



Highlights

- “Slice and dice” data into fine breakdowns.
 - Find rare occurrences within large datasets.
 - No need to learn new statistical theories or procedures.
 - Choice of more than 30 exact tests.
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IBM SPSS Exact Tests

More accurately analyze small datasets

To determine if a relationship between variables exists, researchers often first look at p values in crosstabulations and nonparametric tests. Traditional methods for computing them are fine if your data meet the underlying assumptions. However, if you have a small number of case variables with a high percentage of responses in one category, or have to subset your data into fine breakdowns, traditional tests could be incorrect. IBM® SPSS® Exact Tests eliminates this risk.

You’ll find SPSS Exact Tests particularly useful if you perform data mining or database analysis for direct marketing research, survey research, medical research, biostatistics, social science research, or to conduct any type of experiment.

IBM SPSS Exact Tests is available for installation as client-only software but, for greater performance and scalability, a client/server installation is also available.

Use small samples credibly

If securing a large sample size is impossible or costly, SPSS Exact Tests enables you to use small samples and still feel confident about the results. With the money saved by using smaller sample sizes, you can conduct experiments surveys, or test direct marketing programs, more often.



Obtain more value from your data

With SPSS Exact Tests, you can “slice and dice” your data into breakdowns, which can be as fine as you want, so you learn more by extending your analysis to subgroups. You aren’t limited by required expected counts of five or more per cell for correct results. And you can even rely on SPSS Exact Tests when you’re searching for rare occurrences within large datasets.

Keep your original categories

Don’t lose valuable information by collapsing categories to meet the assumptions of traditional tests. With SPSS Exact Tests, you can keep your original design or natural categories—for example, regions, income, or age groups—and analyze what you intend to analyze.

Easily interpret and apply exact tests

Exact tests are easy to run. You can calculate them anytime with just a press of a button—during your original analysis or when you rerun it. With SPSS Exact Tests, there is no steep learning curve because you don’t need to learn any new statistical theories or procedures. You simply interpret the exact tests results the same way you already interpret the results in IBM SPSS Statistics. And, you’ll always have the right statistical test for your data situation. More than 30 exact tests cover the entire spectrum of nonparametric and categorical data problems for small or large datasets.

Gain greater value with collaboration

To share and re-use assets efficiently, protect them in ways that meet internal and external compliance requirements, and publish results so that a greater number of business users can view and interact with them, consider augmenting your SPSS Statistics software with IBM SPSS Collaboration and Deployment services. More information about its valuable capabilities can be found at ibm.com/spss/cds.

Features

The following tests and statistics are available with SPSS Exact Tests. IBM SPSS Statistics Base includes the asymptotic versions of these tests. All results are produced as SPSS Statistics Base pivot tables/report cubes.

Pearson Chi-square test

- Exact 1-tailed and 2-tailed p values for 2x2 table
- Exact 2-tailed p value for general RxC table
- Monte Carlo 2-tailed p value and confidence intervals (CIs) for general RxC table

Likelihood ratio test

- Exact 1-tailed and 2-tailed p values for 2x2 table
- Exact 2-tailed p value for general RxC table
- Monte Carlo 2-tailed p value and CIs for general RxC table

Fisher’s exact test

- Exact 1-tailed and 2-tailed p values for 2x2 table
- Exact 2-tailed p value for general RxC table
- Monte Carlo 2-tailed p value and CIs for general RxC table

Linear-by-linear association test

- Exact 1-tailed and 2-tailed p values and exact point probability
- Monte Carlo 1-tailed and 2-tailed p values and CIs

Contingency coefficient

- Exact 2-tailed p value
- Monte Carlo 2-tailed p value and CIsPhi
- Exact 2-tailed p value
- Monte Carlo 2-tailed p value and CIsCramer’s V
- Exact 2-tailed p value
- Monte Carlo 2-tailed p value and CIs

Goodman and Kruskal Tau

- Exact 2-tailed p value
- Monte Carlo 2-tailed p value and CIs

Uncertainty coefficient – symmetric or asymmetric

- Exact 2-tailed p value
- Monte Carlo 2-tailed p value and CIs

Kappa

- Exact 2-tailed p value
- Monte Carlo 2-tailed p value and CIs

Gamma

- Exact 2-tailed p value
- Monte Carlo 2-tailed p value and CIs

Kendall's Tau-b and Tau-c

- Exact 2-tailed p value
- Monte Carlo 2-tailed p value and CIs

Somers' D – symmetric and asymmetric

- Exact 2-tailed p value
- Monte Carlo 2-tailed p value and CIs

Pearson's R

- Exact 2-tailed p value
- Monte Carlo 2-tailed p value and CIs

Spearman correlation

- Exact 2-tailed p value
- Monte Carlo 2-tailed p value and CIs

McNemar test

- Exact 1-tailed and 2-tailed p values and point probability

Sign test

- Exact 1-tailed and 2-tailed p values and point probability
- Monte Carlo 1-tailed and 2-tailed p values and CIs

Wilcoxon signed-rank test

- Exact 1-tailed and 2-tailed p values and point probability
- Monte Carlo 1-tailed and 2-tailed p values and CIs

Marginal homogeneity test

- Asymptotic, exact, Monte Carlo 1-tailed and two 2-tailed p values, and point probability

2-Sample Kolmogorov-Smirnov test

- Exact 2-tailed p value and point probability
- Monte Carlo 2-tailed p value and CIs

Mann-Whitney U or Wilcoxon rank-sum W test

- Exact 1-tailed and 2-tailed p values and point probability
- Monte Carlo 1-tailed and 2-tailed p values and CIs

Wald-Wolfowitz runs test

- Exact 1-tailed p value and point probability
- Monte Carlo 1-tailed p value and CIs

Cochran's Q test

- Exact 2-tailed p value and point probability
- Monte Carlo 2-tailed p value and CIs

Friedman test

- Exact 2-tailed p value and point probability
- Monte Carlo 2-tailed p value and CIs

Kendall's coefficient of concordance

- Exact 2-tailed p value and point probability
- Monte Carlo 2-tailed p value and CIs

Kruskal-Wallis test

- Exact 2-tailed p value and point probability
- Monte Carlo 2-tailed p value and CIs

Median test

- Exact 2-tailed p value and point probability
- Monte Carlo 2-tailed p value and CIs

Jonckheere-Terpstra test

- Asymptotic, exact, Monte Carlo 1-tailed and 2-tailed p values, and point probability

1-Sample Chi-square test

- Exact 2-tailed p value and point probability
- Monte Carlo 2-tailed p value and CIs

1-Sample Kolmogorov-Smirnov test

- Exact 2-tailed p value and point probability
- Monte Carlo 2-tailed p value and CIs

1-Sample Wald-Wolfowitz runs test

- Exact 2-tailed p value and point probability
- Monte Carlo 2-tailed p value and CIs

Binomial test

- Both exact 1-tailed and 2-tailed p values and point probability

System requirements

Requirements vary according to platform. For details, see ibm.com/spss/requirements.

About IBM Business Analytics

IBM Business Analytics software delivers actionable insights decision-makers need to achieve better business performance. IBM offers a comprehensive, unified portfolio of business intelligence, predictive and advanced analytics, financial performance and strategy management, governance, risk and compliance and analytic applications.

With IBM software, companies can spot trends, patterns and anomalies, compare “what if” scenarios, predict potential threats and opportunities, identify and manage key business risks and plan, budget and forecast resources. With these deep analytic capabilities our customers around the world can better understand, anticipate and shape business outcomes.

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Software Group
Route 100
Somers, NY 10589

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