



WASHINGTON  
STATISTICAL  
SOCIETY

# WSS NEWS

March 1994

## Quantitative Literacy

Bureau of Labor Statistics (BLS) staff (statisticians and behavioral scientists) have formed a school outreach program that will provide volunteers for QL activities.

More volunteers are needed for **Prince George's County**. In response to a questionnaire we distributed, 22 elementary schools expressed considerable interest in having people participate in career days and in giving presentations for math, social studies or science classes. We are also seeing increased interest among middle and high schools. However, we only have a small group of volunteers in the county at this time and need more to serve all the schools. If you're willing to make one visit to one school, we could use your help. Call Gary Shapiro, our PG county coordinator, at 301-718-3154.

Keith Eberhardt made a presentation to a seventh grade class, Baker Middle School, in Damascus. Lee Abramson had a meeting with teachers at Bethesda Elementary in which they brainstormed potential uses of QL materials in their 5th and 6th grade classroom activities. A similar meeting is planned for K and 1st grade teachers. Several career day and talks are planned in Montgomery county.

For other information about QL activities in other areas, call Ron Fecso at 703-235-5211 (x-142).

<b>WSS Seminars</b> (All events are open to any interested persons)		
<b>March</b>		
1	Tues.	Inverse Sampling Algorithms (Seventh Presentation in Methodology Seminar Series on Analysis of Complex Survey Data)
11	Fri.	Cognitive Issues for Questions Asking Cattle and Cattle on Feed Inventory
17	Thurs.	Quality in the Federal Government
31	Thurs.	Alternative Imputation Methods for Labor Type Data (Eighth Presentation in Methodology Seminar Series on Handling Missing or Bad Data)
31	Thurs.	Response Errors to Sensitive Questions on Sexual and Reproductive Behavior (Data Collection Methods/Office of Research and Methodology Seminar Series)
<b>April</b>		
19	Tues.	Short Course: "Applied Bayesian Statistics"

## Announcements

### **Social Committee Volunteers Needed**

The WSS Board of Directors needs interested people to work on the Social Arrangements Committee. This committee plans the Annual Dinner and the Holiday Party, plus other events. If anyone is interested, please call Kim Long at (301) 299-5904.

### **Nomination Sought for Shiskin Award**

Nominations are invited for the annual Julius Shiskin Award for Economic Statistics. This award, established in 1979 by the WSS and co-sponsored by the National Association of Business Economists, is given in recognition of unusually original and important contributions in the development of economic statistics or in the use of economic statistics in interpreting the economy. The contributions could be in statistical research, in the development of statistical tools, in the application of computer techniques, in the use of economic statistical programs, in the management of statistical programs, or in developing public understanding of measurement issues, to all of which Mr. Shiskin contributed. Either individuals or groups in the public or private sector can be nominated.

The award will be presented with an honorarium of \$500 at the WSS annual dinner in June 1994. A nomination form may be obtained by writing to the Julius Shiskin Award Committee, American Statistical Association, 1429 Duke Street, Alexandria, VA 22314-3402. Completed nominations must be received by April 1, 1994.

The most recent winners of the Shiskin Award are: Barbara Bailer for her contributions to modernizing the Census Bureau's statistical

programs, especially her work in undercount and non-sampling error in the Decennial Census; Allen H. Young for his leadership in forging statistical tools that contribute substantially to the ability to analyze the US economy and for imaginative management of a major statistical agency through critical times; the late Stephen Taylor for his work in developing the US Flow of Funds Accounts and using them to interpret the behavior of financial markets; and Carol A. Carson for her leadership in developing and refining the economic statistical database of the US and for her contributions to the development of the revised US System of National Accounts.

Martin Fleming  
Chair, Julius Shiskin Award Committee

### ***Science Fairs 1994 Volunteers Needed***

WSS needs volunteers to be judges in local area science fairs during March and April. Since 1986, WSS has provided special awards at these fairs to students whose projects demonstrate excellence in statistical theory or application. The WSS sponsors awards at fairs in Northern Virginia, suburban Maryland, and the District of Columbia. The fairs are held on Saturday mornings.

