

## In Memoriam Chip Alexander

By Gary Shapiro, Westat

As many of you know, Chip Alexander drowned while swimming in September, at the age of 55. In my view, Chip was one of the three or four best statisticians the Census Bureau has seen since Morris Hansen and Joe Waksberg retired. Chip was also a great trainer of young statisticians, and was well liked and respected by all who knew him.

I had the great privilege of Chip being assigned to my area from the time he started at the Census Bureau about 1979 until I left the Demographic Statistical Methods Division in 1992, when he took my position as an Assistant Chief of the division. Chip was much more interested in doing interesting and important statistical work than he was in holding a high level position. He established such a reputation during the 80's that more than once he was approached with a higher  
*(See In Memoriam on p. 3)*

## The Washington Statistical Society's Quantitative Literacy Group

By Wendy Rotz, Ernst & Young

*This is the fifth article in a seven part series relating to the SRMS mission statement. The topic for this issue is "Education of the Public on the Importance of Scientific Survey Research."*

From promoting statistical understanding in the general public to inspiring the next generation of young statisticians, Quantitative Literacy (QL) has a tall order. The Washington Statistical Society (WSS), a chapter of ASA, has a volunteer QL group of statisticians who have set out to do just that.

The work of QL groups across the country grows increasingly important as society continually expands the use of data and measurements. Today, ordinary people face a barrage of quantitative data in the media, through advertising, on political issues, and even when presented serious medical treatment options. I thank the SRMS Newsletter editors for asking me to contribute this article about the WSS QL Group.

The WSS QL Group formed in 1991 to support the ASA Quantitative Literacy initiative. Since then hundreds of professionals have participated in WSS sponsored QL events. Over the years we have worked with teachers behind the scenes, met with students in the classroom, organized student competitions, judged science fairs, and conducted workshops for teachers and the general public.

**Behind the scenes:** The WSS QL volunteers have coached local teachers individually and conducted teacher workshops. When the state of Maryland required that statistics be taught in every grade, including kindergarten, WSS consulted on curricula and textbooks and provided QL material for classroom activities.

*(See Literacy Group on p. 2)*

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**In the classroom:** We have visited classrooms from kindergarten through 12<sup>th</sup> grade in Washington, D.C. and nearby counties in Maryland and Virginia. When Fairfax County in Virginia asked us to visit every 8<sup>th</sup> grade math class for career days, WSS rose to the challenge to solicit enough volunteers. Our classroom discussions are augmented with excerpts from the award winning PBS series “Against All Odds” and follow with statistical exercises using sweets so students may eat their data.

**Competitions:** WSS created the Curtis Jacobs Memorial Prize in 1992 to honor the memory of Curtis Jacobs, a former Bureau of Labor Statistics statistician, and to encourage middle and high school students to gain an understanding and appreciation of surveys and their uses. Students submit reports on projects that include collecting and analyzing survey data. Math, statistics, computer science, and journalism students have won this prize.

Since 1986, pre-dating QL, WSS has judged and awarded prizes in the local science fairs.

In 2000, WSS began judging the regional ASA poster competition sending the winning entries to the national ASA competition. Then in 2001, during the regional judging and in cooperation with ASA, WSS began awarding prizes for entries in the Washington, D.C. metropolitan area. The prizes gave schools a chance to compete in a smaller geographical area, yet still compete in the national competition.

We haven’t stopped at 12<sup>th</sup> grade. Following the lead of the Albany Chapter of ASA, in 2002 WSS awarded a prize for the best graduate student presentation at Probability and Statistics Day. The event, organized by Mid-Atlantic universities, provides young researchers with an opportunity to present their work. Student participation nearly tripled when WSS announced the competition. The WSS award was based not only on the students’ statistical strengths, but also on their presentation skills. These skills facilitate statistical careers in consulting, academia and research.

**Teaming with outside organizations:** We successfully teamed with local schools, ASA and other organizations. In 1996, WSS began conducting QL activities with the Girl Scouts of America (GSA). This included meeting local Girl Scout troops and participating in Scout Day at the Smithsonian’s Air and Space Museum. The GSA effort to stimulate girls’ interest in math and science was paralleled by the QL effort to promote women and minorities in statistics.

