

Types of Error

Type I error or alpha error

A type I error or alpha error is when the null hypothesis is rejected when it is true. The probability of committing a type I error is called the "level of significance" for a test and is often referred to as the alpha.

Type II error or beta error

A type II error or beta error is when the null hypothesis is accepted when it is false.

Table 1: A diagram to illustrate the conditions when various types of error occur.

	If H_0 is true	If H_0 is false
If H_0 is rejected	Type I error False Positive	No error True Positive
If H_0 is not rejected	No error True Negative	Type II error False Negative

Also See:

Chapter 10 - More on the Testing of Hypotheses pages 174 in:

Phillips, J. L. 2000. How to think about statistics. W. H. Freeman and Co. New York. 202 pp. ISBN 0-7167-3654-3

Chapter 6 - Introduction to statistical Hypothesis Testing pages 82-83 in:

Zar, J. H. 2007. Biostatistical Analysis. Prentice-Hall, Inc. Englewood Cliffs, New Jersey. 718 pp.