



WSS NEWS

September 2008

WASHINGTON
STATISTICAL
SOCIETY

Congratulations!

The following were elected to the WSS board of directors:

President-elect
John Eltinge

Methodology Program Chair
Brian Meekins

Representative at Large
Jim Knaub
Elizabeth H. Margoshes

Treasurer
Jane Li

We congratulate the winners and express our thanks to the other candidates.

ASA Fellows

The following National Capital Area ASA members, all members of WSS, became ASA Fellows at the Awards Ceremony at the Joint Statistical Meetings, August 5, in Denver:

Chet Bowie, National Opinion Research Center at the University of Chicago, Bethesda, MD

Nilanjan Chatterjee, National Cancer Institute, National Institutes of Health, Rockville, MD

Brian A. Harris-Kojetin, US Office of Management and Budget, Washington, DC

Thomas N. Herzog, US Department of Housing and Urban Development, Reston, VA

Henry D. Kahn, National Center for Environmental Assessment, US Environmental Protection Agency, Washington, DC

Karol P. Krotki, RTI International, Washington DC

Jill M. Montaquila, Westat, Rockville, Maryland

Alvan O. Zarate, National Center for Health Statistics, Centers for Disease Control and Prevention, Hyattsville, Maryland

Three of these (Drs. Harris-Kojetin, Krotki, and Montaquila) were elected members of the WSS Board of Directors at the time the award was first announced.

Congratulations to all!

Washington Statistical Society 2007-08 Annual Report

The past program year (from July 2007 to June 2008) for the Washington Statistical Society (WSS) was fruitful and productive. Among the accomplishments were the following:

The WSS membership exceeds 900. This count includes WSS members who are also members of the American Statistical Association (by far the largest group) and ones (associate members) who are not.

The Short Course Committee sponsored a successful and illuminating short course on “The Analysis of Cross-Classified Categorical Data,” taught by Professor Stephen E. Fienberg of Carnegie-Mellon University.

Forty-one regular technical sessions were held and most were transmitted via video feed to remote sites.

Ron Wasserstein, the ASA Executive Director, has been regularly attending WSS Board meetings. Steve Pierson, the new ASA Science Policy Director, has also attended.

The Morris Hansen Memorial Lecture was held at the Jefferson Auditorium of the Department of Agriculture and featured Professor Joe Sedransk of Case Western Reserve University, speaking on "Assessing the Value of Bayesian Methods for Inference about Finite Population Quantities." The chair was Donald Malec (Census Bureau) and the discussants were Nathaniel Schenker (National Center for Health Statistics) and David Binder (Statistics Canada). This lecture is made possible by the co-sponsorship of Westat, the National Agricultural Statistics Service, and WSS.

The 2007 Roger Herriot Award, co-sponsored by WSS and the Government and Social Statistics Sections of ASA as an award for innovation in Federal statistics, was presented to Nancy Kirkendall at the 2007 Joint Statistical Meetings. A WSS session in the form of a panel discussion will be held this fall to honor Nancy.

A special President's Invited Seminar by Ron Wasserstein, ASA Executive Director, was held on the topic “What’s Up at the ASA?” It was preceded by a reception.

This year's Holiday Party was again held at Gordon Biersch in downtown DC.

The Quantitative Literacy committee continued its important activities at the elementary, middle, and high school levels. Meetings have been held with Arlington Public Schools. WSS is now represented on the DC STEM (Science, Technology, Engineering, and Mathematics) Alliance, the DC Public Schools advisory group. WSS provided judges for the DC *elementary schools* science fair.

WSS continues its highly successful science fair judging for DC and surrounding counties at the middle and high school levels. The Gallup Organization provides funding for the science fair awards for outstanding projects in terms of their statistical content.

WSS sponsored its first member for the national honorary statistics fraternity, Mu Sigma Rho. If an applicant’s college is not affiliated with Mu Sigma Rho, WSS can sponsor.

The WSS Poster Competition had another very successful year.

Under Tom Krenzke's leadership, the Curtis Jacobs Award Competition is being redesigned to better mesh with the school schedule.

The WSS History is being updated by our historian, Tom Mule. See <http://www.cos.gmu.edu/~wss/> for the WSS History from 1896 to 2002.

Joe Maisog of Georgetown University, this year's student representative, contributed very innovative columns to the WSS Newsletter. If you missed them, you should take a look on the Web.

The "WSS Board Officers' and Committee Chairs' Handbook," first compiled last year, received its first update.

The Annual Dinner was held at Meiwah Restaurant in Chevy Chase. As is now customary, this year's speaker was the recipient of the Gertrude Cox Award, Professor Thomas Lumley of the University of Washington. His topic was "Open Source Statistical Software: Why? When? Where?" The Gertrude Cox Award is made possible by funding from RTI International.

The Julius Shiskin Award winners were William R. Bell of the U.S. Census Bureau and Robert M. Groves of the University of Michigan Institute for Social Research.

The Wray Jackson Smith Scholarship Award was presented to Ms. Kirsten Lum, then a student at American University. She is now a doctoral student in biostatistics at The George Washington University. The WSS cosponsors this award, the Government Statistics and Social Statistics Sections of ASA being the principal sponsors.

The WSS President's Awards were presented at the Annual Dinner to Yasmin Said, Hiro Hikawa, and José M. (Joe) Maisog. These were the first three Student Representatives to the WSS Board of Directors and through their efforts the student representation has become institutionalized as an important element of the Board's operations. Each one individually made unique contributions to WSS.

WSS again presented awards at the Annual Dinner to Outstanding Graduate students attending area universities.

Thanks also to the many Board members, whether appointed or elected, that worked so diligently on behalf of WSS. See any 2007-08 WSS Newsletter (available on the Web) for a listing of these individuals. It has been very gratifying that folks come forward and volunteer to get involved with WSS but, of course, more volunteers are always needed.

A goal has been to strengthen relations with the younger generations, both in terms of quantitative literacy and science fair efforts with school-age people, and increased involvement with WSS from young professionals. We made progress in these areas, but I would like to see more. I know the Board would love to get your ideas.

