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# Michael P. Cohen

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## Education

Ph.D. 1978, UCLA, Mathematics (specialty: Mathematical Statistics)  
M.A. 1971, UCLA, Mathematics  
B.A. 1969, University of California, San Diego, Mathematics (*with honors*)

## Professional Certification

Accredited Professional Statistician (PStat<sup>®</sup>), American Statistical Association

## Honors and Awards

Fellow, American Association for the Advancement of Science, 2015  
American Statistical Association Chapter Service Award, 2010  
Fellow, American Educational Research Association, 2009  
Elected Member, Sigma Xi, 2008  
Senior Member, American Society for Quality (ASQ), 2008  
Elected Member, International Statistical Institute, 2006  
Fellow, American Statistical Association, 2004  
President's Award, Washington Statistical Society, 1999

## Present Position

### **Principal Statistician, American Institutes for Research (AIR) (2011–Present)**

Responsibilities cover all aspects of complex survey design and estimation, including sample design, imputation, variances, sample size and power determination, and weighting. Applications include Project Talent, surveys for the U.S. Department of Education, surveys on health care, surveys for the Transportation Security Administration, and surveys on transitional kindergarten.

## Professional Experience

### **Principal Statistician, various survey projects (2011–Present)**

Evaluating and recomputing weights for Project Talent, a survey of 377,000 high school students in 1960. Consulted on sample and nonresponse bias analysis for PIAAC (OECD Program for International Assessment of Adult Competencies); consulted on sample design for TALIS (OECD Teaching and Learning International Survey); conducted power analyses and consulted for sample design for Department of Education's National Reporting System. Lead on sampling for the Health Care Enrollee Experience Survey, for a Transportation Security Administration survey, and for surveys pertaining to transitional kindergarten in California.

**Senior Consultant, Historical Trust Accounting of American Indian Monies, National Opinion Research Center, U.S. Department of Interior, (2007–2010)**

Worked on sample design, data analysis, sample selection, and documentation for surveys of records and transactions for the Office of Historical Trust Accounting of the U.S. Department of the Interior. The records and transactions sampled pertain to individual American Indian monies and tribal monies.

**Assistant Director for Survey Programs, Bureau of Transportation Statistics (2002–2006)**

Directed the survey programs of the Bureau of Transportation Statistics, including the Commodity Flow Survey (joint with the Census Bureau), the National Household Travel Survey (joint with the Federal Highway Administration), the Omnibus Household Survey, and targeted surveys (e.g., two surveys of mariners, surveys of general aviation pilots, bicyclists, and pedestrians, and persons with disabilities).

**Senior Mathematical Statistician, Bureau of Transportation Statistics (2000–2002)**

Conducted research for the National Household Travel Survey and researched the sample design for the Commodity Flow Survey. Did modeling for the Commodity Flow Survey. Worked on a team that developed statistical standards and guidelines for the U.S. Department of Transportation.

## **Employment History**

- 2011–Present** Principal Statistician, AIR
- 2007–2011** Adjunct Faculty Member, George Mason University Department of Statistics
- 2006–2011** Independent Statistical Consultant
- 2007–2010** Senior Consultant, National Opinion Research Center
- 2002–2006** Assistant Director for Survey Programs, U.S. Bureau of Transportation Statistics
- 2000–2002** Senior Mathematical Statistician, U.S. Bureau of Transportation Statistics
- 1987–2000** Mathematical Statistician, U.S. National Center for Education Statistics
- 1979–1987** Mathematical Statistician, U.S. Bureau of Labor Statistics

## **Professional Affiliations**

- American Statistical Association
- American Educational Research Association
- Population Association of America
- American Economic Association
- Institute of Mathematical Statistics
- International Statistical Institute
- International Association of Survey Statisticians
- American Association for Public Opinion Research

Society for Industrial and Applied Mathematics  
American Mathematical Society  
Mathematical Association of America  
INFORMS

## **Selected Publications**

### ***Journal articles***

- Cohen, M. P. (2012). Discussion of “Calibrated Bayes, an alternative inferential paradigm for official statistics” by Roderick J. Little. *Journal of Official Statistics*, 28, 363–365.
- Cohen, M. P. (2011). Book review of *Applied Latent Class Analysis* edited by Jacques A. Hagenaars and Allan L. McCutcheon. *Journal of Official Statistics*, 27, 139–141.
- Giesbrecht, L., Bose, J., & Cohen, M. P. (2006). Measuring exposure to vehicle crashes. *Chance*, 19, 22–27.
- Cohen, M. P. (2005). Sample size considerations for multilevel surveys. *International Statistical Review*, 73, 279–287.
- Cohen, M. P. (2003). Imputation allowing standard variance formulas. *Journal of Data Science*, 1, 275–292.
- Cohen, M. P. (2002). Implementing Rao-Shao type variance estimation with replicate weights. *Survey Methodology*, 28(1), 97–101.
- Cohen, M. P. (2000). Note on the odds ratio and the probability ratio. *Journal of Educational and Behavioral Statistics*, 25(2), 249–252.
- Cohen, M. P. (2000). Book review of *Bootstrap Methods and Their Application* by A. C. Davison and D. V. Hinkley. *Journal of Official Statistics*, 16(1), 77–79.
- Cohen, M. P. (1998). Determining sample sizes for surveys with data analyzed by hierarchical linear models. *Journal of Official Statistics*, 14(3), 267–275.
- Huang, G. G., Weng, S., Zhang, F., & Cohen, M. P. (1997). Outmigration among rural high school graduates: The effect of academic and vocational programs. *Education Evaluation and Policy Analysis*, 19(4), 360–372.