In 2000, WSS first teamed with the Business Information Finders (BIF), an organization of librarians to jointly sponsor a seminar on statistical graphs and tables. Over 75 people from WSS, BIF and the general public attended the evening event.

**The best of times:** Throughout the years, of all the work I’ve done for professional organizations, I have enjoyed QL the most. I will always remember a kindergarten class studying the distribution of birthdays. They submitted a poster with an enormous birthday cake colored in crayons. Glued to it were construction paper candles for each student in the class. The five-year olds had obviously done all of the work themselves and it was absolutely precious.

It is encouraging to see young people show so much promise, such as the 8<sup>th</sup> grade journalism students who pre-tested their school questionnaire in a focus group and discussed the implications of nonresponse when they reported their final survey results. I have been impressed by high school students researching public opinion on such serious topics as death and dying or the reproductive ethics of cloning. The talent is there, we need to capture it.

I encourage all statisticians to join their local QL efforts or form their own chapter’s QL group. It is a service to our profession. If you would like more information on the WSS QL group, and especially if you would like to volunteer, please e-mail me on [Wendy.Rotz@ey.com](mailto:Wendy.Rotz@ey.com).\*



*(In Memoriam-continued)*

level position, but Chip preferred to stay where he was. I'm sure that Chip could have been at the very top rungs of the Census Bureau or another statistical agency if he had so wanted.

In the 80's, Chip made very important contributions to the Consumer Expenditures Survey and the National Crime Victimization Survey. In the late 80's he played a critical role in the redesign of all the major Census Bureau household surveys.

Also beginning in the late 80's, he started getting involved in what became known as the American Community Survey. He took this on as his own project though he worked for me, I had virtually no involvement in it. As Paula Schneider and Cindy Tauer have stated in their tribute to Chip, "His legacy to the nation is his contributions to the American Community Survey. He took theoretical ideas that had been floating around for years and talked through options with his co-workers to fine tune his basic plan....His work will help the hair dresser trying to decide where to invest her lifesavings in a new business, ...the people building affordable housing..."

Paula and Cindy continue "...we took for granted Chip's ability to learn and understand the intricacies of our own jobs just as well as we did...he was the one who could pull it all together and figure out the competing priorities and what was needed to do the job better...."

"What Chip gave to us through his life, this Prince of a human being, will go on living. He will never be lost to us or to our nation."\*



## Section News



### Thanks!!

A special thanks to the following 'outgoing' section officers for their service to SRMS: Dan Kasprzyk (Past Chair), Patrick Cantwell (Past Program Chair), Sarah Nusser

(Treasurer), Al Tupek (Publications Officer), and Bill Kalsbeek (Council of Sections Representative).

Thanks also to Lars Lyberg (Past Chair) in your important position on the executive committee this past year.

This was certainly a dedicated group and our hats are off to you in appreciation!\*

## Welcome New Officers

A warm welcome to the new members of the board: Sharon L. Lohr (Chair-Elect), Partha Lahiri (Program Chair-Elect), Thomas R. Belin (Treasurer), Michael P. Cohen (Publications Officer), Elizabeth Stasny (Representative to the Council of Sections).

Congratulations to all and thanks for giving your time and talents to the SRMS members over the upcoming months!\*

## New Roles

Good luck to our current officers in their new roles... S. Lynne Stokes (Chair), Howard Hogan (Program Chair), Lars Lyberg (Past Chair).\*

## First SRMS Service Award



The first SRMS Service Award was presented to Wendy Alvey at the SRMS business meeting at the 2002 JSM in New York City. Wendy produced the newsletter for many years as well as being in charge of updating the SRMS flier for many years. Congratulations, Wendy, and thank you for all your effort for the section.\*

## SRMSNET

The SRMSNET Listserv list has been moved. All postings should now be sent to:

[SRMSNET@listserv.umd.edu](mailto:SRMSNET@listserv.umd.edu)

To subscribe to SRMSNET, send a message to [listserv@listserv.umd.edu](mailto:listserv@listserv.umd.edu) and in the body of the message, type 'subscribe SRMSNET your name'. Please remember that if you click on 'reply', your answer will go out to everyone on the SRMSNET. So be sure to direct personal replies to the sender's own e-mail address.

