

Benjamin R. Shear

Curriculum Vitae

September 2017

ADDRESS

School of Education
University of Colorado Boulder
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Boulder, CO 80309

CONTACT

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EDUCATION

- 2017 *Ph.D., Stanford Graduate School of Education*
Developmental and Psychological Sciences
Advisors: Edward Haertel & sean f. reardon
- 2012 *M.A., University of British Columbia*
Measurement, Evaluation, and Research Methodology
Advisor: Bruno D. Zumbo
- 2006 *B.A., Dartmouth College*
Philosophy (mathematics minor), *magna cum laude*

EMPLOYMENT

- 2017 – *Assistant Professor*
Research and Evaluation Methodology, School of Education, University of Colorado,
Boulder, CO
- 2009 – 2016 *Graduate Research Assistant*
Stanford Center for Education Policy Analysis (Stanford), Stanford Center for
Assessment, Learning and Equity (Stanford), Edgeworth Laboratory (UBC), Visual
Cognition Lab (UBC)
- 2006 – 2008 *High School Mathematics Teacher*
Eagle Rock School & Professional Development Center, Estes Park, CO

PUBLICATIONS

PEER-REVIEW JOURNAL ARTICLES

- Reardon, S. F., Shear, B. R., Castellano, K. E., & Ho, A. D. (2017). Using heteroskedastic ordered probit models to recover moments of continuous test score distributions from coarsened data. *Journal of Educational and Behavioral Statistics*, 42(1), 3–45.
<https://doi.org/10.3102/1076998616666279>
- Zumbo, B. D., Liu, Y., Wu, A. D., Shear, B. R., Olvera Astivia, O. L., & Ark, T. K. (2015). A methodology for Zumbo's third generation DIF analyses and the ecology of item responding. *Language Assessment Quarterly*, 12(1), 136–151.
<http://doi.org/10.1080/15434303.2014.972559>

Shear, B. R., & Zumbo, B. D. (2013). False positives in multiple regression: Unanticipated consequences of measurement error in the predictor variables. *Educational and Psychological Measurement*, 73(5), 733–756. <http://doi.org/10.1177/0013164413487738>

BOOK CHAPTERS

Shear, B. R., & Roussos, L. A. (2017). Validating a distractor-driven geometry test using a generalized diagnostic classification model. In B. D. Zumbo & A. M. Hubley (Eds.), *Understanding and Investigating Response Processes in Validation Research* (Vol. 69, pp. 277–304). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-319-56129-5_15

Zumbo, B. D., Liu, Y., Wu, A. D., Forer, B., & Shear, B. R. (2017). National and international educational achievement testing: A case of multi-level validation framed by the ecological model of item responding. In B. D. Zumbo & A. M. Hubley (Eds.), *Understanding and Investigating Response Processes in Validation Research* (Vol. 69, pp. 341–361). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-319-56129-5_18

Shear, B. R., & Zumbo, B. D. (2014). What counts as evidence: A review of Validity Studies in Educational and Psychological Measurement. In B. D. Zumbo & E. K. H. Chan (Eds.), *Validity and validation in social, behavioral, and health sciences* (pp. 91–111). New York: Springer. https://doi.org/10.1007/978-3-319-07794-9_6

REPORTS AND OTHER PUBLICATIONS

Shear, B. R., Diaz-Bilello, E., Chattergoon, R. (2017, August). Considerations for adopting and implementing innovative assessment systems. Report prepared for the Colorado Department of Education. Center for Assessment, Design, Research and Evaluation, University of Colorado Boulder: Boulder, CO.

Shear, B. R. (2017). *Review of "Apples to Apples: The Definitive Look at School Test Scores in Milwaukee and Wisconsin."* Boulder, CO: National Education Policy Center. Retrieved from <http://nepc.colorado.edu/thinktank/review-milwaukee-vouchers>

Nayfield, I., Pecheone, R., Whittaker, A., Shear, B. R., & Klesch, H. (2015). *Educative assessment & meaningful support: 2014 edTPA administrative report*. Stanford Center for Assessment, Learning and Equity: Stanford, CA.