In talking with people, I have learned that many think WSS is expensive. Dues are less than \$10 a year! (The exact amount depends on the category of membership.) Please spread the word. Not just statisticians but others who have a statistical component to their work should consider joining.

The “three Presidents” (President-Elect, President, and Past President) work as a team so I am very grateful to Jill Montaquila (Past President, 2007-08) and Karol P. Krotki (President-Elect, 2007-08) for their wonderful cooperation and advice. I also want to give special mention to WSS Secretary Chris Moriarity for his splendid help to me on numerous matters. The WSS is an extraordinary organization, and it has been an honor and a pleasure to serve as President.

Michael P. Cohen
Past President

Administrative Announcements

WSS needs your help to assure your contact information is up-to-date

Chris Moriarity and Vince Massimini

WSS wants to do what we can to keep all WSS members informed, primarily by email. Vince sends out notices and the WSS monthly newsletter to WSS members via the WSS listserv. The WSS newsletter is available at the WSS website, <http://scs.gmu.edu/~wss>, shortly after newsletter editor Mike Feil finishes creating it.

WSS maintains a list of WSS member email addresses for the WSS listserv, independent of ASA. Many WSS members receive WSS email at a different address than the one on file with ASA. Thus, we do not change a member's email address in the WSS list unless we receive a request from the member, or there is a listserv delivery problem. Recently, there was a delivery problem with some email notices sent for the WSS election, even though we are not seeing delivery problems when WSS listserv messages are sent to most of those addresses. Thus, we can't be certain that an email address is valid just because it appears to be receiving WSS listserv messages.

If you change your email address with ASA, and you want WSS to also make this change, please tell us (Chris and Vince) - we don't do it automatically. If you are a WSS member, and you are not getting WSS listserv messages and you want to, please tell us. If you would like WSS to use a different email address for the WSS listserv than the one currently being used, please tell us, and we'll do an update.

Organizations periodically update spam and other filters that block messages from the WSS listserv. We generally have no way to know if the mail is being blocked. Typically, the WSS listserv sends out 8-10 messages per month (newsletter, meetings, employment opportunities, etc.). If you are not getting mail from the WSS listserv for a few weeks, please contact us to see if there is a difficulty. If there is a spam or other blocker problem at the organization, we will try to work with the member's IT folks to resolve the problem.

We obtain email addresses for new ASA/WSS members from ASA, so it's important that ASA has up-to-date contact information for you. If you're not sure if your contact information is current with ASA, you can check this online at the ASA website, using the "Members Only" function. If you didn't get an email notice recently from ASA about the ASA election, it's likely that ASA does not have a valid email address on file for you, and WSS probably doesn't either.

Thank you!
Chris (cdm7@cdc.gov) and Vince (svm@mitre.org)

WSS and Other Seminars

(All events are open to any interested persons)

September

- 4 Thur. **Roger Herriot Memorial Lecture: Collaborative Efforts to Foster Innovations in Federal Statistics**
- 10 Wed. **Metadata from the Data Collection Point of View**
- 12 Fri. **Cell Lines, Microarrays, Drugs and Disease: Trying to Predict Response to Chemotherapy**
- 23 Tues. **Weighted-Covariance Factor Decomposition of VARMA Models Applied to Forecasting Quarterly U.S. GDP at Monthly Intervals**
- 26 Fri. **Prediction Limits for Poisson Distribution**

October

- 7 Tues. **Statistical Policy Issues Arising in Carrying Out the Requirements of the Prison Rape Elimination Act of 2003**
- 15 Wed. **Greenhouse, White House, and Statistics: The use of statistics in environmental decision making**

Also available on the Web at the following URL: <http://www.scs.gmu.edu/~wss/>

Administrative Announcements

Mailing Address Change

The mailing address for the Washington Statistical Society is now P.O. Box 2033, Washington, DC 20013 which is in the same building as BLS. The Suitland P.O. box mailing address will be retained for a limited time during the transition.

Changes in the Board

The listing of the members of the Board of Directors and Committees at the end of this issue of the newsletter has been updated for the upcoming program year. Please contact the WSS Secretary as well as the editor of the WSS NEWS with any changes.

Program Announcement

Roger Herriot Memorial Lecture

Title: Collaborative Efforts to Foster Innovations in Federal Statistics

Chair/Discussant: Dr. Nancy Kirkendall, retired from the Energy Information Administration

Speakers: Mr. Thomas Petska, Statistics of Income Division, IRS
Dr. Nancy Gordon, Bureau of the Census
Dr. John Eltinge, Bureau of Labor Statistics
Dr. Janice Lent, Energy Information Administration

Date/ Time: September 4, 2008 / 12:30 to 2:00 pm

Place: Bureau of Labor Statistics Conference Center, Rooms 1-3. To be placed on the seminar attendance list at the Bureau of Labor Statistics (BLS) you need to e-mail your name, affiliation, and seminar name to wss_seminar@bls.gov (underscore after 'wss') by noon at least 2 days in advance of the seminar or call 202-691-7524 and leave a message. Bring a photo ID to the seminar. BLS is located at 2 Massachusetts Avenue, NE. Take the Red Line to Union Station.

Abstract: This session is organized by Nancy Kirkendall, winner of the 2007 Roger Herriot Award for Innovations in Federal Statistics. Speakers will discuss some of the current thinking about how to encourage innovation in federal statistics and will describe and demonstrate collaborative efforts that are underway.