To unsubscribe, in your message to [listserv@listserv.umd.edu](mailto:listserv@listserv.umd.edu), type in the body of the message 'unsubscribe SRMSNET'. ✽



## Newsletter on the Web

This newsletter and past SRMS newsletters can be read on the web. The address for the Survey Research Methods Section web site is <http://www.amstat.org/sections/srms/>. ✽



## Executive Committee Reports

### Report from the Program Chair

By Howard Hogan

This year's JSM in San Francisco promises to be the best meetings ever. It is hard to beat the location for culture, food, excitement and especially August weather. We have arranged six invited paper sessions, each of great interest. The sessions with their organizers are:

- \* Pat Cantwell: Calibration Estimation in Sample Surveys;
- \* Dan Cork: Promise and Reality of Survey Automation;
- \* Steven Thompson: Sampling in a Network;
- \* Bill Davis: Small Area Estimation using Information from Multiple Surveys;
- \* Malay Ghosh: Small Area Estimation Using Survey Weights; and
- \* Elizabeth Stasny: Cognitive Aspects of Web Survey Designs.

In addition, we will have a memorial session in honor of Chip Alexander on the American Community Survey.

If you haven't done so already, it is not too late to organize a topic contributed session. Topic contributed sessions have five presentations, including discussions. For example, four papers and one discussant, or three papers and two discussants. (Regular contributed sessions have six or seven.) The speakers get more time, 20 minutes versus only 15. The sessions are more cohesive, more interesting and generally better attended. I try to put them in the better time slots. Topic contributed sessions are the "bread and butter" of the meetings. Your work now will ensure an excellent meeting in August.

If you organize a session sponsored by SRMS, you must tell me about it before February 1. I need to know the organizer (you), speakers, discussants (if any), and the topic. Everyone presenting a paper in a topic contributed session must submit an abstract and pre-registration material to the ASA by February 1.

There are also Topic Contributed Panels. The traditional panel discussion format is used, with a minimum of three and a maximum of five panelists. Only one abstract is required for this type of session. Again, if SRMS is the sponsor, you must coordinate with me. If you want to contact me, please do so at [hhogan@census.gov](mailto:hhogan@census.gov).

Finally, it is not too early to begin thinking about the 2004 meetings. As SRMS Program Chair elect, Partha Lahiri is responsible for the program of SRMS papers at the 2004 Meetings. SRMS will likely have at least five invited paper slots to be filled for the meetings. In addition, we can submit invited paper sessions for open competition. This is a great opportunity for SRMS members to propose invited paper sessions for the 2004 meetings.

We welcome all ideas for invited sessions, whether simply as a preliminary idea that we need to pursue further with an individual or group, or as a proposal complete with a title and a brief paragraph describing the nature of the session and potential speakers. If you have an idea—or several ideas—for invited paper sessions for the 2004 summer meetings, please send them to: [plahiri@survey.umd.edu](mailto:plahiri@survey.umd.edu).

Partha and I are looking forward to hearing from you and seeing you in San Francisco! ✽

### Report from the Assistant Editor

By Tony An

I have made some changes at our Survey Research Methods Section (SRMS) Web site to make it more user friendly and robust for different browsers and different user settings. Please send me e-mail at [Anthony.An@sas.com](mailto:Anthony.An@sas.com) for news items, contributions, comments, and suggestions. If you have announcements for our section—sponsored or endorsed conferences, our Website is an ideal place to publicize them.

