

# THE STATA NEWS

January/February/March 2012

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## Oxford Internet Institute showcases Stata's capabilities

With literally billions of people connected to the Internet and more getting online every day, understanding how it affects society is paramount. The Oxford Internet Institute, commonly known as the OII, was founded in 2001 as a research and teaching department of the University of Oxford to fulfill that objective. The OII includes about 25 researchers and more than 50 graduate students pursuing masters- and doctoral-level degrees.

***“Speed is a big issue, and Stata is very fast.”***

The OII made the switch to Stata about two years ago when instructors found that the software they were using in courses at the time did not have the features required by students writing their theses. Stata's broad array of statistical procedures, sophisticated data-management capabilities, and high quality graphics, provide the students with the tools they need to complete their coursework and theses. Moreover, Stata's flexibility allows the OII's researchers to handle multiple projects at once and lets them focus on answering questions about Internet usage instead of having to grapple with arcane, rigid computer software. Grant Blank, a Survey Research Fellow at the OII, notes that “speed is a big issue, and Stata is very fast.”

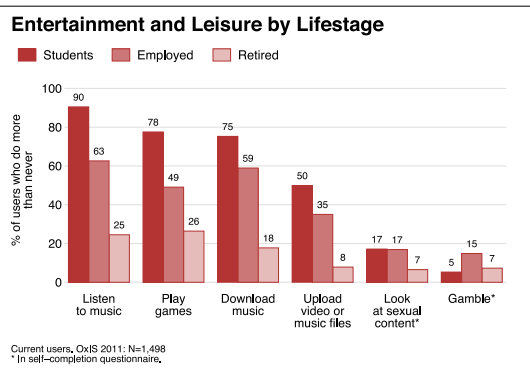
## The Oxford Internet Survey

Every two years, the OII conducts a comprehensive survey of over 2,000 people in Britain. Since its inception in 2003, the Oxford Internet Survey (OxIS) has served as the authoritative source of data on

Internet usage in Britain. The OxIS is a multi-stage probability-weighted survey, and Stata's industry-leading survey statistics make handling that data easy.

Aside from general questions dealing with issues like the availability of Internet access in British homes, experience levels of Internet users, and general views of technology held by users and non-users of the Internet, the 2011 survey studied so-called next generation users, those who access the Internet via cell phones, via tablets, and on multiple devices. Indeed, the majority of Internet users could be using these gadgets in the near future; the OxIS found that in 2011, 44% of Internet users used portable devices to get online, while as recently as 2007, only 20% of users did.

Recently, Blank and coauthor William Dutton, Professor of Internet Studies at the OII, completed the report *Next Generation Users: The Internet in Britain*, which is based on the 2011 OxIS. This report documents the adoption of Internet access, what people use the Internet for, the popularity of social networking sites, regulatory issues, and how Internet usage impacts people's lives.



## Scores of graphs

Of particular interest to Stata users is the collection of over 100 aesthetically pleasing graphs in the report. The vast majority of pages in the report contain at least one graph, and most pages have two or three of these. The degree of consistency among the graphs makes interpreting each one simple; the reader is not forced to figure out the idiosyncrasies of each graph. Line charts, bar charts, and pie charts are all used extensively, and all look equally polished.

All the graphs were produced using Stata. Blank comments that using a spreadsheet program or specialized graphics software to produce graphs is “error-prone, slow, and incredibly repetitive and boring”. Making two graphs in a spreadsheet look the same may be easy enough, but Blank and two graduate research assistants produced over 300 graphs while generating their report. Manipulating that many graphs by hand while maintaining a consistent theme is nearly impossible.

To maintain the consistent appearance, Blank and his team wrote a custom graphics scheme. Graphics schemes control the overall look of the graphs you produce in Stata, controlling attributes like background and foreground colors, axes, marker symbols, and where titles, subtitles, and other elements appear. Stata ships with 11 schemes, but sometimes having a custom, distinctive look to your graphs is desirable. Writing your own scheme lets you create that unique look. Although the task sounds daunting, one can in fact use Stata’s Graph Recorder to create a scheme, as Kevin Crow (2008) discusses in the *Stata Journal*.

