

Understanding the Use of Non-Parametric Tests in Data Analysis

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Abstract

In research, one of the first things that one has to do is to identify variables, which are described on four major scales. nominal, ordinal, interval, and ratio. An ordinal scale of measurement looks at variables where the order matters but the differences do not matter. A Likert-type question asks respondents to select one of several (usually five or seven) responses that are ranked in order of strength. Likert scales, which are a favorite tool in psychological research, are regularly analyzed as interval-level data with parametric tests. Likert scales are not interval-level data; they are ordinal scales because the participant ranks a response to an item with unequal intervals between the values. With ordinal data, it is inappropriate to compute means, variances and standard deviations hence parametric methods normally cannot be used while testing the hypothesis. Nonparametric (NP) methods are often the only way to analyze such data and draw statistical conclusions. This study describes use of NP methods in data analysis an all types of research in education..

Keywords: Ordinal scale, Likert scale, Testing of hypothesis, NP methods

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