

HENRY BRAUN

EDUCATION

Stanford University	1974	Ph.D.	Mathematical Statistics
Stanford University	1972	M.S.	Mathematical Statistics
McGill University	1970	B.S.	Mathematics (honors)

EMPLOYMENT HISTORY

1999-present	Distinguished Presidential Appointee, Educational Testing Service, Princeton, NJ
2000-2001	Managing Director, ETS Literacy Services, Educational Testing Service, Princeton, NJ
1990-1999	Vice President for Research Management, Educational Testing Service, Princeton, NJ
1982-1990	Executive Director, Division of Statistical and Psychometric Research, Educational Testing Service, Princeton, NJ
1981-1982	Senior Research Scientist, Division of Measurement, Statistics, and Data Analysis Research, Educational Testing Service, Princeton, NJ
1979-1981	Research Scientist, Division of Measurement, Statistics, and Data Analysis Research, Educational Testing Service, Princeton, NJ
1978-1979	Faculty Associate, Office of Population Research, Princeton University, Princeton, NJ
1973-1979	Assistant Professor, Department of Statistics, Princeton University, Princeton, NJ (Director of Graduate Studies, 1974-77)

Awards

Co-recipient of the National Council for Measurement in Education Award for Outstanding Technical Contribution to the Field of Educational Measurement (1999)

Fellow, American Statistical Association (1991)

Palmer O. Johnson Award of the American Educational Research Association (1986)

VUB Professorship, The Free University of Brussels, Belgium (1979-1980)

Visiting Appointments

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| 1995-present | Consulting Research Faculty, Fielding Graduate University |
| 1985 | Visiting Professor (part-time), Rutgers University, New Brunswick, NJ |
| 1984-1990 | Visiting Lecturer, Woodrow Wilson School for Public and International Affairs, Princeton University, Princeton, NJ |
| 1982-1988 | Member of the Research Staff, Office of Population Research, Princeton University, Princeton, NJ |
| 1978-1981 | Visiting Investigator, Sloan-Kettering Institute for Cancer Research, New York, NY |
| 1977-1978 | Visiting Statistician and External Lecturer, Institute of Mathematical Statistics, University of Copenhagen |

Special Lectureships

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| 1997 | Department of Educational Technology, East China Normal University, Shanghai, China |
| 1996 | National Centre for University Entrance Examinations, Tokyo, Japan |
| 1992 | National Institute for Testing and Evaluation, Jerusalem, Israel |
| 1980 | Free University of Brussels (VUB), Brussels, Belgium |

Other Teaching Experience

- 1986 Lecturer, Summer Seminar of the East-West Center, Population Institute, Honolulu, Hawaii
- 1985 Lecturer, Short Course on "Survival Analysis," Centers for Disease Control, Atlanta, Georgia
- 1984 Summer Institute, Franklin and Marshall College, Lancaster, PA
- 1976-1998 Lecturer, Short Courses on "Advances in Data Analysis," University Associates

Consulting Experience (Selected)

- 2001 U.S. Department of Education (PT3), Washington, DC
- 1993 U.S. Department of Labor (SCANS), Washington, DC
- 1989 Department of Health, State of New Jersey
- 1988 U.S. Sentencing Commission, Washington, DC
- 1986-1988 Centers for Disease Control, Atlanta, GA
- 1986-1987 Commonwealth Fund, New York
- 1978-1983 Biostatistical Laboratory, Sloan-Kettering Institute for Cancer Research, New York
- 1974-1978 NBC Election News

Editorial Duties

Associate Editor, *Journal of Educational Statistics* (1989-1992)

Associate Editor, *Journal of the American Statistical Association* (1979-1986)

Offices Held

Member, International Advisory Committee, National Center for University Entrance Examination, Tokyo, Japan (1998)

Member, International Advisory Board, National Institute for Testing and Evaluation, Jerusalem, Israel (1996-present)

Member, Science Advisory Board, Rider College (1990-1993)