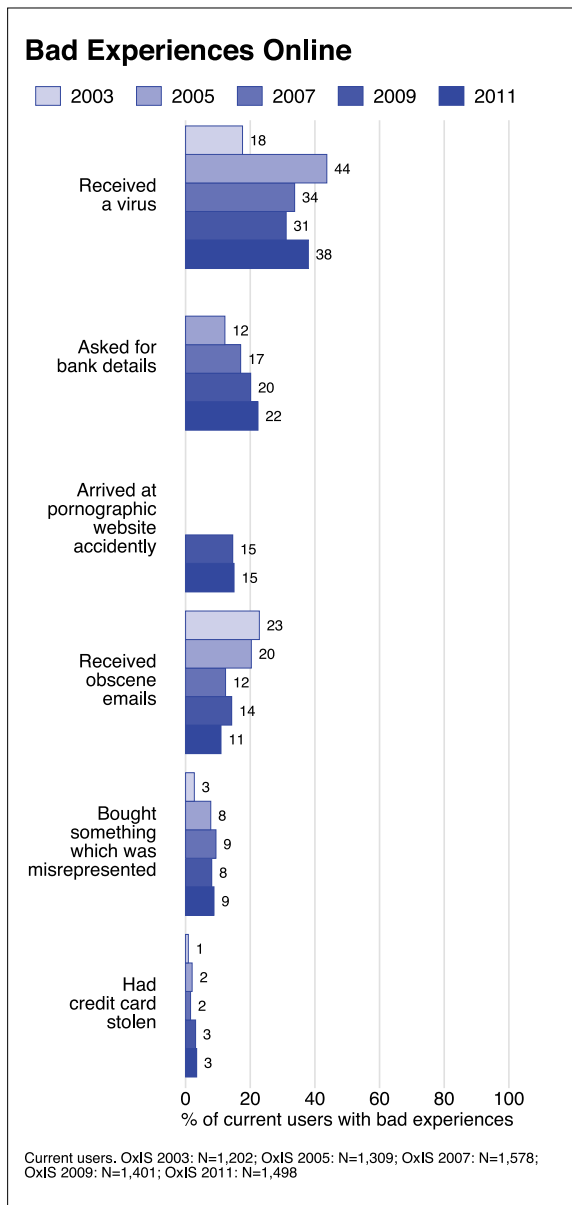
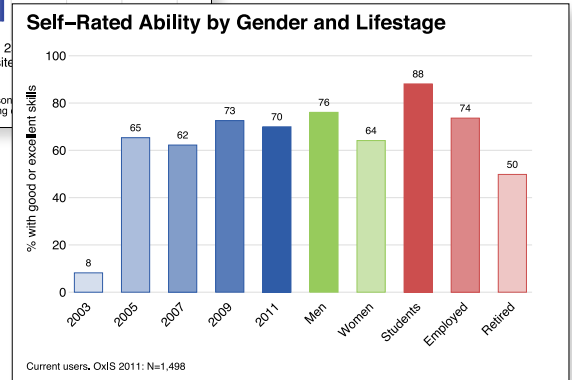
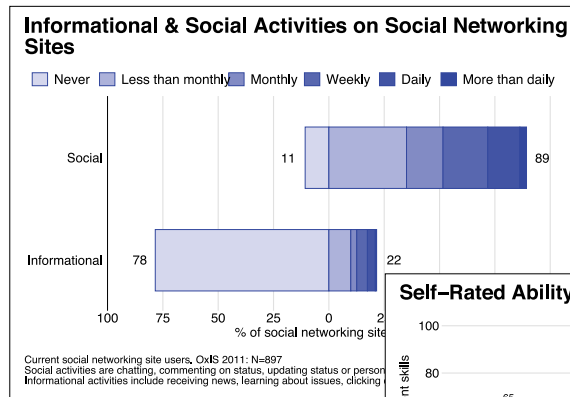
In addition, Blank wrote programs to create custom bar charts of percentages, to create charts based on multiple-response variables, and to perform other repetitive tasks. Of course, even with a bespoke scheme and custom programs, getting a graph to look just so can require somewhat lengthy `graph` commands. Writes Blank, “Getting the title, labels, and notes right is always finicky since they are mostly different for each graph (meaning there is little room for standardization).” Nevertheless, writing programs to perform repetitive tasks and using a single graph scheme allows users to produce graphs that truly inform rather than confuse the reader.

## Conclusion

The Internet has become an integral part of most peoples' lives, from email to social networking to reading news sources and blogs to watching movies. The Oxford Internet Institute is leading the way, helping researchers, policy makers, and the public at large understand how the Internet affects and shapes society. The biennial Oxford Internet Survey provides a wealth of data on how people use and view the Internet. To process and report on complex surveys like the OxIS requires a full-featured statistics package with advanced data-management, statistical, and graphics capabilities that is also easy to learn and use. Stata fulfills that requirement, providing the OII with the tools they need to survey and report on Internet trends in Britain accurately and effectively.