Program Announcement

- Title:** Metadata from the Data Collection Point of View
- Speaker:** Daniel Gillman, Information Scientist, U.S. Bureau of Labor Statistics
- Discussant:** Julia I. Lane, Program Director Science of Science and Innovation Policy, National Science Foundation
- Chair:** Katie E. Joseph, Mathematical Statistician, Energy Information Administration
- Date/Time:** Wednesday, September 10, 2008 / 12:30 - 2:00 p.m.
- Location:** Bureau of Labor Statistics Conference Center, Room 2. To be placed on the seminar attendance list at the Bureau of Labor Statistics you need to e-mail your name, affiliation, and seminar name to wss_seminar@bls.gov (underscore after `wss') by noon at least 2 days in advance of the seminar or call 202-691-7524 and leave a message. Bring a photo ID to the seminar. BLS is located at 2 Massachusetts Avenue, NE. Take the Red Line to Union Station.
- Sponsors:** WSS Data Collection Methods and DC-AAPOR
- Abstract:** The term metadata was first used to name the data generated to describe other data - data about data. The success with that approach led to expanding the term to mean data that describes any object. Surveys produce many kinds of objects (e.g., questionnaires, case contacts, edit specifications, etc.), and each can be described. Those descriptions are statistical metadata.

The survey life-cycle is unusual in that metadata from one part of the cycle has an effect on actions in later steps. For example, sampling has an impact on the cost of data collection. Paradata, which is metadata obtained from the data collection process, is included. Unfortunately, using the term paradata rather than metadata has the side-effect of isolating this metadata from other parts of the survey life-cycle in the minds of survey methodologists and analysts. Now, there are many reasons to use paradata to enhance data collection activities only, but paradata may affect other processing, too.

Using a fabricated survey, we trace the origin and uses of metadata throughout the survey life-cycle with emphasis and perspective on data collection. The objective is to demonstrate how the data collection process both uses and produces metadata, how metadata produced by one life-cycle step is used in later steps, and how metadata management techniques can greatly increase the usefulness of metadata. This is true for survey processing, survey planning and redesign, and data dissemination.

The ultimate goal of the talk is to show how metadata may be used to tie the pieces of a survey together into a coherent whole. The advantages are numerous.

Program Announcement

Friday, September 12, 2008

“Cell Lines, Microarrays, Drugs and Disease: Trying to Predict Response to Chemotherapy”

Speaker: Keith Baggerly, PhD, Bioinformatics and Computational Biology, UT M. D. Anderson Cancer Center

Abstract:

Over the past few years, microarray experiments have supplied much information about the dysregulation of biological pathways associated with various types of cancer. Many studies focus on identifying subgroups of patients with particularly aggressive forms of disease, so that we know who to treat. A corresponding question is how to treat them. Given the treatment options available today, this means trying to predict which chemotherapeutic regimens will be most effective.

We can try to predict response to chemo with microarrays by defining signatures of drug sensitivity. In establishing such signatures, we would really like to use samples from cell lines, as these can be (a) grown in abundance, (b) tested with the agents under controlled conditions, and (c) assayed without poisoning patients. Recent studies have suggested how this approach might work using a widely-used panel of cell lines, the NCI60, to assemble the response signatures for several drugs. Unfortunately, ambiguities associated with analyzing the data have made these results difficult to reproduce.

In this talk, we will describe how we have analyzed the data, and the implications of the ambiguities for the clinical findings. We will also describe methods for making such analyses more reproducible, so that progress can be made more steadily.

10:00-11:00 AM. Georgetown University Medical Center, Lombardi Comprehensive Cancer Center, 3900 Reservoir Rd., NW, Research Building, Conference Room E501, Washington, DC 20007.

Sponsor: Department of Biostatistics, Bioinformatics and Biomathematics

For information, please contact Caroline Wu at 202-687-4114 or ctw26@georgetown.edu

Program Announcement

- Title:** **Weighted-Covariance Factor Decomposition of VARMA Models Applied to Forecasting Quarterly U.S. GDP at Monthly Intervals**
- Speakers:** Baoline Chen, Bureau of Economic Analysis
Peter Zadrozny, Bureau of Labor Statistics
- Discussant:** Tara Sinclair, George Washington University
- Chair:** Linda Atkinson, Economic Research Service, USDA
- Date/Time:** Tuesday, September 23, 2008 / 12:30 – 2:00 p.m.
- Location:** Bureau of Labor Statistics Conference Center. To be placed on the seminar attendance list at the Bureau of Labor Statistics you need to e-mail your name, affiliation, and seminar name to wss_seminar@bls.gov (underscore after `wss`) by noon at least 2 days in advance of the seminar or call 202-691-7524 and leave a message. Bring a photo ID to the seminar. BLS is located at 2 Massachusetts Avenue, NE. Take the Red Line to Union Station.
- Sponsor:** WSS Economics Section
- Abstract:** We develop and apply a method, called weighted-covariance factor decomposition (WCD), for reducing large estimated vector autoregressive moving-average (VARMA) data models of many "important" and "unimportant" variables to smaller VARMA-factor models of "important" variables and significant factors. WCD has four particularly notable features, compared to frequently used principal components decomposition, for developing parsimonious dynamic models: (1) WCD reduces larger VARMA-data models of "important" and "unimportant" variables to smaller VARMA-factor models of "important" variables, while still accounting for all significant covariances between "important" and "unimportant" variables; (2) WCD allows any mixture of stationary and nonstationary variables; (3) WCD produces factors, which can be used to estimate VARMA-factor models, but more directly reduces VARMA-data models to VARMA-factor models; and, (4) WCD leads to a model-based asymptotic statistical test for the number of significant factors. We illustrate WCD with U.S. monthly indicators (4 coincident, 10 leading) and quarterly real GDP. We estimate 4 monthly VARMA-data models of 5 and 11 variables, in log and percentage-growth form; we apply WCD to the 4 data models; we test each data model for the number of significant factors; we reduce each data model to a significant-factor model; and, we use the data and factor models to compute out-of-sample monthly GDP forecasts and evaluate their accuracy. The application's main conclusion is that WCD can reduce moderately large VARMA-data models of "important" GDP and up to 10 "unimportant" indicators to small univariate-ARMA-factor models of GDP which forecast GDP almost as accurately as the larger data models.

Program Announcement

Friday, September 26, 2008

“Prediction Limits for Poisson Distribution”

Speaker: Valbona Bejleri, PhD, Associate Professor, Department of Mathematics, University of D.C.

