

*Improving Data Quality  
in the Era of **Big** Data*

## Final Program

**September 20–22, 2015**

**Short Courses – September 19, 2015**

Renaissance Baltimore Harborplace Hotel  
Baltimore, Maryland, USA



[www.tse15.org](http://www.tse15.org)

# Welcome to the TSE15

Welcome to the 2015 International Total Survey Error Conference.

TSE15 is designed for statisticians, survey managers and methodologists, pollsters, public opinion researchers, and marketing research professionals focused on survey quality and the challenges of big data. The Total Survey Error concept summarizes the ways a survey estimate may deviate from the corresponding value in the population.



## Conference Organizing Committee

### **Dr. Stephanie Eckman (co-chair)**

*Senior Researcher, Institute for Employment Research (IAB)*

### **Brad Edwards (co-chair)**

*Vice President and Deputy Area Director, Westat*

### **Dr. Paul Biemer**

*Distinguished Fellow, RTI International*

### **Dr. Frauke Kreuter**

*Associate Professor, Joint Program in Survey Methodology, University of Maryland*

### **Dr. Edith de Leeuw**

*Professor, Utrecht University*

### **Dr. Lars Lyberg**

*Professor, Department of Statistics, University of Stockholm*

### **Dr. Clyde Tucker**

*Principal Survey Methodologist, American Institutes for Research*

### **Dr. Brady West**

*Research Assistant Professor, Survey Methodology Program, Survey Research Center, Institute for Social Research, University of Michigan-Ann Arbor*

## TSE15 Supporters

TSE15 is supported by the Council of Professional Associations on Federal Statistics (COPAFS), with conference support from Kellen (formerly The Sherwood Group Inc.)

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# Conference Schedule

## Saturday, September 19

9:00 a.m. – 5:00 p.m.

### Short Courses

#### Total Survey Error Framework: Essentials

Room: Homeland, 5th Floor

*Paul Biemer, Distinguished Fellow,  
RTI International, University of North Carolina, Chapel Hill;  
Lars Lyberg, Professor Emeritus, University of Stockholm*

#### Total Survey Error in Project Management

Room: Federal Hill, 5th Floor

*Brad Edwards, Vice President,  
Director of Field Services and Deputy Director, Westat;  
Michelle Amsbary, Senior Study Director and  
Project Director,  
American National Election Survey at Westat, Maryland*

#### A Small Course on Big Data for Survey Researchers

Room: Maryland A, 5th Floor

*Trent Buskirk, Vice President of Statistics and  
Methodology, Marketing Systems Group;  
Frauke Kreuter, Professor at the Joint Program in Survey  
Methodology and Professor of Statistics and Social  
Science Research at the University of Mannheim*

## Sunday, September 20

9:30 – 11:30 a.m.

### Paper Session I

#### Interactions of Survey Error and Ethnicity I

Room: Maryland A, 5th Floor

**Session Chair: Sunghee Lee**

#### Ethnic Minorities in Surveys:

**Applying the TSE Paradigm to  
Surveys Among Ethnic Minority Groups to Assess the  
Relationship Between Survey Design, Sample Frame  
and Survey Data Quality**

*Joost Kappelhof  
Institute for Social Research/SCP*

Invited Presentation

#### How Does Language Shape Public Opinion?

*Efren Perez  
Vanderbilt University*

#### Survey Error Associated with the Translation of U.S. Education Level Categories into Spanish

*Patricia Goerman, Leticia Fernandez, Kathleen Kephart  
U.S. Census Bureau*

#### The Role of Time Perspectives on Subjective Probability Response Patterns Among Hispanics

*Sunghee Lee  
University of Michigan*

#### Sexual Orientation and Behavior Item Nonresponse and Measure Concordance Across Race/Ethnicity, Sex, Interview Language, and English Proficiency: Evidence from Five Cycles of the California Health Interview Survey

*Matt Jans<sup>1</sup>, David Grant<sup>2</sup>, Joseph Viana<sup>2</sup>  
<sup>1</sup>Center for Health Policy Research, <sup>2</sup>UCLA Center for  
Health Policy Research*



# Conference Schedule

## Interviewer Effects Across Error Sources

Room: Maryland E, 5th Floor

**Session Chair: Stephanie Eckman**

**Interviewers' Attitudes Towards Surveys, Interviewer Experience, Response Locus of Control, Personality and the Impact on Cooperation with CATI-Surveys**

*Volker Huefken*

*Heinrich-Heine-Universität Düsseldorf*

**Mode Effect in Voting Behavior and Social Trust: A Comparison Between CAPI and CATI**

*Pei-shan Liao*

*Academia Sinica*

**Influence of Prior Respondent-Interviewer Interaction on Disclosure in Audio Computer-assisted Self-interviewing (ACASI)**

*Hanyu Sun*

*Westat*

## Nonresponse

Room: Homeland, 5th Floor

**Session Chair: Lin Wang**

**Identification and Reduction of Nonresponse Bias in Address-Based Sample Surveys**

*Burton Levine*

*RTI International*

**How to Estimate the Nonresponse Error in Probability Terms**

*Daniel Thorburn*

*Dept. of Statistics, Stockholm University*

**An Imputation Approach to Handling Nonignorable Nonresponse Using Paradata**

*Seho Park<sup>1</sup>, Jae Kwang Kim<sup>1</sup>, Kimin Kim<sup>2</sup>*

*<sup>1</sup>Iowa State University, <sup>2</sup>Korea Labor Institute*

**A Forest Full of Respondents: Comparing Logistic Regression and Random Forest Models for Response Propensity Weighting Adjustments**

*Trent Buskirk<sup>1</sup>, Stanislav Kolenikov<sup>2</sup>*

*<sup>1</sup>Marketing Systems Group, <sup>2</sup>Abt SRBI*

**The Intersection of Sampling and Nonresponse: Does Repeated Sampling of Some Individuals Affect Nonresponse Bias?**

*Jennifer Sinibaldi<sup>1</sup>, Anton Örn Karlsson<sup>2</sup>*

*<sup>1</sup>JPSM, University of Maryland, <sup>2</sup>Statistics Iceland*

**Comparison Between Substitution and Strata Collapsing for Sampling Variance Estimation Under the Presence of Nonresponding PSUs**