To learn more about the OII, visit [www.oii.ox.ac.uk](http://www.oii.ox.ac.uk). You can learn more about OxIS and download a complete copy of the report at [microsites.oii.ox.ac.uk/oxis](http://microsites.oii.ox.ac.uk/oxis).

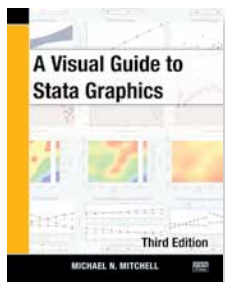
Crow, K. H. 2008. Stata tip 72: Use the Graph Recorder to create a pseudograph scheme. *Stata Journal* 8: 592–593.



— Brian Poi  
 Senior Economist

## New from Stata Press

### A Visual Guide to Stata Graphics, Third Edition



Author: Michael N. Mitchell  
 Publisher: Stata Press  
 Copyright: 2012  
 ISBN-13: 978-1-59718-106-8  
 Pages: 499; paperback  
 Price: \$62.00

In its third edition, Michael Mitchell's *A Visual Guide to Stata Graphics* remains the essential introduction and reference for Stata graphics. The third edition retains all the features that made the first two editions so useful:

- A complete guide to Stata's **graph** command and Graph Editor
- Exhaustive examples of customized graphs using both command options and the Graph Editor
- Visual indexing of features—just look for a picture that matches what you want to do

New in this edition are treatments of contour plots, margins plots, and font handling. Mitchell dedicates a new subsection to contour plots, showing you how to control the number of levels, how to change the colors used, and how to produce effective legends. Over 30 graphs are used to demonstrate what you can accomplish with the new **marginsplot** command—graphs of estimated means and marginal means (with confidence intervals), interaction graphs, comparisons of groups, and more. Mitchell also adds a section that shows you how to get bold text, italic text, subscripts, superscripts, and Greek letters into your titles, axes, labels, and other text.

The book retains its visual style, presenting the reader with a color-coded, visual table of contents that runs along the right edge of every page and shows readers exactly where they are in the book. You can see the color-coded chapter tabs without opening the book, providing quick visual access to each chapter.

The heart of each chapter is a series of entries that are typically formatted three to a page. Each entry shows a **graph** command (with the emphasized portion of the command highlighted in red), the resulting graph, a description of what is being done, the dataset and scheme used, and a section showing how to produce the result by using the Graph Editor. Because every feature, option, and edit is demonstrated with a graph or screen capture, you can often flip through a section of the book to find exactly the effect you are seeking.

The first chapter details how to use the book, the types of Stata graphs, how to use schemes to control the overall appearance of graphs, and how to use options to make specific modifications. It also outlines a process for building graphs with the **graph** command.

The second chapter is a complete overview of the Graph Editor. It includes over 120 color graphics and screen captures to show exactly how things are done and how they look on the graph. With pictures and words, Mitchell shows how to change the color, size, or placement of any titles, markers, annotations, or other objects on your graph by using just a few mouse clicks. More subtly, he shows how to change things such as the number of ticks and labels on your axes, the number of columns in your legends, the label on an individual point, and more. He even shows how to convert, for example, a scatterplot to a line plot and how to rotate or pivot bar charts. Mitchell also covers advanced topics such as how to draw lines and arrows on graphs so that they continue to reference your objects of interest even if you resize the graph, combine it with other graphs, or change the scale or range of the axes. In short, he exposes all the Graph Editor's tools, from the simplest to the most powerful. Mitchell does not stop there; almost every example in the book shows you how to accomplish the desired graph or effect not only by using a command or command-line option but also by using the Graph Editor.

Of the Graph Editor, Mitchell writes,

[...] You need to use the Graph Editor for only a short amount of time to see what a smart and powerful tool it is. Whereas commands offer the power of repeatability, the Graph Editor provides a nimble interface that permits you to tangibly modify graphs like a potter directly handling clay.

