

# Why Are Statistics Necessary in Psychology?

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A lot of psychology students are surprised (and sometimes dismayed) to realize that statistics courses are required for graduation in their chosen major. Yes, statistics courses are a major part of virtually all psychology programs. Not only will you need to take at least one or two courses of statistics, but you will probably also encounter the subject in many of your other classes, particularly those that involve [experimental design](#) or research methods.

In other words, you not only need to be able to pass a statistics class, but you also need to be able to understand statistics as well.

## The Importance of Statistics in Psychology

So why are statistics important in psychology?

First, let's think about the importance of statistics in general. **Statistics allows us to make sense of and interpret a great deal of information.** Consider the sheer volume of data you encounter in a given day. How many hours did you sleep? How many students in your class ate breakfast this morning? How many people live within a one-mile radius of your home? By using statistics, we can organize and interpret all of this information in a meaningful way.

In psychology, we are also confronted with enormous amounts of data. How do changes in one [variable](#) impact other variables? Is there a way we can measure that relationship? What is the overall strength of that relationship and what does that mean? Statistics allow us to answer these kinds of questions.

**Statistics allow psychologists to:**

- **Organize Data:** When dealing with an enormous amount of information, it is all too easy to become overwhelmed. Statistics allow psychologists to present data in ways that are easier to comprehend. Visual displays such as graphs, pie charts, [frequency distributions](#), and scatterplots make it possible for researchers to get a better overview of the data and to look for patterns that they might otherwise miss.

- **Describe Data:** Think about what happens when researchers collect a great deal of information about a group of people. The U.S. Census is a great example. Using statistics, we can accurately describe the information that has been gathered in a way that is easy to understand. Descriptive statistics provide a way to summarize what already exists in a given population, such as how many men and women there are, how many children there are, or how many people are currently employed.
- **Make Inferences Based Upon Data:** By using what's known as inferential statistics, researchers can infer things about a given sample or population. Psychologists use the data they have collected to test a [hypothesis](#) or a guess about what they predict will happen. Using this type of statistical analysis, researchers can determine the likelihood that a hypothesis should be either accepted or rejected.

## Statistics in Daily Life

Now that you have a better understanding of why statistics are essential in psychology, it might be helpful to look at how taking a statistics course can help *you*. Obviously, **having a solid understanding of statistical methods can help you excel in almost all of your other classes**. No matter what type of class you are taking, whether it is [social psychology](#) or human sexuality, you will be spending a great deal of time learning about research. Your foundation of statistical knowledge will allow you to make better sense of the research you'll find described in your other [psychology courses](#).

Secondly, think about all the claims about psychology that you encounter on a daily basis outside of class. Magazines publish stories about the latest scientific findings, self-help books make proclamations about different ways to approach problems, and news reports often exaggerate or misinterpret [psychology research](#). **By understanding the research process, including the kinds of statistical analysis that are used, you will be able to become a wise consumer of psychology information and make better judgments of the information that you come across.**

Such judgment can help you determine which information is important and should be attended to and which information is safe to ignore. By understanding statistics, you can make better decisions that may affect your health and well-being.