*Raphael Nishimura, James Lepkowski*

*University of Michigan*

# Conference Schedule

**Sunday, September 20**

**9:30 – 11:30 a.m.**

**Paper Session I [continued]**

## **Data Falsification: Who, Why and How to Detect It**

Room: Maryland D/F, 5th Floor

**Session Chair: Nancy Bates**

### **Taking Fabrication Detection and Prevention Beyond the Interviewer Level**

*Steve Koczela*

*The MassINC Polling Group*

### **Curb Stoning and Culture**

*Arthur Kennickell*

*Federal Reserve Board*

### **Data Falsification: Who, Why and How to Detect It**

*Cathy Furlong*

*Integrity Management Services, LLC*

### **Understanding Core Reasons Why Falsification Occurs During Field Data Collection**

*Timothy Olson*

*U.S. Census Bureau*

### **Detecting Data Falsification in Survey Research**

*Noble Kuriakose<sup>1</sup>, Michael Robbins<sup>2</sup>*

*<sup>1</sup>SurveyMonkey, <sup>2</sup>Princeton University*

## **Methods for Assessing and Integrating Solutions for Total Survey Error in a Large National Survey: The National Crime Victimization Survey**

Room: Guilford, 5th Floor

**Session Chair: Marcus Berzofsky**

### **The Impact of Adaptive Design on Nonresponse Bias and Precision**

*Michael Planty, Lynn Langton*

*U.S. Bureau of Justice Statistics*

### **Methods for Reducing TSE in Subnational Estimates: An Assessment of Coverage Error Through the Comparison of Nationally Calibrated Weights to Subnational Area-specific Calibrated Weights**

*Bonnie Shook-Sa<sup>1</sup>, Marcus Berzofsky<sup>1</sup>, G. Lance*

*Couzens<sup>1</sup>, Andrew Moore<sup>1</sup>, Philip Lee<sup>1</sup>, Lynn Langton<sup>2</sup>,*

*Michael Planty<sup>2</sup>*

*<sup>1</sup>RTI International, <sup>2</sup>U.S. Bureau of Justice Statistics*

### **Discussion on Reducing Total Survey Error in the National Crime Victimization Survey**

*Lynn Langton*

*U.S. Bureau of Justice Statistics*

### **Comparing Error Structures for Estimates of Rape and Sexual Assault: The Design of the National Survey on Health and Safety**

*David Cantor<sup>1</sup>, Shannan Catalano<sup>2</sup>, Allen Beck<sup>2</sup>*

*<sup>1</sup>Westat, <sup>2</sup>U.S. Bureau of Justice Statistics*

### **Minimizing Total Survey Error in the National Crime Victimization Survey: An Assessment of Methods to Adjust for Recall Bias and Fatigue**

*Andrew Moore, Marcus Berzofsky, Lance Couzens, Dave*

*Heller, Chelsea Burfeind*

*RTI International*

# Conference Schedule

## Coverage Error in Practice: Operational Issues for Measuring Frame Coverage of Demographic Surveys

Room: Federal Hill, 5th Floor

**Session Chair: Cha-Chi Fan**

### Is the Whole Sampling Frame Less than the Sum of Its Parts? How Operational Weaknesses Can Undermine Frame Coverage

Clifford Loudermilk  
U.S. Census Bureau

### Assessing Lister Error Associated with Frame Creation – Comparing Address Listing Results and 2010 Census Outcomes

Aliza Kwiat  
U.S. Census Bureau

### Selection of Predictors to Model Coverage Errors in the Master Address File

Andrew Raim  
U.S. Census Bureau

### A Sensitivity Analysis of Coverage Error for Demographic Surveys

Cha-Chi Fan  
U.S. Census Bureau

## Record Linkage

Room: Gibson, 6th Floor

**Session Chair: Frauke Kreuter**

### Errors in Linking Survey and Administrative Data

Invited Presentation

Joe Sakshaug  
University of Manchester

### The Nature of the Bias when Studying Only Linkable Person Records: Evidence from the American Community Survey

Adela Luque<sup>1</sup>, Amy O'Hara<sup>1</sup>, David Brown<sup>1</sup>, Brittany Bond<sup>2</sup>  
<sup>1</sup>U.S. Census Bureau, <sup>2</sup>U.S. Department of Commerce

### Determining Recall Errors in Retrospective Life Course Data – An Approach Using Linked Survey and Administrative Data

Stefanie Unger, Britta Matthes  
Institute for Employment Research

### Statistical Analysis of Files Created Through Record Linkage: Joint Modeling of Linkage and Analysis

Michael Larsen  
The George Washington University

### Use of Linked Survey Data to Develop Responsive Design Sampling Strategies in the Medical Expenditure Panel Survey

Lisa Mirel, Sadeq Chowdhury, Steven Machlin  
DHHS\AHRQ

### Analytic Error as an Important Component of Total Survey Error: Results from a Meta-Analysis

Invited Presentation

Joe Sakshaug<sup>1</sup>, Brady West<sup>2</sup>  
<sup>1</sup>University of Manchester, <sup>2</sup>Institute for Social Research

# Conference Schedule

**Sunday, September 20**

**1:30 – 3:30 p.m.**

## Paper Session II

### Errors in Panel Surveys

Room: Maryland A, 5th Floor

**Session Chair: Brad Edwards**

### Total Survey Error for Longitudinal Surveys Invited Presentation

*Peter Lynn, Peter J. Lugtig*  
*Institute for Social and Economic Research*

### Using Doorstep Concerns Data to Evaluate and Correct for Nonresponse Error Components in a Longitudinal Survey Invited Presentation