Member, Testing Committee attached to SCANS, Department of Labor (1990-1991)

Chairman, Management Committee, *Journal of Educational Statistics* (1989-1992)

Member, Management Committee, *Journal of Educational Statistics* (1987-1989)

Member, Advisory Council, Multi-City Air Pollution and Health Study, Harvard School of Public Health (1978-1984)

Affiliations

American Educational Research Association

National Council on Measurement in Education

American Statistical Association

PATENTS

Computer-based simulation examination of architectural practice. U.S. Patent #6,056,556 (May 2000)

PUBLICATIONS

Books, Monographs and Special Publications

America's Perfect Storm: Three Forces Changing our Nation's Future (with I. Kirsch, K. Yamamoto, and A. Sum). Princeton, NJ: Policy Information Center, Educational Testing Service. (To appear).

A Closer Look at Charter Schools Using Hierarchical Linear Modeling (with F. Jenkins and W. Grigg). U.S. Department of Education, National Center for Education Statistics, Institute of Education Sciences (NCES 2006-260). Washington, DC: U. S. Government Printing Office.

Comparing Private Schools and Public Schools Using Hierarchical Linear Modeling (with F. Jenkins and W. Grigg). U.S. Department of Education, National Center for Education Statistics, Institute of Education Sciences (NCES 2006-461). Washington, DC: U. S. Government Printing Office.

Using Assessment to Improve Education in Developing Nations. Pp. 1-46 in Improving Education through Assessment, Innovation, and Evaluation, (with Anil Kanjee, Eric Bettinger, and Michael Kremer). Cambridge, MA: American Academy of Arts and Sciences. (2006).

Using Student Progress to Evaluate Teaching: A Primer on Value-added Models. Princeton, NJ: Policy Information Center, Educational Testing Service. (2005).

Bejar, I. I., & Braun, H.(1999). Architectural simulations: From research to implementation: Final report to the National Council of Architectural Registration Boards (ETS RM-99-2) Princeton, NJ: Educational Testing Service.

Testing handicapped people (with W. Willingham, M. Ragosta, R. Bennett, D. Rock, & D. Powers). Needham Heights, MA: Allyn & Bacon, 1988.

Athletics and academics in the freshman year: A study of the academic effects of freshman participation in varsity athletics (with I. Broudy, J. Flaughner, N. Robertson, J. Maxey, M. Kane, & R. Sawyer). *American Association of Collegiate Registrars and Admissions Officers*, 1984.

Edited Volumes

The role of constructs in psychological and educational measurement. H. Braun, D. N. Jackson, & D. E. Wiley (Eds.). Hillsdale, NJ: Lawrence Erlbaum, 2002.

The collected works of John Tukey, Vol. VIII. H. Braun (Ed.). New York, NY: Chapman & Hall, Inc., 1994.

Test validity. H. Braun & H. Wainer (Eds.). Hillsdale, NJ: Lawrence Erlbaum, 1988.

Testing Handicapped People. W. Willingham, M. Ragosta, R. E. Bennett, H. Braun, D. A. Rock, and D. E. Powers (Eds.). Boston: Allyn and Bacon.

In Refereed Journals

The Black-White achievement gap: Do state policies matter? (with Wang, A., Jenkins, F., & Weinbaum, E.). *Education Policy Analysis Archives*, 14(8). Retrieved [4-20-06] <http://epaa.asu.edu/epaa/v14n8/>. March 20, 2006.

Intuitive test theory (with R. J. Mislevy). *Phi Delta Kappan*, 86(7) pp. 489-497, March, 2005.

Numbers and the remembrance of things past (with H. Wainer). *Chance*, 17(1), pp. 44-48, March, 2004.

Reconsidering the impact of high-stakes testing. *Education Policy Analysis Archives*, 12(1). Retrieved [3-23-04] from <http://epaa.asu.edu/epaa/v12n1/>, January 5, 2004.

