

ROY LEVY

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PROFESSIONAL INFORMATION

Education

<i>Doctor of Philosophy</i> May, 2006	Measurement, Statistics & Evaluation Department of Measurement, Statistics & Evaluation College of Education, University of Maryland
<i>Master of Arts</i> May, 2002	Measurement, Statistics & Evaluation Department of Measurement, Statistics & Evaluation College of Education, University of Maryland
<i>Bachelor of Arts</i> May, 2001	Philosophy <i>Honors, Summa cum Laude, Phi Beta Kappa</i> Department of Philosophy College of Arts & Humanities, University of Maryland

Positions Held

<i>Professor</i> 2018-present	T. Denny Sanford School of Social and Family Dynamics College of Liberal Arts and Sciences, Arizona State University
<i>Associate Professor</i> 2012-present	T. Denny Sanford School of Social and Family Dynamics College of Liberal Arts and Sciences, Arizona State University
<i>Assistant Professor</i> 2010-2012	School of Social and Family Dynamics College of Liberal Arts and Sciences, Arizona State University
<i>Assistant Professor</i> 2009-2010	Division of Advanced Studies in Learning, Technology and Psychology in Education Mary Lou Fulton Institute and Graduate School of Education, Arizona State University
<i>Assistant Professor</i> 2006-2009	Division of Psychology in Education Mary Lou Fulton College of Education, Arizona State University
<i>Harold Gulliksen Psychometric Research Fellow</i> 2005-2006	Educational Testing Service

	<i>Research Assistant</i> 2001-2006	Department of Measurement, Statistics & Evaluation College of Education, University of Maryland
	<i>Course Instructor</i> 2003-2004	Department of Measurement, Statistics & Evaluation College of Education, University of Maryland
Affiliations	<i>Affiliated Faculty</i> 2017-present	Institute for Social Science Research Arizona State University
	<i>Affiliate</i> 2014-present	Collaborative for Student Assessment and Educational Improvement Research Arizona State University
	<i>Member</i> 2010-present	Educational Psychology Graduate Faculty Arizona State University
	<i>Member</i> 2008-present	Department of Speech and Hearing Science Graduate Faculty Arizona State University
	<i>Research Scientist</i> 2011-2014	Learning Sciences Institute Arizona State University

INSTRUCTIONAL & ADVISING ACTIVITY

Course Instruction at Arizona State University 2006-present (* indicates undergraduate course)

Introduction to Data Analysis
 *Social Statistics I
 Multiple Regression and Correlation Methods
 Structural Equation Modeling in Educational Research
 Introduction to Measurement in the Social Sciences
 Introduction to Item Response Theory
 Advanced Topics in Item Response Theory
 Bayesian Analyses in the Social Sciences
 Advanced Bayesian Statistical Analyses

Course Instruction at University of Maryland 2003-2004 (undergraduate courses)

Introduction to Educational Statistics

Advising and Mentoring Activities

Completed Dissertations Chaired

11. Raymond E. Reichenberg. (2018). The impact of information quantity and quality on parameter estimation for a selection of dynamic Bayesian network models with latent variables. (Co-chair with Dr. Natalie Wilkens)
10. Katerina M. Marcoulides. (2017). A Bayesian synthesis approach to data fusion using augmented data-dependent priors. Department of Psychology. (Co-chair with Dr. Kevin Grimm)
9. Milica Miočević. (2017). Statistical properties of the single mediator model with latent variables In the Bayesian framework. (Co-chair with Dr. David MacKinnon)
8. Katie L. Kunze, K. (2016). Multiple imputation for two-level hierarchical models with categorical variables and missing at random data.
7. Nedim Yel. (2016). Determining appropriate sample sizes and their effects on key parameters in longitudinal three-level models. (Co-chair with Dr. Stephen Elliott)
6. Derek M. Fay. (2015). Model criticism for growth curve models via posterior predictive model checking.
5. Phil Arcuria. (2014). Developing a process for utilizing Bayesian networks to predict stopping out among community college students.
4. Aaron V. Crawford. (2014). Posterior predictive model checking in Bayesian networks.
3. Lietta Scott. (2014). Analytic selection of a valid subtest for DIF analysis when DIF has multiple potential causes among multiple groups.
2. Kara Styck. (2012). Diagnostic utility of the Culture-Language Interpretive Matrix for the WISC-IV among referred students. Doctoral dissertation. Educational Psychology Program, School Psychology Concentration.
1. Dubravka Svetina. (2011). Assessing dimensionality in complex data structures: A performance comparison of DETECT and NOHARM methods. (Co-chair with Dr. Joanna Gorin.)

Completed Theses Chaired

5. Raymond E. Reichenberg. (2013). A comparison of DIMTEST and generalized dimensionality discrepancy approaches to assessing dimensionality in item response theory.
4. Katie Kunze. (2013). The accuracy of accuracy estimates for single form dichotomous classification exams. (Co-chair with Dr. Joanna Gorin.)

3. Janet Krause. (2012). Assessment of item parameter drift of known items in a university placement exam.
2. Derek Fay. (2011). Sample size and test length minima for DIMTEST with conditional covariance-based subtest selection.
1. Lisa Mitchell. (2009). Examining the structural properties and competing models for the institutional integration scale.

SCHOLARLY ACTIVITY

Books

1. **Levy, R.**, & Mislevy, R. J. (2016). *Bayesian psychometric modeling*. Boca Raton, FL: Chapman & Hall/CRC.

In Refereed Journals (ψ indicates co-author was an ASU student or postdoc during part or all of the work)

54. **Levy, R.** (accepted). Implications of considering response process data for psychometrics. *Educational Assessment*.
53. ψ Kunze, K. L., **Levy, R.**, & Mehta, V. (in press). Leveraging psychometric isomorphism in assessment development. *International Journal of Quantitative Research in Education*.
52. **Levy, R.** (in press). Dynamic Bayesian network modeling of game-based diagnostic assessments. *Multivariate Behavioral Research*. Published online April 3, 2019. DOI: 10.1080/00273171.2019.1590794.
51. Bradshaw, L., & **Levy, R.** (2019). Interpreting probabilistic classifications from diagnostic psychometric models. *Educational Measurement: Issues and Practice*, 38, 79-88. Published online March 21, 2019. DOI: 10.1111/emip.12247.
50. ψ Fay, D. M., **Levy, R.**, & Mehta, V. (2018). Investigating psychometric isomorphism for traditional and performance-based assessment. *Journal of Educational Measurement*, 55, 52-77. DOI: 10.1111/jedm.12163.
49. Enders, C. K., ψ Keller, B. T., & **Levy, R.** (2018). A fully conditional specification approach to multilevel imputation of categorical and continuous variables. *Psychological Methods*, 23, 298-317. Published online May 29, 2017. DOI: 10.1037/met0000148.
48. ψ Jimenez-Arista, L. E., Tracey, T. J. G., & **Levy, R.** (2018). Patterns of symptomatology over time and their relation to outcome. *Canadian Psychology*, 59, 347-360. DOI: 10.1037/cap0000160
47. Chi, M. T. H., ψ Adams, J., Bogusch, E. B., ψ Bruchok, C, Kang, S., ψ Lancaster, M., **Levy, R.**, Li, N.,

[¶]McEldon, K., [¶]Stump, G. S., [¶]Wylie, R., Xu, D., & Yaghmourian, D. L. (2018). Translating the ICAP theory of cognitive engagement into practice. *Cognitive Science: A Multidisciplinary Journal*, *42*, 1777-1832. Published online June 28, 2018. DOI: 10.1111/cogs.12626.