Shear, B. R. (2014). "Mathematics achievement" and "Mean differences." In *Encyclopedia of Quality of Life and Well-Being Research*. New York: Springer Reference.

IN PROGRESS RESEARCH PAPERS

Shear, B.R. *Using hierarchical logistic regression to study DIF variance.*

STATISTICAL SOFTWARE

Shear, B. R. & Reardon, S. F., (2017), HETOP: Stata module for estimating heteroskedastic ordered probit models with ordered frequency data, <http://EconPapers.repec.org/RePEc:boc:bocode:s458287>.

SELECTED CONFERENCE PAPERS AND POSTERS

- Shear, B. R., & Reardon, S. F. (2017, April). *Using pooled heteroskedastic ordered probit models to improve small-sample estimates*. Paper presented at the National Council on Measurement in Education 2017 Annual Meeting, San Antonio, TX.
- Lockwood, J. R., Castellano, K. E., & Shear, B. R. (2017, April). Flexible Bayesian models for inferences from coarsened, group-level achievement data. Paper presented at the National Council on Measurement in Education 2017 Annual Meeting, San Antonio, TX.
- Shear, B. R., & Thum, Y. M. (2017, March). *Sensitivity of achievement gap trend estimates to alternative treatments of nested data*. Paper presented at the Society for Research on Educational Effectiveness Spring 2017 Conference, Washington, DC.
- Shear, B. R., & Thum, Y. M. (2016, April). *Alternative approaches for comparing test score achievement gap trends*. Poster presented at the National Council on Measurement in Education 2016 Annual Meeting, Washington, DC.
- Shear, B. R., Castellano, K. E., Reardon, S. F., & Ho, A. D. (2015, April). *Recovering NAEP and state test score distributions using coarsened data*. Paper presented at the National Council on Measurement in Education 2015 Annual Meeting, Chicago, IL.
- Shear, B. R., Roussos, L. A., DiBello, L. V., Henson, R. A., & Stout, W. F. (2015, April). *Fitting diagnostic classification models to distractor-driven tests for validation purposes*. Paper presented at the National Council on Measurement in Education 2015 Annual Meeting, Chicago, IL.
- Shear, B. R., Castellano, K. E., Reardon, S. F., & Ho, A. D. (2014, March). *Simultaneous estimation of multiple achievement gaps from ordinal proficiency data*. Paper presented at the Society for Research on Educational Effectiveness Spring 2014 Conference, Washington, DC.
- Shear, B. R., Nordstokke, D. W., & Zumbo, B. D. (2013, April). *On centering scores before applying the nonparametric Levene test*. Paper presented at American Educational Research Association 2013 Annual Meeting, San Francisco, CA.
- Ark, T. K., Shear, B. R., & Zumbo, B. D. (2013, April). *Demonstration of the impact of data entry errors on generalizability and decision studies: Crossed and nested two-facet designs*. Paper presented at the American Educational Research Association 2013 Annual Meeting, San Francisco, CA.
- Liu, Y., Shear, B. R., & Zumbo, B. D. (2013, April). *Impact of outliers arising from a subpopulation on ordinary least squares and robust regression estimates*. Paper presented at the American Educational Research Association 2013 Annual Meeting, San Francisco, CA.
- Shear, B. R., Olvera, O. L., & Zumbo, B. D. (2012, April). *Relative variable importance measures for multiple linear regression in suppression situations: A Monte Carlo study*. Paper presented at the American Educational Research Association 2012 Annual Meeting, Vancouver, BC.
- Shear, B. R., & Zumbo, B. D. (2012, April). *What counts as evidence? An empirical review of Validity Studies in Educational and Psychological Measurement*. Poster presented at the American Educational Research Association 2012 Annual Meeting, Vancouver, BC.
- Zumbo, B. D., Liu, Y., Shear, B. R., Olvera, O.L., Ark, T.K., & Wu, A.D. (2012, April). *Latent class logistic regression family of models and its applications to Explanatory DIF*. Paper presented at the National Council on Measurement in Education 2012 Annual Meeting, Vancouver, BC.

