Research Methods in Psychology

Psychology 205: Fall, 2007

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Research Methods in Psychology

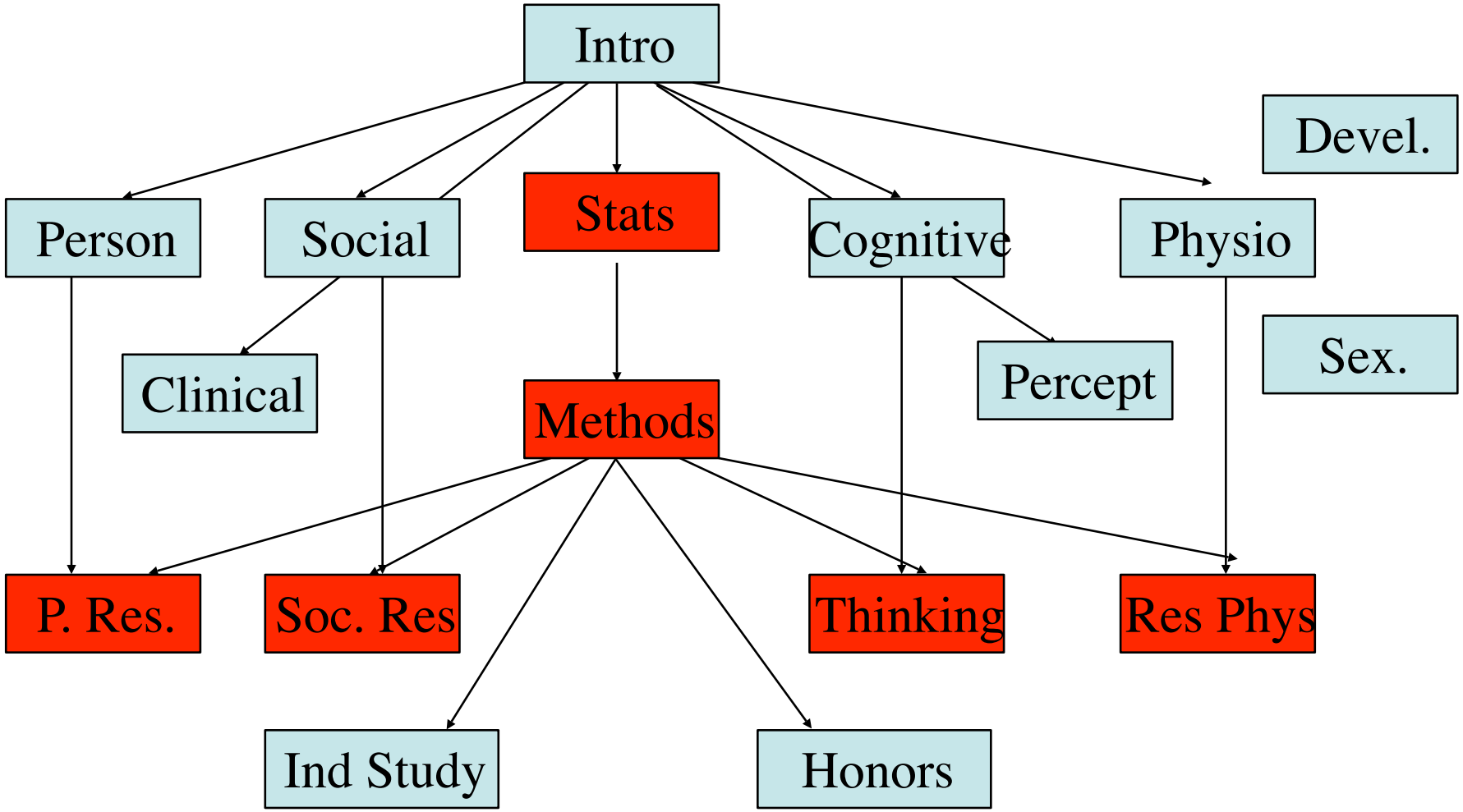
Goals

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

1. Effectiveness of psychotherapy
2. Effectiveness of psycho-pharmacological interventions
3. Attitude change due to expert influence
4. Brain structures involved in memory
5. Effect of personality on human performance
6. 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
    - CO_2 and global warming
    - CO_2 and ocean acidification
    - 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://personality-project.org/revelle/syllabi/205/ and
  - http://personality-project.org/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) (5th Edition preferred)
  - APA manual of style (suggested but not required)

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 (short answer)
- 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
6. Use of computers packages for data analysis

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, try to do all the problems.

- Answers will be discussed in class next class. (This is open book, you are welcome to use computer aids.)

Study 1: human memory

- Protocol:

– Several lists of words will be presented
  - Some lists will be shown on the screen
  - For other lists, you will be asked to shut your eyes and listen to me read the list

– 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.