Note: After the first author, authorship was determined alphabetically.

46. **Levy, R.** (2017). Distinguishing outcomes from indicators via Bayesian modeling. *Psychological Methods*, *22*, 632-648. Published online December 21, 2017. DOI: 10.1037/met0000114.
45. Little, T. D., Widaman, K. F., **Levy, R.**, Rodgers, J. L., & Hancock, G. R. (2017). Error, Error in my model, who's the fairest of them all? *Research in Human Development*, *14*, 271-286. Published online November 7, 2017. DOI: 10.1080/15427609.2017.1370965.
44. DiCerbo, K. E., [¶]Xu, Y., **Levy, R.**, Lai, E., & Holland, L. (2017). Modeling student cognition in digital and nondigital assessment environments. *Educational Assessment*, *22*, 275-297. Published online October 13, 2017. DOI: 10.1080/10627197.2017.1382343.
43. Lai, K., Green, S. B., & **Levy, R.** (2017). Graphical displays for understanding SEM model similarity. *Structural Equation Modeling: A Multidisciplinary Journal*, *24*, 803-818. Published online July 12, 2017. DOI: 10.1080/10705511.2017.1334206.
42. [¶]Liu, Y., West, S. G., **Levy, R.**, & Aiken, L. S. (2017). Tests of simple slopes in multiple regression models with an interaction: Comparison of four approaches. *Multivariate Behavioral Research*, *52*, 445-464. Published online May 2, 2017. DOI: 10.1080/00273171.2017.1309261.
41. [¶]Miočević, M., MacKinnon, D. P., & **Levy, R.** (2017). Power in Bayesian mediation analysis for small sample research. *Structural Equation Modeling: A Multidisciplinary Journal*, *24*, 666-683. Published online April 25, 2017. DOI: 10.1080/10705511.2017.1312407.
40. Choi, J., & **Levy, R.** (2017). Markov chain Monte Carlo methods for structural equation modeling: A comparison of subject-level data and moment-level data approaches. *Biometrics & Biostatistics International Journal*, *6(5)*: 00181. Available online at <http://medcraveonline.com/BBIJ/BBIJ-06-00182.pdf>.
39. **Levy, R.** (2016). Advances in Bayesian modeling in educational research. *Educational Psychologist*, *51*, 368-380. DOI: 10.1080/00461520.2016.1207540.
38. [¶]Lai, K., Green, S. B., **Levy, R.**, [¶]Reichenberg, R., [¶]Xu, Y., Thompson, M. S., [¶]Yel, N., Eggum-Wilkens, N. D., [¶]Kunze, K. L., & Iida, M. (2016). Assessing model similarity in structural equation modeling. *Structural Equation Modeling: A Multidisciplinary Journal*, *23*, 491-506. Published online April 8, 2016. DOI: 10.1080/10705511.2016.1154464.
37. [¶]Verhagen, A. J., **Levy, R.**, Millsap, R., & Fox, J.-P. (2016). Evaluating evidence for invariant items: A Bayes Factor approach to testing measurement invariance in IRT models. *Journal of Mathematical Psychology*, *72*, 171-182. Published online August 12, 2015. doi: 10.1016/j.jmp.2015.06.005.

36. ^ψSvetina, D., & **Levy, R.** (2016). Dimensionality in compensatory MIRT when complex structure exists: Evaluation of DETECT and NOHARM. *Journal of Experimental Education*, *84*, 398-420. Published online September 2, 2015. doi: 10.1080/00220973.2015.1048845.
35. Green, S. B., ^ψRedell, N., Thompson, M. S., & **Levy, R.** (2016). Accuracy of revised and traditional parallel analyses for assessing dimensionality with binary data. *Educational and Psychological Measurement*, *76*, 5-21. Published online April 21, 2015. doi: 10.1177/0013164415581898.
34. **Levy, R.**, ^ψXu, Y., ^ψYel, N., & ^ψSvetina, D. (2015). A standardized generalized dimensionality discrepancy measure and a standardized model-based covariance for dimensionality assessment for multidimensional models. *Journal of Educational Measurement*, *52*, 144-158. Published online June 2, 2015. doi:10.1111/jedm.12070.
33. Green, S. B., Thompson, M. S., & **Levy, R.**, & Lo, W.-J. (2015). Type I and II error rates and overall accuracy of the revised parallel analysis method for determining the number of factors. *Educational and Psychological Measurement*, *75*, 428-457. Published online August 14, 2014. doi:10.1177/0013164414546566.
32. ^ψLiu, Y., West, S. G., **Levy, R.**, & Aiken, L. S. (2015). Abstract: Probing interactions in multiple regression: Frequentist versus Bayesian approaches. *Multivariate Behavioral Research*, *50*, 139. Published online February 17, 2015. doi: 10.1080/00273171.2014.989004
31. Gratz, K. L., Bardeen, J. R., **Levy, R.**, Dixon-Gordon, K. L., & Tull, M. T. (2015). Mechanisms of change in an emotion regulation group therapy for deliberate self-harm among women with borderline personality disorder. *Behaviour Research and Therapy*, *65*, 29-35. Published online December 13, 2014. doi: 10.1016/j.brat.2014.12.005.
30. ^ψSvetina, D., & **Levy, R.** (2014). A framework for dimensionality assessment for multidimensional item response models. *Educational Assessment*, *19*, 35-57. Published online February 20, 2014. doi: 10.1080/10627197.2014.869450.
29. Gratz, K. L., Tull, M. T., & **Levy, R.** (2014). Randomized controlled trial and uncontrolled 9-month follow-up of an adjunctive emotion regulation group therapy for deliberate self-harm among women with borderline personality disorder. *Psychological Medicine*, *44*, 2099-2112. Published online August 28, 2013. doi: 10.1017/S0033291713002134.
28. **Levy, R.** (2013). Psychometric and evidentiary advances, opportunities, and challenges for simulation-based assessment. *Educational Assessment*, *18*, 182-207.
27. ^ψSvetina, D., ^ψCrawford, A. V., **Levy, R.**, Green, S. B., ^ψScott, L., Thompson, M. S., Gorin, J. S., ^ψFay, D., & ^ψKunze, K. L. (2013). Designing small-scale tests: A simulation study of parameter recovery with the 1-PL. *Psychological Test and Assessment Modeling*, *55*, 335-360.
26. Rupp, A. A., **Levy, R.**, DiCerbo, K. E., Sweet, S., ^ψCrawford, A. V., Caliço, T., Benson, M., ^ψFay, D., ^ψKunze, K. L., Mislevy, R. J., & Behrens, J. T. (2012). Putting ECD into practice: The interplay of theory and data in evidence models within a digital learning environment. *Journal of Educational*

Data Mining, 4, 49-110.