In the third chapter, Mitchell discusses twoway graphs such as scatterplots, line plots, area plots, bar plots, range plots, contour plots, regression fits, and smooths. He shows how to create each of these types of graphs and how to use options (and the Graph Editor) to control how the graph looks. He also introduces graphing across groups of data, and options for adding and controlling titles, notes, legends, and so forth. Beyond the basics, he shows how to easily overlay plots to obtain graphs such as regression fits with error contours and observed data scatters, local polynomial smooths with scatters of their underlying data, stock-market-style graphs of open and closed values with quantities traded as a bar chart at the bottom, histograms with density smooths, and more. Because Stata's **graph** command will let you customize any aspect of the graph, Mitchell spends ample time showing you the most valuable options for obtaining the look you want. If you are in a hurry to discover one special option, you can skim the chapter until you see the effect you want, and then glance at the command to see what is highlighted in red.

In the succeeding five chapters, Mitchell covers scatterplot matrices, bar graphs, box plots, dot plots, and pie charts. As with twoway graphs, he shows you how to create each of these graphs and how to adjust every aspect of the graph to your taste (or to a publisher's required form).

In chapters 9 and 10, Mitchell undertakes an in-depth presentation of the options that are available across almost all graph types—options that add and change the look of titles, notes, and such; control the number of ticks

on axes; control the content and appearance of the numbers and labels on axes; control legends; add and change the look of annotations; graph over subgroups; change the look of markers and their labels; apply schemes to control the look of the graph; change the look of graph regions; size graphs and their elements; and more. Again, he shows how to make these changes both by using options and by using the Graph Editor.

To complete the graphical journey, Mitchell discusses and demonstrates the 12 styles that unite and control the appearance of the myriad graph objects. These styles are angles, colors, clock positions, compass directions, connecting points, line patterns, line widths, margins, marker sizes, orientations, marker symbols, and text sizes.

That completes the main body of the *Visual Guide*, but don't skip the appendix. There, Mitchell first gives a quick overview of the dozens of statistical **graph** commands that are not strictly the subject of the book. Even so, these commands use the **graph** command as an engine to draw their graphs, and therefore almost all that Mitchell has discussed applies to them. To make this clear, he shows explicitly how to apply common options and common Graph Editor tools to statistical graphs. Then, Mitchell takes you on a tour of the new **marginsplot** command. After that, he addresses combining graphs—showing you how to create complex and multipart images from previously created graphs.

In a crucial section entitled “Putting it all together”, Mitchell shows us how to do just that. We learn more about overlaying twoway plots, and we learn how to combine data management and graphics to create plots such as bar charts of rates with capped confidence intervals, scatterplots with range-finder confidence intervals in both dimensions, and population pyramids.

Mitchell then warns us about mistakes that can be made when typing **graph** commands and how to correct them. In the appendix, he even shows us how to create our own scheme files. Scheme files allow you to control every aspect of how your graphs look without having to specify options. They are the answer to department or journal standards or if you just want all your graphs to have a common appearance that is not one of the schemes shipped with Stata. As with the rest of the book, this section includes cross-references to the *Stata Graphics Reference Manual* to provide more depth on the subject. Finally, Mitchell reviews all datasets, schemes, and other online supplements available for the book.

The third edition of *A Visual Guide to Stata Graphics* is a complete guide to Stata's **graph** command and the associated Graph Editor. Whether you want to tame the Stata **graph** command, quickly find out how to produce a graphical effect, master the Stata Graph Editor, or learn approaches that can be used to construct custom graphs, this is the book to read.

You can find the table of contents and online ordering information at [stata-press.com/books/visual-guide-to-stata-graphics](http://stata-press.com/books/visual-guide-to-stata-graphics).



Coming soon  
from Stata Press

## Multilevel and Longitudinal Modeling Using Stata, Third Edition



*Multilevel and Longitudinal Modeling Using Stata, Third Edition*, by Sophia Rabe-Hesketh and Anders Skrondal, looks specifically at Stata's treatment of generalized linear mixed models, also known as multilevel or hierarchical models. These models are “mixed” because they allow fixed and random effects, and they are “generalized” because they are appropriate for continuous Gaussian responses as well as binary, count, and other types of limited dependent variables.

The material in the third edition has been split into two volumes, a result of the substantial expansion of material from the second edition, and has much to offer readers of the earlier editions. The text has almost doubled in length from the second edition and almost quadrupled in length from the original version. Fully updated for Stata 12, the book has several new chapters and many new exercises and datasets.

Details will be available soon on [stata-press.com](http://stata-press.com). To be notified when this book is ready to ship, sign up for an email alert at [stata.com/alerts](http://stata.com/alerts).