If interested, please contact Lee Abramson at (301) 492-3949 as soon as possible.

## Program Abstracts

- Topic:** Inverse Sampling Algorithms (Seventh Presentation in Methodology Seminar Series on Analysis of Complex Survey Data)
- Speaker:** Susan Hinkins and Fritz Scheuren, Internal Revenue Service
- Discussant:** Susan Ahmed, National Center for Education Statistics
- Chair:** Wray Smith, Synectics
- Date/Time:** Tuesday, March 1, 1994, 12:30 - 2:00 PM
- Location:** BLS Cognitive Lab, Postal Square Building, Room 2990, 2 Massachusetts Avenue NE, Washington, DC (Red Line -- Union Station). Enter at Massachusetts Avenue and North Capitol Street. Federal government employees show ID; nongovernment employees call Ed Riddick at (202) 606-7376 to add name to visitors' list.
- Sponsor:** Methodology Section
- Abstract:** Much of conventional statistics begins with the sampling assumption that the observations are realizations of independent, identically distributed (IID) random variables. On the other hand, in most surveys for reasons of efficiency or even just plain feasibility, the observations are typically obtained without replacement, often from highly stratified populations, using cluster selection schemes. A great deal has been written about methods of adapting conventional statistical routines, like regression or contingency table analysis, to the complex randomization settings encountered in surveys. It might not be too unfair to characterize these adaptations as either highly approximate or exceedingly complex (some are even both).

In this talk, the speakers explore the use of inverse sampling algorithms to convert an existing complex design back into a simpler randomization setting--one that more nearly fits standard computer packages (e.g., SAS). Issues of power and practicality are explored. Prominently featured are some of the unsolved problems that remain to be faced.

## Program Abstracts (Cont'd)

- Topic:** Cognitive Issues for Questions Asking Cattle and Cattle on Feed Inventory
- Speakers:** Terry O'Connor, National Agricultural Statistics Service  
Jaki Stanley, National Agricultural Statistics Service
- Discussant:** Karen Goldenberg, Bureau of Labor Statistics
- Chair:** Fred Conrad, Bureau of Labor Statistics
- Date/Time:** Friday, March 11, 1994, 12:30 - 2:00 PM
- Location:** USDA, South Building, Room 4302, 1400 Independence Avenue, SW  
Washington, DC (Blue/Orange Line--Smithsonian, Independence Avenue Exit). Enter building at corner of 12th and Independence. Call Carol House if additional information is needed (202-720-3895).
- Sponsor:** Agriculture & Natural Resources
- Abstract:** The National Agricultural Statistics Service (NASS) conducts monthly surveys to obtain current inventories of cattle and cattle on feed. This seminar will present the results of a quality assessment reinterview survey designed to gauge respondents' understanding of these inventory questions, along with the results of cognitive interviews examining response processes. The authors will address the effects of this research on a redesign of the survey instrument.

## Program Abstracts (Cont'd)

- Topic:** Quality in the Federal Government
- Speaker:** Max Larson, The Gallup Organization
- Chair:** Amrut Champaneri, U.S. Postal Service
- Date/Time:** Thursday, March 17, 1994, 12:30 - 2:00 PM
- Location:** BLS Cognitive Lab, Postal Square Building, Room 2990, 2 Massachusetts Avenue NE, Washington, DC (Red Line -- Union Station). Enter at Massachusetts Avenue and North Capitol Street. Federal government employees show ID; nongovernment employees call Ed Riddick at (202) 606-7376 to add name to visitors' list.
- Sponsor:** Quality Assurance Division
- Abstract:** Much of the existing literature on quality is oriented to graphing and analyzing the results of repetitive mechanical or chemical processes. These techniques are not totally suitable to assess and improve quality in the federal government. Applications of Total Quality Management (TQM) to service industries including government need to account for the fact that excellent service to clients requires variability in work processes, since different clients present different needs and requirements.
- Measurement of the outcomes of work processes can be accomplished for meaningful improvement and change to occur. The keys are: focus on the quantitative measurement of qualitative aspects of the business and recognize that the most important assets in the service industries are employees. Examples of these ideas are discussed and implications for current client TQM efforts in the federal government are considered.