25. Mislevy, R. J., Behrens, J. T., DiCerbo, K. E., & **Levy, R.** (2012). Design and discovery in educational assessment: Evidence-centered design, psychometrics, and educational data mining. *Journal of Educational Data Mining, 4, 11-48.*
24. Green, S. B., **Levy, R.**, Thompson, M. S., ^ψLu, M., & Lo, W. J. (2012). A proposed solution to the problem with using completely random data to assess the number of factors with parallel analysis. *Educational and Psychological Measurement, 72, 357-374.*
23. ^ψSvetina, D., & **Levy, R.** (2012). An overview of software for conducting dimensionality assessment in multidimensional models. *Applied Psychological Measurement, 36, 660-670.*
22. Gratz, K. L., **Levy, R.**, & Tull, M. T. (2012). Emotion regulation as a mechanism of change in an acceptance-based emotion regulation group therapy for deliberate self-harm among women with borderline personality pathology. *Journal of Cognitive Psychotherapy, 26, 365-380.*
21. **Levy, R.** (2011). Bayesian data-model fit assessment for structural equation modeling. *Structural Equation Modeling: A Multidisciplinary Journal, 18, 663-685.*
20. **Levy, R.**, & ^ψSvetina, D. (2011). A generalized dimensionality discrepancy measure for dimensionality assessment in multidimensional item response theory. *British Journal of Mathematical and Statistical Psychology, 64, 208-232.*
19. **Levy, R.**, & Hancock, G. R. (2011). An extended model comparison framework for covariance and mean structure models, accommodating multiple groups and latent mixtures. *Sociological Methods and Research, 40, 256-278.*
18. **Levy, R.** (2011). Posterior predictive model checking for conjunctive multidimensionality in item response theory. *Journal of Educational and Behavioral Statistics, 36, 672-694.*
17. Bornovalova, M. A., Tull, M. T., Gratz, K. L., **Levy, R.**, & Lejuez, C. W. (2011). Extending models of self-harm and suicide to inner-city substance users. *Psychological Trauma: Theory, Research, Practice, and Policy, 3, 349-359.*
16. Okun, M. A., Rios, R., ^ψCrawford, A. V., & **Levy, R.** (2011). Does the relation between volunteering and well-being vary with health and age? *International Journal of Aging and Human Development, 72, 265-287.*
15. Wodrich, D. L., Jarrar, R., Buchhalter, J., **Levy, R.**, & ^ψGay, C. (2011). Knowledge about epilepsy and confidence in instructing students with epilepsy: Teachers' responses to a new scale. *Epilepsy & Behavior, 20, 360-365.*
14. **Levy, R.** (2010). SEMModComp: An R package for calculating likelihood ratio tests for mean and covariance structure models. *Applied Psychological Measurement, 34, 370-371.*

13. [¶]Crawford, A. V., Green, S. B., **Levy, R.**, [¶]Lo, W. J., [¶]Scott, L., [¶]Svetina, D., & Thompson, M. S. (2010). Evaluation of parallel analysis methods for determining the number of factors. *Educational and Psychological Measurement, 70*, 885-901.
Note: Authorship listed alphabetically.
12. Mislevy, R. J., Behrens, J. T., Bennett, R. E., DeMark, S. F., Frezzo, D. C., **Levy, R.**, Robinson, D. H., Rutstein, D. W., Shute, V. J., Stanley, K., & Winters, F. I. (2010). On the roles of external knowledge representations in assessment design. *Journal of Technology, Learning, and Assessment, 8*(2). Available from <http://www.jtla.org>.
11. Bornovalova, M. A., **Levy, R.**, Gratz, K. L., & Lejuez, C. W. (2010). Understanding the heterogeneity of BPD symptoms through latent class analysis: Initial results and clinical correlates among inner-city substance users. *Psychological Assessment, 22*, 233-245.
10. [¶]Long, L. A., Wodrich, D. L., **Levy, R.**, Ettl, M. M., & Gieseeking, A. T. (2010). Students with brain tumors: Their post-treatment perceptions of teachers, peers, and academics and retrospective views on school during treatment. *Journal of Child Health Care, 14*, 111-125.
9. **Levy, R.**, Mislevy, R. J., & Sinharay, S. (2009). Posterior predictive model checking for multidimensionality in item response theory. *Applied Psychological Measurement, 33*, 519-537.
8. **Levy, R.** (2009). The rise of Markov chain Monte Carlo estimation for psychometric modeling. *Journal of Probability and Statistics, vol. 2009*, Article ID 537139.
7. **Levy, R.** (2009). Evidentiary reasoning in diagnostic classification models. *Measurement: Interdisciplinary Research and Perspectives, 6*, 36-41.
6. **Levy, R.**, & [¶]Crawford, A. V. (2009). Incorporating substantive knowledge into regression via a Bayesian approach to modeling. *Multiple Linear Regression Viewpoints, 35*, 4-9.
5. Okun, M. A., **Levy, R.**, Karoly, P., & Ruhlman, L. (2009). Dispositional happiness and college student GPA: Unpacking a null relation. *Journal of Research in Personality, 43*, 711-715.
4. Bornovalova, M. A., Ouimette, P., [¶]Crawford, A. V., & **Levy, R.** (2009). Testing gender effects on the mechanisms explaining the association between post-traumatic stress symptoms and substance use frequency. *Addictive Behaviors, 34*, 685-692.
3. **Levy, R.**, & Hancock, G. R. (2007). A framework of statistical tests for comparing mean and covariance structure models. *Multivariate Behavioral Research, 42*, 33-66.
2. **Levy, R.**, & Mislevy, R. J. (2004). Specifying and refining a measurement model for a computer-based interactive assessment. *International Journal of Testing, 4*, 333-369.
1. Behrens, J. T, Mislevy, R. J., Bauer, M., Williamson, D. W., & **Levy, R.** (2004). Introduction to evidence centered design and lessons learned from its application in a global e-learning program. *International Journal of Testing, 4*, 295-301.

