

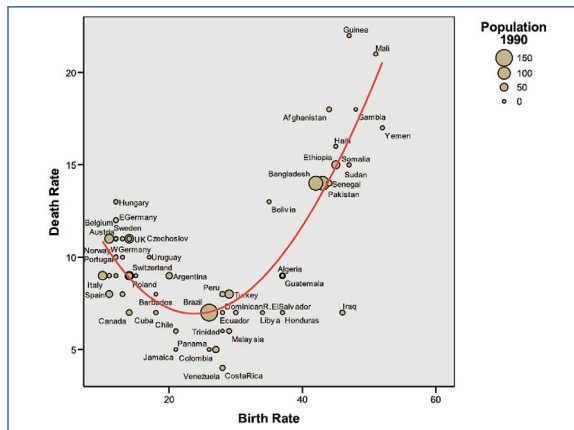
> What's New in SPSS 14.0 for Windows

SPSS Base 14.0 for Windows enhancements

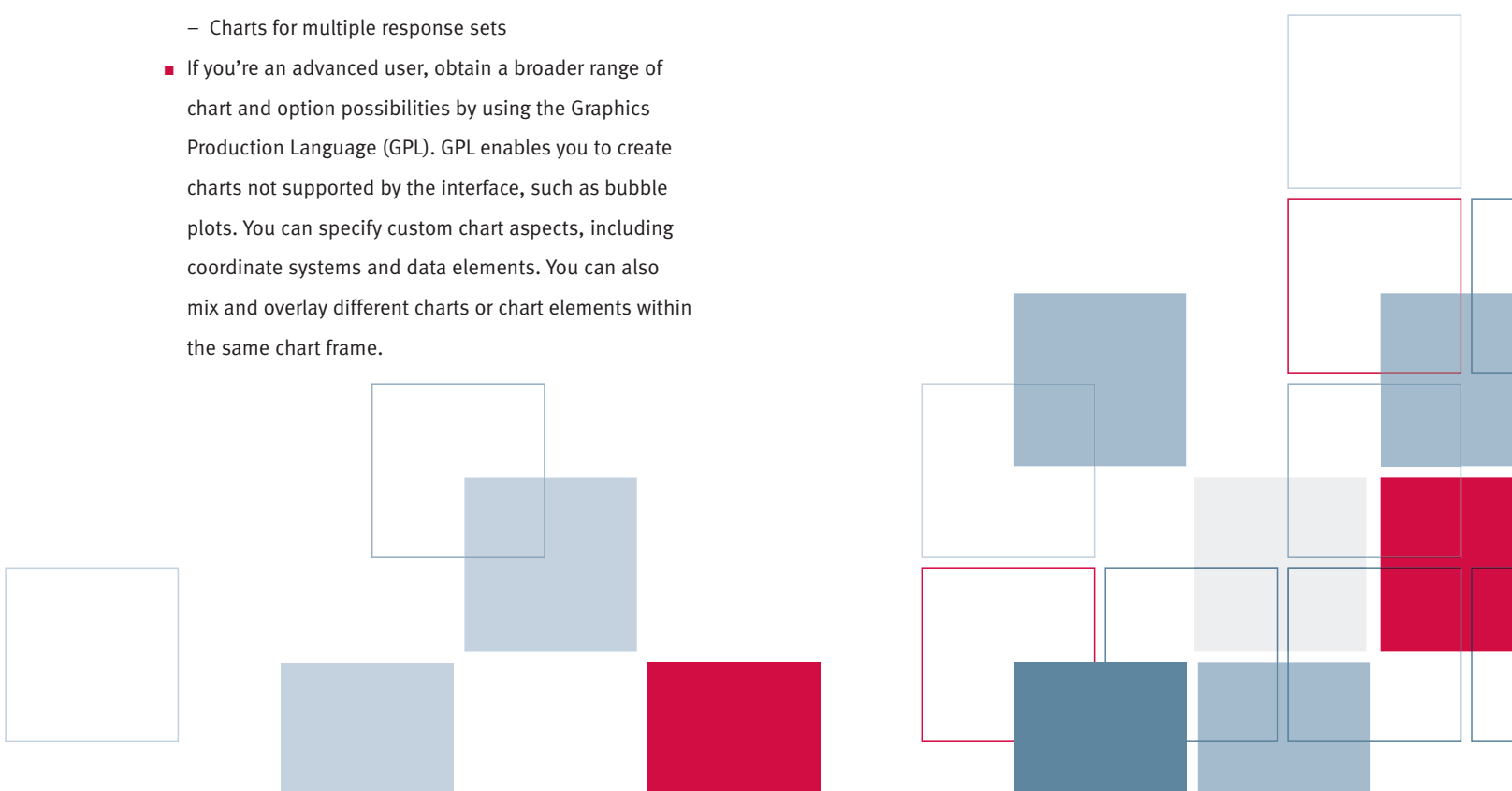
Graphics and output

Enhanced reporting capabilities in SPSS 14.0 provide you with a new way to create graphics in SPSS, introduce new chart types, and even enable you to create custom charts.

