




# Chapter 2

Where to Start: The Process  
of Research



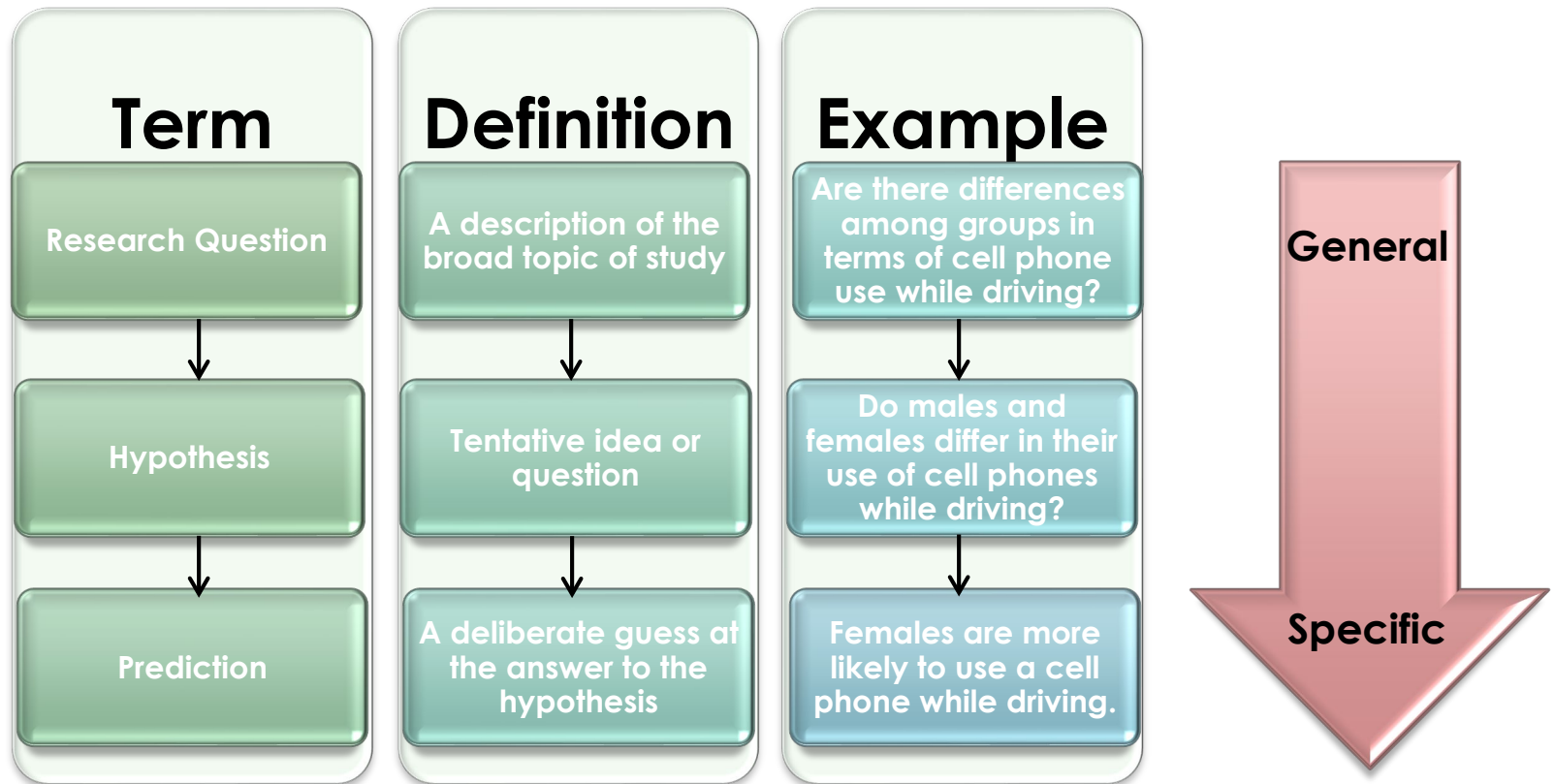
# Learning Objectives

- Discuss how a hypothesis differs from a prediction
- Describe the different sources of ideas for research, including common sense, observation, theories, past research, and practical problems
- Identify the two functions of a theory
- Summarize the fundamentals of conducting library research in psychology, including the use of PsycINFO
- Summarize the information included in the abstract, introduction, method, results, and discussion sections of research articles