John W. Tukey's contributions to multiple comparisons (with Y. Benjamini). *Annals of Statistics*, 30(6), 1576-1594, 2003.

On the synergy between assessment and instruction: Early lessons from computer-based simulations (with I. Bejar). *Machine Mediated Learning: An International Journal*, 4(1), 5-25, 1994.

Empirical Bayes analysis of families of survival curves: Applications to the analysis of degree attainment (with R. Zwick). *Journal of Educational Statistics*, 18(4), 285-303, 1993.

Scoring constructed responses using expert systems (with R. Bennett, D. Frye, & E. Soloway). *Journal of Educational Measurement*, 27(2), 93-108, Summer 1990.

The relationship of expert-system scored constrained free-response items to multiple-choice and open-ended items (with R. Bennett, D. Rock, D. Frye, J. Spohrer, & E. Soloway). *Applied Psychological Measurement*, 14(2), 151-162, June 1990.

A new approach to avoiding problems of scale in interpreting trends in mental measurement data. *Journal of Educational Measurement*, 25(3), 171-191, Fall 1988.

Understanding scoring reliability: Experiments in calibrating essay readers. *Journal of Educational Statistics*, 13(1), 1-18, 1988.

- Child health, breastfeeding and survival in Malaysia: A random effects logit approach (with M. Montgomery & T. Richards). *Journal of the American Statistical Association*, 81, June 1986.
- On the apparent clustering of clonal albumin production and enzyme activity levels (with H. T. Thaler). *Biometrics*, 40, December 1984.
- The scale-linkage algorithm: Construction of a universal criterion scale for families of institutions (with T. H. Szatrowski). *Journal of Educational Statistics*, 9(4), 311-330, Winter 1984.
- Validity studies based on a universal criterion scale (with T. H. Szatrowski). *Journal of Educational Statistics*, 9(4), 331-334, Winter 1984.
- Empirical Bayes estimates of coefficients in the general linear model from data of deficient rank (with D. Jones, D. Rubin, & D. Thayer). *Psychometrika*, 48, 171-187, 1983.
- On a new stopping rule for stochastic approximation (with D. F. Stroup). *Zeitschrift fur Wahrscheinlichkeitstheorie und verwandte Gebiete*, 60, 535-554, 1982.
- Testing in robust ANOVA (with D. R. McNeil). *Communications in Statistics: Theory and methods*, A10, 149-165, January 1981.
- A regression-like analysis of birth interval sequences. *Demography*, 17, 207-221, May 1980.
- A simple method for testing goodness-of-fit in the presence of nuisance parameters. *Journal of the Royal Statistical Society, B* 42, 53-63, April 1980.
- A three-and-half year experience with double Lumen breast implants (with A. Ellenberg). *Journal of Plastic and Reconstructive Surgery*, 307-313, March 1980.
- Statistical methods for measuring and comparing treatment efficacies: Applications to heterotransplants in nude mice (with M. Lesser & L. Helson). *Journal of Experimental Cell Biology*, 126-137, April 1980.
- Polynomial bounds for probability generating functions, II. *Zeitschrift fur Wahrscheinlichkeitstheorie und verwandte Gebiete*, 42, 13-21, January 1978.
- Stochastic stable population theory in continuous time. *Scandinavian Actuarial Journal*, 185-203, October 1978.

Weak convergence of sequential linear rank statistics. *The Annals of Statistics*, 4(3), 554-575, May 1976.

Polynomial bounds for probability generating functions. *Journal of Applied Probability*, 12, 507-514, September 1975.

Manuscripts in Review

Value-added assessment of schools: Sensitivity to choice of scale. (with Y. Qu and C. Trapani).

The effects of missing data on value-added model estimates. (with K. Shirley, H. Wainer, D. McCaffrey, and J. R. Lockwood).

In Edited Volumes

An Enhanced Method for Mapping State Standards Onto the NAEP Scale (with J. Qian). In N. Dorans and M. Pommerich (Eds.), *Linking and Aligning Scores and Scales*. New York: Springer. (To appear).