Abstract:

Statistical prediction differs from standard confidence interval estimation. A point of interest in prediction is the estimation of the unknown values of the random variable, corresponding to the outcomes from the future experiment. We derive prediction limits for a Poisson process using both frequentist and Bayesian approaches. An algorithm of how to construct the optimal (smallest) frequentist upper prediction limit for a single future observation is presented. Our work is based on a Poisson model that uses a Poisson-binomial relationship. Bayesian prediction limits are also calculated. The relationship between prediction limits derived using Bayesian approach (with noninformative priors) and limits derived using frequentist approach is discussed. We show that there is no prior distribution which produces a two sided prediction interval which coincides with the frequentist prediction interval at both the upper and lower limit. Conditions under which Bayesian and frequentist limits agree are important in order to inform our choice of method. The area of application includes the prediction of rare events. An example with real life data will be presented.

10:00-11:00 AM. Georgetown University Medical Center, Lombardi Comprehensive Cancer Center, 3900 Reservoir Rd., NW, Research Building, Conference Room E501, Washington, DC 20007.

Sponsor: Department of Biostatistics, Bioinformatics and Biomathematics

For information, please contact Caroline Wu at 202-687-4114 or ctw26@georgetown.edu

Program Announcement

- Title:** **Statistical Policy Issues Arising in Carrying Out the Requirements of the Prison Rape Elimination Act of 2003**
- Speaker:** Allen Beck, Bureau of Justice Statistics, U.S. Department of Justice
- Discussant:** Hermann Habermann, former Director, U.N. Statistics Division and former Deputy Director, U.S. Census Bureau
- Chair:** Shelly Wilkie Martinez, Office of Statistical and Science Policy, U.S. Office of Management and Budget
- Date/Time:** Tuesday, October 7, 2008 / 12:30 – 2:00 p.m.
- Location:** Bureau of Labor Statistics Conference Center. To be placed on the seminar attendance list at the Bureau of Labor Statistics, you need to email your name, affiliation and seminar name to wss_seminar@bls.gov (note that there is an underscore after ‘wss’) by noon at least two days in advance of the seminar or call 202-691-7524 and leave a message with this information. Bring a photo ID to the seminar. BLS is located at 2 Massachusetts Ave., NE. Take the Red Line to Union Station.
- Sponsor:** WSS Section on Public Policy
- Abstract:** Our speaker will discuss how the Bureau of Justice Statistics has approached its responsibilities under the Prison Rape Elimination Act of 2003. The act provides fairly detailed sampling specifications and requires BJS to publish prison- and jail-level data on the incidence of rape, and to identify the three “best” and “worst” of each. Given the sensitive nature of the content, the developmental nature of the data collections, and the administrative and enforcement purposes to which the data will be put, BJS has had to step carefully to maintain its position as the Justice Department’s principal *statistical* agency. Our discussant will assess the unfolding BJS experience as a case study of agency practice against professional practice and ethical criteria embodied in frameworks such as the United Nation’s *Fundamental Principles of Official Statistics* and in *Principles and Practices of a Statistical Agency*, a seminal publication of the Committee on National Statistics.

Program Announcement

- Title:** **Greenhouse, White House, and Statistics: The use of statistics in environmental decision making**
- Speaker:** Barry D. Nussbaum, Chief Statistician, US Environmental Protection Agency, Washington, DC
- Chair:** Mel Kollander
- Date/Time:** Wednesday, October 15, 2008 / 12:30 - 1:30 p.m.
- Location:** Bureau of Labor Statistics Conference Center. To be placed on the seminar list attendance list at the Bureau of Labor Statistics you need to e-mail your name, affiliation, and seminar name to wss_seminar@bls.gov (underscore after 'wss') by noon at least 2 days in advance of the seminar or call 202-691-7524 and leave a message. Bring a photo ID to the seminar. BLS is located at 2 Massachusetts Avenue, NE. Use the Red Line to Union Station.
- Sponsor:** WSS Agriculture and Natural Resources Section
- Abstract:** In many applications, statistics and the statistician play an enormous role in the initiation, analysis, and implementation of policy and decisions. Yet, frequently after elaborate analyses, it is only a concise summary of the analysis that reaches the decision makers desk. Using a number of examples, the author describes how frequently it is a relatively simple description of statistical analyses, when presented truly effectively (and often humorously), that can have a large impact on major decisions. The author also demonstrates the growing need to review the quality of large acquired data bases. This presentation includes several real examples from relatively simple surveys, analyses, and reviews with applications in regulation development, court cases, and policy making. One of the examples even landed on the desk of the President of the United States.

e-mail: Nussbaum.Barry@epamail.epa.gov



DC-AAPOR Workshop on Cell Phone Numbers and Telephone Surveying in the U.S.

**Thursday, September 4, 2008
9:00am-4:00pm**

**Kaiser Family Foundation
1330 G Street, NW
Washington, DC 20005**

Co-sponsored by: Abt [SRBI](#), [Marketing Systems Group](#), Survey Sampling International, and [Westat](#).

Over the last decade, the impact of cellular telephone ownership and usage has taken on increased importance for the survey industry. This workshop, which will feature the most up-to-date theory and research relevant to the topic, is essential for survey practitioners and survey methodologists. The principal goal of the workshop is to address questions such as:

What are the coverage implications of cellular-only substitution in the United States?

What population subgroups are most affected?

What issues should be considered when designing and conducting telephone surveys with cell phone respondents?

The workshop is based on the special issue of *Public Opinion Quarterly*, published in January 2008. The special issue of *POQ*, edited by Paul Lavrakas, focuses on issues that are currently occupying center stage among survey researchers. As cell phone usage increases its penetration into the general population, questions about the impact on survey estimates assume increasing importance. Contributing authors from the special issue of *POQ* will summarize findings from the articles and present up-to-date information on their research in these areas.

