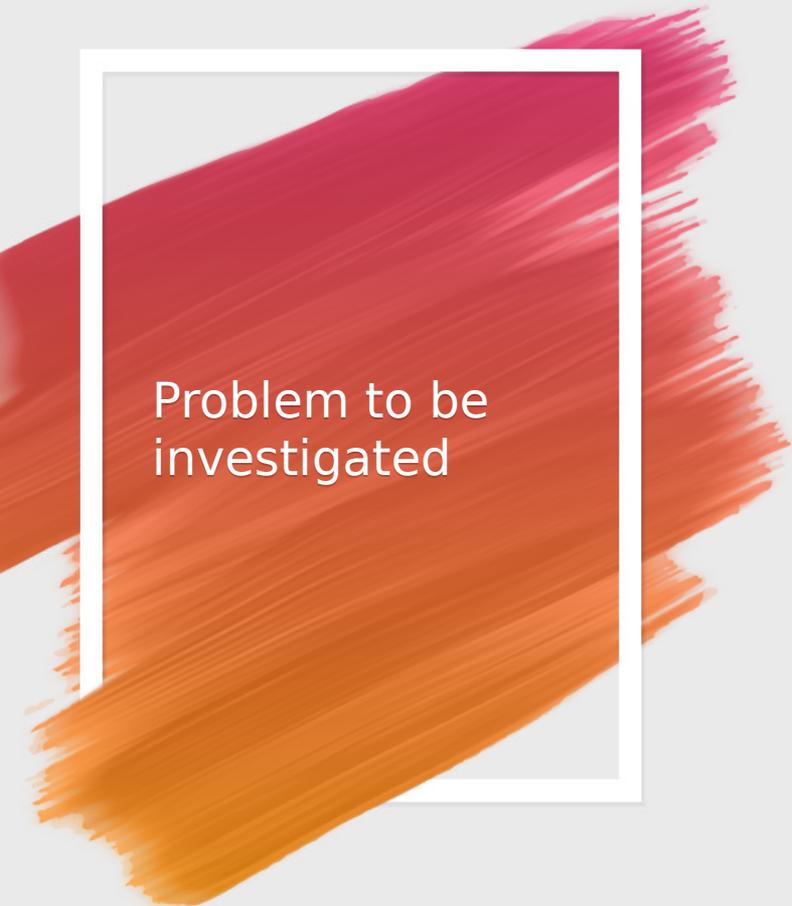




21. Salty water
Report
Eleftheria Nikolaou
Greece-Alliance



Problem to be investigated

What is the minimum concentration of sodium chloride in water solution such that a human detects the presence of salt? Use double blind tasting in your experiments.



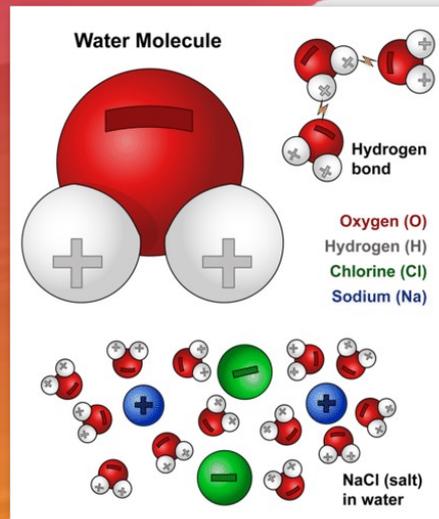
Theoretical Background

Sodium Chloride

- Sodium chloride commonly known as salt, is an ionic compound with the chemical formula sodium chloride NaCl, representing a 1:1 ratio of sodium and chloride ions. With molar masses of 22.99 and 35.45 g/mol respectively, 100 g of NaCl contains 39.34 g Na and 60.66 g Cl.