I have been working with other committee members to put the Proceedings of the Survey Research Methods Section (1978-2000) on our Web site. You can access the online proceedings at

<http://amstat.org/sections/srms/Proceedings>

The online proceedings provide a great resource for our members and the public. Please e-mail me if you have any comment on the design of the online proceedings or if you encounter any problems.\*

## **Publications Officer Report**

**By Al Tupek**

Thank you Leslie and Tom. Thank you Sharon and Tony. Thank you Adam. And, thanks to Dan, Bill, Lars, Tony, and the other Executive Committee members for helping to make available the Section's historical proceedings on its website. Welcome Mike.

It's been a pleasure to serve as the SRMS Publication's Officer these past two years. I know that Mike Cohen, Publication's Officer for 2003 and 2004, is already thinking of ways to make sure the Section's publications continue to serve the needs of its members even better. I was fortunate to have Leslie Wallace and Tom Krenzke as Newsletter Editors during my entire tenure, and I know they have many more creative ideas to contribute. My predecessor and the Section's chair elect for 2004, Sharon Lohr, graciously agreed to serve as the Section's Assistant Editor for Amstat Online in 2001 and Tony An stepped up to the plate in 2002. As the Sections Assistant Editor for Amstat Online in 2002, Tony An put a lot of finishing touches on the electronic proceedings that will make it easier for all of us to find papers. Adam Kelley continued to maintain the SRMS listserve at the University of Maryland. The listserve continues to have its flurry of exchanges on interesting topics without inundating our mailboxes. Thanks to all of you for using discretion in participating on the listserve.\*

## **Standing Committee Report**

### **SIPP Working Group**

**By Jennifer Guarino, Census Bureau**

Excitement is building in anticipation of the next SRMS SIPP working group meeting, currently planned for late winter/early spring of 2003. In light of the recent panel "retirements", we are in the process of adding a few new members to the group. In the meantime, the list of topics for discussion continues to grow. Potential agenda items include an attrition bias study on the Survey of Program Dynamics (SPD), preliminary results from the SIPP 2001 incentive test, use of contact history for interviewing, and the development of a variance estimation system for FERRET.

In addition to changes to the panel members from outside of Census, there have been some changes on the Census side as well. I have replaced Karen King as chief of SIPP, and Rita Pacella (formerly Visnansky) has returned to the branch for administrative support. Please feel free to contact Rita or me ([jennifer.a.guarino@census.gov](mailto:jennifer.a.guarino@census.gov)) if you have any questions or suggestions for the next meeting.\*



## **Awards**

### **2002 Bryant Scholarship Award Winner**



### **New Applicants Sought for 2003**

Congratulations to Jana L. Asher, from Carnegie Mellon University, the recipient of the 2002 E. C. Bryant Scholarship Award.

Each year an outstanding graduate student in Survey Statistics is awarded the Edward C. Bryant Scholarship to help support the student's graduate education.

Applications for the 2003 award are now being accepted.

Westat established the Edward C. Bryant Scholarship Trust Fund in 1995 to honor its co-founder and long-time leader. Under Dr. Bryant's leadership, Westat, an employee-owned statistical firm established in 1961, grew into what is now

one of the world's leading statistical research firms with a full-time permanent staff of 1,400. Selection of the scholarship recipient is made by the ASA Bryant Scholarship Award Committee. The selection criteria includes potential to contribute to survey statistics, applied experience in survey statistics, and performance in graduate school. The award consists of a certificate and a \$1,500.00 cash prize.

The 2003 winner will be presented at the Presidential Address at the JSM in San Francisco. For more information about the 2003 scholarship including an application, see [www.amstat.org/awards/bryant.html](http://www.amstat.org/awards/bryant.html).

An additional contact is Jean Opsomer, the Committee Chair at [jopsomer@iastate.edu](mailto:jopsomer@iastate.edu) or (515) 294-0212. Applications and letters of recommendation must be received by April 30, 2003 for consideration.\*

## Nominations Sought for Waksberg Paper

The journal *Survey Methodology* has established an annual invited paper series in honor of Joseph Waksberg, who has made many important contributions to survey methodology. Each year, as part of the Waksberg Invited Paper Series, a prominent survey researcher is chosen to author a paper that reviews the development and current state of a significant topic within the field of survey methodology and reflects the mixture of theory and practice that characterizes Waksberg's work. The author receives a cash award made possible by a grant from Westat, in recognition of Joe Waksberg's contributions during his many years of association with Westat. The grant is administered financially by the American Statistical Association.