Workshop Agenda

| Time | Session | Presenter |
|--------------|--|---|
| 9:00-9:15am | Opening Remarks | Peter Miller, Paul Lavrakas |
| 9:15-10:30 | Cell Only Substitution in the US as Lifestyle Adoption: Implications for Telephone Survey Coverage | John Ehlen |
| | Coverage Bias in Traditional Telephone Surveys of Low-Income and Young Adults | Stephen Blumberg |
| 10:30-10:45 | Break | |
| 10:45-12:00 | What's Missing from National Landline RDD Surveys? | Scott Keeter |
| | Sampling Telephone Numbers and Adults, Interview Length, and Weighting in the CHIS | J. Michael Brick |
| 12:00-1:00pm | Lunch (on your own) | |
| 1:00-2:15 | Reaching the US Cell Phone Generation | Michael W. Link |
| | Industry Perspectives | Howard Fienberg, Trevor Tompson, Clyde Tucker |
| 2:15-2:30 | Break | |
| 2:30-3:45 | Guidelines and Considerations for Survey Researchers When Conducting Surveys in the U.S. with Cell Phone Respondents | John Boyle |
| | Research Synthesis: Cell Phones in Survey Research - Moving Forward | Paul Lavrakas |
| 3:45-4:00 | Closing Remarks | Peter Miller |

Workshop Registration

You may register for the workshop from the workshop webpage at:
<<http://www.dc-aapor.org/cpworkshop.php>>

The registration fee for the workshop is \$65 for chapter members and \$75 for the general public. There are a limited number of student registrations available to full-time students. Please contact Paul Schroeder at <p.schroeder@srbi.com> for more information. The workshop is limited to 150 attendees. The deadline for registration and payment is Tuesday, August 26.

The two steps in the registration process are:

1. Register on the DC-AAPOR website at <<http://www.dc-aapor.org/rsvpform.php>>, *and*
2. Submit payment by credit card via <<http://www.dc-aapor.org/cpworkshop.php>>, *or*

By check made payable to DC-AAPOR and sent to the attention of Michael Lemay at:

Michael Lemay
University of Maryland
1218 Lefrak Hall
College Park, MD 20742

If you are submitting a payment for someone other than yourself, please e-mail Michael Lemay at <lemaymic@gmail.com> and provide the name of the person planning to attend the workshop as well as the name of the person or organization paying the registration fee.

Directions to the Workshop

The workshop will be held in the Barbara Jordan Conference Center (<http://www.kff.org/about/conferencecenter.cfm>), on the second floor of the Kaiser Family Foundation's Public Affairs Center, 1330 G Street NW, Washington, DC 20005.

The Barbara Jordan Conference Center is less than a block from the Metro Center Metro station on the Blue/Orange and Red lines. It is also a short taxi or Metro trip from Union Station (Amtrak), and Washington National Airport (aka Reagan Airport). Parking is available in area lots (\$12-\$15/day). There is no parking available in Kaiser's building. The building is wheelchair accessible.

Free Access to Articles from the Special Issue of POQ

<<http://poq.oxfordjournals.org/content/vol71/issue5/>>

Questions about the Workshop

For questions about the workshop, please contact Workshop Chair Paul Schroeder at <p.schroeder@srbi.com>.

Workshop Organizing Committee

John Fries (AARP), Paul Guerino (DOJ), Ryan Hubbard (Westat), Michael Lemay (JPSM), Eileen O'Brien (EIA), Adam Safir (BLS), Paul Schroeder (Abt SRBI), Tim Triplett (Urban Institute)

Workshop Sponsorship

Generous workshop sponsorship provided by Abt [SRBI](#), [Marketing Systems Group](#), Survey Sampling International, and [Westat](#).



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Note from the WSS NEWS Editor

Items for publication in the October issue of the WSS NEWS will be accepted until September 12, 2008. E-mail items to Michael Feil at michael.feil@usda.gov.

Announcement

Federal Committee On Statistical Methodology Statistical Policy Seminar

**Beyond 2010: Confronting the Challenges
November 18-19, 2008**

The Ninth in a Series of Seminars Hosted by COPAFS
(The Council of Professional Associations on Federal Statistics)

Participants will include statisticians, economists, and managers, as well as other professionals in the broader statistical community who share an interest in keeping current on issues related to federal data.

Support Provided by: Agency for Healthcare Research and Quality * Bureau of Economic Analysis * Bureau of Justice Statistics * Bureau of Labor Statistics * Bureau of Transportation Statistics * Energy Information Administration * Environmental Protection Agency * National Agricultural Statistics Service * National Center for Education Statistics * National Center for Health Statistics * Office of Research, Evaluation, and Statistics of the Social Security Administration * Statistics of Income Division of the Internal Revenue Service * U.S. Census Bureau * Science Resources Statistics/National Science Foundation

Topics:

- * Statistical Uses of Administrative Records in Federal Agencies
- * Case Studies in the Statistical Uses of Administrative Records
- * Cell Phones: The New Frontier in RDD surveys
- * New Perspectives and Practices on Non-Response Bias Analyses
- * Current Issues in Privacy and the Safekeeping of Personally Identifiable Information
- * Survey Respondent Incentives
- * Current Trends in Access to Restricted-Use Data
- * Development and Management of Human and Institutional Capital in Statistical Organizations
- * 2010 Census Experiments
- * Issues of Data Capacity and Statistical Quality to Support Modeling and Micro-simulation Efforts
- * Making Survey Processes More Robust in Response to Funding Reductions
- * Using Paradata to Improve the Management of Survey Costs

Keynote Address: Hermann Habermann, Consultant

Location and Seminar Cost:

L'Enfant Plaza Hotel, 480 L'Enfant Plaza, S.W., Washington, D.C. 20024
Cost: \$195.00 per person

For Further Information, Contact the COPAFS Office at:

Phone: 703-836-0404 Email: copafs@aol.com Fax: 703-836-0406

The registration form is available at the COPAFS web site at: www.copafs.org

JPSM Short Courses

THE PSYCHOLOGY OF SURVEY RESPONSES: IMPLICATIONS FOR QUESTIONNAIRE DESIGN

A two-day short course sponsored by the Joint Program in Survey Methodology

MARCH 10-11, 2009

Presented at the Bureau of Labor Statistics Conference Center

ROGER TOURANGEAU

Director, Joint Program in Survey Methodology at the University of Maryland Acting Director,
Program in Survey Methodology at the University of Michigan

COURSE OBJECTIVES

This course examines survey questions from a psychological perspective. It describes the major psychological components of the response process, including comprehension of the questions, retrieval of information from memory, combining and supplementing information from memory through judgment and inference, and the reporting of an answer. It discusses several models of how respondents answer questions in surveys, reviews the relevant psychological and survey literatures, and traces out the implications of the theories and findings for survey practice.