*Ting Yan, Shirley Tsai*  
*Westat*

### Mobile Device Surveys in a U.S. College Student Population: Results from a Program of Research Exploring Nonresponse and Data Quality Issues in a Longitudinal Panel Survey

*Scott Beach, Donald Musa, Stephen Strotmeyer, Janet Schlarb*  
*University of Pittsburgh*

### Introducing Adaptive Design Elements in the Panel Study “Labour Market and Social Security” (PASS)

*Mark Trappmann<sup>1</sup>, Gerrit Mueller<sup>2</sup>*  
*<sup>1</sup>IAB University of Bamberg, <sup>2</sup>IAB*

### Interviewer Effects Following Throughout the Total Survey Error Framework

Room: Maryland E, 5th Floor

**Session Chair: Annelies Blom**

### Interviewer Effects on Multiple Sources of Survey Error

*Annelies G. Blom, Daniela Ackermann-Piek*  
*University of Mannheim*

### Interviewer Effects on Straight-lining

*Geert Loosveldt, Koen Beullens*  
*KULeuven*

### Do Interviewers with High Cooperation Rates Behave Differently? Interviewer Cooperation Rates and Interview Behaviors

*Kristen Olson, Jolene Smyth, Antje Kirchner*  
*University of Nebraska-Lincoln*

### Improving Survey Data Quality Under Total Survey Error Framework: Application to Two Surveys of U.S. NSF – National Survey College Graduates (NSCG) and Survey of Doctorate Recipients (SDR)

Room: Homeland, 5th Floor

**Session Chair: Donsig Jang**

### The Effects of Data Editing and Imputation on Total Survey Error of the National Survey of College Graduates

*Alicia Haelen, Donsig Jang*  
*Mathematica Policy Research*

### Improving Data Quality During Data Collection: Adaptive Design in the 2015 NSCG

*Stephanie Coffey<sup>1</sup>, Benjamin Reist<sup>2</sup>*  
*<sup>1</sup>U.S. Census Bureau / Joint Program in Survey Methodology, <sup>2</sup>U.S. Census Bureau*

### Investigating Non-sampling Error in Longitudinal Panel of the Survey of Doctorate Recipients

*Wan-Ying Chang<sup>1</sup>, Lynn Milan<sup>2</sup>*  
*<sup>1</sup>National Science Foundation / NCSES, <sup>2</sup>National Science Foundation / NCSES*



# Conference Schedule

## The TSE Framework: Looking Back and Looking Forward

Room: Maryland D/F, 5th Floor

**Session Chair: Paul Biemer**

## The Roots of the Concept of Total Survey Error

Lars Lyberg<sup>1</sup>, Diana Stukel<sup>2</sup>  
<sup>1</sup>Stockholm University, <sup>2</sup>FHI360

Invited Presentation

## Applying the Total Survey Error Paradigm to Multiple Surveys and Auxiliary Data

Tom Smith  
NORC

## Adapting and Applying the TSE Paradigm to All Quantitative and Qualitative Research

Paul Lavrakas  
Private Consulting

## Infrastructure for the Use of Big Data to Understand TSE: Examples from Four Survey Research Organizations

Room: Guilford, 5th Floor

**Session Chair: Fritz Scheuren**

## Big Data Infrastructure at the Institute for Employment Research (IAB)

Antje Kirchner, Daniela Hochfellner, Stefan Bender  
University of Nebraska-Lincoln

Invited Presentation

## Big Data Serving Survey Research: Experiences at the University of Michigan Survey Research Center

Gregg Peterson  
University of Michigan-Ann Arbor

Invited Presentation

## Using "Big Data" to Evaluate Survey Data: Lessons Learned at the U.S. Census Bureau

Elizabeth Nichols  
U.S. Census Bureau

Invited Presentation

## Statistics New Zealand's Approach to Making Use of Alternative Data Sources in an Era of Integrated Data

Invited Presentation

Felipa Zabala  
Statistics New Zealand

## Assessing Survey Response Error Using Administrative Records and Evaluating Administrative Records Coverage

Room: Federal Hill, 5th Floor

**Session Chair: Brad Edwards**

## Estimating Error Rates in Administrative Registers Using Latent Variable Modeling: An Application and Validation Study

Invited Presentation

Daniel Oberski  
Tillburg University

## Coverage of Children in Administrative Records and Census Data

Catherine Massey  
U.S. Census Bureau

## Assessing the Effect of the Tipped Minimum Wage Using W-2 Data

Maggie Jones  
U.S. Census Bureau

## Medicare Coverage and Reporting of the Elderly Population: A Comparison of CPS and Administrative Records

Renuka Bhaskar, James Noon, Sonya Rastogi, Brett  
O'Hara, Victoria Velkoff  
U.S. Census Bureau

## Response Error and the Medicaid Undercount in the Current Population Survey

James Noon, Leticia Fernandez, Sonya Rastogi  
U.S. Census Bureau

# Conference Schedule

**Sunday, September 20**

**3:45 – 5:15 p.m.**

## Plenary Session I

Room: Maryland B/C, 5th Floor



### Big Lessons from Small Data

*Colm O'Muircheartaigh, PhD  
University of Chicago's Harris School of  
Public Policy and a Senior Fellow at NORC*

**6:00 – 7:00 p.m.**

## Attendee Cocktail Reception

Room: Maryland Foyer, 5th Floor

After a full day of meetings, plan on attending the Attendee Cocktail Reception on Sunday at 6:00 p.m. to socialize and network with your colleagues before heading out to dinner in beautiful Baltimore.

