# Introduction to Research Methods – The Why and How of Psychological Research and Approaches

Introductions

Introduce yourself in the forum found at the bottom of this page. You can share about your professional or personal life, whatever you are comfortable with. For example, let us know what your hobbies are. Then add what areas of psychological research interest you (cognitive psychology, social psychology, neuropsychology, different branches of the helping professions, etc.) and how you see yourself using this information in your future. Starting to think about this now will help you develop the topic of your research project.

## Overview {-}

Welcome to PSYC 322 Research Methods. In this first unit, we begin the course by going over the important aspects of research methods, why it is important, and how it is used in daily life. Think of research methods as a means of learning and filling the knowledge gap of a particular question.

We might wonder, “Is Psychology and its findings really just notions that our grandmother’s and grandfather’s shared based on intuition and hearsay? Or does Psychology have methods that can actually test our ideas about how human beings as well as animals behave? Our textbook author, Dana S. Dunn, has written:

Why do people fall in (or out of) love? Does assigning homework to elementary school children improve what and how they learn? Are optimists at lower risk of heart disease and early death than pessimists? Although we may have the best intentions, why do many of us fail to stick to a diet, get regular exercise, watch less television, or study as much as we should?

Some people answer such questions by relying on their intuition—following their own hunches or what their ‘gut’ instincts tell them about why things happen as they do…Others, chiefly psychologists, use research methods, specific tools for observing, measuring, changing, and controlling events to scientifically determine causes and effects (Dunn, 2013, p.2).

The goal of this course is to learn what best research methods are available so that we can be more knowledgeable students, consumers, and practitioners of the science of psychology.

### Topics {-}

This unit is divided into the following topics:

1. Critical Thinking
2. Psychological Research
3. Inductive and Deductive Reasoning | The Scientific Method
4. Research Approaches and Generating Ideas

### Learning Outcomes {-}

When you have completed this unit, you should be able to:

* Describe what critical thinking entails and give an example
* Analyze why research is important in psychology and how it benefits us in our personal and professional life
* Explain the Research Loop and how it relates to the Scientific Method
* Determine the reasons that psychology is considered a science
* Describe the differences between qualitative and quantitative research

### Activity Checklist {-}

Here is a checklist of learning activities that will help you deepen your understanding of the unit concepts. Activities are meant to be formative (unless otherwise specified), as in an ungraded opportunity for you to develop your thinking; however, many of these are designed to also help you with your summative assessments.

**Learning Activities**

Activity 1.1: Critical Thinking Exercise

* Complete the Critical Thinking Exercise on page 3 of your textbook.

Activity 1.2: Read and Reflection

* Read Chapter 1 of the textbook

Activity 1.3: Read and Take Notes

* Read Chapter 2 of the textbook and take notes

Activity 1.4: Research and Growth

* Watch a TEDtalk on societal knowledge and growth

Activity 1.5: The Scientific Method

* Watch a video to review the Scientific Method and take notes

Activity 1.6: Qualitative and Quantitative Research

* Watch the video and be able to describe the difference

**Assessment**

* Begin Assignment 1: Interview a Professional (due Week 4)
* Start Assignment 4 - generate some research topic ideas for your Research Project (due Week 2)

### Resources {-}

* Dunn, Dana S. (2013). The Practical Researcher: A Student Guide to Conducting Psychological Research. 3rd ed., John Wiley & Sons, Inc.
* [APA Formatting and Style Guide](https://owl.purdue.edu/owl/research_and_citation/apa_style/apa_formatting_and_style_guide/general_format.html)

## Critical Thinking

**In The Practical Researcher: A Student Guide to Conducting Physchological Research, the author of our textbook describes critical thinking as “thinking skills that promote intellectual focus, motivation, and meaningful engagement with new ideas...such skills include learning to support conclusions with good solid evidence; engaging in practical, creative, or scientific problem solving; recognizing patterns; identifying what you do not know, and then searching for the needed information; and developing the ability to evaluate information by adopting different points of view” (Dunn, 2013, p. 2). The use of critical thinking is the beginning point and foundation for discovering new understanding about the behavior of people and other animals in the field of psychology. This makes experimentation and other forms of research possible.**

Learning Activities

Activities are meant to be formative (unless otherwise specified), as in an ungraded opportunity for you to develop your thinking; however, many of these are designed to also help you with your summative assessment so completing them is essential.