- Create commonly used charts more easily with Chart Builder, the new chart creation interface. With it, create a chart by dragging variables and elements onto a chart creation canvas. Or use a shortcut method based on an existing chart in the Gallery. Additionally, you can see a limited preview of the chart as it is being built. At creation time, you can use multiple templates, which can be added in any order, and select interpolation types for lines and areas. For easy access in the future, save customized charts in your Favorites.
- Present your data using new chart types (created outside of Chart Builder). New chart types include:
 - 2-D line charts
 - Charts for multiple response sets
- If you're an advanced user, obtain a broader range of chart and option possibilities by using the Graphics Production Language (GPL). GPL enables you to create charts not supported by the interface, such as bubble plots. You can specify custom chart aspects, including coordinate systems and data elements. You can also mix and overlay different charts or chart elements within the same chart frame.



This bubble plot was created using the Graphics Production Language (GPL). The chart consists of multiple elements, lines, and points. Population is mapped to bubble size.



Data and access management

More powerful data management in SPSS Base 14.0 provides you with a number of new features to save time, increase accuracy and reliability—and better manage your data. You can now:

- Open multiple datasets within a single SPSS session. This enables you to save time and condense steps when merging data files. This also helps you maintain consistency when copying data dictionary information between multiple files.
- Directly import data from Dimensions™ products, including mrlInterview™, and traditional market research products, including Quanvert™
- Import from OLE DB data sources without having to go through ODBC. This helps improve performance, especially when your datasets are large.
- Read/write Stata® files
- Read SAS® compressed files
- Easily find and replace text strings in your data using the new find/replace function for transformations
- Better describe categorical data because value label length has increased to 120 bytes, which is double the previous limit
- Clone or duplicate datasets. For example, perform transformations or do analyses on a duplicate dataset while protecting the original data.
- Access data in SPSS using the latest versions of popular operating systems and databases. SPSS 14.0 updates the Data Access Pack to Connect ODBC 5.1.

Licensing

Several updates to the licensing features in SPSS Base 14.0 provide your organization with greater flexibility and reliability:

- Ensure primary or high-priority users always have access to the SPSS software they need using network license reservations and priority settings
- Provide “on-the-road access” to SPSS software. A network commuter license enables users to work while not connected to your network.
- Protect against downtime when a License Manager fails. Your network administrators can now set up multiple License Managers for redundancy so that applications are uninterrupted in the case of a failure. When a License Manager fails, a license from another License Manager automatically takes over.

New capability: SPSS Programmability Extension

Use the new SPSS Programmability Extension to control the flow of your syntax jobs or create your own user-defined algorithms with external programming languages. Program code written in an external language can be used to control or make decisions about which syntax is executed based on:

- Variable attributes
- Procedure output
- Data values (new for SPSS 14.0.1)
- Error codes

Visit the new SPSS Inc. Code Center (http://forums.spss.com/code_center) to learn more about this extension.

New SPSS add-on module: SPSS Data Validation™

This new add-on module enables you to streamline the data validation process, eliminate labor-intensive manual checks—and reach more accurate results. With it, you can:

- Easily identify suspicious or invalid cases, variables, and data values; view patterns of missing data; and summarize variable distributions. Using this knowledge, you can determine data validity and remove or correct suspicious cases at your discretion prior to analysis. The Validate Data procedure enables you to apply rules to perform data checks based on each variable's measure level (whether categorical or continuous). For example, the procedure runs a frequency for categorical-level data and displays all cases showing a “4” on a three-point scale. You can specify validation rules for individual variables (such as range checks) and cross-variable checks (for example, “pregnant males”).
- Easily detect multivariate outliers so that you can further examine them and determine if they should be included in your analyses. The anomaly detection procedure searches for unusual cases based upon deviations from similar cases and gives reasons for such deviations. It enables you to flag outliers by creating a new variable.



“I think SPSS 14.0 represents a significant and important improvement over the previous versions. The ability to open multiple datasets is an excellent new feature that saves me a great amount of time. Also, I have enjoyed the new Chart Builder functionality because it allows me to produce an extensive range of statistical charts and comprehensive graph syntax.”

