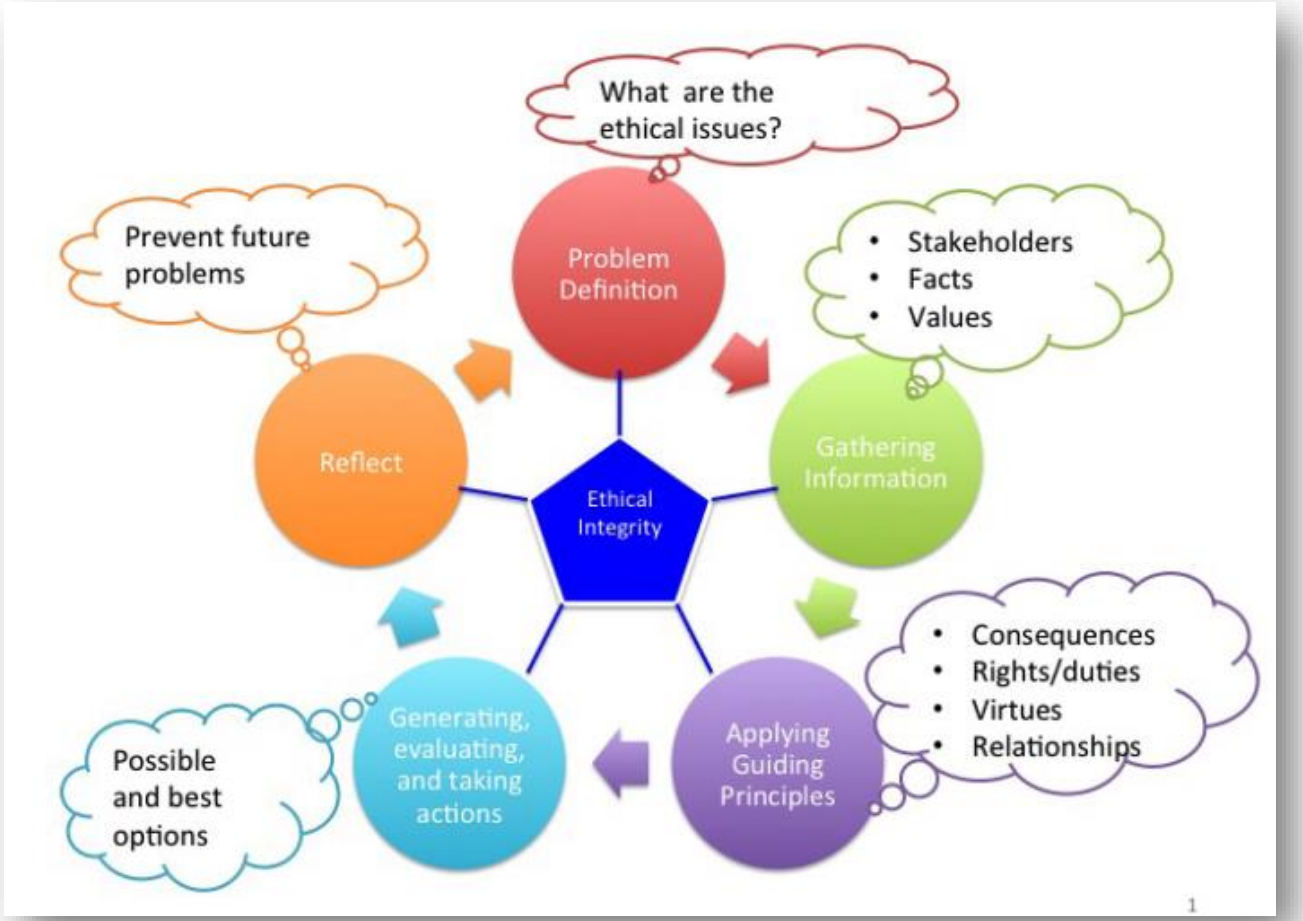
- The Rocks Ethics Institute provides a 12-step approach to analyze ethical issues in a situation or scenario.
- The framework is provided as part of "Moral Literacy" module developed by Nancy Tuana and Stephanie E. Vasko.

https://rockethics.psu.edu/stem-modules/moral-literacy/

12-step Approach Overview

1. State the nature of the ethical issue you've initially spotted
2. List the relevant facts
3. Identify stakeholders
4. Clarify the underlying values
5. Consider consequences
6. Identify relevant rights/duties
7. Reflect on which virtues apply
8. Consider relevant relationships
9. Develop a list of potential responses
10. Use moral imagination to consider each option based on the above considerations
11. Choose the best option
12. Consider what could be done in the future to prevent the problem

A Design-based Process for Ethical Reasoning



Tang, Xiaofeng, Eduardo Mendieta, and Thomas A. Litzinger. "Building a community of ethics educators in graduate engineering programs: Developing an ethics workshop following a user-oriented approach." 2017 ASEE Annual Conference & Exposition. 2017.