Value-added modeling (with H. Wainer). In C. R. Rao & S. Sinharay (Eds.), *Handbook of Statistics, vol. 27: Psychometrics*. Amsterdam: Elsevier Science. (To appear).

Rule based methods and mental modeling (with I. I. Bejar & D. M. Williamson). In D. M. Williamson, R. J. Mislevy, & I. I. Bejar (Eds.), *Automated Scoring of Complex Tasks in Computer Based Testing*. Mahwah, NJ: Lawrence Erlbaum. (2006).

Empirical Bayes. In J. Green, G. Camilli, and P. Elmore (Eds.), *Complementary Methods for Research in Education*. Washington, DC: American Educational Research Association. (2006).

Value-Added Modeling: What Does Due Diligence Require? In R. Lissitz (Ed.) *Value Added Models in Education: Theory and Applications*, pp. 19-39, JAM Press, 2005.

Assessment and Technology. In M. Segers, P. Dochy and E. Cascallar (Eds.) *Optimising New modes of Assessment*. Dordrecht, Netherlands: Kluwer, 2003.

A post-modern view of the problem of language assessment. In Anthony John Kunnan (Ed.) *Studies in Language Testing 9: Fairness and validation in language assessment. Selected papers from the 19th Language Testing Research Colloquium*, pp 263-272. Cambridge, UK: University of Cambridge, Local Examinations Syndicate, 2000.

- Psychometrics (with S. S. Sireci & H. Wainer). In P. Armitage & T. Colton (Eds.), *Encyclopedia of Biostatistics*. London: John Wiley & Sons Ltd., 1998.
- A school-based strategy for achieving and assessing work-readiness skills. In L. B. Resnick & J. G. Wirt (Eds.), *Linking School and Work - Roles for Standards and Assessment*, pp. 223-241. San Francisco, CA: Jossey-Bass, 1996.
- Assessing technology in assessment. In E. L. Baker & H. F. O'Neil, Jr. (Eds.), *Technology Assessment in Education and Training*, pp. 231-246. Hillsdale, NJ: Lawrence Erlbaum, 1994.
- Empirical Bayes methods: A tool for exploratory analysis. In R. D. Bock (Ed.), *Multilevel Analysis of Educational Data*, pp. 19-55. New York, NY: Academic Press, 1989.
- Making test scores fairer with statistics (with H. Wainer). In Judith M. Tanur, et al (Eds.), *Statistics: A Guide to the Unknown*, 3rd Ed., 178-187. Pacific Grove, CA: Wadsworth & Brooks/Cole, 1989.
- Predictive Validity (with M. Ragosta and B. Kaplan). In W. Willingham et al. (Eds.), *Testing Handicapped People*, pp. 109-132. Boston: Allyn and Bacon.
- Multiple comparisons through orderly partitions: The maximum subrange procedure (with J. W. Tukey). *Principals of Modern Psychological Measurement: A Festschrift for Frederic M. Lord*, pp. 55-65. Hillsdale, NJ: Lawrence Erlbaum, 1983.
- Observed score test equating: A mathematical analysis of some ETS equating procedures (with P. W. Holland). *Test Equating*, pp. 9-49. New York: Academic Press, 1982.
- Hierarchical clustering of nominal data (with D. Jones). In *American Statistical Association 1982 Proceedings of the Social Science Section*, 1982.
- Unbiased predictions in sparse data problems (with D. Jones). In *Proceedings of the 1981 Military Testing Association Meeting*, 1982.
- Survey design. In T. S. Barrows et al., *College students' knowledge and beliefs: A survey of global understanding*, pp. 40-49. New Rochelle, New York: Change Magazine Press, 1981.