Previous winners were Gad Nathan, Wayne Fuller and Tim Holt. The first two authors' papers have already appeared in *Survey Methodology*. The author of the 2004 Waksberg paper will be selected by a four-person committee appointed by *Survey Methodology* and the American Statistical Association.\*



## Announcements

We welcome announcements from SRMS members that are of general interest to survey research professionals. Contact the editors at [LeslieWallace@Westat.com](mailto:LeslieWallace@Westat.com) or [TomKrenzke@Westat.com](mailto:TomKrenzke@Westat.com).

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The editors wish to thank Angela and Laurie for their contributions to the newsletter.

## Past Conferences



In July 2002, the Laboratory for Research in Statistics and Probability (LRSP) hosted the "International Conference on Recent Advances in Survey Sampling" (ICRASS) in Ottawa, in honor of the work of Professor J.N.K. Rao on the occasion of his 65<sup>th</sup> birthday. The meeting was co-sponsored by the Fields Institute for Research in Mathematical Sciences, the Survey Research Methods Section of the American Statistical Association, Statistics Canada, and the Statistical Society of Ottawa. The conference was attended by 200 participants from as far away as New Zealand and Israel, and included 70 registrants from Statistics Canada, many of whom presented papers.

Professor J.N.K. Rao's work has influenced almost every aspect of the theory and practice of modern survey sampling. He began his research in survey sampling at a time when very few academic statisticians worked in the area, despite its practical importance. Due in large part to Professor Rao's involvement and influence, research in survey sampling is thriving. This conference displayed the vigor of current work.

The distinction of the speakers at this conference provided a measure of Professor Rao's stature and influence. Many of the speakers were collaborators or former students. The papers presented ranged from missing data problems to biostatistics to survey design to small area estimation. Professor Rao's work has been fundamental to all of these areas.

Four of the sessions in the conference addressed the subject of small area estimation, a topic to which Professor Rao has contributed greatly. His forthcoming book, *Small Area Estimation*, (Wiley, January 2003) synthesizes the research on the topic and presents it in practical terms. Along the way, the book also provides clear and up-to-date expositions of mixed models theory, generalized linear models, model diagnostics, empirical Bayes models, and methods for Bayesian computations. It goes far beyond the scope of its title to present a compendium of modern statistical practice from a small-area-estimation viewpoint.

Roberto Guido, Statistics Canada, designed the logo for the conference, portraying the 'small area' that Professor Rao's work covers. This logo will also be featured on the cover of Professor Rao's book.

Professor Rao's important work in statistics has been recognized by the American Statistical Association, the Institute of Mathematical Statistics, the American Academy for the Advancement of Science, and the Royal Society of Canada; each of these organizations has elected him fellow. He is also an elected member of the International Statistical Institute, and was awarded the Gold Medal from the Statistical Society of Canada. The paper on analysis of categorical data from complex surveys by Rao and Scott (1981) is one of the 19 papers included in the Jubilee Commemorative Volume (2002) of landmark papers in survey sampling, assembled by the International Association of Survey Statisticians.

Professor Rao is well known for his encouragement and strong support of young statisticians from all over the world. When this conference was first conceived, Professor Rao made one request---that his former students and postdoctoral fellows be well represented. This conference

thus reflects his continuing role as a nurturer not only of statistics but also of statisticians.

