

Research Methods

Descriptive Statistics

Descriptive statistics are used to **describe** the basic features of the data in a study.

Descriptive statistics enable us to present data in a meaningful and sensible way as they help us to reduce large amounts of data to manageable summaries.

With descriptive statistics, we are interested in averages (**means**), frequencies (of gender, for example), ranges, and the distribution or spread of the data (**standard deviation**).

- 1) Open up SPSS and type in the data as shown below:

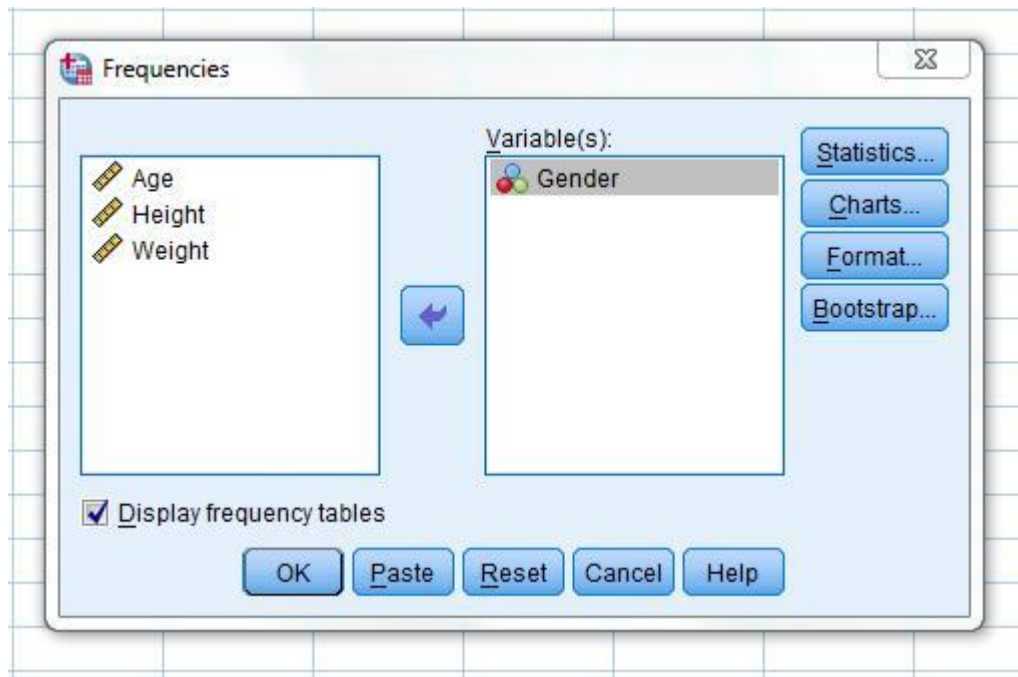
Remember: you have to create your variables first!

	 Gender	 Age	 Height	 Weight
1	1.00	18.00	150.00	140.00
2	1.00	20.00	152.00	152.00
3	1.00	25.00	154.00	130.00
4	1.00	30.00	156.00	128.00
5	1.00	40.00	154.00	147.00
6	1.00	36.00	153.00	150.00
7	1.00	25.00	167.00	120.00
8	1.00	26.00	150.00	139.00
9	1.00	31.00	149.00	140.00
10	1.00	61.00	158.00	149.00
11	2.00	20.00	141.00	142.00
12	2.00	19.00	160.00	146.00
13	2.00	19.00	154.00	119.00
14	2.00	24.00	153.00	150.00
15	2.00	23.00	154.00	132.00
16	2.00	26.00	154.00	130.00
17	2.00	27.00	152.00	118.00
18	2.00	30.00	150.00	110.00
19	2.00	21.00	146.00	140.00
20	2.00	18.00	160.00	138.00
21				

2) The first thing we are interested in is the number of males and females in this sample. While we can count this by hand easily with this dataset (there are 10 of each), it becomes far more difficult with larger samples. Therefore, we use SPSS to count the number of each gender for us.

