

# Alternative hypothesis essay

[Sociology](#), [Population](#)



## **Alternative hypothesis**

An alternative hypothesis is a statement or assertion that the parameter of the population (mean, variance or proportion) differs from the value expressed by the null hypothesis.

Generally, hypothesis is a statement or assertion about the parameter of a population. In psychological research, there is a statement that is usually tested to come up with a general conclusion about the characteristic of population under study. The null hypothesis (a statement that the parameter of the population like the mean or proportion is equal to a specified value) is the statement that is usually tested, however, when the null hypothesis is not right, there is always a statement that is right, this statement is the alternative hypothesis. It is represented statistically using  $H_1$  or  $H_a$ . The alternative hypothesis assumes a range of potential values for the population parameter under study. Three possibilities are available, that is, either the population parameter is greater than some value, less than the value, or not equal to the value. Only one of the potential values is used in a particular problem, and the words used in the problem can actually tell you the form of alternative hypothesis to use, and may differ from one hypothesis to another.

Take an example of a question that needs to test the alternative hypothesis against a null hypothesis about some population parameter which may involve population proportion, population mean and the standard deviation, as shown below.

Ha:  $\rho > 0.5$

Ha:  $\mu > 48$

Ha:  $\delta > 48$

The first alternative hypothesis on the left side is called the right-tailed alternative test, the one at the centre is called the left-tailed test and the alternative on the right hand side is called a two tailed test. From the question it is easy to know which form of the alternative hypothesis the question would take, and a particular question cannot take more than one alternative hypothesis pairing with a particular null hypothesis. It is also important to note that the entire research process involves testing hypotheses and this particular concept is extremely important in psychological research.

## References

Pallant, J. (2011). *SPSS Survival Manual: A step by step Guide to Data Analysis Using the SPSS Program*. China: Allen & Unwin.

Tamhane, A. C. (2009). *Statistical Analysis of Designed Experiments: Theory and Applications*. America: John Wiley & Sons.