**Monday, September 21**

**9:30 – 11:30 a.m.**

## Plenary Session II

Room: Maryland B/C, 5th Floor



### Big Data's Implications for Surveys: Ideas from an ex-Google Engineer

*Abe Usher, MS, Chief Technology Officer of HumanGeo*

**1:30 – 3:00 p.m.**

## Paper Session III

### Nonresponse and Measurement Error I

Room: Maryland A, 5th Floor

**Session Chair: Steve Cohen**

#### Nonresponse and Measurement Bias in the American Time Use Survey

*John Dixon  
BLS*

#### Did MEPS Round 1 Field Period Change Designed to Improve Round 1 Response Rates Inadvertently Affect MEPS Utilization Reporting in 2011

*Frances Chevarley, Karen Davis  
AHRQ*

#### Prepaid Incentives in ABS Surveys: Effect on Nonresponse and Measurement Errors

*Meghan McQuiggan, Rebecca Medway, Mengmeng Zhang, Mahi Megra  
American Institutes for Research*

#### How Much is Too Much? Considering the Impact of Survey Response Burden on Nonresponse and Measurement Errors

*Mahi Megra, Mengmeng Zhang, Danielle Battle, Rebecca Medway  
American Institutes for Research*

# Conference Schedule

## Errors in Web Surveys as the Main Mode

Room: Maryland E, 5th Floor

**Session Chairs:** *Silvia Biffignandi and Fanney Thordottir*

## Mixed Mode Design with Web Component in Longitudinal Studies

*Annamaria Bianchi<sup>1</sup>, Silvia Biffignandi<sup>1</sup>, Peter Lynn<sup>2</sup>*  
<sup>1</sup>University of Bergamo, <sup>2</sup>University of Essex

## Minimizing Errors in Multi-mode Surveys Through Adaptive Survey Designs

*Joep Burger<sup>1</sup>, Koen Perryck<sup>2</sup>, Barry Schouten<sup>2</sup>*  
<sup>1</sup>Statistics Netherlands, <sup>2</sup>Statistics Netherlands and Utrecht University

## Measurement Error and Nonresponse Error in a Mixed Mode Labor Force Survey

*Anton Karlsson*  
 Statistics Iceland

## A Comparison of Errors in Web Surveys Completed Through PC and Mobile Devices

*Melanie Revilla<sup>1</sup>, Daniele Toninelli<sup>2</sup>, Carlos Ochoa<sup>3</sup>*  
<sup>1</sup>RECSM, Universitat Pompeu Fabra, <sup>2</sup>University of Bergamo, <sup>3</sup>Netquest

**Discussant:** *TBD*

## Data Harmonization

Room: Homeland, 5th Floor

**Session Chair:** *Alan Karr*

## Using a Total Survey Error Checklist to Investigate Estimate Dissimilarity: Applications with the California Health Interview Survey

*Matt Jans*  
 UCLA Center for Health Policy Research

## The Total Survey Error Framework and the Survey-Quality Controls in the Data Harmonization Process

*Marta Kolczynska<sup>1</sup>, Kazimierz M. Slomczynski<sup>2</sup>*  
<sup>1</sup>The Ohio State University, Polish Academy of Sciences, <sup>2</sup>Polish Academy of Sciences, CONSIRT

## Discrepancies in Self-Report Diabetes Survey Questions Using NHANES, NHIS, and CHIS Data

*Sarah Lessem*  
 Centers for Disease Control and Prevention

## Mixed Mode Surveys

Room: Maryland D/F, 5th Floor

**Session Chair:** *Edith de Leeuw*

## Mixing Modes: Tradeoffs between Coverage, Nonresponse, and Measurement Error

*Roger Tourangeau*  
 Westat

Invited Presentation

## Mixed Mode Research: Issues in Design and Analysis

*Joop Hox*  
 Utrecht University

Invited Presentation

## Evaluating Bias of Sequential Mixed-mode Designs Against Benchmark Surveys

*Thomas Klausch<sup>1</sup>, Barry Schouten<sup>2</sup>, Joop Hox<sup>1</sup>*  
<sup>1</sup>Utrecht University, <sup>2</sup>Statistics Netherlands

## Errors in Establishment Surveys

Room: Guilford, 5th Floor

**Session Chair:** *Carol House*

## TSE Sources and Abatement in Establishment Subpopulations

*Carl Ramirez*  
 U.S. Government Accountability Office

## Responsiveness and Representativeness in an Establishment Survey of Manufacturers

*Eric Fink, Joanna Fane Lineback*  
 U.S. Census Bureau

## A Total Survey Error Approach to Business Surveys

*Ger Snijkers<sup>1</sup>, Gustav Haraldsen<sup>2</sup>, Li-Chung Zhang<sup>3</sup>*  
<sup>1</sup>Statistics Netherlands, <sup>2</sup>Statistics Norway, <sup>3</sup>Statistics Norway/University of Southampton

# Conference Schedule

**Monday, September 21**

**1:30 – 3:00 p.m.**

## Paper Session III (continued)

### Applying TSE Framework to Comparative Surveys I

Room: Federal Hill, 5th Floor

**Session Chair: Lin Wang**

#### A Total Survey Error Perspective on Comparative Surveys

**Invited Presentation**

*Beth-Ellen Penne<sup>2</sup>, Kristen Cibelli Hibben<sup>2</sup>, Lars Lyberg<sup>1</sup>, Peter Mohler<sup>3</sup>, Gelaye Worku<sup>1</sup>*

*<sup>1</sup>Stockholm University, <sup>2</sup>University of Michigan, <sup>3</sup>University of Mannheim*

#### 360° Quality: Fitness for Use, Total Survey Error, Comparative Error and Survey Process Quality

*Brad Edwards, Wendy Hicks  
Westat*

#### Uncovering Different Sources of Error through Cognitive Interviews in Cross-Cultural Contexts

*Alisu Schoua-Glusberg  
Research Support Services Inc.*

## Coverage and Nonresponse

Room: Gibson, 6th Floor

**Session Chair: Mandi Yu**

#### The Coverage-Nonresponse Trade-off **Invited Presentation**

*Stephanie Eckman<sup>1</sup>, Frauke Kreuter<sup>2</sup>*

*<sup>1</sup>RTI International, <sup>2</sup>Joint Program in Survey Methodology, University of Mannheim, IAB*

#### Estimating Percentages or Proportions in the Presences of Undercoverage and Nonresponse

*Robert Tortora  
ICF International*

#### Total Survey Error: Sample Error Combined with Coverage and Nonresponse Error

*David Rothschild  
Microsoft Research*

#### A Validation Study on Voter Turnout Bias in Switzerland

*Ben Jann, Simon Hug  
University of Bern*



# Conference Schedule

3:30 – 5:00 p.m.

