

The Power of t-test with large sample size under the different condition of sample size and significance level between real data, transformed data and data from monte carlo simulation technique.

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ABSTRACT

The power of test is the probability that the test rejects the null hypothesis (H₀) when a specific alternative hypothesis (H₁) is true. The probability of occurrence of a type I error is modelled on medical research that tried to avoid the type I error, such as testing of new medicines, etc. The statistical significance level must be set to be as small as possible, and the probability of type II error would be considered later. In behavioural sciences and social sciences research, the researcher wants to avoid a type I error by determining the level of statistical significance. There are arguments of statistical significance could affect the errors of the findings. Independent variables may have a real influence on the dependent variables but the researcher could not detect them because of statistical significance was setting at the low level. Therefore, in some situations, more attention should be paid to the occurrence of the type II error, and less interest in type I error. This may demonstrate more realistic and valid results. The objectives of this research were to compare of the power of test on t – test under the condition of different sample size (n; 30, 60, 90), statistical significance (sig; .001, .01, .05), and type of data (real data, transformed data, simulation data (Monte Carlo Simulation Technique)). The research findings provide significant information for researcher that is useful for further research using t-test, to improve the accuracy of research findings.

Keywords: Power of T-Test; Large Sample Size; Monte Carlo Simulation Technique