### ***Book chapters***

- Cohen, M. P. (2010). Sample size determination and stratified sampling. In M. Lovric (Ed.), *International encyclopedia of statistical science*. Berlin: Springer.
- Cohen, M. P. (2008). Auxiliary variable, inference, proxy respondent, raking, and unit nonresponse. In Paul J. Lavrakas (Ed.), *Encyclopedia of survey research methods*. (Vol. I and II, pp. 45–46, 333–334, 633, 671–673, 927–928). Thousand Oaks, CA: Sage Publications.

### ***Technical reports***

- He, Z., Karr, A. F., Cohen, M. P., Battle, D., Achorn, D. L., & McKay, A. D. (2014). *Construction of Full Sample and Replicate Weights for Project Talent, with Applications*. Research Triangle Park, NC: National Institute of Statistical Sciences.
- He, Z., Karr, A. F., Cohen, M. P., Battle, D., Achorn, D. L., & McKay, A. D. (2013). *Construction of Replicate Weights for Project TALENT*. Alexandria, VA: American Statistical Association.
- Lee, R., Cohen, M. P., & Scheuren, F. (2009). *Imputation of gaps in transaction sequences*. Alexandria, VA: American Statistical Association.
- Zhang, Z., Cohen, M. P., & Wright, D. (2008). *Intraclass correlation patterns of cognitive and behavioral measures of illicit drug use within six major metropolitan areas*. Alexandria, VA: American Statistical Association.
- Bose, J., Russell, J. N., Giesbrecht, L. H., & Cohen, M. P. (2003). *Characteristics of nontelephone households: A supplement survey of two travel-related surveys*. Alexandria, VA: American Statistical Association.
- Hu, M., Salvucci, S., & Cohen, M. P. (1998). *Evaluation of some popular imputation algorithms*. Alexandria, VA: American Statistical Association.
- Zhang, F., Cohen, M. P., & Salvucci, S. (1997). *An empirical study of variance estimates of raking ratio adjusted estimators*. Alexandria, VA: American Statistical Association.
- Hu, M., Zhang, F., Cohen, M. P., & Salvucci, S. (1997). *On the performance of replication-based variance estimation methods with small number of PSUs*. Alexandria, VA: American Statistical Association.
- Weng, S., Salvucci, S., & Cohen, M. P. (1997). *An alternative jackknife procedure for NAEP variance estimation*. Alexandria, VA: American Statistical Association.
- Cohen, M. P. (1997). *The Bayesian bootstrap and multiple imputation for unequal probability sample designs*. Alexandria, VA: American Statistical Association.
- Cohen, M. P. (1996). *A new approach to imputation*. Alexandria, VA: American Statistical Association.
- Hu, M., Salvucci, S., Weng, S., & Cohen, M. P. (1996). *Evaluation of Proc Impute and Schafer's multiple imputation software*. Alexandria, VA: American Statistical Association.
- Weng, S. S., Zhang, F., & Cohen, M. P. (1995). *Variance estimates comparison by statistical software*. Alexandria, VA: American Statistical Association.

## Professional Presentations

- Cohen, M. P. (2016, August). *Discussion: Statistical inference with clustered data*. Presented at an invited session of the Joint Statistical Meetings, Chicago, IL.
- Cohen, M. P. (2016, April). *Discussion: Conducting and validating surveys*. Presented at American Educational Research Association Annual Meeting, Washington, DC.
- Cohen, M. P. (2015, April). *Discussion: NAEP's role in educational achievement*. Presented at American Educational Research Association Annual Meeting, Chicago, IL.
- Cohen, M. P. (2015, April). *Discussion: Measurement issues in survey research*. Presented at American Educational Research Association Annual Meeting, Chicago, IL.
- Cohen, M. P. (2015, April). *Discussion: Effect sizes, sample sizes, and power*. Presented at American Educational Research Association Annual Meeting, Chicago, IL.
- Cohen, M. P. (2014, August). *History of the Washington Statistical Society (Invited Poster)*. Presented at Joint Statistical Meetings, Boston, MA.
- Cohen, M. P. (2014, April). *Discussion: Statistics in the field: Innovative applications and investigations*. Presented at American Educational Research Association Annual Meeting, Philadelphia, PA.
- Cohen, M. P. (2014, April). *Discussion: Measurement issues in NAEP and implications for the interpretation of results*. Presented at American Educational Research Association Annual Meeting, Philadelphia, PA.
- Cohen, M. P. (2013, April). *Discussion: Methodological issues in survey research*. Presented at American Educational Research Association Annual Meeting, San Francisco, CA.
- Cohen, M. P. (2012, August). *Discussion: Data-based transportation statistics*. Presented at Joint Statistical Meetings, San Diego, CA.
- Cohen, M. P. (2012, January). *Discussion: Sampling for all occasions*. Federal Committee on Statistical Methodology Research Conference, Washington, DC.
- Cohen, M. P. (2011, January). *Sample designs used in transportation surveys*. Presented at an invited session of the Annual Meeting of Transportation Research Board, Washington, DC.
- Cohen, M. P. (2010, August). *Sample means of independent standard Cauchy random variables are standard Cauchy: A new approach*. Presented at the Institute of Mathematical Statistics Annual Meeting, Gothenburg, Sweden.
- Cohen, M. P. (2010, August). *Discussion: Some recent studies in transportation statistics*. Presented at Joint Statistical Meetings, Vancouver, Canada.

Cohen, M. P. (2009, November). *Discussion: Applications of sampling*. Presented at Federal Committee on Statistical Methodology Research Conference, Washington, DC.