# Research Questions, Hypothesis, and Predictions

- **Research questions:** Used to identify and describe the broad topic they are investigating, and then conduct research to answer their research questions. Research questions are broad in scope.
- **Hypothesis:** *Tentative idea or question waiting for evidence to support or refute it. This is narrow in scope, more specific.*
- **Prediction:** *Is a guess at the outcome of an hypothesis*
  - *If a prediction is confirmed by the results of the study, the hypothesis is supported.*
  - *If the prediction is not confirmed, the researcher will either reject the hypothesis or conduct further research using different methods to study the hypothesis.*
  - *It is important to note that when the results of a study confirm a prediction, the hypothesis is only supported, not proven.*

# Research Questions, Hypothesis, and Predictions



# Research Questions, Hypothesis, and Predictions



[http://loraconnor.com/psych280/psych\\_280/videos/PsyResearch\\_Questions%20&%20Hypothesis.mp4](http://loraconnor.com/psych280/psych_280/videos/PsyResearch_Questions%20&%20Hypothesis.mp4)

# Who We Study: A Note on Terminology

- **Participants** - Individuals who participate in research studies
  - **Subjects** - Equivalent term used in psychological research
  - **Respondents** - Individuals who take part in survey research
  - **Informants** - People who help researchers understand the dynamics of particular cultural and organizational settings
- The *Publication Manual of the American Psychological Association* (APA, 2010) allows the use of either *participants* or *subjects* when describing humans who take part in psychological research.

# Sources of Ideas

- **Common sense:**

- *One source of ideas that can be tested is the body of knowledge called common sense—the things we all believe to be true.*

- “Do opposites really attract”?

- “Do birds of a feather really flock together?”

- Questions like this can lead to research programs studying attraction.

- **Observation** of personal, social, news, political events:

- *Observations of personal and social events can provide many ideas for research.*



# Sources of Ideas

- **Theory:** Systematic body of ideas about a particular topic or phenomenon
  - *Organize and explain* specific facts or descriptions of behavior
    - (e.g., Theory of Planned Behavior, Attachment Theory, Locus of Control)
  - Organized into different fields of psychology
    - (e.g., Cognition, Behavioral, Personality, Developmental, etc.)
  - *Generate new knowledge—theories guide people's observations of the world*
  - *Can be modified by new research*



# Theories to Consider for Your Research

- **State-Trait Anxiety** - state anxiety, or anxiety about an event, and trait anxiety, or anxiety level as a personal characteristic
- **Cognitive dissonance** – When people do something that violates their view of themselves, this causes an uncomfortable state of dissonance that motivates a change in either attitudes or behavior
- **Drive theory** – posits that the presence of an audience causes arousal which creates dominant or typical responses in the context of the situation.
- **Observational learning (social learning)** – suggests that behavior can be acquired by observation and imitation of others
- **Self-perception theory** – emphasizes that we observe ourselves in the same manner that we observe others, and draw conclusions about our likes and dislikes
  - [https://en.wikipedia.org/wiki/Category:Psychological\\_theories](https://en.wikipedia.org/wiki/Category:Psychological_theories)

# Theories to Consider for Your Research

- **Attribution theory** – is concerned with the ways in which people explain (or attribute) the behavior of others.
- **Self-verification theory** – The key assumption is that once people develop firmly held beliefs about themselves, they come to prefer that others see them as they see themselves.
- **Socioemotional selectivity theory** – posits that as people age and their perceived time left in life decreases, they shift from focusing on information seeking goals to focusing on emotional goals.
- **System justification theory** – proposes that people have a motivation to defend and bolster the status quo, in order to continue believing that their social, political, and economic systems are legitimate and just.
- **Terror management theory** – suggests that human mortality causes existential dread and terror, and that much of human behavior exists as a buffer against this dread

# Sources of Ideas

- **Past research**

- Library research
- News articles
- Government websites

- **Practical problems**

- Finding solutions to existing problems
  - Medical Research
  - Business
  - Government
  - Schools
  - Etc.