### Activity: Critical Thinking Exercise {-}

Complete the Critical Thinking Exercise on page 3 of your textbook. Keep track of your answers and be prepared to share them when we meet for class in Zoom.

### Activity: Read and Reflect {-}

Read Ch. 1 (pages 1-34) of The Practical Researcher: A Student Guide to Conducting Psychological Research

Consider the following questions:

1. How does critical thinking affect your everyday life? Give 3 examples
2. Is Psychology a valid science (see page 11)? List the arguments supporting the claim that it is indeed a field of Science.

## Psychological Research

Let's consider now the “why” and “how” of psychological research. Why do we conduct research? What’s the point of research? When some people hear “Research Methods” they may instantly think of a lab of researchers in their white lab coats conducting experiments. Though that is a stereotypical image of research, thankfully psychological research is not limited to white lab coats and lab experiments. The process of Psychological research involves using critical thinking and reasoning, formulating an idea or question, and embarking on a journey to answer that research question for the greater good of society. Such a journey to answer the research question includes collecting data to make a case for your answer.

Here are 3 main “whys” of psychological research:

1. Research helps us build knowledge to inform our practice. It helps us to use the most up-to-date and evidence-based practices in our respective field. “When we know better, we do better.” Because of research, we know that some counseling practices in the 1960’s are outdated and not appropriate for present day or our current population. Research continually aids us in updating what is considered to be “Best Practice” in any particular field. There is a continual push to learn and grow, all while pruning the branches that no longer serve us.
2. It helps us better serve the people we work with and work for. In using “Best Practices,” we know that not everyone benefits from the same treatment plan in counseling. Regardless of the population we serve or plan to work with, research aids us in using a variety of culturally and linguistically sensitive techniques. Uninform practice is harmful to the people we are serving. Therefore, research keeps us informed and helps us provide a service, rather than disservice, to the population we work with.
3. Research ensures that we use valid and reliable measures. Without research, we would not have the valid and reliable tools/instruments we use today. Reliability is the extent to which the outcomes are consistent time after time when a study is repeated. Validity is the extent to which an instrument measures what it proposes to measure. (Ex: We would not use a thermometer to measure blood pressure). Whether we are measuring blood pressure or measuring symptoms of ADHD in children, we need to be using measures (instruments, tools, questionnaires) that are both valid and reliable in order to answer our research question.

### Activity: Read and Take Notes {-}

Read Ch. 2 (p.35-68) of The Practical Researcher: A Student Guide to Conducting Psychological Research and take notes, pay special attention to the questions on p. 66 (you will be using the questions to complete your journal review assignment that will be discussed in Unit 2 of class).

### Activity: Research and Growth {-}

You may be interested in watching this TED talk “Why our IQ levels are higher than our grandparents"

<https://www.youtube-nocookie.com/embed/9vpqilhW9uI?si=B1vKuW4MIXXSCWzC>

[](https://www.youtube-nocookie.com/embed/9vpqilhW9uI?si=B1vKuW4MIXXSCWzC)

Pay attention to how this relates to research methods and why it is important to stay up to date with the current research. Also consider how society progresses through decades and why it is necessary that we continue to learn and grow.

**Questions to Consider:** After completing the activities above, consider the following questions:

1. What would the world be like without psychological research? What problems would this pose?
2. How does society reap the benefits of psychological research? Think about how this might apply in a professional setting.

## Inductive and Deductive Reasoning | The Scientific Method

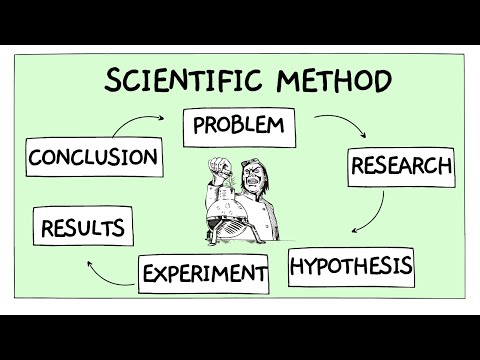
The Scientific Method allows us to explore and test our hypotheses and theories in a methodological way to discover cause and effect in a search to better understand how our world, including how people and other animals, operate and function in life. Our textbook author puts it this way: “research allows us to move from armchair musings to the active exploration of a topic” (Dunn, p. 4). This involves the skills of both inductive and deductive reasoning.