The course has two major objectives-1) to cover what is known about how respondents answer survey questions and 2) to examine how problems in each component of the response process can produce reporting errors. Both attitudinal and behavioral questions will be discussed. The course will include exercises on how to apply findings from the literature on cognitive aspects of survey methods to improve the accuracy of survey data.

WHO SHOULD ATTEND

The course is designed to appeal to a variety of audiences, including survey researchers, methodologists, statisticians, and others who are involved in designing and carrying out surveys; political scientists, social psychologists, and others who study public opinion or who use data from public opinion surveys; cognitive psychologists and other researchers who are interested in everyday memory and judgment processes; and demographers, market researchers, sociologists, and anyone else who uses survey data and is curious about how such data come into being.

INSTRUCTOR

Roger Tourangeau is Research Professor at the Joint Program in Survey Methodology at the University of Maryland and at the Institute for Social Research at the University of Michigan. Before coming to JPSM and the University of Michigan, Dr. Tourangeau was a Senior Methodologist at the Gallup Organization and a Research Vice President at the National Opinion Research Center, where he founded the Statistics and Methodology Center. He has been a sampling statistician since 1980 (when he joined NORC) and worked on sampling tasks on many national samples, including the NORC master sample, the Health Insurance Provider Component of the National Medical Expenditure Survey, the Adolescent Health Survey, and the National Survey of Post-Secondary Faculty. He has served as a consultant to the U.S. Bureau of the Census and was named to the Census Joint Advisory Panel as Member of the ASA Subcommittee in 1995; he chaired the ASA Subcommittee in 1999. He was also elected a Fellow of the American Statistical Association in 1999. He has published more than 50 articles, chapters, and monographs on a range of topics, including memory errors in surveys, the impact of question context on responses to

attitude questions, the effects of the method of data collection on the answers obtained, and errors in survey reports about sensitive topics. He holds a B. A. from Cornell University and a Ph.D. from Yale University.

TENTATIVE SCHEDULE

TUESDAY, MARCH 10, 2009

8:00 - 9:00 Registrant Check-in
9:00 - 9:30 Introduction and Overview
9:30 - 10:30 Comprehension of Survey Questions
10:30 - 10:45 Break
10:45 - 11:15 Implications for Questionnaire Design
11:15 - 11:45 Exercise 1: Spotting Comprehension Problems
11:45 - 12:15 Remembering and Forgetting
12:15 - 1:15 Lunch
1:15 - 1:30 More Remembering and Forgetting
1:30 - 2:00 Exercise 2: Improving Memory in Surveys
2:00 - 2:30 Memory for Time
2:30 - 2:45 Break
2:45 - 3:15 Judgment and Estimation for Factual Questions
3:15 - 3:45 Exercise 3: Questions about Frequencies
3:45 - 4:30 Attitude Judgments
4:30 Adjourn

WEDNESDAY, MARCH 11, 2009

8:00 - 9:00 Registrant Check-in
9:00 - 9:15 More on Attitude Judgments
9:15 - 9:45 Exercise 4: Attitude Questions
9:45 - 10:30 Context Effects
10:30 - 10:45 Break
10:45 - 11:15 Exercise 5: Context Effects
11:15 - 12:00 Mapping and Formatting
12:00 - 1:00 Lunch
1:00 - 1:45 Sensitive Questions and Mode Effects
1:45 - 2:15 Recap
2:15 - 3:00 Exercise 6: Crafting Probes for Cognitive Interviews
3:15 - 3:30 Break
3:30 - 4:00 Problem Questions from Audience; Course Evaluations
4:00 Adjourn

COURSE MATERIALS

Registrants will be provided with a copy of the book "The Psychology of Survey Response" and a course pack.

MEALS

JPSM group lunches and refreshments are included in the course fee.

FEES

The course fee is \$634 for JPSM sponsor affiliates, \$634 for full-time university students, and \$844 for other participants. JPSM Sponsor Affiliate List:
<http://projects.isr.umich.edu/jpsm/info.cfm#sponsors>.

REGISTRATION

Online registration is required. JPSM SHORT COURSES: www.jpsm.org/shortcourses. Confirmation of acceptance will be sent after the registration form has been processed. Registration is not firm until you receive an acceptance email. The email will include directions to the course. The automatic web registration number is not an acceptance letter. The registration deadline is February 24, 2009.

PAYMENT

Payment by credit card is required. Payment may be done online during registration. Post registration payment may be done online using the registration number or by calling (800) 937-9320. Payment is required by February 24, 2009.

CANCELLATION

Please notify JPSM as soon as possible if you need to cancel your registration. Cancellation requests should be done online. You will be fully reimbursed if you cancel by February 24, 2009. Cancellation February 25 - March 2, 2009 will require a \$100 administrative fee, the remainder will be reimbursed. Cancellation on or after March 3, 2009 is subject to the full fee amount.

FELLOWSHIP

The Joint Program in Survey Methodology strives to increase the number of survey professionals from groups traditionally under-represented in the field. As part of this effort, a limited number of competitive fellowships are available to African-Americans, Latinos, Hispanic Americans, and Native American Indians for the short course. The registrant must be a US citizen or permanent resident.

The applicants should submit:

1. Online registration
2. A 500-word essay describing their reasons for wanting to attend this short course and how their participation will enhance their chosen career path. The essay should indicate the applicant's background (i.e. African-American, Latino, Hispanic American, or Native American Indian).
3. A letter of recommendation written by a person knowledgeable about the applicant's aptitude and interest in survey methodology.