– Dennis McBride, PhD
Associate Director for Research
The Washington Institute for Mental Illness
Research and Training
University of Washington

SPSS Trends™ 14.0 enhancements

Easily obtain more powerful forecasts with improvements to SPSS Trends. You can now:

- Produce accurate time-series models even if you have little or no experience with time-series data. The new Expert Modeler feature in the SPSS Trends add-on module automatically determines which ARIMA (autoregressive integrated moving average process) or exponential smoothing model best fits your time-series and independent variables, eliminating selection through trial and error. You do not have to know how to choose proper ARIMA orders or achieve stationarity (in which a variable has a constant mean, variance, and autocorrelation over time) in order to create time-series models.
 - If you're an experienced time-series modeler, you can use the Expert Modeler to bypass many manual or tedious tests and steps. Or, if you prefer, provide the Expert Modeler with a partial or exact set of parameters to use as it searches for a model.
- Save hours or even days of work because you can model hundreds of time-series variables at once, rather than one series at a time. Because the module presents results in an organized fashion, you can concentrate on the models that need closer examination.
- Reforecast and re-estimate time-series models when new data is available. If your models are not fitting as well as they originally did, you can quickly re-estimate your models using new data.

SPSS Tables™ 14.0 enhancements

Gain two more ways to display results in SPSS Tables:

- Run significance tests on multiple response variables
- Exclude categories used in subtotal calculations from significance tests on the fly, even when they are displayed (not hidden) in the base table

SPSS Categories™ 14.0 enhancements

The new preference scaling (PREFSCAL) procedure in SPSS Categories enables you to:

- Visually examine the relationship between objects. This procedure enables you to perform multidimensional unfolding on two sets of objects in order to find a common quantitative scale. Developed by the Data Theory Group at Leiden University, this is the only known algorithm that can perform non-metric analyses for ordinal data without giving degenerative solutions (as, for example, ALSCAL does).

Amos™ 6.0 enhancements

Amos provides you with powerful and easy-to-use structural equation modeling (SEM). It enables you to create more realistic models than if you used standard multivariate statistics or multiple regression models alone. You can now easily incorporate Amos into your SPSS workflow. Amos 6.0 has enhancements that enable you to:

- Obtain Bayesian estimates of model parameters and other quantities with Markov chain Monte Carlo (MCMC) estimation. Bayesian analysis enables you to apply your subject-area expertise or business insight to improve estimates by specifying an informative prior distribution. You can:
 - Reliably fit structural equation and related models to smaller samples
 - Investigate the assumptions of maximum likelihood estimation by plotting the marginal likelihood of any parameter

- Estimate any function of model parameters. For example, compute the difference between direct and indirect effects. Observed data can be complete or incomplete.
- Avoid inadmissible model parameter estimates, such as negative variance estimates, through the choice of prior distribution or a global option
- Prevent unstable solutions in systems of linear equations in non-recursive models (for example, models with bi-directional causality) through a global setting
- Perform tests of custom hypotheses that are not easily obtained, using maximum likelihood or other estimation methods
- Obtain optimal asymmetric credible intervals for indirect effects
- Create datasets with missing values or latent variables filled in. Choose from three data imputation methods: Regression, stochastic regression, or Bayesian. Use regression imputation to create a single completed dataset. Use stochastic regression or Bayesian imputation to create multiple imputed datasets. You can impute missing values or factor scores.

New add-on module: SPSS Adapter for Predictive Enterprise Services

The SPSS Adapter for Predictive Enterprise Services—new in SPSS 14.0.1—enables you to store and retrieve SPSS syntax and output files through a central repository. Use this adapter with SPSS Predictive Enterprise Services™ and share SPSS objects among users and with other applications. You can also track files using versioning, thus eliminating the need for ad-hoc file systems to manage enterprise-wide assets. For more information, visit www.spss.com/predictive_enterprise_services.

SPSS Server™ 14.0 enhancements

SPSS Server continues to help your organization increase its productivity by giving you the ability to:

- Create models more quickly and accurately using the predictor selection and Naïve Bayes algorithms
 - The predictor selection algorithm enables you to reduce the set of variables (or predictors) available to include only those that are most relevant for modeling. This algorithm supports categorical and continuous independent and dependent variables, and accepts very large sets of predictors (up to 100,000).
 - The Naïve Bayes algorithm also enables you to select predictors to reduce the set of variables (or predictors) available to include only those that are most relevant for modeling. Unlike the predictor selection algorithm, however, the Naïve Bayes algorithm uses a multivariate model to select predictors. Also, this algorithm is available for categorical-dependent variables only. Predictors can be continuous or categorical, and the algorithm is best used when you have fewer than 200 predictors.
- Use the interface or syntax to score new data in the scoring engine, which assigns predicted values and probabilities to new data using previously created models
- Reduce network traffic and improve performance with the data-free client feature. You can prepare and analyze data using the full gamut of SPSS functionality without the additional overheads involved when data are delivered to the client. Your network administrator controls this event and can enable or disable delivery of the SPSS client on a per user, per group, or universal basis.