The Research Loop of Experimentation is the standard method by which our hunches, theories, and hypotheses are tested and refined. The steps involve collecting observations or relying on existing theories, developing hypotheses to test, interpreting the results, and beginning again to further our understanding. Healthy skepticism allows us to be cautious not to jump to erroneous conclusions or overgeneralizations regarding the meaning of the research findings. Science, including the science of Psychology, is an endless process of building and refining knowledge. It is exciting to have our research build on existing knowledge from past research and be part of the chain and development of a deeper, fuller understanding of the lives of people and animals and their worlds.

### Activity: Watch and Take Notes {-}

Watch the video “Steps of the Scientific Method in 3 Minutes”

<https://youtu.be/aUvEUiWcoT0>

[](https://youtu.be/aUvEUiWcoT0)

You will need to be able to list and describe the steps of the Research Loop.

## Research Approaches and Generating ideas

After learning the “whys” of research methods, it is appropriate that we move on to the “how” of research. In doing so, we briefly look at the approaches to research and generating ideas. This includes learning about qualitative and quantitative research and how they differ (think concrete vs abstract). We will also learn about using case studies, observation, and questionnaires as part of research, as well as develop the skills to evaluate or critique a research/journal article. Understanding the differences in these approaches (the pros and cons) and how to utilize them is helpful in gathering data in research. It is important to consider multiple sources of data rather than a single data point to support our journey towards answering our hypothesis or research question.

### Activity: Watch and Differentiate {-}

<https://youtu.be/69qP8kFJp_k>

Consider what is the difference between qualitative and quantitative research.

## Unit Summary {-}

This first unit has been our introduction to the exciting field of Research and the Methods involved. This forms the basis of what makes psychology a science and how we can rely on the knowledge we gain to add to the understanding of human beings and other animals. As we continue into our next units, we will discover the steps it takes to understand and participate in research in psychology.

## Assessment {-}

After completing this unit, including the learning activities, you are asked to complete the following assessments. For more details and the submission boxes, please go to the Assessments tab.

**Assignment 1: Interview A Professional**

Although this is due in Week 4, you will want to start this assignment now by finding someone to interview and setting a date in the next week or so. You will be asked to complete a brief interview with a helping professional or professional who works in a field of interest to you. This can be face-to-face, over Zoom, or over the phone.

The goal of this assignment is not only to get an idea of how helping professionals integrate current research practices (or best practices) into their daily work, but also to give students the opportunity to explore different fields of interest.

Part 1: Interview Questions

1. What training or education is needed to work in this profession? How many hours of professional development is needed per year to renew or continue to hold certification/licensure?
2. How do you incorporate the most current and up-to-date research or practices in your profession?
3. How often do you refer to the research literature? What sources do you use? (Textbook, Manuals, Journal articles, training conferences).
4. Does your profession have a national organization/association? (If so, please list name and acronym).
5. How do you see your profession changing in the future based on current research trends?

Part 2: Summary

Please summarize your experience in 4 – 6 sentences. (What you learned, what surprised you, what you were expecting, what was most meaningful to you, what you are still curious about, etc.). Keep in mind, you may not have control over the answers you received throughout the interview, but you have control over the reflective summary.

*Please see the Assessment tab for more details on the grading criteria.*

**Assignment 4: Your Research Project**

Though we are just in the beginning of the course, it is a good idea to think about a research topic or areas of research that you are interested in. (Counseling psychology, teaching, educational psychologist, neuropsychology, etc). It will be helpful to narrow down an area of interest so you can prepare for the Research Project.

To start your research project, we would like you take your interests from the Introductions forum and get more specific: **What is a more narrowed or specific topic/question/area of psychology that you are interested in researching, particularly for your Research Project?** You do not need to worry about actually conducting this research for the purposes of this project.

When you have your idea(s), post to the forum "Your Research Topic" found under "Research Project" in the "Assessments" tab.

Next, respond to two of your peers, providing constructive feedback on their research topic.

## Checking your Learning {-}

Before you move on to the next unit, you may want to check to make sure that you are able to:

* Describe what critical thinking entails and give an example
* Analyze why research is important in psychology and how it benefits us in our personal and professional life
* Explain the Research Loop and how it relates to the Scientific Method
* Determine the reasons that psychology is considered a science
* Describe the differences between qualitative and quantitative research