## Program Abstracts (Cont'd)

**Topic:** Alternative Imputation Methods for Labor Type Data (Eighth Presentation in Methodology Seminar Series on Handling Missing or Bad Data)

**Speaker:** Sandra A. West, Bureau of Labor Statistics

**Chair:** Michael P. Cohen, National Center for Education Statistics

**Date/Time:** Thursday, March 31, 1994, 12:30 - 2:00 PM (Rescheduled from January)

**Location:** BLS Training Center, Postal Square Building, Suite G-440, Room 10, 2 Massachusetts Avenue NE, Washington, DC (Red Line -- Union Station). Enter at First Street. Federal government employees show ID; nongovernment employees call Ed Riddick at (202) 606-7376 to add name to visitors' list.

**Sponsor:** Methodology Section

**Abstract:** In this talk the results of theoretical and empirical investigations of different imputation methods for labor type data are presented. The methods include regression modeling and distribution modeling with maximum likelihood estimators for the parameters, as well as standard procedures such as ratio adjustment and hot deck. Eight regression models for imputing are presented. However, one problem with a "best" regression-based prediction method is that all imputed values will fall on the estimated regression line and, therefore, will lead to biases in estimates that involve the residual variance for nonrespondents. Simple methods are considered that attend to this problem by drawing random residuals that are added to the model predictions. Imputations are also created under explicit Bayesian models and multiple imputation procedures are developed and examined. The effectiveness of the various imputation methods is measured both at the micro and macro levels.

This talk is based on joint work with Shail Butani and Michael Witt of the Bureau of Labor Statistics.

## Program Abstracts (Cont'd)

- Topic:** Response Errors to Sensitive Questions on Sexual and Reproductive Behavior (Data Collection Methods/Office of Research and Methodology Seminar Series)
- Speaker(s):** Roger Tourangeau, National Opinion Research Center  
William Pratt, National Center for Health Statistics
- Chair:** Jared Jobe, National Center for Health Statistics
- Date/Time:** Thursday, March 31, 1994, 10:00 - 11:30 PM (Note Special Time)
- Location:** National Center for Health Statistics, Presidential Building, Room 1110, 6525 Belcrest Road, Hyattsville, Maryland
- Sponsor:** Office of Research and Methodology
- Abstract:** Since 1973, the National Survey of Family Growth (NSFG) has obtained sensitive information on a number of reproductive health issues from large representative samples of women in the United States. These data include use of contraceptives, infertility, age at first intercourse, number of sexual partners, frequency of intercourse, treatment for sexually transmitted diseases, and abortions. Although item nonresponse is generally less than 1 percent, the accuracy of answers to some of these questions is untested and frequently questionable. For example, women report substantially fewer sexual partners than men, and respondents report only half the abortions reported by providers. These differences indicate a need for research into the cognitive and methodological factors underlying response validity on such topics. With the widespread concern about AIDS, the NSFG is expanding the number of questions on behavioral aspects of HIV infection, particularly sexual and drug-related behaviors. This presentation will describe a collaborative research project between NCHS and NORC investigating the accuracy of reports of abortions, sexual partners, and drug use on NSFG questions. Important variables investigated included the mode and site of data collection, medical versus lay interviewers, and a pregnancy history versus medical treatment context for abortion questions.

## Announcements Cont'd

### Census Bureau's 1994 Annual Research Conference

The Census Bureau's 1994 Annual Research Conference (ARC 1994) will be held March 20-23, 1994 at the Key Bridge Marriott in Arlington, Virginia. ARC 1994 will comprise a mix of topics such as address registers, determining census content, census questionnaire response research, defining households, ethnicity, sampling in census taking, small area estimation, measuring international trade, data quality in longitudinal surveys, agriculture, and census evaluation. For further information contact Ms. Maxine Anderson-Brown, ARC Conference Coordinator, Office of the Director, Bureau of the Census, Washington, DC 20233, (301) 763-1150.