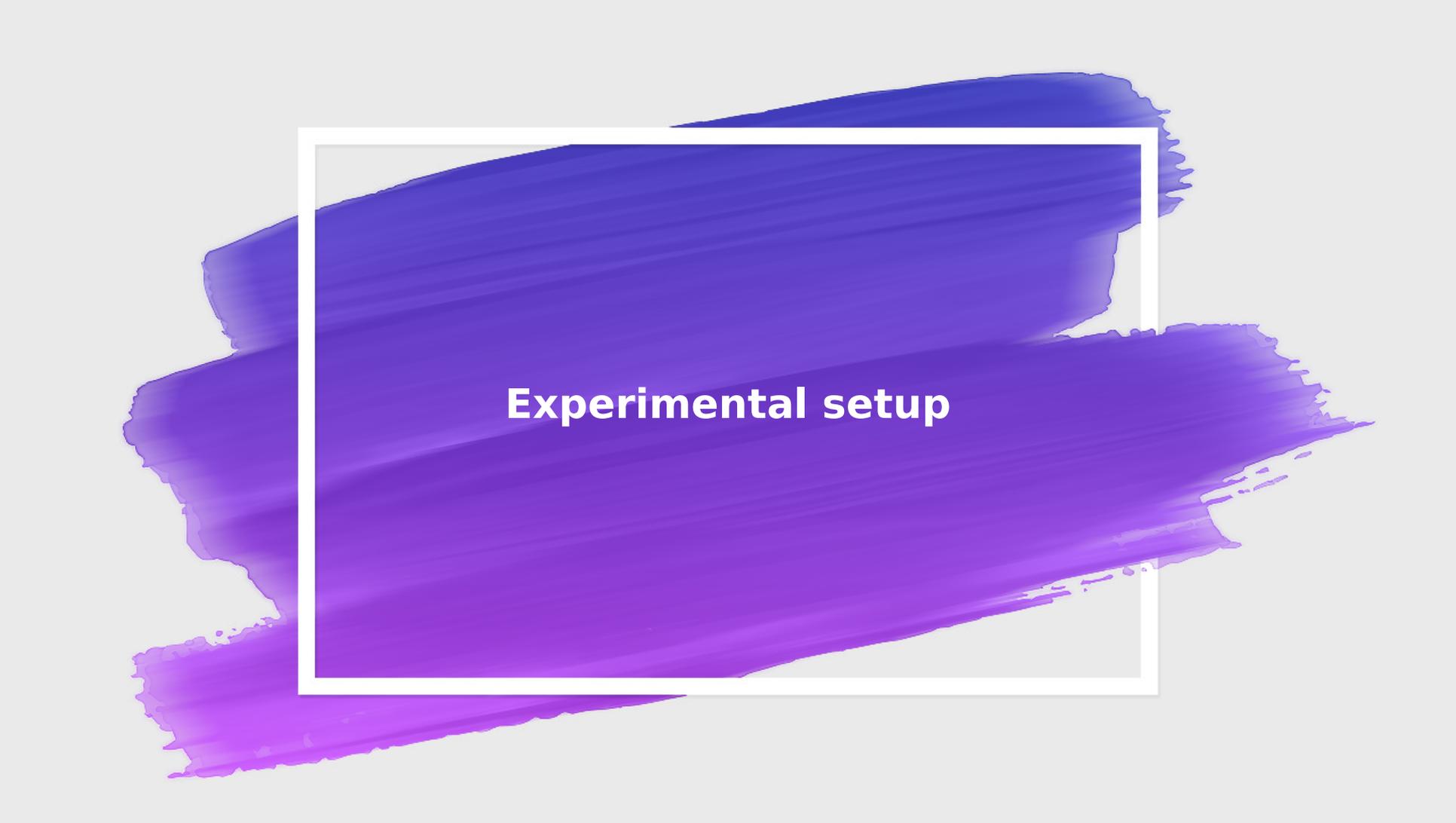
What happens when you add sodium chloride in water

When salt is mixed with water, the **salt dissolves** because the covalent bonds of water are stronger than the ionic bonds in the salt molecules. ... Water molecules pull the sodium and chloride ions apart, breaking the ionic bond that held them together.



Gender

One of the many findings shows that **girls are generally better at recognising tastes than boys**. They are better at recognising all concentrations of both sweet and sour tastes. The difference is not dramatic, but it is quite clear. It is also a known fact that women generally have a finer sense of taste than men.