The online registration form, essay, and letter of recommendation are due February 10, 2009. JPSM will evaluate the applications and inform the successful applicants by February 17, 2009. The fellowship covers the registration fee, materials to be distributed during the course and the JPSM group continental breakfasts, lunches and refreshments. The registration must be done online. The essay and letter of recommendation may be faxed to (734) 764-8263 or emailed to JPSMShort@isr.umich.edu.

JPSM CITATION PROGRAM

The citation programs are built around the JPSM short courses. The JPSM Citation in Introductory Survey Methodology is designed to provide the working professional and interested students with state-of-the-art knowledge about current principles and practices for conducting complex surveys combined with practical skills of day-to-day utility. The JPSM Citation in Introductory Economic Measurement is designed for professional staff requiring a grounding in the principles and practices of economic measurement. Completion of the citation programs involves taking a semester-length JPSM credit-bearing course and eight JPSM short courses, of which four are specified core courses.

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Questions for this course should be directed to the JPSM Short Course, Institute for Social Research, University of Michigan, 426 Thompson Street, Room 4050, Ann Arbor, MI 48104-2321, Phone: (800) 937-9320, Fax: (734) 764-8263, Email: jpsmshort@isr.umich.edu.

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Students' Corner

I live in a large residential complex in Arlington named River Place. Here is [a map of the grounds](#) (2 MB PDF file), kindly provided by local realtor Judith Michaels. Although the four buildings of River Place are superficially very similar in outward appearance – e.g., all four are red-brick high-rises shaped in cross-section like a “plus” sign – they are not identical. For example, apartments in the East and South buildings tend to have scenic views of D.C., the Potomac River, and/or the Iwo Jima Memorial; such scenic views can add as much as \$20,000 in value to the unit. The West building is the only one that doesn't have a garage, so residents of that building must park either outside the building or in the other buildings' garages. However, the West building is also the only building to have individual unit heat and air-conditioning controls. The South building has the fitness center shared among the four buildings, making it a good location for winter workouts. The 1,205 units of River Place are not evenly divided among the four buildings: the East is the largest and has twelve floors, the South has eleven, while the West and North each have only ten.

For several years I have been following a monthly listing of asking prices of River Place units, that Judith posts in the mailroom and in the laundry room. Each monthly report lists about two dozen units, more or less. In addition to the asking prices, each report also gives the building (North, South, East, or West), the square footage, and the floor for each unit listed.

I've been thinking that it would be interesting to perform a multiple linear regression analysis of this data, with asking price as the dependent variable, and square footage, floor, and building as independent variables. Such an analysis could suggest whether square footage and floor each have a significant effect on the asking price. One might expect that a greater square footage or a higher floor would tend to increase the asking price, that is, that these two effects would have positive regression coefficients. Similarly, multiple regression analysis may suggest whether there is a differential effect of Building (North, South, East, or West). Finally, a multiple regression analysis will generate a fitted linear model that might be used to estimate (predict) the asking price of a unit, given the square footage, floor above ground, and building.

Judith has kindly allowed me to present her data. So, here is [a link to the data from the July 2007 Report](#), painstakingly typed into an Excel spreadsheet by your faithful Student Representative. (For ease in interpreting the results, prices are in thousands of dollars. And note that I left the spreadsheet cells unformatted, because formatted cells seem to cause SAS's IMPORT procedure some confusion.) As an exercise, write a SAS script that will read in the data and analyze it using multiple linear regression.

OK, I'll be generous. Here is [a link to such a SAS script I wrote myself](#). And here are the results of running this SAS script to analyze the River Place asking price data:

Multiple Regression Analysis of River Place Asking Prices from July 2007 Report 3
18:55 Tuesday, August 5, 2008

The GLM Procedure

Dependent Variable: Price Price

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-------------------|----|----------------|-------------|---------|--------|
| Model | 6 | 1562581.351 | 260430.225 | 505.60 | <.0001 |
| Error | 24 | 12362.189 | 515.091 | | |
| Uncorrected Total | 30 | 1574943.540 | | | |

| R-Square | Coeff Var | Root MSE | Price Mean |
|----------|-----------|----------|------------|
| 0.854547 | 10.18395 | 22.69562 | 222.8567 |

| Source | DF | Type I SS | Mean Square | F Value | Pr > F |
|--------|----|-----------|-------------|---------|--------|
|--------|----|-----------|-------------|---------|--------|

| | | | | | |
|---------------|---|-------------|------------|--------|--------|
| Building | 4 | 1492738.310 | 373184.578 | 724.50 | <.0001 |
| Floor | 1 | 11718.826 | 11718.826 | 22.75 | <.0001 |
| SquareFootage | 1 | 58124.215 | 58124.215 | 112.84 | <.0001 |

| Source | DF | Type III SS | Mean Square | F Value | Pr > F |
|---------------|----|-------------|-------------|---------|--------|
| Building | 4 | 806.25045 | 201.56261 | 0.39 | 0.8128 |
| Floor | 1 | 3677.21452 | 3677.21452 | 7.14 | 0.0133 |
| SquareFootage | 1 | 58124.21518 | 58124.21518 | 112.84 | <.0001 |

| Parameter | | Estimate | Standard Error | t Value | Pr > t |
|---------------|-------|-------------|----------------|---------|---------|
| Building | East | 17.05317022 | 19.64758718 | 0.87 | 0.3940 |
| Building | North | 6.46484397 | 19.69302591 | 0.33 | 0.7455 |
| Building | South | 8.16986711 | 20.50842874 | 0.40 | 0.6939 |
| Building | West | 7.39842423 | 22.00502622 | 0.34 | 0.7396 |
| Floor | | 4.39987827 | 1.64673321 | 2.67 | 0.0133 |
| SquareFootage | | 0.33092510 | 0.03115252 | 10.62 | <.0001 |

As a budding statistician, you should make sure that you understand *every* quantity shown in the analysis results above. Consult [the SAS online documentation](#) if necessary.