At the ICRASS banquet a presentation was made to Professor Rao from the participants of the conference. His gift was a 4" globe on a black marble base with the inscription

"GLOBAL EXCELLENCE IN STATISTICS –  
J.N.K. RAO"

For pictures taken during the conference, visit the LRSP website: [http://www.lrsp.carleton.ca/conferences/icrass-rao/Banquet\\_pict1/](http://www.lrsp.carleton.ca/conferences/icrass-rao/Banquet_pict1/).\*

## **The International Conference on Improving Surveys**

The International Conference on Improving Surveys (ICIS) was held August 25th-28th, 2002 in Copenhagen Denmark. More than 250 people participated in the conference and more than 100 papers were presented. Thirty-six countries were represented from all six continents. The conference had four main themes:

- \* The effect of new technologies on surveys;
- \* Improving quality of surveys;
- \* Improving international comparisons; and
- \* Combining surveys and administrative registers.

Keynote speakers were Mick Couper, University of Michigan; David Marker, Westat; Vijay Verma, ORC Macro; and Eva Elvers, Statistics Sweden. Bob Groves, University of Michigan, provided the concluding remarks. Prior to the conference courses in "Analyzing Sample Survey Data using SAS", ECHP (European Communities Household Panel Survey), and SUDAAN were given.

The conference was very well received and gave rise to a lot of good discussions. The social setting provided a wonderful opportunity for people from different countries to get to know each other. Furthermore, it was very important that a small country in Europe could host such a conference. I want to thank all the participants for coming to the conference, all the presenters, chairs, discussants and keynote speakers. You all made this conference very productive and very successful. In December 2002 a CD including all presented papers should have been sent to all

participants. People who did not attend ICIS but who are interested in buying the CD should look at the website [www.icis.dk](http://www.icis.dk). On this site you will also find pictures taken during the conference.

Best wishes,  
Hans Bay  
Director SFI-SURVEY, Denmark☼

## **QDET Conference a Success in Charleston**

The International Conference on Questionnaire Development, Evaluation, and Testing Methods (QDET) was held November 14-17 in Charleston, South Carolina at the Embassy Suites Convention Center Hotel. The 338 conference attendees represented 23 countries and six continents. There were 32 sessions with 22 invited papers and 54 contributed papers. In addition there were 15 poster presentations.

SRMS funds provided QDET the ability to offer 12 Conference Fellowships to students and to people from countries typically underrepresented at these conferences. Fellowships were granted to persons from South Africa, Kenya, the Philippines, Slovenia, Italy and Korea as well as to graduate students in the U.S. A grant received from the National Science Foundation also allowed QDET to offer an additional 10 Conference Fellowships to U.S. citizens, most of whom were graduate students.

Norman Bradburn was the keynote speaker and his talk focused on "The Future of Questionnaire Research." He emphasized the need for the field to keep abreast of how to maximize utility of technological advances and the increasing challenges the field faces with multicultural, multilanguage issues and the benefits which might be gained through incorporating more sociolinguistics into survey research.

The QDET invited papers will be included in a monograph which will be published around December 2003. The Journal of Official Statistics (JOS) is going to produce a volume comprised of selected contributed papers. Tentatively, it is planned that the selected QDET papers will be in the Winter 2003 volume. All contributed papers will be posted on the conference website ([www.jpms.umd.edu/qdet](http://www.jpms.umd.edu/qdet)) in January and remain there for three months. In addition, conference photos are available on the conference website.

From the conference evaluation forms, it is apparent that QDET attendees are interested in future conferences focusing on topics such as questionnaire design, Web Surveys, and multicultural issues related to survey research. SRMS eagerly awaits conference proposals on such topics!☼



## **Short Topic**

### **Sample Size and Design Effect:**

#### **Introduction and Review**

**By Gene Shackman, New York Dept. of Health**

Determining sample size is an important step in administering surveys. For designs other than simple random samples, one crucial part in determining size is the design effect. This is an adjustment for any effects that the sampling design may have on efficiency of the sample. In this article I describe the design effect, and briefly review some typical design effect values.

The design effect is the ratio of the sampling variance in the sampling method actually used to the sampling variance if simple random sampling (SRS) were used (Turner, 1996, Section II A). With cluster sampling, sampling variance is higher than it is in SRS, and with stratified sampling, sampling variance is lower than it is in SRS (Henry, 1990). The result is that for cluster sampling, sample size needs to be increased over a sample size assuming SRS, and for stratified sampling, sample size can be decreased. In multistage sampling using both stratification and clusters, sampling variance is generally larger than in SRS (Henry, 1990).