### The American University Schedule of Spring Classes

The Department of Mathematics and Statistics of The American University announces its Summer 1994 Schedule of Graduate Classes. The following courses will be offered:

Statistical Methods MW 5:30-8:10 PM

Regression MW 5:30-8:10 PM

Generalized Linear Models MW 5:30-8:10 PM

Registration begins in May. For additional information, please call (202) 885-3120.

**Conference on Statistics and Public Policy**  
co-sponsored by the Department of Mathematics and Statistics of the American University and the American Statistical Association  
May 12-14, 1994 in Washington, DC

Examining the impact of statistical methods on problems and debates in public policy. Sessions will include Governmental Policy, Environmental Policy, Medical Policy, and Linkage to Policy Makers.

Keynote Speakers: Dr. John Bailar (Ph. D. AU 1973),  
Dr. Barbara Bailar (Ph.D. AU 1972), Prof. Nathan Mantel (M.A. AU 1956)

Invited Sessions:

Legislating Data Needs - Can Statisticians Produce What Politicians Demand?  
Environmental Regulatory Statistics  
Issues in Developing Data Needed to Formulate a National Health Care Policy  
Record Linkage: Applications for Health Care Policy

Submit abstracts to be considered for contributed paper sessions by March 1, 1994.

For more information contact: Dr. Nancy Flournoy, Department of Mathematics & Statistics, The American University, Washington, DC 20016-8050



## Announcements Cont'd

### Seminar on New Directions in Statistical Methodology

In 1975, the Office of Management and Budget (OMB) organized the Federal Committee on Statistical Methodology. The committee is comprised of individuals selected by OMB for their expertise and interest in statistical methods. During the past nineteen years, the committee has determined areas that merit investigation and discussion, and watched over the work of subcommittees organized to study particular issues. Since 1978, twenty-one Statistical Policy Working Papers have been published under the auspices of the committee.

On May 25-26, 1994, the Council of Professional Associations on Federal Statistics (COPAFS) will host a seminar on "New Directions in Statistical Methodology". Developed to capitalize on work undertaken during the past dozen years by the Federal Committee on Statistical Methodology and its subcommittees, the seminar will focus on a variety of topics that have been explored in the Statistical Policy Working Paper series. The subjects to be covered will include:

- Economic Classification Revisions
- Disclosure Limitation Methodology
- Customer Surveys/Contracting for Surveys
- Incentives in Surveys
- Statistical Uses of Administrative Records--Effects of Using IRS Data on BLS, Census, and BEA Data
- Computer Assisted Survey Information Collection (CASIC)
- Cognitive Testing and Self-Administered Questionnaires
- Longitudinal Surveys
- Small Area Estimation
- Time Series Revision Policies
- Data Editing
- Nonresponse in Surveys

Each of these topics will be considered in a two-hour session that will feature formal papers and discussion, followed by informal dialogue among all speakers and attendees.

Seminar participants will include federal statisticians, economists, and managers, as well as others in the broader statistical community who share an interest in the quality of federal data. Users and producers of federal statistics who participate in the seminar will have the opportunity to share experiences and ideas, discuss technical issues, and consider future policy initiatives.

The cost for the two-day seminar will be \$125.00 per person, and will be held in the Washington, DC area. Registration will be limited to 250 participants. For further information, contact Edward Spar in the COPAFS office (703) 836-0404.

### SIGSTAT Meetings

SIGSTAT is the Joint Special Interest Group in Statistics for the Capital PC User Group and WORMSC (Washington Operations Research/Management Science Council). SIGSTAT is sponsoring the following meetings: on March 9, 1994, "Derive 2.55", latest version of small, but powerful, symbolic math processor with graphics; on April 6, 1994, "SAS/Insight", graphical data analysis, EDA and Generalized Linear Models with a point-and-click interface.

All meetings are scheduled for Wednesdays from 12:30-1:30 p.m. in Room B-14, 1301 New York Avenue NW, Washington, DC. The building is located midway between Metro Center and McPherson Square Metro stops. If this is your first SIGSTAT meeting, call Charlie Hallahan, (202) 219-0507, and leave your name in order to gain entry into the building.