1. State the nature of the ethical issue you've initially spotted

UNDERSTANDING THE NATURE OF THE ETHICAL ISSUE

UNDERSTANDING THE SITUATION/CONTEXT

BEING RESPONSIBLE TO ACT ETHICALLY

2. List the relevant facts

Knowing the facts is critical.

Assumptions are not enough to decide if an action is ethically acceptable.

Tuana and Vesko emphasize that what appear to be ethical disagreements are actually empirical disagreements

About the relevant facts, or

Appropriate inferences from those facts.

3. Identify stakeholders

WHO ARE AFFECTED BY THE ACTION?

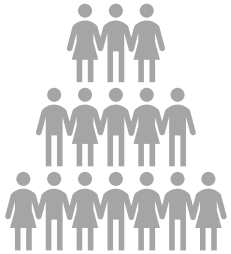
DIRECT OR INDIRECT

THOSE PEOPLE WHO ARE CURRENTLY ALIVE VS FUTURE GENERATIONS

THE IMPACT MAY EVEN BE BROADER INCLUDING ANIMALS, ECOSYSTEMS (SO THE QUESTION IS WHO HAS "MORAL STANDING")

4. Clarify the underlying values

What are the relevant values to the situation?



What is the salience of those values?

The answers will vary for different stakeholder groups.

5. Consider consequences

Are the consequences harmful/benefical?

In this step, we focus on impact (one of the four ethical concepts).

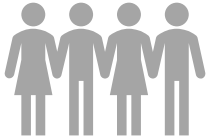
Did we factor in uncertainty about the impacts of actions?

Who is responsible for unintended consequences? (e.g., responsibility gaps)

The answers will again vary according to different stakeholder groups.

6. Identify relevant rights/duties

The focus is on obligations, our duties etc.



There is again a whole debate about <u>who has moral rights</u> (humans, animals, ecosystems etc.)

Important questions to answer:

What are the relevant moral obligations?

What duties are relevant to this situation and which rights should I be attentive to?

Are there any competing rights or duties, and if so, how are they to be balanced?

7. Reflect on which virtues apply

Virtue ethics focuses on the right character traits (the virtues) (e.g., trustworthiness, courage, compassion, fairness, generosity etc.)

What kind of person we want to be?

Important questions to answer:

- What would a virtuous person do?
- What kind of person would I be if I acted in this way?
- Does this decision uphold my basic moral values and have I been attentive to and respectful of the values of others involved?

8. Consider relevant relationships

We are surrounded with relationships of care and commitment (e.g., friendships, family relationships etc.)

Important questions to answer:

- Does my decision nurture good relationships and address the particular needs and interests of those relationships?
- Do certain individuals or groups have a greater stake in the outcome either because we have special obligations to them or because they have greater needs?

9. Develop a list of potential responses

POTENTIAL RESPONSES TO AN ETHICAL ISSUE SHOULD BE CONSIDERED.

EACH RESPONSE CAN BE ETHICAL/UNETHICAL BASED ON THEIR JUSTIFICATIONS.

THE VIEWPOINT OF STAKEHOLDERS IS CRITICAL.

THE GOAL IS TO CHOOSE THE BEST RESPONSE ALL THINGS CONSIDERED.

10. Use moral imagination to consider each option based on the above considerations

How to assess the potential options for action?

Rights

Values

…

It may be possible to have more than one acceptable action.

A ranking will be required in such cases with some justification.

11. Choose the best option

THE FOCUS IS TAKING A MORAL ACTION.

THIS OFTEN REQUIRES MORAL COURAGE -> PUTTING DECISIONS INTO ACTION

NOTE THAT THIS CAN COME AT A COST TO OURSELVES (ETHICAL FAILURES).