# Exploring Past Research

- Before conducting any research project, an investigator must have a thorough knowledge of previous research findings.
- Even if the researcher formulates the basic idea, a review of past studies will help the researcher clarify the idea and design the study.



**“According to my research, laughter is the best medicine, giggling is good for mild infections, chuckling works for minor cuts and bruises, and snickering only makes things worse.”**

# Exploring Past Research

- **Journals** - Place where researchers publish the results of their investigations
  - After a research project has been completed, the study is written as a report, which then may be submitted to the editor of a journal.
  - The editor solicits reviews from other scientists in the same field and then decides whether the report is to be accepted for publication

# Exploring Past Research

- The American Psychological Association began the monthly publication of *Psychological Abstracts*, or *Psych Abstracts*, in 1927.
- Today, the abstracts are maintained in *PsychINFO*.
- **PsycINFO**: Computer database that maintains all the abstracts
  - Psychological abstracts - Brief summaries of articles in psychology and related disciplines indexed by topic area
- The exact look and feel of the system users will use to search *PsychINFO* will depend on the library website.
- Users' most important task is to specify the search terms that they want the database to use.

# General Strategies for Searching Research Databases

- Use several databases
  - PsycINFO
  - Google Scholar
- Record your search terms
  - Helps to find updated articles later
- Try a variety of Key Words
  - Angry driving
  - Road rage
- Use the words Review and Meta-analysis to find literature reviews
- Look for the perfect key article and then use that one to identify additional articles
- Use the “times cited in this database” information in PsycINFO or the “related articles” information in Google Scholar
- Use the “cited references” information in PsycINFO and Google Scholar

## PsychINFO Search Strategies

- Use fields such as the TITLE and AUTHOR
  - Typing *divorce* in TITLE requires that the term appear in the title
- Use AND, OR, and NOT.
  - AND limits the search
  - Typing *divorce AND child* requires both terms be included
- Use OR to expand search
  - Typing *divorce OR breakup* includes either terms
- Use NOT to exclude search terms
  - Typing *shyness NOT therapy* excludes any shyness articles that have the term *therapy*
- Use the wildcard asterisk (\*)
  - Typing *child\** finds any word that begins with *child* (childhood, child's, etc.)
- Find the checkbox or selector for restricting the search to peer-reviewed articles
- Review and use keywords that were selected by article authors
  - in PsycINFO, these are found in the more detailed result output



# Google Scholar Search Strategies

- Follow the link to Advanced Search
  - Search for a specific phrase
  - Specify a set of “**AND**” words to restrict your results to only those words
  - Specify a set of “**OR**” words to expand your search
  - Specify a set of “**NOT**” words to limit your search

# Exploring Past Research

- **Science Citation Index (SCI)** and **Social Sciences Citation Index (SSCI)**:
  - Large Databases that allow users to search through citation information such as the name of the author or article title.
    - **SCI**: Includes biology, chemistry, biomedicine, and pharmacology
      - <https://www.lib.umich.edu/database/science-citation-index-web-science>
    - **SSCI**: Includes behavioral and social science such as sociology and criminal justice
      - <https://library.maastrichtuniversity.nl/collections/databases/sci/>
  - Accessed together using the **Web of Science** computer database:
    - <https://clarivate.com/products/web-of-science/>

