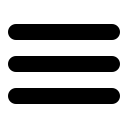
Paired Difference in Means in JASP

***Research Question:*** Is there a difference in mean pulse rate between male and females?

**Open the *Wetsuits.csv* into JASP**

* Open JASP
* Click the **Hamburger Icon** () in the upper-left corner of JASP.
* Click **Open**then **Computer**then **Browse** and find the *Wetsuits.csv* on your computer (likely in your Downloads folder).

**Create the Difference variable.**

* Click the **+** sign
* Type **Difference** for the new variable (Create Computed Columns) and click **Create Column**
* Click **WetSuit** on the left.
* Click the **–** sign on the top.
* Click **NoWetSuit** on the left.
* Click **Compute column** and it will say “Computed columns code applied” and you will notice that values populate in your newly created *Difference* variable in the spreadsheet.



* Click the **X.**

**Descriptive Statistics**

* Click **Descriptives** then **Descriptive Statistics**.
* Click **Difference** then the upper triangle to move **Difference** to the *Variables* list.
* Click **Plots,** select **Distribution plots**
* Select **Boxplots**

1. Copy and paste your plots below by clicking the **Descriptives Statistics** triangle and clicking **Copy**.

**Inferential Statistics**

There are two ways to perform a paired difference in means test in JASP and get a 95% confidence interval.

Approach 1: Using the variable containing the difference in maximum velocity between the wetsuit and no wetsuit conditions (*Difference*).

* Click **T-Tests, One Sample T-Test**
* Click **Difference** then the upper triangle to move **Difference** to the *Variables* list.
* Set the *Alt. Hypothesis* based on your Ha.
* Under Additional Statistics, select **Location Parameter** and **Confidence Interval.** This will give you the sample difference in means (*Mean Difference*) and a 95% confidence interval.



1. Copy and paste your output below by clicking the **One Sample T-Test** triangle and clicking **Copy**.

Approach 2: Using the original two variables - the maximum velocity while wearing a wetsuit (*Wetsuit)* and the maximum velocity while not wearing a wetsuit (*NoWetsuit)*.

* Click **T-Tests, Paired Samples T-Test**
* Click **Wetsuit** then the upper triangle to move **Wetsuit** to the *Variable pairs* list.
* Click **NoWetsuit** then the upper triangle to move **NoWetsuit** to the *Variable pairs* list.
* Set the *Alt. Hypothesis* based on your Ha.
* Under Additional Statistics, select **Location Parameter** and **Confidence Interval.** This will give you the sample difference in means (*Mean Difference*) and a 95% confidence interval.



1. Copy and paste your output below by clicking the **Paired Samples T-Test** triangle and clicking **Copy**.

Your results to 2 and 3 will be identical