In Edited Volumes (ψ indicates co-author was an ASU student during part or all of the work)

13. Miočević, M., **Levy, R.**, & ψ Savord, A. (2020). The role of exchangeability in sequential updating of findings from small sample studies. In R. Van de Schoot & M. Miočević (Eds.), *Small sample size solutions: A guide for applied researchers and practitioners*: Routledge.
12. Miočević, M., **Levy, R.**, & van de Schoot, R. (2020). Introduction to Bayesian statistics. In R. Van de Schoot & M. Miočević (Eds.), *Small sample size solutions: A guide for applied researchers and practitioners*: Routledge.
11. González-Brenes, J., Behrens, J. T., Mislevy, R. J., **Levy, R.**, & DiCerbo, K. E. (2016). Bayesian networks. In A.A. Rup and J.P. Leighton (Eds.), *Handbook of cognition and assessment* (pp. 328-353). Hoboken, NJ: John Wiley & Sons, Inc.
10. **Levy, R.**, & Choi, J. (2013). Bayesian structural equation modeling. In G.R. Hancock and R.O. Mueller (Eds.), *Structural equation modeling: A second course* (2nd ed., pp. 563-623). Charlotte, NC: Information Age Publishing.
9. Behrens, J. T., DiCerbo, K. E., ψ Yel, N., & **Levy, R.** (2013). Exploratory data analysis. In I.B. Weiner, J.A. Schinka, & W.F. Velicer (Eds.), *Handbook of psychology, volume 2: Research methods in psychology* (2nd ed., pp. 33-64). Hoboken, NJ: John Wiley & Sons, Inc.
8. Behrens, J. T., Mislevy, R. J., DiCerbo, K. E., & **Levy, R.** (2012). Evidence centered design for learning and assessment in the digital world. In M. Mayrath, J. Clarke-Midura, & D.H. Robinson (Eds.), *Technology-based assessments for 21st century skills: Theoretical and practical implications from modern research* (pp. 13-53). Charlotte, NC: Information Age Publishing.
7. West, P., Rutstein, D. W., Mislevy, R. J., Liu, J., **Levy, R.**, DiCerbo, K. E., ψ Crawford, A. V., Choi, Y., Chapple, K., & Behrens, J. T. (2012). A Bayesian network approach to modeling learning progressions. In A.C. Alonzo & A.W. Gotwals (Eds.), *Learning progressions in science: Current challenges and future directions* (pp. 257-292). Rotterdam: Sense Publishers.
6. **Levy, R.**, Mislevy, R. J., & Behrens, J. T. (2011). MCMC in educational research. In S. Brooks, A. Gelman, G. L. Jones, & X. L. Meng (Eds.), *Handbook of Markov chain Monte Carlo: Methods and applications* (pp. 531-545). London: Chapman & Hall/CRC.
5. Shute, V.J., **Levy, R.**, Baker, R., Zapata, D., & Beck, J. (2009). Assessment and learning in intelligent educational systems: A peek into the future. In S. D. Craig & D. Dicheva (Eds.), *Proceedings of the Artificial Intelligence and Education (AIED 2009) Workshop on Intelligent Educational Games*, Volume 3: Intelligent Educational Games (pp. 99–108), Brighton, UK.
4. Mislevy, R. J., **Levy, R.**, Kroopnick, M., & Rutstein, D. (2008). Evidentiary foundations of mixture item response theory models. In G. R. Hancock & K. M. Samuelsen (Eds.), *Advances in latent variable mixture models* (pp. 149-175). Charlotte, NC: Information Age Publishing.

3. Mislevy, R. J., & **Levy, R.** (2007). Bayesian psychometric modeling from an evidence-centered design perspective. In C. R. Rao and S. Sinharay (Eds.), *Handbook of statistics, Volume 26: Psychometrics* (pp. 839-865). Amsterdam: North-Holland/Elsevier.
2. **Levy, R.**, Behrens, J. T., & Mislevy, R. J. (2006). Variations in adaptive testing and their on-line leverage points. In D. D. Williams, S. L. Howell, & M. Hricko (Eds.), *Online assessment, measurement and evaluation: Emerging practices* (pp. 180-202). Hershey, PA: Information Science Publishing.
1. Williamson, D. M., Almond, R. G., Mislevy, R. J., & **Levy, R.** (2006). An application of Bayesian networks in automated scoring of computerized simulation tasks. In D. M. Williamson, R. J. Mislevy, & I. I. Bejar (Eds.), *Automated scoring of complex tasks in computer-based testing* (pp. 201-257). Mahwah, NJ: Erlbaum Associates.

Technical Reports

8. **Levy, R.** (2014). *Dynamic Bayesian network modeling of game based diagnostic assessments*. (CRESST Report 837). Los Angeles, CA: University of California, National Center for Research on Evaluation, Standards, Student Testing (CRESST). Available online at <http://www.cse.ucla.edu/products/reports/R837.pdf>.
7. **Levy, R.** (2012). *Psychometric advances, opportunities, and challenges for simulation-based assessment*. Princeton, NJ: Center for K-12 Assessment & Performance Management at ETS.
6. Chapple, K., Stockford, S., ^ψFay, D., ^ψCrawford, A. V., ^ψKunze, K. L., & **Levy, R.** (2011). *An evaluation of students' satisfaction with course features via the Customer Feedback form*. Cisco Technical Report.
5. Behrens, J. T., Mislevy, R. J., DiCerbo, K. E., & **Levy, R.** (2010). *An evidence centered design for learning and assessment in the digital world*. (CRESST Report 778). Los Angeles, CA: University of California, National Center for Research on Evaluation, Standards, Student Testing (CRESST). Available online at <http://www.cse.ucla.edu/products/reports/R778.pdf>.
4. West, P., Rutstein, D. W., Mislevy, R. J., Liu, J., Choi, Y., **Levy, R.**, ^ψCrawford, A. V., DiCerbo, K. E., Chapple, K., & Behrens, J. T. (2010). *A Bayesian network approach to modeling learning progressions and task performance*. (CRESST Report 776). Los Angeles, CA: University of California, National Center for Research on Evaluation, Standards, Student Testing (CRESST). Available online at <http://www.cse.ucla.edu/products/reports/R776.pdf>.
3. DiCerbo, K., **Levy, R.**, & Rutstein, D. W. (2008). *Item and exam analyses for courses: Guidelines and recommendations*. Cisco Learning Institute Technical Report.
Note: Authorship listed alphabetically.
2. Mislevy, R. J., Behrens, J. T., Bennett, R. E., DeMark, S. F., Frezzo, D. C., **Levy, R.**, Robinson, D. H., Rutstein, D. W., Shute, V. J., Stanley, K., & Winters, F. I. (2007). *On the roles of external knowledge representations in assessment design*. (CRESST Report 776). Los Angeles, CA:

University of California, National Center for Research on Evaluation, Standards, Student Testing (CRESST). Available online at <http://www.cse.ucla.edu/products/reports/R722.pdf>.

