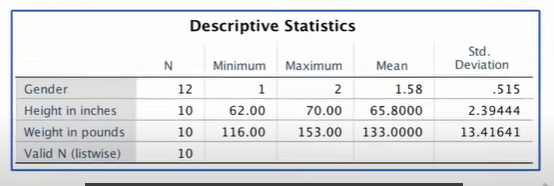
Descriptive statistics

**NOTE:**

**Descriptive - Basic descriptive**

**Frequencies - Flexibility to choose**

**Explore - Very detailed/Split analysis.**



Here in the output above, we see some useful information. For instance, we see the number of valid scores for each variable. We also see the Valid N (listwise), which is the number of complete cases with no missing data.

For gender, we see that the min is 1; max is 2. That is kind-of-useful, at least for checking that we do not have any data entry errors, but the mean and standard deviation for gender is pointless. The average of 1.58 for male and female does not really tell us anything; it just hints that there were a few more females than males. On the other hand, the mean and the sd for height and weight can be very useful. For example, the average weight was 133 pounds. The sd was 13.4 pounds, which tells us that about two-thirds of our participants are going to be between 13.4 pounds heavier and 13.4 pounds lighter, than the mean of 133 pounds.

Let me show you one more way to get descriptive statistics. This is going to give you even more detail about each variable, and more options for plotting and statistics. Let me show you how. Go to Analyze -> Descriptive Statistics -> Explore. I’m going to do this twice; the first time we’re going to focus just on the scale variables. Move height and weight into the dependent list box. Now click on Statistics. Let’s really push it this time: click on Outliers and Percentiles, and then Continue. Now click on plots and choose hIstogram. We are really going all out, so click Continue and Ok. Look at all this data! We have every kind of descriptive statistic that you could dream of. We even have a special box for Percentiles. W e have another one that would identify if we have any outliers or extreme values. And there’s our old friend the histogram. Plus, a small stem-and-leaf plot. Plus a new graph called a box plot. And those are for height only. We have a second set of graphs for weight. So, you can see that we get a lot of information here. But wait…there’s more! Let’s split all of this by gender. Go to Analyze -> Descriptive Statistics -> Explore. We’re going to keep the same settings that we had previously. Simply move gender into the factor list and then click Ok. Now we see the same descriptive statistics have now been calculated separately for males and females. Remember this splitting would work similarly if we had 3 groups, or 4 or more.

Notice that we have separate histograms for males and female, separate stem-and-leaf plots, and box plots are now side-by-side, so that we can do comparisons. Knowing about these options for descriptive statistics can help us to visualize our data, depending upon the level of information that we need. If you need only the basics, use the Descriptive command. If you want flexibility to choose exactly what output you get, use Frequencies. And if you want to know the exquisite details. or to split the analysis by a categorical variables, use Explore.

But there is something else that I want to show you about these variables. Let’s run one more analysis and I will show you how standardized values. Go to Analyze -> Descriptive Statistics -> Descriptives. First, I want to move gender out. We don’t need that. Notice that there’s a little box down here that says “Save standardized values as variables.” I’m going to check that, and then click OK. In the output window, we see exactly the same table that we had last time. But if you go back to your spreadsheet, you’ll notice two new variables. They are called “Z height” and “ Z weight.” You know what those are? Those are the z-scores. SPSS converts each height measurement into a standardized score that tells us how many standard deviation units this score is away from the mean. Negative z-scores mean that a raw score is below average. A positive z-score means that it is above average. So, that is a quick and easy way to get z-scores in SPSS. This was just a quick introduction to z-scores. When you are ready to learn more, check out these other videos from RStats Institute and learn how to calculate z-scores by hand to do a z-test using SPSS