

Esther Navarro
11/16/23
Bio 125
Physiology
Lab 14-C

Portable Spirometry

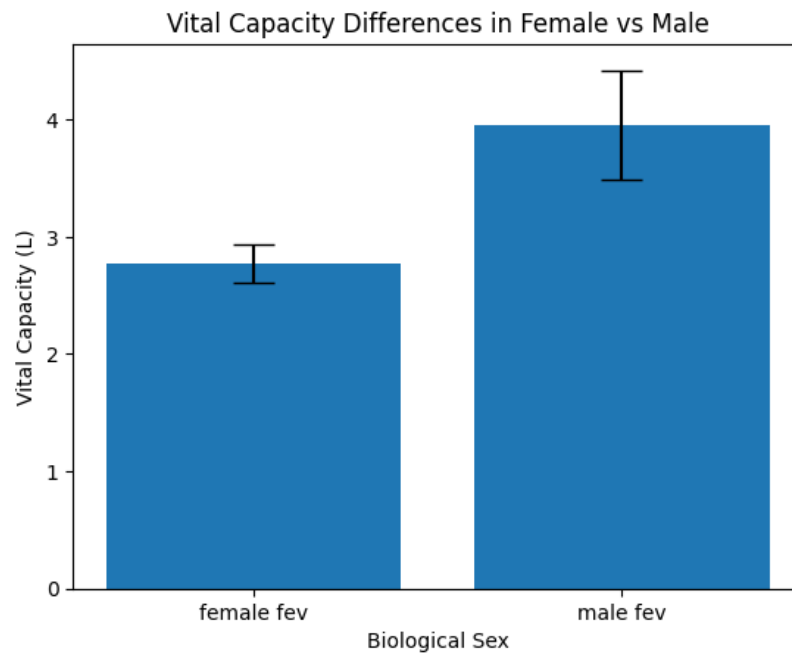
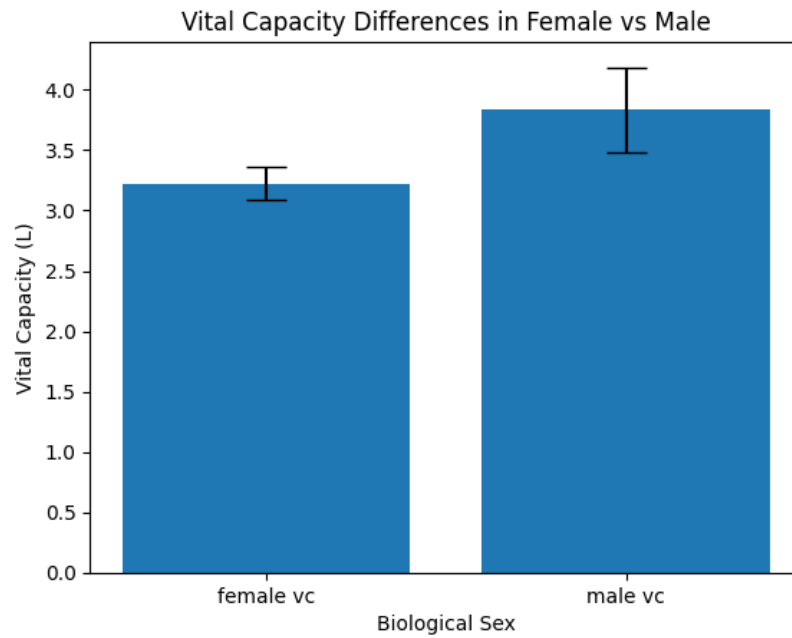
Purpose:

A spirometer coupled with a kymograph is capable of measuring and recording several human lung capacities. Today, plugged into a computer's USB port, a digital pneumotach can be used to measure lung volumes. This is what we will use in the first two sections of Lab 14. The record obtained from spirometry may be analyzed to determine the relative pulmonary condition of humans.

Procedure:

1. Open the grey plastic box on your lab desk that says "BASELINE Lung Capacity Spirometer" on the lid. Inside the lid of the box is a white paper that has specific instructions, please read the whole inside page with "how to use."
2. Insert the clear plastic mouthpiece on the "Windmill-Type" spirometer and make sure the measurement indicator is at the zero position before beginning.
3. Make sure you only exhale into the spirometer, DO NOT inhale from it.
4. After exhaling, record the measurement from the spirometer. Be sure to place your used plastic mouthpiece in the correct tub after use (the tub is labeled).
5. Calculate your predicted vital capacity from the nomograms available in lab. Using a straightedge, make a line matching your height and age to the vital capacity prediction. Note that the VC is in liters whereas other measurements have been taken in milliliters.
6. Compare the values obtained from the portable spirometer, the predicted values from the nomograms, and the value obtained from the Koko spirometer, if available. How can you account for any differences? (**NOTE:** your **predicted VC** from the nomogram, and a comparison to the measured VC in 14-A should be included in your discussion of 14-A).

Results:



Discussion:

It is shown that males have a bigger vital capacity than females. Since females have smaller lungs, smaller conducting airways and the shape of the ribcage differs based on sex.

Conclusion:

Males have a bigger vital capacity than females.