In cluster sampling, members of the same cluster are often more likely to be alike than are randomly selected members of a larger population. As a result, each additional member of a cluster brings less information to the sample than would a member randomly selected from the population (Kalsbeek and Heiss, 2000). Thus, the total population may not be represented as effectively. In this case, the design effect is larger than one and the sample size would need to be larger than an SRS sample. Stratified sampling can improve sampling efficiency by assuring that all strata are appropriately represented (Kalsbeek and Heiss, 2000). The design effect is thus less than one and sample size can be reduced.

Two main components of the design effect are the intraclass correlation and the cluster sample size (Turner, 1996: Section II A). The intraclass correlation is the degree of homogeneity of people within clusters (Kish, 1965). As mentioned, people in the cluster are likely to be more homogeneous than would be people selected randomly. This can be due, for example, to selective grouping effects (e.g., people move into neighborhood of similar people), to exposure to common environments or influences, to the effects of interacting with others in the cluster, or to some combination of these factors (Kish, 1965). When the intraclass correlation is larger, the design effect is larger.

The amount that the sample size needs to be adjusted is directly related to the design effect. For example, a design effect of three means that the sample size needs to be three times as large as it would be using a SRS (Turner, 1996, Section II A). Alternatively, the design effect can also be understood as relating to the sampling variance. A design effect of three means that sampling variance is three times as large as it would be in SRS (Turner, 1996, Section II A).

The design effect is difficult to calculate before surveys are conducted, so usually estimates are used. For well-designed studies, generally with both stratification and clustering, the design effect ranges from one to three (Lê and Verma, 1997; Henry, 1990). In one presentation (Shackman, 2001), I list a number of reports that discuss their design effects, which generally range from one to three, but higher values, up to 10, are not uncommon. When cluster sampling is part of the design, a reasonable approach is to use a design effect of two or three.

## References

Henry, G. (1990). *Practical Sampling*. Newbury Park, CA: Sage Publications. Applied Social Research Methods Series, volume 21.

Kalsbeek, W. and Heiss, G. (2000). Building Bridges Between Populations and Samples in Epidemiological Studies. *Annual Review of Public Health*. 21:147-169. Also available at [http://www.sph.unc.edu/chsr/Dissemination/Arph\\_sub.htm](http://www.sph.unc.edu/chsr/Dissemination/Arph_sub.htm).

Kish, L. (1965). *Survey sampling*. New York: J. Wiley.

Lê, T and Verma, V. (1997). An Analysis of Sampling Designs and Sampling Errors of the Demographic and Health Surveys. Report AR3. Calverton Maryland: Macro International Inc. Available from Demographic and Health Surveys: <http://www.measuredhs.com/>. Click on Publications & Press, then search and browse, then click on analytic reports.

Shackman, G. (2001). Developing Sample Sizes for New Surveys: Estimating the Design Effect Adjustment. Presented at the Albany Chapter of the American Statistical Association and Rensselaer Polytechnic Institute's Applications In Statistics: What's Hot / What's Next VI. Albany, NY. Available at [http://www.albany.edu/~areilly/albany\\_asa/confweb01/agenda01.htm](http://www.albany.edu/~areilly/albany_asa/confweb01/agenda01.htm)

Turner, A. (1996). Sampling Topics for Disability Surveys. New York: United Nations Statistics Division, Technical Notes. Retrieved October 31, 2001 from: <http://www.un.org/Depts/unsd/demotss/tcndec96/tony.htm>\*

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## Executive Committee Bio

*Sharon Lohr*, the SRMS chair-elect, is a professor in the Department of Mathematics and Statistics at Arizona State University and is affiliated faculty with the ASU Center for the Study of Law, Science and Technology. Her research interests include small area estimation, multiple frame surveys, jackknife and bootstrap methods for survey data, and statistical applications in law and criminology. She is a member of the Census Advisory Committee for the ASA, and has served on the ASA Committee on Law and Justice Statistics and the E.C. Bryant Scholarship Committee. In 1999-2000, she was Publications Officer for SRMS and she served as the section's first Assistant Editor for *Amstat Online* from 1999-2001. She is the author of *Sampling: Design and Analysis*, published by Duxbury Press, and has given several short courses based on that book. She received her Ph.D. in Statistics from the University of Wisconsin-Madison, and was elected an ASA Fellow in 2000.