### Additional forthcoming titles

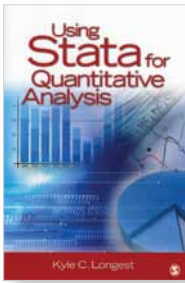
- *Generalized Linear Models and Extensions, Third Edition*  
James W. Hardin and Joseph M. Hilbe
- *Interpreting and Visualizing Regression Models Using Stata*  
Michael N. Mitchell

For information on these and other forthcoming titles, visit [stata-press.com/forthcoming](http://stata-press.com/forthcoming).



## New from the Stata Bookstore

### Using Stata for Quantitative Analysis



Author: Kyle C. Longest  
 Publisher: Sage  
 Copyright: 2012  
 ISBN-13: 978-1-4129-9711-9  
 Pages: 225; paperback  
 Price: \$26.75

*Using Stata for Quantitative Analysis*, by Kyle C. Longest, provides an excellent introduction to Stata for users who have never used statistical analysis software before. The book starts at the proverbial square one, describing Stata's graphical interface, how to import data from Microsoft Excel spreadsheets, and how to use the Data Editor. Subsequent chapters show how to obtain descriptive statistics, create do-files, manage data, produce graphs, and perform basic analyses using linear regression and analysis of variance.

Longest's book is noteworthy because it carefully blends Stata's menu system and dialog boxes on one hand and command syntax on the other, giving users a balanced view of how Stata can be used. The book sets aside more-advanced details in boxes entitled "A Closer Look" that can be skipped on first reading but provide additional information that users will want to know once they are comfortable with the basics. This book can be used as a supplemental textbook in both undergraduate and graduate social science courses on statistical methods to help students learn how to use Stata. Practitioners needing to learn Stata quickly will also find this book worthwhile.

You can find the table of contents and online ordering information at [stata.com/bookstore/using-stata-for-quantitative-analysis](http://stata.com/bookstore/using-stata-for-quantitative-analysis).

## StataCorp is on LinkedIn

You can now connect with StataCorp on LinkedIn. Find out what other people have to say about Stata or write your own review. Connect with us today.



[LinkedIn.com/company/StataCorp](http://LinkedIn.com/company/StataCorp)

## 2012 Stata Users Group meetings

### Berlin, Germany: June 1

The 10th German Stata Users Group meeting will be held at the WZB Social Science Research Center in Berlin on Friday, June 1, 2012. We are delighted that Patrick Royston (University College, London) and Maurizio Pisati (University of Milano, Bicocca) have accepted our invitation to attend the meeting as our guest speakers. The final program, cost, and venue will be circulated in April 2012. Everyone is invited to attend. Visit [stata.com/meeting/germany12](http://stata.com/meeting/germany12) for details.

#### Registration

You can enroll by emailing Anke Mrosek ([anke.mrosek@dpc.de](mailto:anke.mrosek@dpc.de)) or by writing, phoning, or faxing to

Anke Mrosek  
 Dittrich & Partner Consulting GmbH  
 Prinzenstr. 2  
 42697 Solingen  
 Tel: +49 (0) 212 260 66-24  
 Fax: +49 (0) 212 260 66-66

#### Scientific organizers

- Johannes Giesecke  
University of Bamberg
- Ulrich Kohler  
WZB Social Science Research Center, Berlin

#### Logistics organizer

Dittrich & Partner Consulting GmbH ([dpc.de](http://dpc.de))

### London, United Kingdom: September 13–14

The London meeting is the longest-running series of Stata Users Group meetings, having started in 1995. The meeting, which is open to everyone, will be held at Cass Business School. In past years, participants have come from around the world. StataCorp will be represented. If you are interested in giving a presentation, please contact the scientific organizers with your proposals before April 1. Details will be made available at [stata.com/meeting/uk12](http://stata.com/meeting/uk12).

#### Scientific organizers

- Nicholas J. Cox  
Durham University
- Patrick Royston  
MRC Clinical Trials Unit

#### Logistics organizer

Timberlake Consultants ([timberlake.co.uk](http://timberlake.co.uk))

# STATA<sup>®</sup> Conference



The Stata Conference is enjoyable and rewarding for Stata users at all levels and from all disciplines. This year's program will include presentations by users, invited speakers, and StataCorp developers. In addition, the program will include the ever-popular "Wishes and grumbles" session in which users have an opportunity to share their comments and suggestions directly with developers from StataCorp. The final program will be posted soon. Be sure to visit [stata.com/sandiego12](http://stata.com/sandiego12) to learn more details as they become available or sign up for an alert at [stata.com/alerts](http://stata.com/alerts) to be notified of the program.