Experimental setup

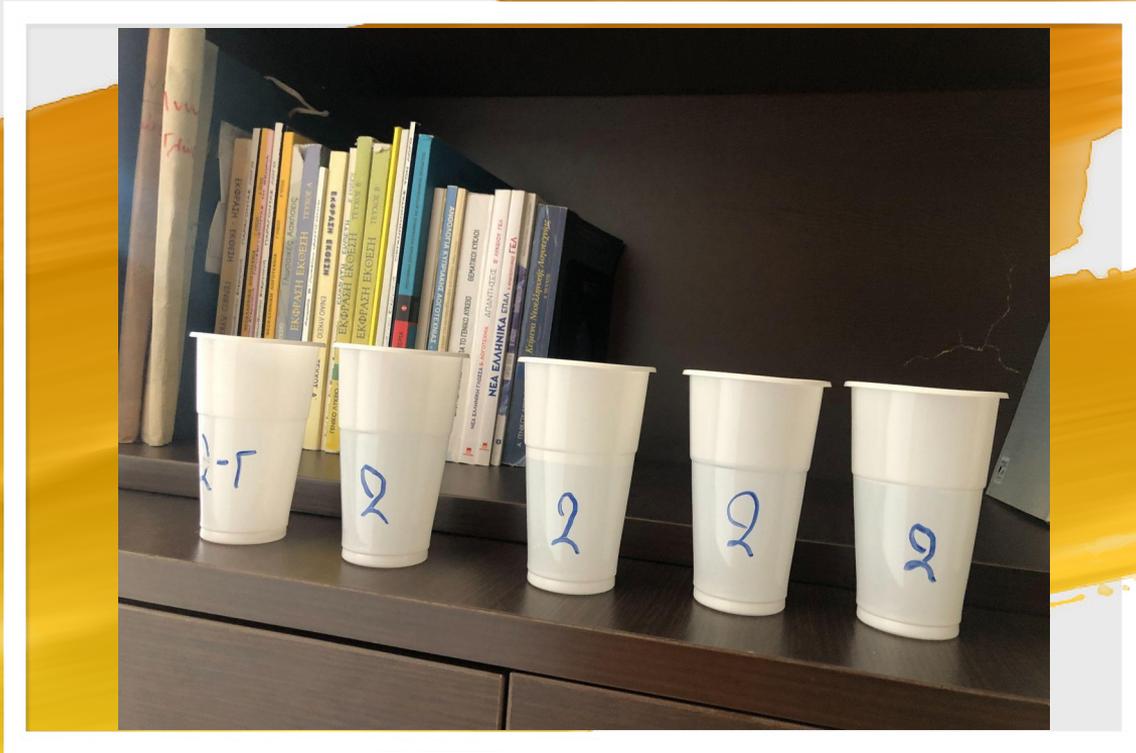
Experimental procedure

- Cups filled with 125 ml of distilled water (room temperature, 25 Celsius)
- Different quantity of salt in each cup (varying from 2 to 4 grams, per 0.5 g)