1. **Levy, R.**, & Mislavy, R. J. (2004). *Specifying and refining a measurement model for a simulation-based assessment*. (CRESST Report 619). Los Angeles, CA: University of California, National Center for Research on Evaluation, Standards, Student Testing (CRESST). Available online at <http://www.cse.ucla.edu/products/reports/R619.pdf>.

Software & Documentation

2. **Levy, R.** (2009). SEMModComp: Likelihood ratio tests for mean and covariance structure models. R package version 1.0. URL: <http://cran.r-project.org/web/packages/SEMModComp/index.html>.
1. **Levy, R.** (2009). *SEMModComp 1.0 manual*. URL: <https://sites.google.com/a/asu.edu/roylevy/papers-software>.

Refereed Presentations (ψ indicates co-author was an ASU student during part or all of the work)

54. Miočević, M., **Levy, R.**, & Smid, S. (2018). Inaccurate priors in simulation studies: The impact of simulation study design choices when examining statistical properties of Bayesian methods with inaccurate prior distributions. Presented at the European Congress of Methodology, Jena, Germany, July, 2018.
53. Miočević, M., & **Levy, R.** (2018). Operationalizations of inaccuracy of prior distributions in simulation studies: Implications for recommendations made for applied researchers. Paper presented at the Modern Modeling Methods Conference, Storrs, CT, May, 2018.
52. **Levy, R.** (2018). Psychometric principles, opportunities, and associated challenges for simulation-based assessment. Paper presented at the annual meeting of the American Educational Research Association, New York, NY, April, 2018.
51. ψ Yel, N., **Levy, R.**, Elliott, S. N., Schulte, A. C., & Iida, M. (2018). Determining appropriate sample sizes and their effects on key parameters in longitudinal three-level models. Paper presented at the annual meeting of the American Educational Research Association, New York, NY, April, 2018.
50. **Levy, R.** (2017). Distinguishing outcomes from indicators via Bayesian modeling. Paper presented at the annual meeting of the American Educational Research Association, San Antonio, TX, April, 2017.
49. ψ Arista, L. E. J., **Levy, R.**, & Tracey, T. J. G. (2016). Patterns of symptomatology change using brief measures and their predictive power for final outcome. Poster presented at the annual convention of the American Psychological Association, Denver, CO, August, 2016.
48. ψ Miočević, M., **Levy, R.**, & MacKinnon, D. P. (2016). Priors for Monte Carlo studies of Bayesian mediation models with latent variables. Poster presented at the International Society for Bayesian Analysis meeting, Sardinia, Italy, June, 2016.

47. ^ψMiočević, M., MacKinnon, D. P., & **Levy, R.** (2016). Bayesian mediation analysis with latent variables in the Bayesian SEM framework. Poster presented at the Modern Modeling Methods conference, Storrs, CT, May, 2016.
46. ^ψXu, Y., **Levy, R.**, DiCerbo, K. E., Lai, E., & Holland, L. (2016). Developing Bayes nets for modeling student cognition in digital and nondigital assessment environments. Poster presented at the annual meeting of the American Educational Research Association, Washington, DC, April, 2016.
45. Bradshaw, L., & **Levy, R.** (2016). Interpreting examinee results from classification-based models. Paper presented at the annual meeting of the National Council on Measurement in Education, Washington, DC, April, 2016.
44. ^ψMiočević, M., MacKinnon, D. P., & **Levy, R.** (2015). Longitudinal mediation models using ML and Bayesian estimation. Poster presented at the 11th International Workshop on Objective Bayes Methodology O-Bayes15, Valencia, Spain, June, 2015
43. ^ψKunze, K. L., Mehta, V., & **Levy, R.** (2015). Leveraging psychometric isomorphism in assessment development. Paper presented at the annual meeting of the National Council on Measurement in Education, Chicago, IL, April 2015.
42. ^ψYel, N., **Levy, R.**, ^ψLiu, Y., & Schulte, A. C. (2015). Assessing school level performance with differing data points in cohorts. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL, April 2015.
41. ^ψLiu, Y., **Levy, R.**, ^ψYel, N., & Schulte, A. C. (2015). Evaluating schools with respect to growth of students in subpopulations. Paper presented at the annual meeting of the National Council on Measurement in Education, Chicago, IL, April 2015.
40. ^ψLiu, Y., **Levy, R.**, & West, S. G. (2014). Probing interactions in multiple regression: Frequentist versus Bayesian approaches. Poster presented at the 2014 Joint Statistical Meetings, Boston, MA, August, 2014.
39. West, S. G., ^ψLiu, Y., & **Levy, R.** (2014). Testing simple slopes following significant interactions: The Aiken and West (1991) procedure and a Bayesian alternative. Presented at the VI European Congress of Methodology, Utrecht, The Netherlands, July, 2014.
38. Green, S. B., Lai, K., **Levy, R.**, ^ψXu, Y., ^ψYel, N., Thompson, M. S., Eggum-Wilkens, N. D., ^ψKunze, K. L., Iida, M., & ^ψReichenberg, R. (2014). Assessing model similarity in structural equation modeling. Paper presented at the annual meeting of the American Educational Research Association, Philadelphia, PA, April, 2014.
37. ^ψFay, D., **Levy, R.**, Frezzo, D., Willis, T., Mehta, V., Angus, D., Benson, M., & Reid, A. (2014). Investigating psychometric isomorphism for traditional and performance-based assessment. Paper presented at the annual meeting of the National Council on Measurement in Education, Philadelphia, PA, April 2014.

