

Week 2 lecture notes - PSYC 3435

Jan 23-27, 2017

How do we do research?

- research = systematic observation
- four canons (laws) of the scientific method
 1. empiricism - knowledge comes from experience/observation
 2. determinism - phenomena have identifiable causes
 3. parsimony - given two possible explanations for a behavior, the simplest is the "correct" one
 - important because simple explanations are easier to falsify
 4. testability - explanations for behavior can be tested (and falsified)

Types of research:

- basic research
 - goal = developing consistent, mechanistic explanations for human behavior
- applied research
 - goal = applying results beyond the lab

Getting research ideas – must know the literature

Why review the literature?

- getting ideas

- know what has been done, and what **hasn't** been done
- understand relevant theories/models
- what variables are important?
- avoid past mistakes

What is the literature?

- Primary sources - the original report
 - journal articles
 - edited books
 - professional meetings (proceedings, abstracts)
 - electronic publishing (PsyArXiv)
- Secondary sources - a report of the report
 - literature reviews (Perspectives, TiCS, PsychBull, etc.)
 - text books
 - citations
 - note: secondary sources are a good start, but limited (bias, lack of detail, etc.)

Goals of research paper

- report the research
- explain methods (for further tests/replications)
- convince others
- needs standardization of format (APA style)

Why APA style?

- eases communication
- forces minimal amount of information
- provides logical framework for argument

- consistent format within a discipline
 - readers know what to expect
 - where to find information in article

Goals of APA-style writing

- write with clarity
- avoid overstatements (use "hedging" language)
- avoid jargon, slang, bias
- be concise
 - say the most information in the fewest words
 - longer / better

Structure of an APA document

- Title page - title, authors, affiliations
- Abstract - short summary of article
 - this is the first thing most people read, so very important!
- Introduction - gives background that reader needs.
 - written for broader audience
 - Recipe:
 1. state the issue under current study
 2. review past literature
 3. states purpose of current study
 4. predictions
- Method - tells reader what you did
 - very detailed
 - Recipe:
 1. Participants - who were data collected from?
 2. Materials - what was used to collect data?
 3. Design - describe what/how variables were manipulated

4. Procedure - what did each participant do?

- Results - tells reader what you found
 - very detailed
 - reports results of statistical tests
- Discussion - tells reader **your** interpretation of results
 - relationship between purpose and results
 - emphasize theoretical contribution
 - broader implications
 - future directions
- The rest
 - references
 - tables
 - figures