## Announcements Cont'd

### Customer Service Standards

All Federal agencies have been ordered to develop customer service standards and to develop customer survey programs as part of that effort. In conjunction with the Federal Statistical System, the Joint Program in Survey Methodology (JPSM) is assisting agencies in mounting customer surveys. Two activities are now ongoing:

group consultative sessions staffed by survey experts from the statistical agencies, offering survey design advice to all agencies

short courses on topics relevant to mounting customer surveys:

-Conducting and Evaluating Focus Groups (March 2-3)

-How to Evaluate Alternative Sample Designs for Customer Surveys (March 15-16)

-Response Scales for Satisfaction Measurement (March 28-30)

For more information on these activities, call the JPSM at (301) 314-7911 or fax (301) 314-7912.

### Confidentiality and Data Access

Recent years have seen the unfortunate marriage of two issues of great concern to statistical agencies: confidentiality protection and steadily increasing nonresponse rates. To respond to these growing concerns, the Panel on Confidentiality and Data Access of the Committee on National Statistics and the Journal of Official Statistics have produced this special issue on Confidentiality and Data Access. It includes:

■ Report of the Panel on Confidentiality and Data Access by George T. Duncan, Virginia A. deWolf, Thomas B. Jabine, and Miron L. Straf

■ Privacy and Advances in Social and Policy Sciences: Balancing Present Costs and Future Gains by Paul D. Reynolds

■ Measures of Disclosure Risk and Harm by Diane Lambert. Discussion: Eleanor Singer, Thomas Plewis, L. W. Cook

■ Informed Consent in U.S. Government Surveys by Robert H. Mugge

■ Informed Consent and Survey Response: A Summary of the Empirical Literature by Eleanor Singer. Discussion: Tore Dalenius

■ Masking Procedures for Microdata Disclosure Limitation by Wayne A. Fuller

■ Statistical Analysis of Masked Data by Roderick J. A. Little

■ Statistical Disclosure Limitation Practices of United States Statistical Agencies by Thomas B. Jabine. Discussion: Brian V. Greenberg, Donald B. Rubin, Leon Willenborg

■ Database Systems: Inferential Security by Sallie Keller-McNulty and Elizabeth A. Unger. Discussion: Martin H. David, Gerald Gates, Teresa F. Lunt, Bo Sundgren

■ Confidentiality Legislation and the United States Federal Statistical System by Joe S. Cecil

■ Procedures for Restricted Data Access by Thomas B. Jabine. Discussion: Nancy J. Kirkendall, H. W. Watts, Photis Nanopoulos

Order by mail: Statistics Sweden, JOS Office, Gunilla Dahlen, S-701 89 OREBRO, Sweden; by fax 46 19 17 70 82; by phone 46 19 17 65 81. Cost is \$25 per copy. Please include number of copies, name, and address.

## Employment Column

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 write or call: Bill Arends, USDA-NASS, Room 4133 South Building, Washington, DC 20250-2000, (202) 720-6812.

### Vacancies

#### Survey Statistician/Biostatistician

The Division of Statistics and Research Methodology, Agency for Health Care Policy and Research has an opening in its Rockville, MD office for a Masters or Doctorate level survey statistician or biostatistician. The division is involved in research projects related to survey research, sample design, weights development, data

analysis, and variance estimation for complex surveys as well as methodologies to reduce measurement error. Staff members have the opportunity within the Agency for collaborative research with researchers in the fields of economics, sociology, gerontology, public health, as well as other statisticians and biostatisticians. Responsibilities would include conducting independent research, monitoring statistical aspects of several data collection contracts, and providing statistical consulting for a wide variety of statistical, methodological, and econometric studies in health services research. Applicants should have a Ph.D or M.S. in statistics, biostatistics, or a related field and experience relevant to survey sampling and/or estimation.

Send applications (SF-171 or resume) to Nancy Mathiowetz, Division of Statistics and Research Methodology, Executive Office Center, 2101 East Jefferson Street, Suite 500, Rockville, MD 20852. Please, no telephone calls.

### \* \* \* Note from the WSS NEWS Editors \* \* \*

Items for publication in the May 1994 WSS NEWS should be submitted no later than March 29, 1994. FAX items to:

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FAX: (202) 586-0018

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