36. [¶]Xu, Y., DiCerbo, K. E., & **Levy, R.** (2014). Modeling log data from an online game using exploratory approaches. Paper presented at the annual meeting of the National Council on Measurement in Education, Philadelphia, PA, April 2014.
35. Green, S. B., Thompson, M. S., **Levy, R.**, & [¶]Redell, N. (2013). Accuracy of revised and traditional parallel analyses for assessing dimensionality with binary data. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA, May, 2013.
34. [¶]Yel, N., [¶]Xu, Y., & **Levy, R.** (2013). Dimensionality assessment for multidimensional item response models accommodating polytomous and missing data. Paper presented at the annual meeting of the National Council on Measurement in Education, San Francisco, CA, April, 2013.
33. [¶]Kunze, K. L., [¶]Fay, D. M., [¶]Crawford, A. V., Stockford, S. M., Chapple, K., **Levy, R.**, & Kovacs, M. S. (2013). How to say N/A: Illuminating survey responses using missing data patterns and latent class modeling. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA, April, 2013.
Note: For this work, the first author was awarded the 2013 graduate student award by the Survey Research in Education Special Interest Group
32. [¶]Fay, D. M., [¶]Crawford, A. V., [¶]Kunze, K. L., **Levy, R.**, Stockford, S. M., Chapple, K., & Kovacs, M. S. (2013). Leveraging factor analysis and item response theory approaches to analyzing a large-scale student satisfaction survey. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA, April, 2013.
31. [¶]Svetina, D., & **Levy, R.** (2012). Dimensionality in compensatory MIRT when complex structure exists: Evaluation of DETECT and NOHARM. Paper presented at the annual meeting of the American Educational Research Association, Vancouver, Canada, April, 2012.
30. Green, S. B., Lo, W. J., Thompson, M. S., & **Levy, R.** (2012). A stepwise hypothesis-testing approach to assess the number of underlying factors: Revised parallel analysis as an alternative to maximum likelihood testing. Paper presented at the annual meeting of the American Educational Research Association, Vancouver, Canada, April, 2012.
29. [¶]Fay, D., [¶]Kunze, K. L., [¶]Crawford, A. V., & **Levy, R.** (2012). Analysis of PTSBA product data using exploratory dimensionality assessment techniques. Paper presented at the annual meeting of the National Council on Measurement in Education, Vancouver, Canada, April, 2012.
28. Sweet, S. J., [¶]Crawford, A. V., [¶]Fay, D., [¶]Kunze, K. L., & **Levy, R.** (2012). Confirmatory modeling and data-model fit techniques for assessments embedded in digital learning environments. Paper presented at the annual meeting of the National Council on Measurement in Education, Vancouver, Canada, April, 2012.
27. Gratz, K. L., **Levy, R.**, & Tull, M. T. (2011). Innovative investigations of emotion regulation as a mechanism of change in treatments for BPD and related pathology. Paper presented at the annual convention of the Association for Behavioral and Cognitive Therapies, Toronto, Canada,

November, 2011.

26. **Levy, R.**, ^ψCrawford, A. V., ^ψFay, D., & ^ψPoole, K. L. (2011). Data-model fit assessment for Bayesian networks for simulation-based assessments. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA, April, 2011.
25. Green, S. B., **Levy, R.**, Thompson, M. S., ^ψLu, M., Lo, W. J., ^ψSvetina, D., ^ψCrawford, A. V., & ^ψScott, L. (2011). Use of completely random data to assess the number of factors with parallel analysis: An empirical evaluation of a conceptual flaw and its correction. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA, April, 2011.
24. **Levy, R.**, & ^ψSvetina, D. (2010). A framework for dimensionality assessment for multidimensional item response models. Paper presented at the annual meeting of the National Council on Measurement in Education, Denver, CO, May, 2010.
23. **Levy, R.** (2010). Bayesian data-model fit assessment for structural equation modeling. Paper presented at the annual meeting of the American Educational Research Association, Denver, CO, May, 2010.
22. Shute, V., **Levy, R.**, Baker, R., Zapata, D., & Beck, J. (2009). Assessment and learning in intelligent educational systems: A peek into the future. Paper presented at the 14th International Conference on Artificial Intelligence in Education, Brighton, England, July, 2009.
21. West, P., Rutstein, D. W., Mislevy, R. J., Liu, J., **Levy, R.**, DiCerbo, K. E., ^ψCrawford, A. V., Choi, Y., Behrens, J. T. (2009). A Bayes net approach to modeling learning progressions and task performances. Paper presented at the Learning Progressions in Science Conference, Iowa City, IA, June, 2009.
Note: Authorship listed in reverse alphabetical order.
20. **Levy, R.**, & ^ψSevtina, D. (2009). A new statistic and posterior predictive model checking procedure for assessing dimensionality in multidimensional item response theory. Paper presented at the annual meeting of the National Council on Measurement in Education, San Diego, CA, April, 2009.
19. **Levy, R.**, & ^ψCrawford, A. V. (2009). Bayesian network modeling for student- and domain-level inferences. Paper presented at the annual meeting of the American Educational Research Association, San Diego, CA, April, 2009.
18. ^ψCrawford, A. V., Green, S. B., **Levy, R.**, ^ψLo, W. J., ^ψScott, L., ^ψSvetina, D., & Thompson, M. S. (2009). Evaluation of parallel analysis methods for determining the number of factors. Paper presented at the annual meeting of the American Educational Research Association, San Diego, CA, April, 2009.
Note: Authorship listed alphabetically.
17. **Levy, R.** (2008). Factors affecting the dimension of best measurement and connections with unidimensional modeling. Paper presented at the annual meeting of the National Council on Measurement in Education, New York, NY, March, 2008.

16. **Levy, R.**, & Hancock, G. R. (2008). A generalized model comparison framework for covariance and mean structure models, accommodating multiple groups and latent mixtures. Paper presented at the annual meeting of the American Educational Research Association, New York, NY, March, 2008.
15. **Levy, R.**, Mislevy, R. J., & Sinharay, S. (2007). Posterior predictive model checking for conjunctive multidimensionality in item response theory. Paper presented at the annual meeting of the National Council on Measurement in Education, Chicago, IL, April, 2007.
14. Bornovalova, M. A., **Levy, R.**, Daughters, S. B., Gratz, K. L., & Lejuez, C. W. (2006). Understanding symptom clusters of BPD in and their clinical correlates in a sample of inner-city drug users. Presented at the 40th annual convention of the Association for Behavioral and Cognitive Therapies, Chicago, IL, November, 2006.
13. Bornovalova, M. A., **Levy, R.**, Lejuez, C.W., & Daughters, S. B. (2006). Using latent class analysis in the diagnosis of BPD; initial results and clinical correlates. Presented at the 20th annual meeting for Society for Research in Psychopathology, San Diego, CA, October, 2006.
12. **Levy, R.**, & Hancock, G. R. (2006). A generalized model comparison framework in structural equation modeling. Paper presented at the annual meeting of the Psychometric Society, Montréal, Canada, June, 2006.
11. **Levy, R.**, Mislevy, R. J., & Sinharay, S. (2006). Posterior predictive model checking for multidimensionality in item response theory. Paper presented at the annual meeting of the National Council on Measurement in Education, San Francisco, CA, April, 2006.
10. **Levy, R.**, & Hancock, G. R. (2006). Alternative approaches to validity in a modeling framework. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA, April, 2006.
9. Choi, J., **Levy, R.**, & Hancock G. R. (2006). Markov chain Monte Carlo estimation method with covariance data for structural equation modeling. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA, April, 2006.
8. Kroopnick, M., & **Levy, R.** (2006). Comparing fully Bayesian and marginal maximum likelihood estimation of multidimensional item response models for polytomous items. Paper presented at the annual meeting of the National Council on Measurement in Education, San Francisco, CA, April, 2006.
7. **Levy, R.** (2005). Posterior predictive model checking for cognitively-based psychometric models. Paper presented at the annual meeting of the Psychometric Society, Tilburg, The Netherlands, July, 2005.
6. **Levy, R.**, & Hancock, G. R. (2005). A framework of statistical tests for comparing mean and covariance structure models. Paper presented at the annual meeting of the American Educational Research Association, Montréal, Canada, April, 2005.

