

Research Methods in Psychology

Psychology 205: Fall, 2005

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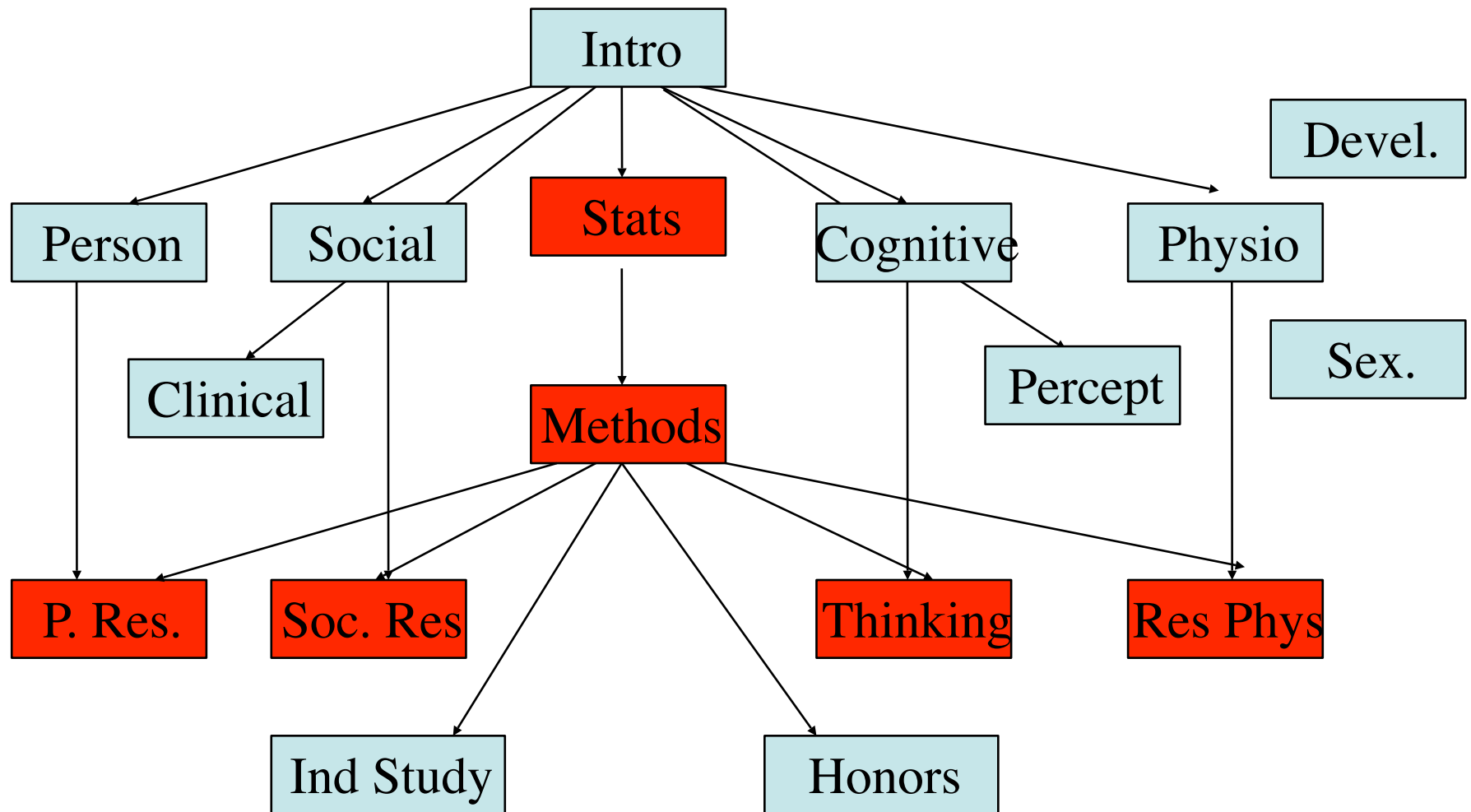
Research Methods in Psychology

- Goals
 1. Introduce fundamental skills in psychological research
 2. To facilitate understanding of substantive courses
 3. To make a better consumer of scientific information

The Psychology Major at NU

- Introductory Psychology
- Methodology Sequence
 - Statistics, Research Methods, Adv. Research
- Substantive Courses
 - Personality/Clinical/Social (“Column A”)
 - Cognitive/Physiological (“Column B”)
- Advanced Research Courses (“Row 2”)
- Independent Study and Honors

The Psychology Major at NU



Evaluation of experimental and non-experimental data

- In Psychology
 - Effectiveness of psychotherapy
 - Effectiveness of psycho-pharmacological interventions
 - Attitude change due to expert influence
 - Brain structures involved in memory
 - Effect of personality on human performance
 - Optimal design of aircraft control systems

Evaluations of experimental and non-experimental data

- Beyond Psychology
 - Intentional vs. non-intentional studies
 - Effect of fat on longevity
 - Correlational designs (Harvard Nurse/physician study)
 - Experimental designs (Women's Health Initiative)
 - Effect of human action on environment
 - CO₂ and global warming
 - Short term versus long term effect of oil spills
 - Iron levels and plankton blooms

Overview of course: Syllabus and Text

- Syllabus and detailed syllabus online at
 - <http://pmc.psych.northwestern.edu/revelle/syllabi/205.html> and
 - <http://pmc.psych.northwestern.edu/revelle/syllabi/205/205.syllabus.table.html>
- Includes the lecture notes, additional readings, assignments, general info
- [Syllabus.table.html](#) will be updated frequently
- Text: Mark Leary, Introduction to Research Methods in the Social Sciences (required) (4th Edition preferred)
 - APA manual of style (suggested)

Research Methods: Goals

1. Introduce fundamental skills in psychological research.
2. To facilitate your understanding of substantive courses
3. To make you a better consumer of scientific information

Research Methods: Requirements

- 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 Midterm exams
- 1 Final exam (optional)
- Class room participation and discussion

Research Methods: Overview

1. Reasoning in research - review of stats
2. Fundamentals of experimental design -
 1. constructs and measures
 2. Within subjects -Between subjects
3. Measurement and Scaling and Interaction designs
4. Researching the literature/Ethics of research
5. Alternatives to experimentation - correlational designs, quasi experimentation

Research Methods: Stats review

Two identical handouts

For the first one (to do now), do not do the statistical test, just tell what test/procedure you would use.

For the second one, do problems 1-6

Study 1: human memory

- Protocol:
 - Several lists of words will be presented (lists will be presented at different rates)
 - After each list is presented, you will be told to either RECALL all the words that you can from the list or do some simple arithmetic problems. Each math/recall sheet will be labeled A or B. The instruction will say:
 - RECALL if A MATH if B or
 - MATH if A RECALL if B
 - After an interval for RECALL or MATH, you will be shown another list ...
 - After all lists are finished, there will be some more math followed by a recognition task.