Statistics with jamovi

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Welcome

This is the website for PSYC 290 and PSYC 790 at the University of Wisconsin-Stout, taught by Dana Wanzer. These resources are aimed at teaching you how to use jamovi and null hypothesis significance testing (NHST) to answer research questions.

Portions of this book may have been adapted from "Learning statistics with jamovi: A tutorial for psychology students and other beginners" by Danielle J. Navarro and David R. Foxcroft, version 0.70. Furthermore, the template and style of this book is from PsyTeachR.

Chapter 1

Introduction

This chapter will walk you through how this website/book works.

1.1 Quiz Questions

Throughout this website, there will be questions to help you test your knowledge. When you type in or select the correct answer, the dashed box will change color and become solid.

For example:

- What is 2+2?
- We attend the University of Wisconsin- Stout Madison Green Bay
- True or false: Statistics is awesome. TRUE FALSE

1.2 Errors and mistakes

I am human, therefore I err. If you find an error in the textbook or something you think might be a mistake, please let me know ASAP so I can update this for everyone else. Let me know which section you find the error or mistake in and what the error or mistake is. For example, if there was an error here you could say, "There was an error in 1.2 that the first sentence should really be 'To err is human.' "

Part I

t-tests

Chapter 2

Independent t-test

2.1 What is the independent t-test?

The independent t-test is used to test the difference in our dependent variable between two different groups of observations. Our grouping variable is our independent variable. In other words, we use the independent t-test when we have a research question with a **continuous dependent variable** and a **categorical independent variable with two categories in which different participants are in each category**.

The independent t-test is also called the independent samples t-test and the Student's t-test. I will use these terms interchangeably.

There are three different types of alternative hypotheses we could have for the independent t-test:

1. **Two-tailed**
    - H_1: Group 1 has a different mean than Group 2.
    - H_0: There is no difference in means between the two groups.
2. **One-tailed**
    - H_1: Group 1 has a greater mean than Group 2.
    - H_0: The mean for Group 1 is less than or equal to the mean for Group 2.
3. **One-tailed**
    - H_1: Group 1 has a small mean than Group 2.
    - H_0: The mean for Group 1 is greater than or equal to the mean for Group 2.