## Paper Session IV

### Nonresponse and Measurement Error II

Room: Maryland A, 5th Floor

**Session Chair: Nancy Clusen**

#### Adjusting for Measurement Error and Nonresponse in Physical Activity Surveys: A Simulation Study

Nicholas Beyler<sup>1</sup>, Amy Beyler<sup>2</sup>

<sup>1</sup>Mathematica Policy Research, <sup>2</sup>UnitedHealthcare

#### The Effect of Nonresponse and Measurement Error on Wage Regression Across Survey Modes: A Validation Study

Antje Kirchner<sup>1</sup>, Barbara Felderer<sup>2</sup>

<sup>1</sup>University of Nebraska, <sup>2</sup>University of Mannheim

Invited Presentation

#### Is More Always Better? The Impact of Adaptive Design on Nonresponse and Measurement Errors

Jaki McCarthy<sup>1</sup>, Tyler Wilson<sup>2</sup>, Andrew Dau<sup>2</sup>, Kathy Ott<sup>2</sup>

<sup>1</sup>U.S. Department of Agriculture/National Agricultural Statistics Service, <sup>2</sup>USDA/NASS

#### A Common Metric for Nonresponse and Measurement Error

Peter Lugtig

Utrecht University

## Error Sources in Web Surveys

Room: Maryland E, 5th Floor

**Session Chair: Mark Schulman**

#### Reducing Measurement Error in Online Surveys Through Usability Evaluation

Lin Wang

U.S. Census Bureau

#### Web Surveys: Errors in the Process and TSE for a Quality Perspective

Silvia Biffignandi<sup>1</sup>, Fanny Thorsdottir<sup>2</sup>

<sup>1</sup>University of Bergamo, <sup>2</sup>University of Iceland

#### Nonresponse and Measurement Bias in Web Surveys

Anke Metzler, Marek Fuchs

Darmstadt University of Technology

## Classification and Editing

Room: Homeland, 5th Floor

**Session Chair: Lars Lyberg**

#### Quantifying Measurement Errors in Partially Edited Data

Thomas Laitila, Karin Lindgren, Anders Norberg,

Martin Odencrants

Statistics Sweden

Invited Presentation

#### Classification Error in Crime

#### Victimization Surveys:

#### A Markov Latent Class Analysis

Marcus Berzofsky, Paul Biemer

RTI International

Invited Presentation

#### Sampling Design Alternatives for Quality Checks in the Diabetes Prevention Program Outcome Study

Michael Larsen

The George Washington University

#### Effect of Missing Data on Classification Error: An Application of Two Full Information Maximum Likelihood Techniques with a Markov Latent Class Analysis

Susan Edwards, Marcus Berzofsky, Paul Biemer

RTI International

# Conference Schedule

**Monday, September 21**

**3:30 – 5:00 p.m.**

## Paper Session IV (continued)

### Survey Innovations in a Total Survey Error Context

Room: Maryland D/F, 5th Floor

**Session Chair: Peter Miller**

#### Examining Mode Options for the Commodity Flow Survey

Joanna Lineback, Robert Ashmea, Eric Slud  
U.S. Census Bureau

#### Adaptive Design for the National Teacher and Principal Survey (NTPS)

David Marker<sup>1</sup>, Lou Rizzo<sup>1</sup>, Minsun Riddles<sup>1</sup>, Erin Wiley<sup>1</sup>,  
Andrew Zukerberg<sup>2</sup>  
<sup>1</sup>Westat, <sup>2</sup>U.S. National Center for Education Statistics

#### Modeling the Effects of Innovation in the National Crime Victimization Survey

Joseph Schafer  
U.S. Census Bureau

#### Error and Cost Tradeoffs Involved in Innovations for Decennial Census Data Collection

Peter Miller, Mary Mulry, Gina Walejko  
U.S. Census Bureau

### Estimating and Adjusting Survey Errors in Mixed-Mode Data, Part I

Room: Guilford, 5th Floor

**Session Chair: Thomas Klausch**

#### Estimating Unemployment Levels Using a Mix of Three Interview Modes

Bart Buelens<sup>1</sup>, Jan van den Brakel<sup>2</sup>  
<sup>1</sup>Statistics Netherlands, <sup>2</sup>Statistics Netherlands & Maastricht University

#### Mixed-Mode Inference: An Imputation Approach Incorporating Covariances between Modes

Zeynep Suzer-Gurtekin, Richard Valliant, Steven Heeringa  
University of Michigan

#### Estimating and Adjusting Bias of Sequential Mixed-mode Surveys Using Re-interview Data

Thomas Klausch<sup>1</sup>, Barry Schouten<sup>2</sup>  
<sup>1</sup>Utrecht University, <sup>2</sup>Statistics Netherlands

### Applying TSE Framework to Comparative Surveys II

Room: Federal Hill, 5th Floor

**Session Chair: Brad Edwards**

#### New Ideas in Sampling for Surveys in the Developing World

Jill Dever<sup>1</sup>, Stephanie Eckman<sup>1</sup>, Kristen Himelein<sup>2</sup>  
<sup>1</sup>RTI International, <sup>2</sup>World Bank

#### Improving Cross-National/Cultural Comparability Using the Total Survey Error Paradigm

Tom Smith  
NORC at the University of Chicago

#### Innovations in Data Collection in Resource-Poor Settings

Beth-Ellen Pennell<sup>1</sup>, Sarah Hughes<sup>2</sup>, Kristen Cibelli Hibben<sup>1</sup>, Jennifer Kelley<sup>1</sup>, Yu-chieh Lin<sup>1</sup>  
<sup>1</sup>Institute for Social Research, University of Michigan, <sup>2</sup>NORC at the University of Chicago