*Partha Lahiri* is Professor of the Joint Program in Survey Methodology (JPSM) at the University of Maryland at College Park. He is a senior scientist for the Gallup International Research and Educational Center. Prior to coming to Maryland, Partha was the Milton Mohr Distinguished Professor of Statistics at the University of Nebraska-Lincoln. His research interests include small-area estimation, resampling methods, record linkage, and multi-level modeling. Partha's work has been widely published in leading journals such as the *Journal of the American Statistical Association*, *Annals of Statistics* and *Survey Methodology*. Partha has been active in various editorial activities and has served on a number of advisory committees, including the U.S. Census Advisory committee.

*Tom Belin*, Treasurer, is Associate Professor in the UCLA Department of Biostatistics. While completing his Ph.D. in Statistics at Harvard in 1991, he worked as a Mathematical Statistician at the U.S. Census Bureau on issues related to census undercount estimation, specifically calculating error rates in record linkage and handling unresolved enumeration status in the 1990 Post-Enumeration Survey. At UCLA, he has collaborated on a number of survey

research projects, often to help address missing data problems, and he has received research grant support from the National Institute of Mental Health to pursue new methodologies for high-dimensional incomplete-data problems. He also serves as a representative of the ASA to the Census Advisory Committee of Professional Associations.

*Michael P. Cohen*, SRMS Publications Officer, is the Assistant Director for Survey Programs at the U.S. Bureau of Transportation Statistics (BTS). The Office of Survey Programs that he heads has responsibility for the National Household Travel Survey (joint with the Federal Highway Administration), the Omnibus Household Transportation Surveys, the Commodity Flow Survey (joint with the Census Bureau), and a number of targeted surveys on special transportation-related topics. Before coming to BTS, he worked for the National Center for Education Statistics, particularly on publication review, statistical standards, surveys of college faculty, data collection for postsecondary education institutions, and education fiscal data. He began at the Bureau of Labor Statistics where he worked on the Consumer Price Index (especially expenditure weights, index estimation, variance estimation, and components of variance) and the Consumer Expenditure Surveys. He has a Ph.D. in mathematics (mathematical statistics) from UCLA and a bachelor's degree from the University of California, San Diego. His research interests include survey design and estimation, survey methodology, data analysis, multilevel models, and price indexes. He has 17 publications in the Proceedings of the SRSM and has also published in *Survey Methodology*, *Journal of Official Statistics*, *Journal of Educational and Behavioral Statistics*, *Biometrical Journal*, *Annals of Statistics*, and other journals. In 1994-1995, he was chairperson of the ASA Committee on National and International Statistical Standards. He is on the Washington Statistical Society Board of Directors and has been their Methodology Section and Program Chairperson and Representative-at-Large. He is active in Washington, DC area scientific societies and is the Treasurer of the Philosophical Society of Washington and President-Elect of the Washington Academy of Sciences.\*



## Mission Statement

The mission of the Section on Survey Research Methods is to promote the improvement of survey practice and the understanding of survey methods by encouraging both theoretical and applied research on survey-related topics and by disseminating information on survey methods.

Areas of interest for the Section include all that employ survey methodology as a focus or as a prime tool of investigation. Of special interest are:

- ◆ Theoretical foundations of sampling;
- ◆ Sample design and estimation;
- ◆ Nonsampling errors and data collection methods;
- ◆ Analysis and presentation of survey data;
- ◆ Education of the public and students on the importance of scientific survey research;
- ◆ Publication and dissemination of survey research findings; and
- ◆ Ethics related to survey conduct and standards for survey practice.

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