Objectives

- Describe the basic ethical principles related to research
- Discuss how dissemination can be an ethical concern
- Explain methods to enhance the ethical integrity of nursing science and dissemination

**Ethics**

- What is ethics?
  - Moral principles that govern a person’s or group’s behavior
  - Moral correctness of specified conduct

**Research Ethics**

- **Honesty**
  - Be honest
  - Honestly report data, results, methods and procedures
  - Do not fabricate, falsify, or misrepresent data.
  - Do not seek to deceive

- **Objectivity**
  - Avoid Bias
    - In design
    - In analysis
    - In data interpretation
    - In reporting

- **Carefulness**
  - Avoid careless errors
    - Carefully and critically examine your work
    - Keep good records of research activities, such as data collection, research design, and correspondence with agencies or journals.
    - Train your research team
    - Train your data entry staff
Research Ethics

- **Openness**
  - Be transparent
  - Disseminate your findings, no matter what they show

- **Respect for Intellectual Property**
  - Ask permission
  - Know copyright laws
  - Give credit where credit is due
  - Give acknowledgement

Research Ethics

- **Responsible Publication**
  - **Why publish?**
    - Publish in order to advance research and scholarship, not to advance just your own career
    - Only one publication allowed

Misconduct versus Ethics

- Just because it is not considered to be misconduct (by definition), does not mean it is ethical.

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Is this misconduct? Is it Ethical?

- Dr. T has just discovered a mathematical error in a paper that has been accepted for publication in a journal. The error does not affect the overall results of his research, but it is potentially misleading. The journal has just gone to press, so it is too late to catch the error before it appears in print. In order to avoid embarrassment, Dr. T decides to ignore the error.

- What do you think, and why?

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Is this misconduct? Is it Ethical?

- **Answer:**
  - Dr. T’s error is not misconduct nor is his decision to take no action to correct the error.
  - Most researchers, as well as many different policies and codes, including ECU’s policies, would say that Dr. T should tell the journal about the error and consider publishing a correction or errata.
  - Failing to publish a correction would be unethical because it would violate norms relating to honesty and objectivity in research.
Is this misconduct? Is it Ethical?

Ethical Deviation:
- Things not considered to be misconduct, but considered to be unethical

Deviations
- Publishing the same paper in two different journals
- Submitting the same paper to different journals
- Including a colleague as an author on a paper in return for a favor
- Trimming outliers from a data set without discussing your reasons in paper

Deviations
- Using an inappropriate statistical technique in order to enhance the significance of your research
- Paired-t test rather than an ANOVA
- Using a test when your data does not meet the assumptions of the test

Things to Remember
- The quality of our science is dependent upon the integrity of the scientist
- This is the garbage in garbage out phenomenon

Ethics of Research Dissemination
- Avoid Bias
  - Not reporting negative findings
  - Not reporting findings because you did not find what you wanted to find
  - Reporting in such a way as to slant the findings

Ethics of Research Dissemination
- Publish
  - Do not waste time
    - Your time
    - Your colleague’s time
    - The IRB’s time
    - The subject’s time
  - Do not waste resources
  - Do not “cover-up” findings
Ethics of Research Dissemination

- Report power, sample size, and effect size
- When this is not published (reported) then be suspicious of the findings
- If this was good, they would be "bragging"

Power

- Power Analysis tells you how many subjects you need to find a difference, if a difference really exists
  - If the sample is too small you will fail to find a difference, even if there is one (type II error)
  - If the sample is too large everything will be significant, even if it is not (type I error)

Effect Size

- Effect size tells you how big the impact of your intervention is on the outcome you are measuring
  - Big impact requires a smaller sample
  - Small impact requires a bigger sample

Power example

- Researcher wants to see if product X is as good as product Y in preventing infections.
  - Product X is much cheaper than product Y.
- Researcher uses a sample that is too small
  - Increasing the likelihood of finding "no difference"
- Do not report the power analysis and never mention that the small sample is a major limitation of this study
  - Conclude that that since there is no difference, we should opt for the cheaper product
  - Classic Example: Pulmonary Care studies (Coughing and deep breathing)

Ethics of Research Dissemination

- Explain fidelity of the intervention
  - Standardization
  - Training of research team
  - Is it the intervention or the interventionist that makes a difference?
- Explain fidelity of the data
  - Training of data collectors
  - Careful documentation
  - Careful data entry
  - Adequate data cleaning

Ethics of Research Dissemination

- Identifying strengths and limitations
  - Be honest and offer alternative explanations of your findings
Ethics of Research Dissemination

- If you are comparing treatments, use at least two groups that are randomly assigned
  - Report difference between groups controlling for baseline differences (ANCOVA)
  - Do not report differences within groups from pre to post test using paired t-tests
- Classic example: Exercise decreased HbA1C in Diabetic Patients

Summary

- Honesty
  - Do not let your conclusions exceed your data
  - Do not use your data to deceive
- Objectivity
  - Seek the truth, do not do research to prove you are right
  - Publish, no matter the results
  - It is even more important to know what does not work, as it is to know what does work

Summary

- Care
  - Fidelity of the intervention and data
- Openness
  - Acknowledge limitations
  - Acknowledge potential bias
  - Acknowledge potential conflicts of interest
- Respect Intellectual Property
  - Get Permission
  - Give Credit
  - Publish responsibly but publish

Questions?

Questions are guaranteed in life; Answers aren't.