System requirements

SPSS Base 14.0 for Windows

- Operating system: Microsoft® Windows XP, 2000, and Me are the preferred platforms. Windows 98 is also supported.
- Hardware: Intel® Pentium-compatible processor
- Memory: 256MB RAM minimum
- Minimum free drive space: 300MB
- SVGA monitor
- Web browser: Internet Explorer 6

SPSS 14.0 add-on modules

- All SPSS 14.0 add-on modules require SPSS Base 14.0 for Windows. No other system requirements are necessary.

Amos 6.0

- Operating system: Windows XP, 2000, or Me
- Memory: 256MB RAM minimum
- Minimum free drive space: 125MB
- Web browser: Internet Explorer 6

SPSS Server 14.0

- Operating system: Windows 2000 Server, Windows Server 2003 (32-bit or 64-bit servers), and later; Sun™ Solaris™ 8 and later (64-bit servers only); IBM® AIX® 5.2 and later; or Red Hat® Enterprise Linux® 3 and later
- Memory: 128RAM per expected concurrent user
- Minimum free disk space: 300MB [includes SPSS Server install, SPSS Server Administrator install, and the stand-alone SPSS Batch (SPSSB) install]
- Minimum CPU: One CPU for every four users; SPSS recommends one CPU for each user for optimal performance
- Minimum temporary disk space: Calculate by multiplying 2.5 x number of users x expected size of dataset in megabytes

Version comparison chart: new features added to SPSS by version number and by area

New feature	Version number	14.0	13.0	12.0	11.5	11.0	10.0	9.0
Client/server								
Conversion-free/copy-free data access in SQL DBMS		X	X	X	X	X	X	
Data-free client		X						
Multithreading in selected data management and data access procedures to take advantage of multiple processors		X	X	X				
Support for Open SSL		X	X	X				
In-database data preparation (sort and aggregate) to improve performance		X	X					
Score data using PMML models created with SPSS, Clementine®, and AnswerTree®		X	X					
User interface (UI) for scoring		X						
SPSS client can be used with all licensed SPSS Servers		X	X	X	X	X	X	
Predictor selection algorithm		X						
Naïve Bayes algorithm		X						
Data access and data management								
Customizable toolbar		X	X	X	X	X	X	X
Define variable properties tool to prepare your data for analysis		X	X	X	X			
Database Wizard		X	X	X	X	X	X	X
Date and Time Wizard		X	X					
Direct Microsoft Excel® interface		X	X	X	X	X	X	
Identify Duplicate Cases tool		X	X	X				
Clone dataset command		X						
Ability to open multiple datasets within a single SPSS session		X						
Export data to recent versions of Excel and SAS		X	X	X	X			
Large file capability		X	X	X	X	X	X	
Long variable names (up to 64 bytes)		X	X	X				
Very long text strings (up to 32,767 bytes)		X	X					
Long value labels (up to 120 bytes)		X						
Flexible Data Editor		X	X	X	X	X		
Read recent SAS files		X	X	X	X	X	X	
Read/write Stata files		X						
Support for Dimensions Data Model™		X						
OLE DB data access		X						
Restructure Data Wizard		X	X	X	X	X		
Text Wizard		X	X	X	X	X	X	X
Visual Bander to easily create bands (for example, break income into income “bands” of \$10,000)		X	X	X				
Programmability								
Control the flow of your syntax jobs or create your own user-defined algorithms using external programming languages (through SPSS Programmability Extension)		X						

Features subject to change based on final product release.

