

I part

1. Upload the data "gender_salary_data.csv" and name it "people".
2. Formulate your research question; which variables will you choose and what hypothesis will you formulate? Formulate your null and alternative hypothesis.
3. Check the assumptions for the t-test.
 - 3.1. Check the sample size.
 - 3.2. Check the normality of the numerical variable. Use both graphical and analytical ways.
 - 3.3. Using the tidyverse package, create two variables: "female" and "male" and save only females and males from the people dataset.
 - 3.4. Check normality of females and males.
 - 3.5. Check another assumption - variance (spread) between the groups.
 - 3.6. Test your hypothesis using an appropriate statistical test.
 - 3.7. What conclusion can you make? Formulate the conclusion.

There is a statistically significant difference in salaries between males and females in Germany (p -value=0.007), with females having a higher average salary than males.

When you've done I part, please, raise your hand.

II part

1. Upload the data "seafood_mercury_data.csv" and name it "mercury".
2. Formulate your research question; which variables will you choose and what hypothesis will you formulate? Formulate your null and alternative hypothesis.

3. Check the assumptions for the t-test.

3.1. Check the sample size.

3.2. Check normality of the numerical variable. Use both graphical and analytical ways.

3.3. Using the tidyverse package, create two variables: "fish" and "seafood" and save only fish and seafood from the mercury dataset.

3.4. Check the normality of fish and seafood.

3.5. The data doesn't meet the normality assumption. Use the nonparametric test to avoid data transformation. Check the nonparametric test assumption - similar distributions between the groups.

3.6. Test your hypothesis using an appropriate statistical test.

3.7. What conclusion can you make? Formulate the conclusion.

There is no statistically significant difference in mercury levels between fish and seafood (p-value=0.697).

Check list

	I part	II part
Null and alternative hypothesis (H0 and H1)		
Assumptions for t-test/ Mann-Whitney U Test:		
Independence of observations	yes	yes
Sample size		
Normality of the whole numerical variable		
Normality of each group		
Variance between the groups		
Similar distributions between the groups		
Test to perform:		
Conclusion:		