#### Case Studies on Monitoring Interviewers' Behaviors in Cross-national and International Surveys

Zeina Mneimneh<sup>1</sup>, Lars Lyberg<sup>2</sup>, Sharan Sharma<sup>1</sup>  
<sup>1</sup>University of Michigan, <sup>2</sup>Stockholm University

# Conference Schedule

## Analytic Error

Room: Gibson, 6th Floor

**Session Chair: Clyde Tucker**

### The Role of Statistical Disclosure Limitation in Total Survey Error

Alan Karr  
RTI International

Invited Presentation

### Cross-validation for Robust Variance Estimation in the Presence of Several Error Sources

Øyvind Langsrud  
Statistics Norway

**Tuesday, September 22**

**9:30 – 11:30 a.m.**

## Paper Session V

### Interactions of Survey Error and Hispanic Ethnicity II

Room: Maryland A, 5th Floor

**Session Chair: Sunghee Lee**

### When Race and Hispanic Origin Reporting are Discrepant Across Administrative Records Sources: Exploring Methods to Assign Responses

Sharon Ennis, Sonya Rastogi, James Noon  
U.S. Census Bureau

### The Impact of Question Format and Respondent Background on Data Quality in a Health Survey

Aaron Maitland, David Cantor  
Westat

### Consistency of Hispanic Origin Identification in Census 2000, 2010 Census and the American Community Survey

Leticia Fernandez, Sonya Rastogi, Renuka Bhaskar, Sharon Ennis  
U.S. Census Bureau

### Estimating and Adjusting for Cross-Cultural Differences in Acquiescent and Extreme Response Styles

Mingnan Liu<sup>1</sup>, Z. Tuba Suzer-Gurtekin<sup>2</sup>, Sunghee Lee<sup>2</sup>  
<sup>1</sup>SurveyMonkey, <sup>2</sup>University of Michigan

### Considerations of Survey Error in Surveys of Hispanics

Mark Lopez<sup>1</sup>, David Dutwin<sup>2</sup>  
<sup>1</sup>Pew Research Center, <sup>2</sup>SSRS

## Estimating Total Survey Error

Room: Maryland E, 5th Floor

**Session Chair: Paul Biemer**

### ASPIRE – An Approach for Evaluating and Reducing the Total Error in Statistical Products

Invited Presentation

Dennis Trewin<sup>1</sup>, Paul Biemer<sup>2</sup>, Heather Bergdahl<sup>3</sup>, Yingfu Xie<sup>3</sup>

<sup>1</sup>Swinburne University, <sup>2</sup>RTI International, <sup>3</sup>Statistic Sweden

### Total Survey Error Assessment for Socio-Demographic Subgroups in the 2012 National Immunization Survey

Invited Presentation

Benjamin Skalland<sup>1</sup>, Vicki Pineau<sup>1</sup>, Wei Zeng<sup>1</sup>, Kirk Wolter<sup>1</sup>, Meena Khare<sup>2</sup>, David Yankey<sup>2</sup>, Phil Smith<sup>2</sup>

<sup>1</sup>NORC at the University of Chicago, <sup>2</sup>Centers for Disease Control and Prevention

### Systemic and Aggregate Components of Total Error in Sample Surveys and Administrative Record Systems

John Eltinge  
BLS

### Working Toward an Estimator for Total Survey Margin of Error

Natalie Jackson  
Huffington Post/Pollster.com

### Comparing the Mean Square Error Between Alternative Survey Design Procedures

Gary Shapiro, Keith Rust<sup>2</sup>  
<sup>1</sup>Statistics Without Borders, <sup>2</sup>Westat

# Conference Schedule

**Tuesday, September 22**

**9:30 – 11:30 a.m.**

## Paper Session V (continued)

### Measurement Error

Room: Homeland, 5th Floor

**Session Chair: James Wagner**

#### Comparing the Quality of 2010 Census Proxy Responses with Administrative Records

Mary Mulry, Andrew D. Keller  
U.S. Census Bureau

#### Measuring Financial Literacy in a Large-Scale General Survey

Jonas Beste, Arne Bethmann  
Institute for Employment Research

#### The Influence of an Up-Front Experiment on Respondents' Recording Behaviour in Payment Diaries: Evidence from Germany

Tobias Schmidt, Susann Kuehn  
Deutsche Bundesbank

#### Room for Error:

#### Rating Scale Inconsistencies and Solutions

Joseph Goldman  
The Gallup Organization

#### The Multi-Trait Multi-Error Approach to Estimating Measurement Error

Alexandru Cernat<sup>1</sup>, Daniel Oberski<sup>2</sup>  
<sup>1</sup>University of Essex, <sup>2</sup>Tilburg University

### Does Big Data Mean Lower Quality Data?

Room: Maryland D/F, 5th Floor

**Session Chair: Alan Karr**

#### Relationships Between Data Quality and Confidentiality

Jerome Reiter  
Duke University

#### Total Error and the Analysis of Big Data: Why Size Doesn't Matter

Paul Biemer  
RTI International and University of North Carolina

**Discussant: Alan Karr, RTI International**

### Dealing With Nonsampling Error in PIAAC

Room: Pride of Baltimore, 6th Floor

**Session Chair: Tom Krenzke**

#### Associations Between Interviewer Insights and Proficiency Scores

Michael LeMay, Richard Sigman, Tom Krenzke  
Westat

#### PIAAC Japan Nonresponse Bias Analysis

Takahiro Tsuchiya  
The Institute of Statistical Mathematics

#### Treatment of Inaccessible Sampling Units in an International Survey of Adult Competencies

Leyla Mohadjer  
Westat

#### Is Self-reported Health Status at the Time of Interview Associated with Respondents' Performance on the Assessment?

Lin Li, Tom Krenzke, Martha Rozsi, Leyla Mohadjer  
Westat

**Discussant: Lars Lyberg, Stockholm University**



# Conference Schedule

## Uses of Geographic Information Systems Tools in Survey Data Collection & Analysis

Room: Kent, 6th Floor

**Session Chair: Ned English**

### Virtual Canvassing: In-Office Methods for Validating the Census Bureau's Address List for the 2020 Census

*Michael Ratcliffe, Shonin Anacker, April Avnayim,  
Christopher Henrie, Tiernan Erickson, Dakota Schuck  
U.S. Census Bureau*