## Accommodations

Rooms at the Manchester Grand Hyatt are available at the discounted rate of \$229 per night. For reservations, call 1-888-421-1442 and identify yourself as a guest with the group Stata, or register online (visit [stata.com/sandiego12](http://stata.com/sandiego12)). Reservations must be made by Monday, June 25, 2012, to receive the discounted rate.

### Hotel details

Manchester Grand Hyatt San Diego  
One Market Place  
San Diego, California, USA 92101  
Tel: 1-888-421-1442  
[manchestergand.hyatt.com](http://manchestergand.hyatt.com)

## Scientific committee

- A. Colin Cameron  
University of California–Davis
- Xiao Chen  
University of California–Los Angeles
- Phil Ender (chair)  
University of California–Los Angeles
- Estie Hudes  
University of California–San Francisco
- Michael Mitchell  
U.S. Department of Veterans Affairs

Dates	July 26–27
Venue	Manchester Grand Hyatt One Market Place San Diego, CA 92101
Cost	\$195 standard; \$75 student
Registration and details	<a href="http://stata.com/sandiego12">stata.com/sandiego12</a>

## Public training schedule

### Handling Missing Data Using Multiple Imputation

This course will interactively cover all aspects of multiple-imputation (MI) analysis, including creation of MI data using the multivariate normal and chained-equations (or fully conditional specification) imputation methods, manipulation of MI data, and analysis of MI data. The course will provide exercises to reinforce the presented material.

### Multilevel/Mixed Models Using Stata

This course is an introduction to using Stata to fit multilevel/mixed models. The course will be interactive, use real data, offer ample opportunity for specific research questions, and provide exercises to reinforce what you learn.

### Panel-Data Analysis Using Stata

This course provides an introduction to the theory and practice of panel-data analysis. After introducing the fixed-effects and random-effects approaches to unobserved individual-level heterogeneity, the course covers linear models with exogenous covariates, linear models with endogenous variables, dynamic linear models, and some nonlinear models. An introduction to the generalized method of moments estimation technique is also included. Exercises will supplement the lectures and Stata examples.

### Survey Data Analysis Using Stata

This course covers how to use Stata for survey data analysis assuming a fixed population. The course covers the sampling methods used to collect survey data and how they affect the estimation of totals, ratios, and regression coefficients as well as the three variance estimators implemented in Stata's survey estimation commands. Each topic will be illustrated with one or more examples using Stata.

### Using Stata Effectively: Data Management, Analysis, and Graphics Fundamentals

Aimed at both new Stata users and those who wish to learn techniques for efficient day-to-day use of Stata, this course enables you to use Stata in a reproducible manner, making collaborative changes and follow-up analyses much simpler.

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We offer a 15% discount for group enrollments of three or more participants. Contact us at [training@stata.com](mailto:training@stata.com) for details. For course details, or to enroll, visit [stata.com/public-training](http://stata.com/public-training).

Course	Dates	Location	Cost
<b>Handling Missing Data Using Multiple Imputation</b>	April 4–5	Washington, DC	\$1,295
<b>Multilevel/Mixed Models Using Stata</b>	May 1–2 <b>NEW</b>	Washington, DC	\$1,295
<b>Panel-Data Analysis Using Stata</b>	April 18–19	Washington, DC	\$1,295
<b>Survey Data Analysis Using Stata</b>	May 30–31	Washington, DC	\$1,295
<b>Using Stata Effectively: Data Management, Analysis, and Graphics Fundamentals</b>	April 4–5 April 25–26 <b>NEW</b> May 9–10 June 19–20	San Francisco, CA Washington, DC Boston, MA Chicago, IL	\$950

## Visit us at APS 2012

### Chicago, IL, May 24–27, 2012

The Association for Psychological Science (APS) will have their annual meeting in Chicago, IL, from May 24–27. For more information, go to [psychologicalscience.org/convention](http://psychologicalscience.org/convention).

Stata representatives, including Vince Wiggins, Vice President of Scientific Development, and Kristin MacDonald, Senior Statistician, will be available

to answer your questions about all things Stata. Stop by booth #401 for a demonstration of the new features in Stata 12, including SEM, and to get 20% off your next purchase of Stata Press books and *Stata Journal* subscriptions.

We look forward to seeing you there!