Recent Technical Reports

- Paek, P., Braun, H., Trapani, C., Sigel, I., Ponte, E., & Powers, D. The relationship of AP teacher practices and student achievement. Princeton, NJ: Educational Testing Service. (in press).
- Paek, P., Ponte, E., Sigel, I., Braun, H. & Powers, D. (in press). A portrait of advanced placement teachers' practices. New York, NY: The College Board.
- Braun, H., & Bridgeman, B. (2005). An introduction to the measurement of change problem (ETS RM-05-01) Princeton, NJ: Educational Testing Service.
- Qian, J. and Braun, H. (2004). Mapping State Performance Standards onto the NAEP scale. Princeton, NJ: Educational Testing Service.
- Bejar, I. I., Braun, H., Lewis, C. (1997). Standard setting procedures and results for the open-ended ARE 97 divisions: Final report. Educational Testing Service, Princeton, NJ.

Review

- Enigmas of Chance by Mark Kac. *Journal of the American Statistical Association*, **81**, September 1986.

PRESENTATIONS (Selected)

CCSSO, Annual Meeting, San Francisco, CA, 2006.

Carnegie Foundation for the Advancement of Teaching, Centennial Conference, Princeton, NJ, 2006.

Institute for Education Sciences, Research Conference, Washington, DC, 2006.

National Academy of Sciences, Panel on NBPTS, Washington DC, 2006.

AERA/NCME, Annual Meeting, San Francisco, CA, 2006.

Association of Test Publishers, Annual Meeting, Orlando, FL, 2006.

U. of Tokyo, Graduate School of Education; Japan Association for Research on Testing; National Center for University Entrance Examinations; Benesse Corporation, Tokyo, Japan, 2005.

Annual Meeting, AERA/NCME, Montreal, Canada, 2005.

National Council of State Legislatures, Napa, CA, 2005.

National Association of State Boards of Education, Washington, DC, 2005.

Conference on Value-added Models in Education, U. of Maryland, 2004.

Education Commission of the States, Orlando, CA, 2004.

Annual Meeting, AERA/NCME, San Diego, CA, 2004.

“Whither Assessment” Conference, Qualifications and Curriculum Authority, London, England, 2002.

Annual Meeting, State Adult Education Directors, U.S. Department of Education, Washington, DC, 2002.

Joint Statistical Meetings, New York, 2002.

Multiple Comparisons Procedures 2002, Baltimore, MD, 2002.

“Performance Assessments for Adult Education” Workshop, Board on Testing and Assessment, Washington, DC, 2001.

Special Meeting on Assessment, National Center for University Entrance Examinations, Tokyo, Japan 2001.

Annual Meeting, European Association for Research on Language & Instruction, Maastrich, Netherlands, 2000. [Closing Address]

Annual Meeting, Language Testing Research Colloquium, Orlando, FL, 1997.

[Keynote address]

Annual Meeting, American Educational Research Association, New Orleans, LA, 1994.

Annual Meeting, American Educational Research Association, Atlanta, GA, 1993.

Annual Meeting, American Educational Research Association, San Francisco, CA, 1992.

Annual Meeting, American Educational Research Association, Chicago, IL, 1991.

Annual Meeting, American Educational Research Association, Boston, MA, 1990.

Technology Assessment: Estimating the Future, University of California Conference, Los Angeles, CA, 1990.

Joint Statistical Meetings, Washington, DC, 1989.

Annual Awards Dinner, Northern New Jersey Chapter of the American Statistical Association, 1988.

Annual Meeting, American Educational Research Association, New Orleans, LA, 1988.

Invitational Conference of the Center for Student Testing, Evaluation and Standards, Princeton, NJ, 1987.

Annual Meeting, American Educational Research Association, San Francisco, CA, 1986

Annual Meeting, Population Association of America, Boston, MA, 1985.

Annual Meeting, American Association of Collegiate Registrars and Admissions Officers, Cincinnati, OH, 1985.

Annual Meeting, American Educational Research Association, Chicago, IL, 1985.

Annual Meeting, National Collegiate Athletic Association, Nashville, TN, 1985.