# Exploring Past Research

- Other electronic resources:
  - PsycARTICLES: consisting of full-text scholarly articles
  - PsycBOOKS: a database of full-text books and book chapters
  - Sociological Abstracts
  - PubMed
  - ERIC (Educational Resources Information Center)
  - LexisNexis Academic
  - Factiva
  - Professional meeting searches

# Internet Search Engines

- See the **Toolbox** webpage on the class website for alternate search engines:
- [https://loracconnor.com/psych280/psych\\_280/toolbox-docs/Alternative%20Search%20Engines.pdf](https://loracconnor.com/psych280/psych_280/toolbox-docs/Alternative%20Search%20Engines.pdf)

# News Search Resources

- See the **Toolbox** webpage on the class website for various news resources:
- <https://loracconnor.com/psych280/psych280/toolbox-docs/Alternative%20News%20Sources.pdf>

# Other Search Resources

- See the **Toolbox** webpage on the class website for alternate supplemental search resources:
- [https://loraconnor.com/psych280/psych\\_280/toolbox-docs/Supplemental%20Search%20Resources.pdf](https://loraconnor.com/psych280/psych_280/toolbox-docs/Supplemental%20Search%20Resources.pdf)

# Exploring Past Research

## ○ Evaluating web information

- library and a variety of websites have information on evaluating the quality of information found on the Internet. Some of the most important things to look for are:
  - **Site sponsor:** Is the site associated with a major educational institution or research organization?
  - **Credentials of the webmaster:** Is information provided on the people who are responsible for the site?
  - **Information accuracy:** Is the information current?
  - **Links:** Do links from the site lead to legitimate organizations?

# Anatomy of a Research Article

- **Abstract:** *Summary of the entire research report*
  - 120 words or less
  - Hypothesis, procedure, and the broad pattern of results
  - Last part of an article to be written



# Anatomy of a Research Article

- **Introduction** selection: Outlines the investigated problems
  - *Past research and theories relevant to the problems described*
  - *Formal hypotheses or specific expectations of the present research are introduced and connected to past research*
- The introduction section also contains the literature review.
- The terms “Introduction” and “Literature Review” are often used interchangeably.

# Literature Review

- Contains references to articles that summarize the research in a particular area
  - For example, the journal *Psychological Bulletin* publishes reviews of the literature in various topic areas in psychology.
  - The introduction part of a research paper is essentially a literature review.
- Authors review the past literature to understand the presented concepts/topics

# Anatomy of a Research Article

- **Method** section

- It is divided into subsections by the author depending on the complexity of the research design
  - Participants
  - Materials or Measures
  - Procedure
  - Statistics/Results

# Anatomy of a Research Article

## ● **Method** section cont.

1. *Participants*: It describes the characteristics of participants
    - How they were selected, such as with random selection, where they were obtained, their specific demographic qualities?
  2. *Materials/Measures*: Explains the equipment or testing materials being used
    - Surveys, musical equipment, blood pressure monitor, etc?
  3. *Procedure*: Describes the procedure used in the study
    - Steps-by-step description of how study was conducted
- A precise method section is essential for replication

# Anatomy of a Research Article

- Statistics/Results selection:
  - Statistics: The **Research Proposal** includes a Statistics section that describes the statistics you PLAN to use
  - Results: In the **Final Research Paper**, the Statistics section turns into the Results Section, which gives the final outcome of the research data you collected
    - Findings presented by the researcher in three ways
      1. Description in narrative form
      2. Using statistical language/numbers
      3. Material in table or graphs

# Anatomy of a Research Article

- **Discussion** section

- Reviews the research from various perspectives
- *Explains how the results of your study compare with past results*
  - If the hypothesis has not been supported, the author should suggest potential reasons.
  - What might have been wrong with the methodology, the hypothesis, or both?
- Presents methodological weaknesses and/or strengths
- *Includes suggestions for practical applications and for future research on the topic*

# Anatomy of a Research Article

- **References** section
  - Source citations
  - Follows APA Format
  - **3 Peer Reviewed Articles are Required** for APA Format Paper #2.