Hypotheses

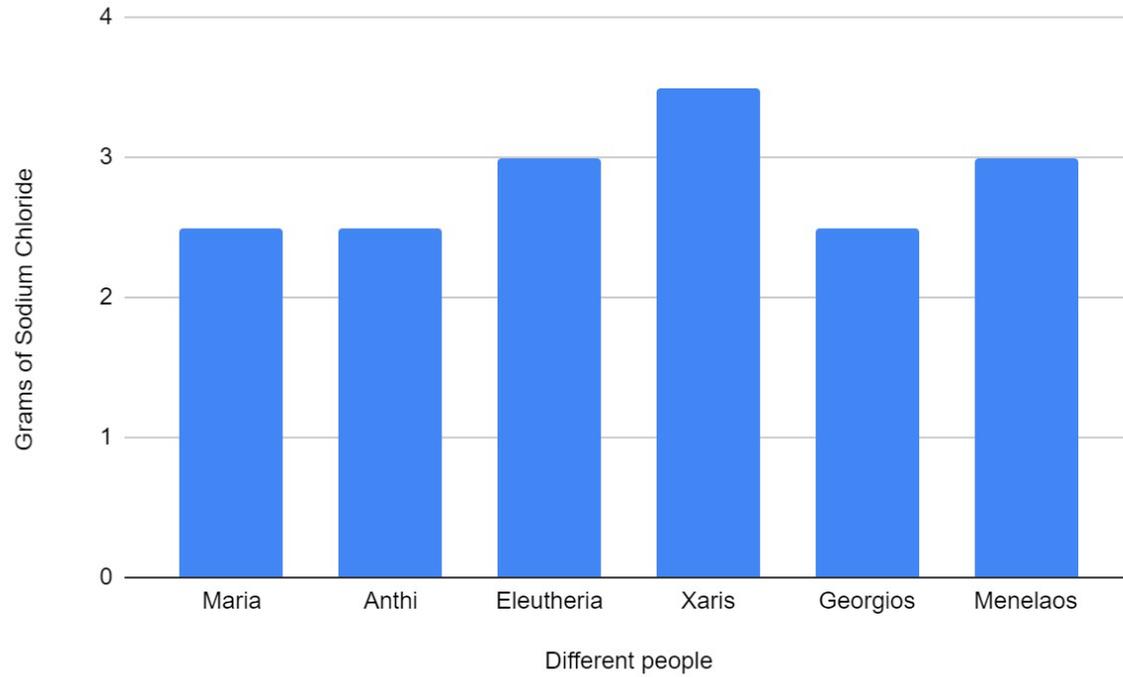
1. Women have better tasting abilities, so they will taste salty water in smaller concentration (according to references)
2. Taste will be better if we drink water in between the salty waters
3. There will be a difference if the order of salt concentration is ascending or descending



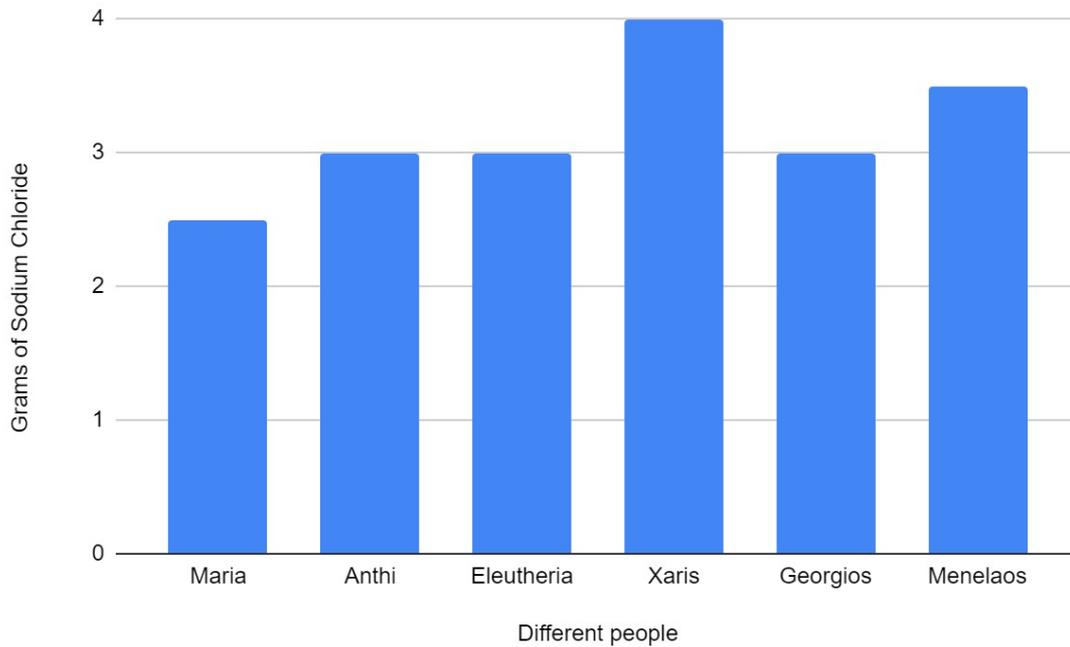
Results

- The smaller concentration that could be tasted was 0.02 g/ml
- One girl passed COVID 2 months ago, but with no difference in taste now