Version comparison chart: new features added to SPSS by version number and by area

New feature	Version number	14.0	13.0	12.0	11.5	11.0	10.0	9.0
Analysis								
Ability to run multiple SPSS sessions simultaneously and switch sessions		X	X	X	X	X	X	
CATPCA and PROXSCAL (in SPSS Categories add-on module)		X	X	X	X	X	X	
Multiple correspondence analysis (in SPSS Categories add-on module)		X	X					
Preference scaling (in SPSS Categories add-on module)		X						
Cluster analysis (in SPSS Base)		X	X	X	X	X	X	X
TwoStep cluster analysis (in SPSS Base)		X	X	X	X			
Descriptive ratio statistics		X	X	X	X	X		
Discriminant analysis (in SPSS Base)		X	X	X	X	X	X	X
Factor analysis (in SPSS Base)		X	X	X	X	X	X	X
General linear models (GLM) (in SPSS Advanced Models™ add-on module)		X	X	X	X	X	X	X
Linear mixed models (also known as hierarchical linear models) (in SPSS Advanced Models add-on module)		X	X	X	X	X		
Multinomial logistic regression (in SPSS Regression Models™ add-on module)		X	X	X	X	X	X	X
Stepwise multinomial logistic regression (in SPSS Regression Models add-on module)		X	X	X				
PoLytomous universal models (PLUM) to model ordinal outcomes (in SPSS Advanced Models add-on module)		X	X	X	X	X	X	
Reliability and ALSCAL multidimensional scaling and matrix operations (in SPSS Base)		X	X	X	X	X	X	X
Receiver-operating characteristic (ROC) analysis (in SPSS Base)		X	X	X	X	X	X	X
SPSS Complex Samples™ add-on module		X	X	X				
Complex samples general linear model (in SPSS Complex Samples add-on module)		X	X					
Complex samples logistic regression (in SPSS Complex Samples add-on module)		X	X					
Varcomp (in SPSS Advanced Models add-on module)		X	X	X	X	X	X	X
SPSS Classification Trees™ add-on module		X	X					
Validate Data procedure (in SPSS Data Validation add-on module)		X						
Anomaly detection for multivariate outliers (in SPSS Data Validation add-on module)		X						
Enhanced SPSS Trends add-on module with Expert Modeler		X						
Bayesian estimation—MCMC algorithm (in Amos 6.0 structural equation modeling software)		X						
Data imputation, including multiple imputation (in Amos 6.0 structural equation modeling software)		X						
Run significance tests on multiple response variables (in SPSS Tables add-on module)		X						
Exclude categories used in subtotal calculations from significance tests (in SPSS Tables add-on module)		X						
Graphs								
IGRAPH (interactive graphs)		X	X	X	X	X	X	X
Presentation graphics system		X	X	X				
Chart Builder user interface for graphics		X						
Support for SPSS Inc.'s Graphics Production Language (GPL)		X						

Features subject to change based on final product release.

Version comparison chart: new features added to SPSS by version number and by area

New feature **Version number** **14.0** **13.0** **12.0** **11.5** **11.0** **10.0** **9.0**

Graphs (continued)

2-D line charts and charts for multiple response sets	X							
Population pyramids (also called mirror charts or dual charts), 3-D bar charts, and dot charts (also called dot density charts)	X	X						
Additional chart display features/options, including paneled charts and error bars on categorical charts	X	X						
SPSS Maps™ add-on module for creating high-quality maps and performing demographic analysis	X	X	X	X	X	X	X	

Output

XML model export for model deployment with SmartScore®	X	X	X	X	X	X	X	
Enhanced SPSS Tables module with table preview builder and inferential statistics	X	X	X	X				
Draft Viewer/text output and control	X	X	X	X	X	X	X	X
Export output to Microsoft Excel	X	X	X	X				
Export output to Microsoft Word	X	X	X	X				
Export output to Microsoft PowerPoint®	X	X						
HTML output	X	X	X	X	X	X	X	X
Layered reports/OLAP cubes	X	X	X	X	X	X	X	X
Output Navigator/Viewer	X	X	X	X	X	X	X	X
Output scripting/programming in Basic	X	X	X	X	X	X	X	X
Pivot tables/report cubes	X	X	X	X	X	X	X	X
Output management system (turn pivot table output, such as SPSS data files, XML, and HTML, into data/input)	X	X	X					
Interactive interface for the output management system	X	X						
Switch output language	X	X	X	X				
TableLooks™	X	X	X	X	X	X	X	X
Table to graph	X	X	X	X	X	X	X	

Licensing improvements

Network license reservations and priority settings	X							
Network commuter license	X							
License manager redundancy	X							

Help

Interactive case studies	X	X	X	X	X			
“SPSS Manuals on CD,” featuring manuals in PDF format for SPSS Base and all add-on modules	X	X	X					
Results Coach™	X	X	X	X	X	X	X	X
Statistical Coach™	X	X	X	X	X	X	X	X
Tutorial	X	X	X	X	X	X	X	X
Chart tutorial	X	X						
“What’s This?” (context-sensitive help)	X	X	X	X	X	X	X	X

Features subject to change based on final product release.

To learn more, please visit www.spss.com. For SPSS office locations and telephone numbers, go to www.spss.com/worldwide.

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