Zumbo, B. D., Liu, Y., Wu, A. D., Forer, B., & Shear, B. R. (2010, May). *National and international educational achievement testing: a case of multi-level validation*. Paper presented at the American Educational Research Association 2010 Annual Meeting, Denver, CO.

HONORS AND AWARDS

2012 – 2016 Institute of Education Sciences Predoctoral Training Fellowship
 2012 – 2013 Thomas G. and Terry B. Eastman Fellowship
 2011 – 2012 ECPS Department Student Funding Award
 2011 UBC Faculty of Education Student Research Grant
 2009 Americorps Education Award
 2006 Phi Beta Kappa inductee

GRANTS

2017 – 2020 *Expanding the Stanford Education Data Archive*. Bill and Melinda Gates Foundation. Subaward from Stanford University, PI Sean F. Reardon. (Total award \$1,013,000; CU Boulder award \$146,812).
 2011 – 2012 *Measurement validation practices: A systematic review of the literature and implications for validity theory*. Faculty of Education UBC HSS Seed Grant. Co-PI with Dr. Bruno Zumbo. (\$6,739 CAD).

TEACHING

GRADUATE COURSES

2017 *EDUC 8710: Introduction to Measurement in Survey Research*
EDUC 7396: Categorical Data Analysis
 University of Colorado Boulder
 2015 *EDUC 259X: Application of Hierarchical Linear Models in Behavioral and Social Research* (Teaching Assistant)
 Stanford University
 2013 – 2015 *EDUC 200C: Introduction to Statistical Methods in Education* (Teaching Assistant)
 Stanford University

TRAINING SESSIONS

2016 - 2017 *The Stanford Education Data Archive: Using big data to study academic performance*. (Co-led with sean f. reardon, Andrew Ho, Kenneth Shores and Erin Fahle; multiple sessions)
 2016 *Exploratory Factor Analysis in R and Stata*. (Instructor; GSE Methodology Lunch Series, Stanford, CA)
 2011 *The concept of validity and some novel validation methods*. (Co-led with Bruno Zumbo; In-conference session presented at the Northeastern Educational Research Association Annual Meeting, Rocky Hill, CT)

SERVICE AND PROFESSIONAL ACTIVITIES

PROFESSIONAL AFFILIATIONS

American Educational Research Association, National Council on Measurement in Education, Psychometric Society, Society for Research on Educational Effectiveness

AD-HOC JOURNAL REVIEWER

Educational Assessment

COMMITTEES

Publications Committee Member, National Council on Measurement in Education 2013-2016

ADDITIONAL RESEARCH EXPERIENCE

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| 2015 | <i>Psychometric Research Intern</i> , Northwest Evaluation Association, Portland, OR |
| 2013 – 2016 | <i>Graduate Research Assistant</i> , Center for Education Policy Analysis, Stanford, CA |
| 2014 | <i>Nambury Raju Psychometric Intern</i> , Measured Progress, Dover, NH |
| 2013 – 2014 | <i>Graduate Research Assistant</i> , Stanford Center for Assessment, Learning and Equity, Stanford, CA |
| 2011 – 2012 | <i>Graduate Academic Assistant</i> , ECPS Department, Faculty of Education, University of British Columbia, Vancouver, BC |
| 2010 – 2012 | <i>Research Fellow</i> , Edgeworth Laboratory for Quantitative Educational & Behavioral Science, University of British Columbia, Vancouver, BC |
| 2010 – 2011 | <i>Research Assistant/Project Leader</i> , Visual Cognition Lab, University of British Columbia, Vancouver, BC |
| 2009 – 2012 | <i>Graduate Academic Assistant</i> , Department of Curriculum and Pedagogy, University of British Columbia, Vancouver, BC |