



Psychology 205: Research Methods in Psychology

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Outline

Goals

The psychology major at NU

Evaluating experimental and non-experimental data

Course Overview

- Texts and readings

- Goals and requirements

- Overview



Goals

1. To introduce you to fundamental skills in psychological research.
2. To facilitate your understanding of substantive courses in psychology.
3. To make you a better consumer of scientific information.
4. To improve your ability to write and read scientific papers.
5. To help you appreciate the fun and mystery that is science.

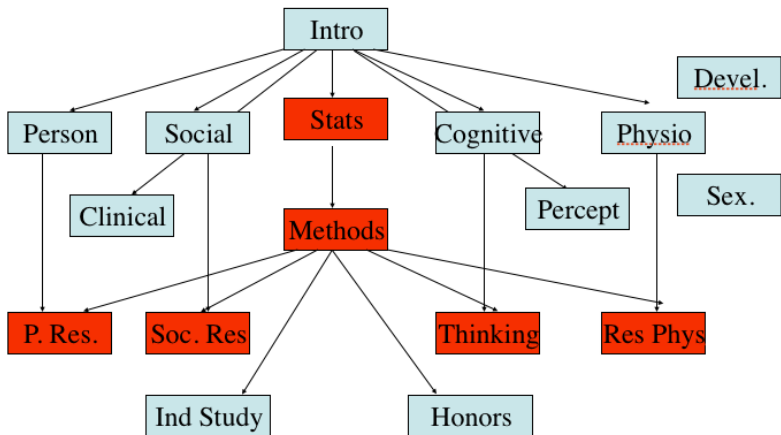


The psychology major at NU

1. Introductory Psychology
2. Methodology Sequence
 - 201: Statistics
 - 205: Research Methods
 - 3xx: Advanced research in a substantive area
3. Substantive courses
 - Personality/Social/Clinical ("Column A")
 - Cognitive/Physiological ("Column B")
 - Other broad courses ("Column C")
4. Advanced research courses ("Row 2")
5. Independent Study (399) and Honors (398)

The psychology major at NU

The Psychology Major at NU





Evaluating experimental and non-experimental data in psychology

1. Effectiveness of psychotherapy
2. Effectiveness of psycho-pharmacological interventions
3. Attitude change due to expert influence
4. How and why do people fall in love
5. Brain structures involved in memory
6. Effect of personality on human performance
7. Effect of mood on creativity
8. Optimal design of aircraft control systems
9. Attitude change towards sustainability
10. ...



Evaluating experimental and non-experimental data outside of psychology

1. Intentional studies

- Effect of fat on longevity
- Correlational designs (Harvard Nurse/physician study)
- Experimental designs (Women's Health Initiative)

2. Non-intentional studies

- Effect of human action on environment
 - CO₂ and global warming
 - CO₂ and ocean acidification
 - Short term versus long term effect of oil spills
 - Iron levels and plankton blooms



Syllabus and Text

1. Syllabus and [detailed syllabus](#) online at
2. <http://personality-project.org/revelle/syllabi/205/>
3. <http://personality-project.org/revelle/syllabi/205/205.syllabus.table.html>
 - Includes the lecture notes, additional readings, assignments, general info
 - The [detailed syllabus](#) (syllabus.table.html) will be updated frequently
4. Text: Mark Leary, Introduction to Research Methods in the Social Sciences (required) (6th Edition preferred)
5. APA manual of style (suggested but not required) (and several more [useful links](#))



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Research Methods: Requirements

1. 3 research papers
 - 1st based upon data collected in class and analyzed in class
 - 2nd based upon individually conducted data collection in a simulated experiment.
 - 3rd based upon individually designed and conducted experiment
2. 2 Midterm exams (short answer) ([Examples](#) are on the syllabus)
3. 1 Final exam (optional)
4. Class room participation and discussion
 - Ask questions if you do not understand.
 - You are not alone.



Overview

1. Reasoning in research - review of stats
 - constructs and measures
 - why do findings not replicate?
2. Fundamentals of experimental design -
 - Within subjects -Between subjects
 - Randomization and counterbalancing
3. Measurement and Scaling and Interaction designs
4. Researching the literature
5. Ethics of research
6. Alternatives to experimentation - correlational designs, quasi experimentation
7. Use of computers packages for data analysis
 - We will use the R computer language
 - Not because it is confusing or difficult but because it is both easy and powerful



Research Methods: Stats Review

1. Two identical handouts
2. For the first one (to do now), do not do the statistical test, just tell what test/procedure you would use.
3. For the second one, try to do all the problems. Answers will be discussed next week. (This is open book, you are welcome to use computer aids.)