Men vs Women



Men vs Women + water between

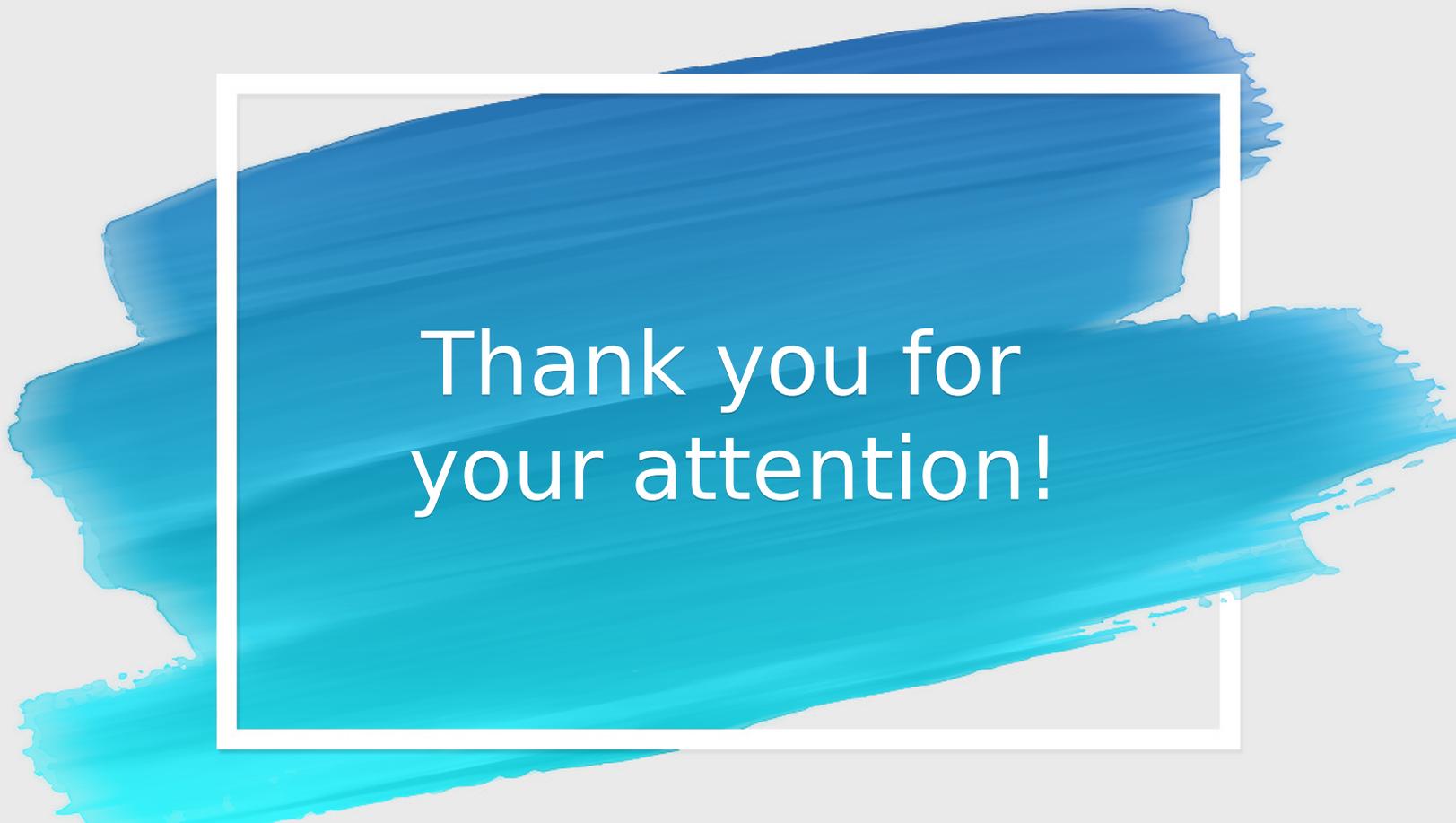


Conclusions

Hypothesis 1: Women vs Men **CONFIRMED**

Hypothesis 2: + water **CONFIRMED**

Hypothesis 3: Ascending-Descending **REJECTED**



Thank you for
your attention!