Questions (some open-ended):

P-Values vs. Parameter Estimates. Among the three effects, Building, Square Footage, and Floor, which seems to have the greatest effect on the asking price? Would you use the p-values to answer this question? Or would the parameter estimates (regression coefficients) be more relevant? Perhaps we need to clarify what is meant by “greatest effect.”

Sums of Squares. The SAS results show two sets of p-values, one using “Type I Sums of Squares” and the other using “Type III Sums of Squares.” What is the difference between these two types of Sums of Squares? Which do you think would be better to use in this case? (Do a search on “Type III SS” in the [SAS online documentation](#) to find out!)

And what happened to the “Type II Sums of Squares”? Why does the SAS results report offer results based on Type I and Type III Sums of Squares but not Type II? Is there a Type IV Sums of Squares?

Intercept. In my call to PROC GLM, I used the NOINT option. Try running the analysis without this option. How does it change the interpretation of the results? Which way do you prefer?

Fitted Price. One could use the parameter estimates (regression coefficients) to form the following linear equation for a fitted (predicted) price:

$$\text{Fitted Price} = \text{Base}_{\text{Building}} + (0.33092510 \cdot \text{SquareFootage}) + (4.39987827 \cdot \text{Floor})$$

where *Building* is one of North, South, East, or West, and

$$\text{Base}_{\text{North}} = 6.46484397 \quad \text{Base}_{\text{South}} = 8.16986711$$

$$\text{Base}_{\text{East}} = 17.05317022 \quad \text{Base}_{\text{West}} = 7.39842423$$

Try plugging in some values from the data into this equation, keeping in mind that the prices are in terms of thousands of dollars. How well does our linear model fit the data?

The quantity I’ve called the “base price” of the East building is computed to be about 17.05, more than twice that of the other buildings! Each building at River Place is a separate corporate entity and is run by its own management, so perhaps the East management is especially good? Or maybe there’s something about the physical building itself that increases its “base price”?

Then again, note that all four of the base prices have large standard errors (relatively to each parameter estimate), and none are statistically significant. Here is [a link to the data from the July 2008 report](#), again painstakingly typed into an Excel spreadsheet by your faithful Representative. Run the same analysis on the July 2008 data. Is the special status of the East building seen in the 2008 data? How similar are the parameter estimates computed from the 2008 data to those computed from the 2007 data?

In the July 2007 data, the lowest square footage was 367 square feet, and the highest level was the 11th floor. Would it be okay to use the multiple regression equation to estimate the asking price of units below 367 square feet, or above the 11th floor?

Independence. Based on what you might know about the real estate market, is the assumption of independence of observations a good assumption in this analysis? Do you know of any good methods for testing dependence/independence of observations? If the assumption of independence doesn't hold, then the p-values we were examining in item #1 are in question.

Assume for the moment that the assumption of independence is true. Then we can feel more confident about the p-values generated in the analysis; in particular, the p-value for the overall fit of the model is less than 0.0001, indicating that the model fits the data well. This in turn implies that two similar units (e.g., both in the North building, both on the 4th floor, both 716 square feet in area) would tend to have similar prices, as predicted by the linear equation in #4 above. I.e., if one unit has a high asking price, then the other unit will also tend to have a high asking price. Does this contradict the assumption of independence that we just assumed to be true?

Time Effect. Combine the 2008 data with the data from the July 2007 Report into one MS Excel spreadsheet. Then add a new column entitled Year, and in this column type in the year for each observation, '2007' or '2008'. Modify the SAS script to include year as an effect of interest. Caution: you will need to instruct SAS to handle year as a categorical variable, not as a numeric value! Does there seem to be a significant effect of year? Is the 2008 market 'down' compared to 2007? Is it okay to assume that the data from the two years are independent? The July 2007 report had 30 observations, while the July 2008 report has only 18; is the differing number of observations a problem for this analysis?

Theoretically, one could take several years' worth of consecutive monthly data, and then add *Month* as another effect to the model; perhaps one would find that, e.g., prices wax in the summer but wane in the winter. Again, do you foresee any problem with independence of observations across time? For example, if a unit was on the market in June, would it be problematic for the assumption of independence if the very same unit were again on the market in July? This would bring us into the domain of *repeated measures*, in which case one might need to do a *mixed effects* analysis (PROC MIXED).

Alternative Analyses. Try other sorts of analysis on this data. For example, you might try a Principal Components Analysis (PCA) or Independent Components Analysis (ICA) to obtain several orthogonal (or, in the case of ICA, independent) components. Also, I have recently learned of a relatively new matrix decomposition technique called *Non-Negative Matrix Factorization* (NMF); perhaps you can look up this method and try it on this data. How might you interpret the components/factors that such decomposition methods generate? With these decomposition methods, is it possible to obtain p-values, to perform a formal statistical inference?

A caveat. While the analysis we have performed here may be good for a student exercise, it's important to keep in mind that an actual buyer would factor in many other considerations, too.

In other words, I wouldn't recommend making a buy/sell decision solely on the simple multiple regression analysis presented here!

And finally, please allow me a tip of the hat to Judith, without whom this column would not have been possible. If you're interested in purchasing a unit at River Place, call Judith by phone at 202-352-8200. Or, email her at: myrealtor@judithmichaels.com . Her website is: <http://www.judithmichaels.com> .

I believe that this is the last installment of the *Students' Corner* that I'll be writing as Student Representative to the Washington Statistical Society. The next Student Representative will be taking the reins of this column next month. It has been my pleasure to have served you, my fellow students, this past year. And always remember: statistics is fun!

José M. Maisog
Georgetown University / Medical Numerics, Inc.

Employment

As a service to local statisticians, *WSS News* provides notification of employment opportunities and description of those seeking employment here in the Washington, DC, area. Readers are encouraged to take advantage of this feature of the newsletter. The deadline for inserting notices is five (5) weeks before the publication date. Those interested should email or call Anne Peterson, at apeterson@insightpolicyresearch.com or (703) 373-6645.

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Survey Sampling Statistician

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