- Click on 'Analyze' on the top menu bar
- Select 'Descriptive statistics'
- Select **Frequencies**.

In the dialogue box, move 'Gender' into the 'Variable(s)' box as shown below.



Click 'OK'

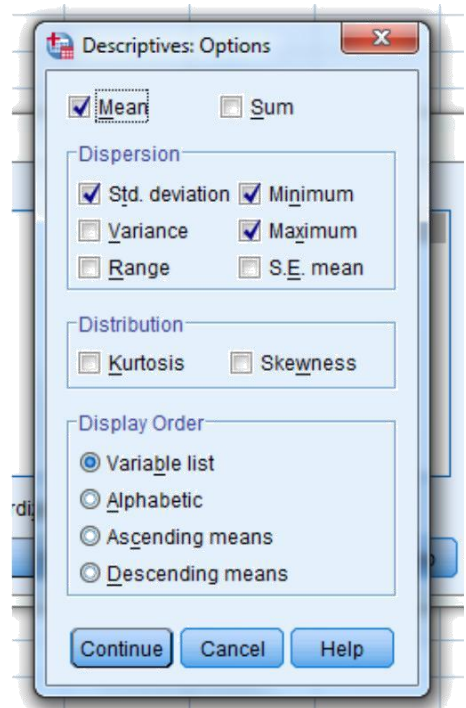
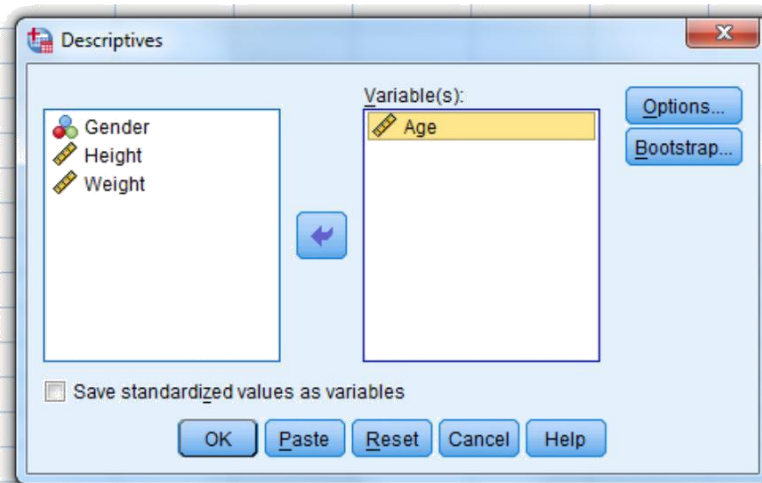
How many males and females are in this sample?

3) Next, we are going to look at the variable of Age. To DESCRIBE this variable, we are interested in the following:

- a) Average age of the sample (mean)
- b) Spread of ages (standard deviation)
- c) Lowest and highest age (range)

- Click on 'Analyze' on the top menu bar
- Select 'Descriptive statistics'
- Select **Descriptives**.

In the dialogue box, move 'Age' into the 'Variable(s)' box as shown below.



Next, select 'Options' on the right hand side and ensure the following boxes are ticked:

Mean

Std. deviation

Minimum

Maximum

Click 'Continue' to save and then click 'OK' to run the descriptives.

What is the range of ages of this sample?

What is the mean (average)?

What is the standard deviation?

- 4) We have two variables left to describe – Height and Weight.
Follow the steps outlined above (for Age) for Height and Weight separately and record the following:

What is the range of heights of this sample?	What is the range of weights of this sample?
What is the mean (average)?	What is the mean (average)?
What is the standard deviation?	What is the standard deviation?

Tips:

When looking at categorical data (i.e., gender), use the **Frequencies** element of descriptive statistics. This will tell you how many are in each category.

When looking to describe scale or continuous data (i.e., age), use the **Descriptives** element of descriptive statistics. This will give you a variety of different options to choose from including mean, minimum and maximum scores, and standard deviation.