### Using GIS to Understand Error Sources in a Web Survey

*Ned English, Michael Stern, Ipek Bilgen, Ilana Ventura  
NORC at the University of Chicago*

### The Role of Geographic Information in Minimizing TSE for a Large-scale Natural Resource Survey

*Emily Berg, Sarah Nusser, Alan Dotts, Zhengyuan Zhu  
Iowa State University*

### Using Geospatial Analysis to Inform Household Survey Design Decisions and Harvest Sample Efficiencies

*Aliza Kwiat, Rosemary Byrne  
U.S. Census Bureau*

### The Value of Self-reported Frequently Visited Addresses in GPS Assisted Travel Surveys

*Timothy Michalowski, Dara Seidl, Rena Peña  
Abt SRBI*

## Paradata and Responsive Design

Room: Gibson, 6th Floor

**Session Chair: Raphael Nishimura**

### Using Paradata to Monitor Interviewer Behavior and Reduce Survey Error

**Invited Presentation**

*Nicole Kirgis, Zeina Mneimneh, Yan Sun, Jay Lin, Shonda  
Kruger Ndiaye  
Institute for Social Research*

### Measurement Error in Survey Operations Management: Detection, Quantification, Visualization and Reduction

*Brad Edwards  
Westat*

**Invited Presentation**

### Measurement Error in American Community Survey Paradata and 2014 Redesign of the Contact History Instrument

*Matthew Virgile, Rachael Walsh  
U.S. Census Bureau*

**Noon – 1:30 p.m.**

## Plenary Session III

### The Future of Political Polling

Room: Maryland B/C, 5th Floor



**Presenter: Cliff Zukin,**  
*professor of public policy and political  
science at the School for Planning and  
Public Policy and the Eagleton Institute of  
Politics, Rutgers University.*



**Commentator: Andrew Gelman,**  
*professor of statistics and political science  
and director of the Applied Statistics Center  
at Columbia University*



**Commentator: Scott Keeter,**  
*director of survey research at  
Pew Research Center*



**Moderator: Nancy Belden**  
*partner at Belden Russonello Strategists,  
Past President of AAPOR*

# Conference Schedule

**Tuesday, September 22**

**1:30 – 3:30 p.m.**

## Paper Session VI

### Nonprobability Sampling Methods from a Total Survey Error Perspective

Room: Maryland A, 5th Floor

**Session Chair: Raphael Nishmura**

#### Probabilistic Sampling with Quotas: A New Look at an Old Method

*Neale El-Dash*  
*Sleek Data*

#### An Empirical Evaluation of Respondent Driven Sampling from a Total Survey Error Perspective

*Zeynep Suzer-Gurtekin, Sunghee Lee*  
*University of Michigan*

#### The Utility of Weighting Methods for Reducing Errors in Opt-in Web Studies

*Jill Dever, Bonnie Shook-Sa*  
*RTI International*

#### Probability Samples – Meet Your Match! A Comparison of Two Distance Measures for Linking Non-probability and Probability Based Samples

*Trent Buskirk<sup>1</sup>, David Dutwin<sup>2</sup>*  
*Marketing Systems Group<sup>1</sup>, SSRS<sup>2</sup>*

### Teaching TSE & Big Data: Presentations and Roundtable Discussion

Room: Maryland E, 5th Floor

**Session Chair: Beth-Ellen Pennell**

#### The Survey Octopus: Creating Better Conversations About Total Survey Error with Non-specialists

*Caroline Jarrett*  
*Effortmark Ltd.*

#### Survey Methodology Courses and TSE/Big Data Issues: Classroom Experiences Among University Instructors

*Wojciech Jablonski*  
*University of Lodz*

#### Introducing an International System of Online Courses in Survey Methodology and Big Data

*Frauke Kreuter*  
*University of Maryland*

## Mobile Surveys

Room: Homeland, 5th Floor

**Session Chair: Edith de Leeuw**

#### Smartphone Participation in Web Surveys: Choosing Between the Potential for Coverage, Nonresponse and Measurement Error

**Invited Presentation**

*Gregg Peterson<sup>1</sup>, John LaFrance<sup>1</sup>, Jamie Griffin<sup>2</sup>, JiaoJiao Li<sup>3</sup>*

<sup>1</sup>Institute for Social Research, <sup>2</sup>University of Michigan, <sup>3</sup>Market Strategies International

#### Text Interviews on Mobile Devices

**Invited Presentation**

*Frederick Conrad, Michael F. Schober, Christopher Antoun, Andrew L. Hupp*  
*Institute for Social Research*

#### Mobile Web Surveys: A Total Survey Error Perspective

*Mick P. Couper, Christopher Antoun, Aigul Mavletova*  
*Institute for Social Research*

# Conference Schedule

## Big Data from TSE Perspective

Room: Maryland D/F, 5th Floor

**Session Chair: Peter Lugtig**

### Decomposing Twitter from a Total Survey Error Perspective

Joe Murphy  
RTI International

Invited Presentation

### Big Data: A Survey Research Perspective

Reginald Baker  
Marketing Research Institute International

Invited Presentation

### Creating a New Variable as a Means of Assessing the Item External Validity by Using Big Data

Andrei Veikher  
NRU HSE - St. Petersburg

### Examining Big Data in the Total Survey Error Framework: A Synthesis of the Current Research

Celeste Stone, Cong Ye, Ahmad Emad  
American Institutes for Research (AIR)

## Estimating and Adjusting Survey Errors in Mixed-Mode Data, Part II

Room: Pride of Baltimore, 6th Floor

**Session Chair: Thomas Klausch**

### Estimating Components of Mean-Squared Error as a Means to Evaluate Mixed-Mode Solutions to Noncoverage Error in Telephone Surveys