12. Consider what could be done in the future to prevent the problem

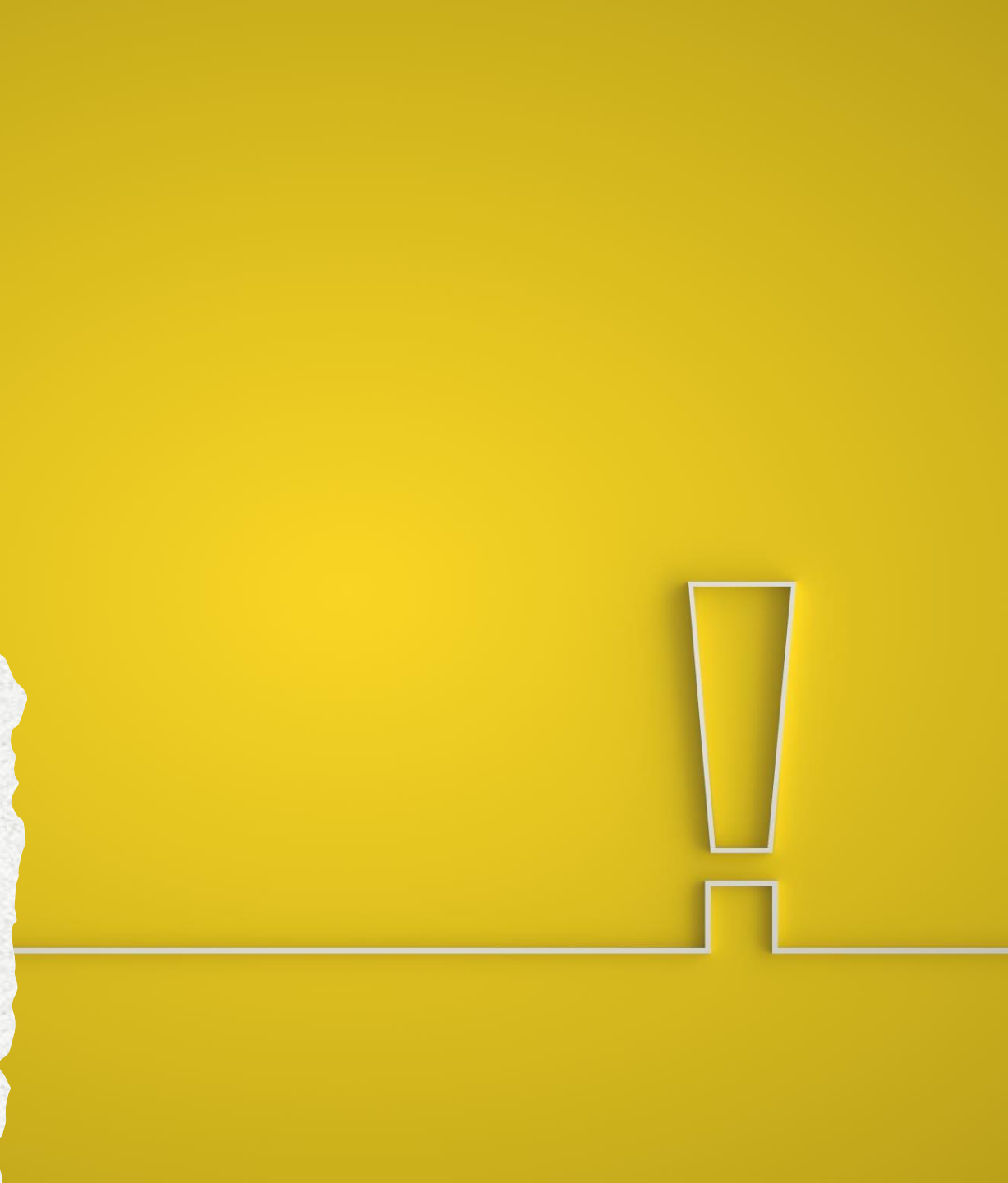
The focus in on ethical leadership.

What can we do to make it less likely that we or others face the same issue?

How could we help others in dealing with similar situations?

Summary

- Ethical concepts in Data Management
  - Integrity, Rights, Impact, Epistemic Norms
- 12-step Approach (or 5-stage design-based process)



DIY: Case Study

Why Stanford Researchers Tried to Create a ‘Gaydar’ Machine

https://www.nytimes.com/2017/10/09/science/stanford-sexual-orientation-study.html