5. Mislevy, R. J., & Levy, R. (2005). On the roles of knowledge representations in assessment. Paper presented at the annual meeting of the American Educational Research Association, Montréal, Canada, April, 2005.
4. Frezzo, D. C., Levy, R., & Kroopnick, M. (2005). Knowledge representations in curricular and psychometric design. Paper presented at the annual meeting of the American Educational Research Association, Montreal, Canada, April, 2005.
3. Levy, R., & Hancock, G. R. (2004). A framework of statistical tests for comparing covariance structure models. Paper presented at the annual meeting of the American Educational Research Association, San Diego, CA, April, 2004.
2. Levy, R., & Hancock, G. R. (2003). A statistical test for nonnested covariance models. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL, April, 2003.
1. Levy, R., & Mislevy, R. J. (2003). Specifying and refining a complex measurement model. Paper presented at the annual meeting of the National Council on Measurement in Education, Chicago, IL, April, 2003.

Invited Presentations

29. Levy, R. (2018). Challenges, issues, and opportunities in integrating process data with psychometrics. Presented at the annual meeting of the National Council on Measurement in Education, New York, NY, April 2018.
28. Levy, R. (2017). Dynamic Bayesian network modeling of game-based diagnostic assessment. Presented at the School of Mathematical and Statistical Sciences, Arizona State University, Tempe, AZ, November 2017.
27. Levy, R. (2016). Distinguishing outcomes from indicators: *Or, How to answer: "Wait, what do you mean my loadings changed?!?"*. Presented at the Center for Research Methods and Data Analysis, University of Kansas, Lawrence, KS, September, 2016.
26. Levy, R. (2016). Developing Bayes nets for modeling student cognition in digital and nondigital assessment environments. Presented at the 2016 CRESST Conference: Prove It, Los Angeles, CA, September, 2016.
25. Levy, R. (2014). Dynamic Bayesian network modeling of game based diagnostic assessment. Presented at the 2014 CRESST Conference: Warp Speed, Mr. Sulu: Integrating Games, Technology, and Assessment to Accelerate Learning in the 21st Century, Redondo Beach, CA, April, 2014.
24. Levy, R. (2014). Bayesian procedures for evaluating dimensionality assumptions in multidimensional psychometric models. Presented at the annual meeting of the National Council on Measurement in

Education, Philadelphia, PA, April 2014.

23. **Levy, R.** (2013). An introduction to Bayesian statistical modeling, or: A short list of reasons I am a Bayesian and you might be too. Presented at the Dunspaugh-Dalton Community & Educational Well-Being Research Center, University of Miami, Coral Gables, November, 2013.
22. **Levy, R.** (2013). An introduction to Bayesian statistical modeling, or: A short list of reasons I am a Bayesian and you might be too. Presented at the Institute of Education Sciences, Washington, D.C., June, 2013.
21. **Levy, R.** (2013). Psychometric and evidentiary advances, opportunities, and challenges for simulation-based assessment. Presented at the Learning Sciences Institute, Arizona State University, Tempe, AZ, February, 2013.
20. **Levy, R.** (2012). Psychometric advances, opportunities, and challenges for simulation-based assessment. Paper presented at Center for K-12 Assessment & Performance Management at ETS Invitational Research Symposium on Technology Enhanced Assessments, National Harbor, MD, May, 2012.
19. **Levy, R.** (2012). Generalized dimensionality assessment for multidimensional psychometric models. Presented at ETS, Princeton, NJ, January 2012.
18. **Levy, R.** (2011). Rules for communicating technical material and working with lay audiences. Presented at the annual meeting of the National Council on Measurement in Education, New Orleans, LA, April, 2011.
17. **Levy, R.** (2011). An introduction to Bayesian statistical modeling, or, a short list of reasons I am a Bayesian and you might be too. Presented at Center for Population Dynamics, Arizona State University, Tempe, AZ, February, 2011.
16. **Levy, R.** (2011). Challenges to evidentiary reasoning and measurement modeling in game- and simulation-based assessment systems. Presented at Center for Advanced Technology in Schools (CATS) Workshop for Research on Games and Learning, the National Center for Research on Evaluation, Standards, & Student Testing (CRESST), University of California, Los Angeles, CA, January, 2011.
15. **Levy, R.** (2010). Providing diagnostic feedback using Bayesian networks in the Cisco Networking Academy. Presented at the annual meeting of the American Educational Research Association, Denver, CO, May 2010.
14. **Levy, R.** (2010). Psychometrics of simulations and games. Presented at the National Center for Research on Evaluation, Standards, & Student Testing (CRESST), University of California, Los Angeles, CA, February, 2010.
13. **Levy, R.** (2009). Posterior predictive model checking for diagnostic classification models. Presented at the Statistical and Applied Mathematical Summer Institute, Research Triangle Park, NC, July

2009.