Caroline Vandenplas<sup>1</sup>, Caroline Roberts<sup>2</sup>, Rosa Sanchez Tome<sup>3</sup>, Michèle Ernst Staehli<sup>4</sup>, Dominique Joye<sup>3</sup>  
Center for Sociological Research, University of Leuven,  
<sup>1</sup>Leuven, Belgium, <sup>2</sup>University of Lausanne, <sup>3</sup>Switzerland,  
University of Lausanne, <sup>4</sup>FORS, Switzerland

### Mode Effects in American Trends Panel: A Closer Look at the Person-Level and Item-Level Characteristics

Stanislav Kolenikov<sup>1</sup>, Kiley McGeeney<sup>2</sup>, Scott Keeter<sup>2</sup>, Courtney Kennedy<sup>1</sup>  
<sup>1</sup>Abt SRBI, <sup>2</sup>Pew Research Center

## Comparison of the Quality Estimates in a Mixed-Mode and a Unimode Design: An Experiment from the European Social Survey

Melanie Revilla  
RECSM, Universitat Pompeu Fabra

## Mode Preference as a Covariate for Estimating Mode Effects

Caroline Vandenplas<sup>1</sup>, Jorre Vannieuwenhuyze<sup>2</sup>  
Center for Sociological Research, University of Leuven, Leuven, Belgium<sup>1</sup>, University of Utrecht<sup>2</sup>

## Adaptive Design

Room: Kent, 6th Floor

**Session Chair: Meena Khare**

### The Effects of a Mid-Data Collection Change in Financial Incentives on Total Survey Error in the National Survey of Family Growth: Results from a Randomized Experiment

James Wagner, Brady West, Heidi Guyer, Frost Hubbard, Jennifer Kelley, Mick Couper, William Mosher  
Institute for Social Research

Invited Presentation

## Targeted Sampling, Mixed Mode, Incentives, and Paying for Completion: What Works for Reaching Hard to Survey Low Income Households with Civil Legal Needs?

Danna Moore  
Washington State University

## Reducing Bias and Sampling Error: Using Simulation to Identify Effective Adaptive Design Strategies for the Crops Agricultural Production Survey

Herschel Lisette Sanders<sup>1</sup>, James Wagner<sup>2</sup>, Jaki McCarthy<sup>3</sup>, Ji Qi<sup>2</sup>, Frauke Kreuter<sup>1</sup>  
<sup>1</sup>RTI International, <sup>2</sup>University of Michigan, <sup>3</sup>USDA-NASS

## Meeting Adjourns

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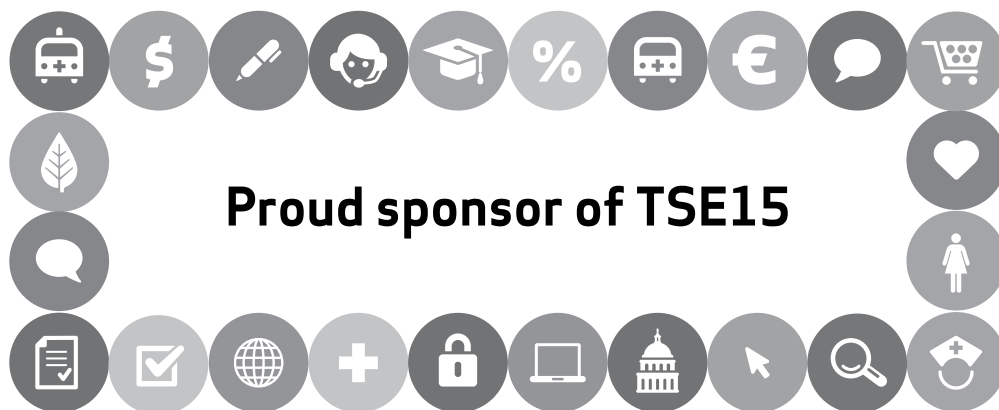


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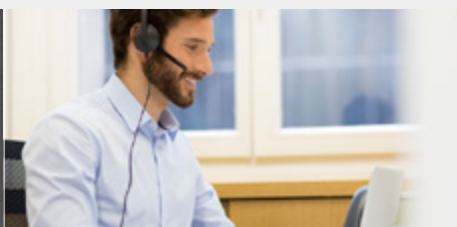
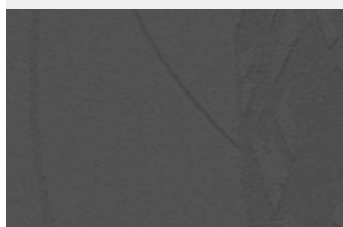
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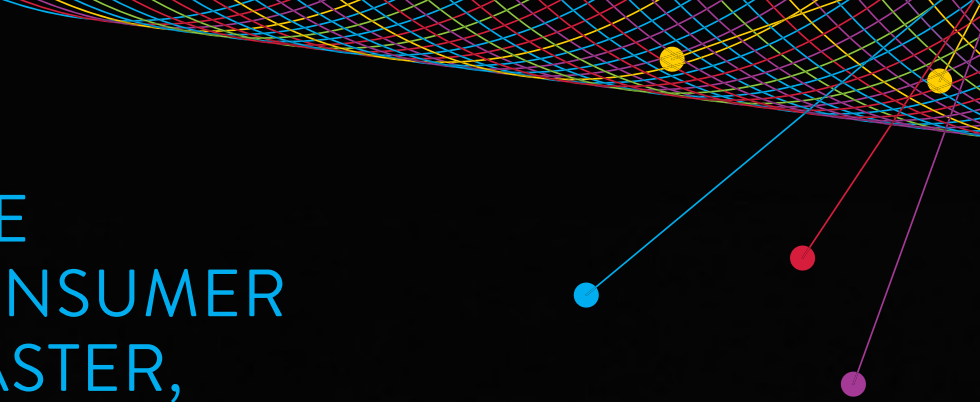
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