

SIMULATED POWER OF GOODNESS-OF-FIT TESTS FOR SURVEY DATA

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Goodness-of-fit test statistics are widely used in surveys however little regard is given to their statistical power. This paper investigates the simulated power of five categorical goodness-of-fit test statistics used on survey data collected on a 5-point Likert scale. The test statistics used in this power study are Pearson's Chi-Square, the Kolmogorov-Smirnov test statistic for discrete data, the Log-Likelihood Ratio, the Freeman-Tukey and the Power Divergence statistic with $\lambda = \frac{2}{3}$.

Recommendations are provided on which of these categorical goodness-of-fit test statistics is the most powerful overall and which is the most powerful for a uniform null distribution against the investigated alternative distributions based on decreasing trend, step type, triangular and platykurtic distributions.