Ethics: General and Research Ethics

U of M mandates training in ethical conduct of research, scholarship, and teaching (see www.research.umn.edu/ethics).

> "Of all the traits which qualify a scientist for citizenship in the republic of science, I would put a sense of responsibility as a scientist at the very top. A scientist can be brilliant, imaginative, clever with his hands, profound, broad, narrow — but he is not much as a scientist unless he is responsible."
>
> *— Alvin Weinberg, "The Obligations of Citizenship in the Republic of Science," Minerva, 16: 1–3, 1978*

There are many sources of ethical principles: religion, philosophers, national leaders, etc. We'll discuss some universal themes, starting with those from the Western tradition.

Nonmaleficence Do no harm to yourself or others.

Beneficence Help yourself and others.

Autonomy Allow rational individuals to make free, informed choices.

Justice Treat people fairly; treat equals equally, unequals unequally.

Utility Maximize the ratio of benefit to harm for all people.

Fidelity Keep your promises and agreements.

Honesty Do not lie, defraud, or mislead.

Privacy Respect personal privacy and confidentiality.

For your group's principle, think of one situation from everyday life where that principle might influence a decision or action.

_____

_____

_____

_____

Here are six Confucian virtues (taken from Southern Methodist stat ethics course).

- benevolence (ren，仁)
- righteousness (yi，义)
- ritual propriety (li，礼)
- wisdom (zhi，智)
- trustworthiness(xin，信)
- filial piety (xiao，孝)

For your group's virtue, which of the previous principles are related, and how?

_____

_____

_____

_____

_____

Think of a statistical situation (in business, science, or academia) where one (or more) these ethical principles might influence a decision or action

_____

_____

_____

Think of a situation (either general or statistical) where your principle or virtue conflicts with another principle or virtue.

_____

_____

_____

_____

Research Ethics

1. **Honesty**   Strive for honesty in all scientific communications. Honestly report data, results, methods and procedures, and publication status. Do not fabricate, falsify, or misrepresent data. Do not deceive colleagues, granting agencies, or the public.

2. **Objectivity**   Strive to avoid bias in experimental design, data analysis, data interpretation, peer review, personnel decisions, grant writing, expert testimony, and other aspects of research where objectivity is expected or required. Avoid or minimize bias or self-deception. Disclose personal or financial interests that may affect research.

3. **Integrity**   Keep your promises and agreements; act with sincerity; strive for consistency of thought and action.

4. **Carefulness**   Avoid careless errors and negligence; carefully and critically examine your own work and the work of your peers. Keep good records of research activities, such as data collection, research design, and correspondence with agencies or journals.

5. **Openness**   Share data, results, ideas, tools, resources. Be open to criticism and new ideas.

6. **Respect for Intellectual Property**   Honor patents, copyrights, and other forms of intellectual property. Do not use unpublished data, methods, or results without permission. Give credit where credit is due. Give proper acknowledgement or credit for all contributions to research. Never plagiarize.

7. **Confidentiality**   Protect confidential communications, such as papers or grants submitted for publication, personnel records, trade or military secrets, and patient records.

8. **Responsible Publication**   Publish in order to advance research and scholarship, not to advance just your own career. Avoid wasteful and duplicative publication.

Discuss your group's principle. Be prepared to briefly describe it and think of an example (from real life, if you can) where this principle would come into play. Also, how would this principle apply to you as a statistician?

_____

_____

_____

_____

If you have an "easy" one, go through the list and consider another principle that you find more interesting.

9. **Responsible Mentoring** Help to educate, mentor, and advise students. Promote their welfare and allow them to make their own decisions.

10. **Respect for colleagues** Respect your colleagues and treat them fairly.

11. **Social Responsibility** Strive to promote social good and prevent or mitigate social harms through research, public education, and advocacy.

12. **Non-Discrimination** Avoid discrimination against colleagues or students on the basis of sex, race, ethnicity, or other factors that are not related to their scientific competence and integrity.

13. **Competence** Maintain and improve your own professional competence and expertise through lifelong education and learning; take steps to promote competence in science as a whole.

14. **Legality** Know and obey relevant laws and institutional and governmental policies.

15. **Animal Care** Show proper respect and care for animals when using them in research. Do not conduct unnecessary or poorly designed animal experiments.

16. **Human Subjects Protection** When conducting research on human subjects, minimize harms and risks and maximize benefits; respect human dignity, privacy, and autonomy; take special precautions with vulnerable populations; and strive to distribute the benefits and burdens of research fairly.

Discuss your group's principle. Be prepared to briefly describe it and think of an example (from real life, if you can) where this principle would come into play. Also, how would this principle apply to you as a statistician?

If you have an "easy" one, go through the list and consider another principle that you find more interesting.

Name: _____

Think about a time you had to make an ethical choice. Describe the situation. Which principles or virtues did you consider?

_____

_____

_____

_____

Which research ethics principle do you want to know more about? What questions do you have about it?

_____

_____

_____

_____