

10: Comparing Two Population Means

There are two types of two-sample t -tests. (The test we covered in Chapter 9 that compared the mean of one sample to a fixed number k is known as a one-sample t -test.) These tests are:

Unpaired or independent sample t -test:

The two populations are “independent”. There is no relation between the x_1 and x_2 variables (as we’ll call them). This is a “between subjects” test, the experimental subjects in each of the two populations are different.

Paired or dependent sample t -test:

There is a natural pairing between the two variables x_1 and x_2 , usually they are measured from the same subject. A paired t -test is an example of a “repeated measures” or “within subject” test.

We will introduce the independent sample t -test with a z -test approximation first to build ideas. As before, note that SPSS doesn’t do these approximate z -tests. It does t -tests even for large samples.

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