

IBM SPSS Bootstrapping

Improve the stability
of your models

Highlights

- Bootstrap a number of IBM SPSS Statistics analytical procedures
- Reliably estimate standard errors and confidence intervals
- Determine the variability of a statistic using resampling with replacement
- Eliminate outliers and anomalies

IBM® SPSS® Bootstrapping helps you create more reliable models that generate the most accurate results for your important projects. The models your organization creates drive important decisions. They may be used to shape public policy, to prevent the spread of disease, or to determine a multi-million dollar investment. It's important that your models are stable, so that they will produce accurate, reliable results. Bootstrapping is a useful technique for testing model stability, and SPSS Bootstrapping makes it simple and easy to do.

This module is available within the [Base edition](#) of IBM SPSS Statistics and provides an efficient way to validate that your models are stable and reliable. It estimates the sampling distribution of an estimator by re-sampling with replacement from the original sample. With SPSS Bootstrapping, you can reliably estimate the standard errors and confidence intervals of a population parameter such as a mean, median, proportion, odds ratio, correlation coefficient, regression coefficient, and numerous others.

Reliable models for critical projects

When you require the most reliable model be created to predict an outcome or map a sample to a population, simply running the model once on the sample data may not be the best approach because results are dependent on your sample data. Resampling with replacement will provide you with more accurate estimates of the reliability of your data.

A more complete view of your data

Computing a statistic on a large number of alternate datasets helps you determine the variability of that statistic. Through re-sampling, SPSS Bootstrapping can create thousands of alternate versions of your dataset, providing a more accurate view of what is likely to exist in the population. Its default setting is 1,000 samples but this setting can be modified upward or downward. IBM SPSS Bootstrapping also helps you eliminate the outliers and anomalies that can degrade the accuracy or applicability of your analysis. As a result, you have a clearer view of your data for creating the model you are working with.

SPSS Bootstrapping provides the ability to bootstrap a number of analytical procedures found throughout the SPSS Statistics product family, including:

- Descriptive procedures
- Descriptives
- Frequencies
- Examine
- Means
- Crosstabs
- T-tests
- Correlations/Nonparametric correlations
- Partial correlations

Modeling procedures:

- One-way
- UniAnova
- GLM
- Regression
- Nominal regression
- Discriminant
- Logistic regression
- Binary multi-nomial logistic
- Ordinal regression
- GENLIN
- Linear mixed models
- Cox regression

IBM SPSS Bootstrapping is available for installation as client-only software but, for greater performance and scalability, a server-based version is also available.

Gain greater value with collaboration

To share and efficiently distribute assets, 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 IBM SPSS Bootstrapping with [IBM SPSS Collaboration and Deployment services](#).

Why IBM?

IBM SPSS Statistics is a comprehensive software solution that addresses all facets of the analytical process from data preparation and management to analysis and reporting. You can improve forecasts and plans by inputting missing values with expected values, deliver tables and visualizations to communicate results effectively, classify cases into groups and predict values of target variables based on values of predictor variables, and accurately model linear and nonlinear relationships. Organizations of all types have relied on IBM SPSS Statistics to increase revenue, outmaneuver competitors, conduct research, and drive decision-making with data.

Additional information

To learn more about IBM SPSS Statistics, start a free trial, or make a purchase, visit the [product page](#).

Next steps

[Discover IBM SPSS Statistics 28.](#)
[Start a no-cost 30-day trial.](#)

If you'd like to purchase, or upgrade to SPSS Statistics 28 through an IBM Business Partner, please contact a partner from the following list: [IBM SPSS Business Partners](#).



© Copyright IBM Corporation 2021

IBM Corporation
New Orchard Road
Armonk, NY 10504

Produced in the United States of America
September 2021

IBM, and the IBM logo are trademarks or registered trademarks of International Business Machines Corporation, in the United States and/or other countries. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on ibm.com/trademark.

This document is current as of the initial date of publication and may be changed by IBM at any time. Not all offerings are available in every country in which IBM operates.

It is the user's responsibility to evaluate and verify the operation of any other products or programs with IBM products and programs. THE INFORMATION IN THIS DOCUMENT IS PROVIDED "AS IS" WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, INCLUDING WITHOUT ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND ANY WARRANTY OR CONDITION OF NON-INFRINGEMENT. IBM products are warranted according to the terms and conditions of the agreements under which they are provided.