12. **Levy, R.** (2009). Markov chain Monte Carlo (MCMC) estimation for diagnostic classification models. Presented at the Statistical and Applied Mathematical Summer Institute, Research Triangle Park, NC, July 2009.
11. **Levy, R.** (2007). A model comparison framework for structural equation modeling. Presented at the Department of Management, Arizona State University, Tempe, AZ, March 2007.
10. **Levy, R.** (2006). Introduction to evidence-centered design with an emphasis on evidence. Presented at the Applied Learning Technologies Institute, Arizona State University, Tempe, AZ, October 2006.
9. Mislavy, R. J., **Levy, R.**, Kroopnick, M., & Wise, D. (2006). Evidentiary foundations of mixture item response theory models. Paper presented at the 2006 Center for Integrated Latent Variable Research conference, College Park, MD, May 2006.
8. **Levy, R.** (2005). Posterior predictive model checking for within-item multidimensionality. Presented at the Department of Mathematics and Statistics, Wright State University, Dayton, OH, November 2005.
7. **Levy, R.** (2005). Introduction to item response theory. Presented at the Basic Process in Addictive Behaviors Laboratory, University of Maryland, College Park, MD, September 2005.
6. **Levy, R.** (2005). Introduction to structural equation modeling. Presented at the Basic Process in Addictive Behaviors Laboratory, University of Maryland, College Park, MD, September 2005.
5. **Levy, R.** (2005). Introduction to factor analysis. Presented at the Basic Process in Addictive Behaviors Laboratory, University of Maryland, College Park, MD, September 2005.
4. **Levy, R.** (2003). Bayesian inference networks. Presented at Educational Testing Service, Princeton, NJ, January 2003.
3. **Levy, R.** (2003). Markov chain Monte Carlo methods. Presented at Educational Testing Service, Princeton, NJ, January 2003.
2. **Levy, R.** (2003). WinBUGS software training. Presented at Educational Testing Service, Princeton, NJ, January 2003.
1. **Levy, R.** (2002). Markov chain Monte Carlo estimation for assessment: Procedures and practices. Presented at Educational Testing Service, Princeton, NJ, June 2002.

RESEARCH PROJECTS

Principal Investigator

<i>Data Analytic and Psychometric Methods for Innovative Educational Systems</i>	Pearson 2012-2015
<i>Hierarchical and Bayesian Analyses for Large Scale Complex Data</i>	Cisco 2009-2015
<i>Psychometrics for Gaming and Simulation-Based Assessment</i>	National Center for Research on Evaluation, Standards, Student Testing 2011-2013
<i>Generalized Dimensionality Assessment for Multidimensional Psychometric Models</i>	Institute of Education Sciences 2010-2012
<i>Complex Models for Innovative Educational Assessment</i>	Cisco Learning Institute 2008-2009
<i>Posterior Predictive Model Checking for Multidimensional Item Response Theory</i>	Arizona State University 2007-2008

Co-Principal Investigator

<i>Modeling Student Learning: Prototype & Pilot</i> PI: Phil Arcuria, Arizona State University	EdPlus Action Lab Arizona State University 2019-2019
<i>Developing Guidelines for Optimizing Levels of Students' Overt Engagement Activities</i> PI: Michelene Chi, Arizona State University	Institute of Education Sciences 2011-2014
<i>Posterior Predictive Model Checking for Within-Item Multidimensionality in IRT</i> PI: Robert J. Mislevy, University of Maryland	Educational Testing Service 2005-2006

Co-Investigator

<i>Profiles of Working Memory for Educational Research</i> PI: Shelley Gray, Arizona State University	National Institutes of Health 2018-2023
<i>Multiple Imputation Procedures for Multilevel Data</i> PI: Craig Enders, University of California, Los Angeles	Institute of Education Sciences 2015-2018

National Research and Development Center on Assessment and Accountability for Special Education

Co-PIs: Gerald Tindal (Project Director), University of Oregon,
Ann Schulte, North Carolina State University,
Stephen N. Elliott, Arizona State University,
Joseph Stevens, University of Oregon

Institute of Education Sciences
2011-2016

Key Personnel & Consulting

Validating the Use of Growth measures from Statewide Standards-based Summative Assessments for Students with Disabilities

PI: Heather Buzick, ETS

Institute of Education Sciences
2012-2014

Developing an Emotion Regulation Group Therapy for Self-Harm Among Women with BPD

PI: Kim Gratz, University of Mississippi Medical Center

National Institutes of Health
2008-2011

Multilevel Assessments of Science Standards

PI: Edys Quellmalz, WestED

Institute of Education Sciences
2008-2011

Calipers II

PI: Edys Quellmalz, WestED

National Science Foundation
2007-2011

VentureMap

PI: Douglas Weihnacht, MW Productions, Inc.

US Department of Education
2006

Research Group Affiliations (in addition to those above, not being supported)

Promoting Knowledgeable and Confident Teachers of Youth with Epilepsy

PI: David Wodrich, Arizona State University

Epilepsy Foundation of America
2009-2012

21st Century Assessment

PI: James Gee, Arizona State University

John D. & Catherine T.
MacArthur Foundation
2008-2010

Global Resources for Online Education

PI: Beverly P. Woolf, University of Massachusetts

2009

Cognitive Diagnosis Models Working Group

Statistical and Applied Mathematical Summer Institute

PI: Jimmy de la Torre, Rutgers University

2009

SERVICE

Professional Service

Editorial Board, <i>Structural Equation Modeling: A Multidisciplinary Journal</i>	2018-present
Editorial Board, <i>Measurement: Interdisciplinary Research and Perspectives</i>	2017-present
Editorial Board, <i>Educational Measurement: Issues and Practice</i>	2013-present
Editorial Board, <i>Educational Assessment</i>	2011-present
Associate Editor, <i>Journal of Educational Measurement</i>	2013-2016
Editorial Board, <i>Journal of Applied School Psychology</i>	2009-2013
Editorial Board, <i>Journal of School Psychology</i>	2009-2011
Member, National Council on Measurement in Education Bradley Hanson Award for Contributions to Educational Measurement Awards Committee	2009-2012
Member, American Educational Research Association Division D Quantitative Dissertation Award Committee	2009-2012
Chair, American Educational Research Association Structural Equation Modeling Special Interest Group	2008-2009
Co-Chair, American Educational Research Association Structural Equation Modeling Special Interest Group	2007-2008
Ad hoc Reviewer (Journals, Funding Agencies, Professional Organizations, Publishers)	2003-present
<i>American Educational Research Association</i>	
<i>Applied Psychological Measurement</i>	
<i>Cognition and Assessment Special Interest Group</i>	
<i>Contemporary Educational Psychology</i>	
<i>Educational and Psychological Measurement</i>	
<i>Educational Assessment</i>	
<i>Educational Measurement: Issues and Practice</i>	
<i>Educational Researcher</i>	
<i>Educational Statisticians Special Interest Group</i>	
<i>Elsevier</i>	
<i>ETS</i>	
<i>Frontiers in Education</i>	
<i>Frontiers in Quantitative Psychology and Measurement</i>	
<i>IERI Monograph Series</i>	

International Journal for Quantitative Research in Education
Journal of Applied School Psychology
Journal of Educational and Behavioral Statistics (Outstanding Reviewer, 2010)
Journal of Educational Data Mining
Journal of Educational Measurement
Journal of Modern Applied Statistical Methods
Journal of School Psychology
Journal of Statistical Computation and Simulation
Measurement: Interdisciplinary Research and Perspectives
Multivariate Behavioral Research
National Council on Measurement in Education
National Science Foundation
Netherlands Organization for Scientific Research
Psychological Methods
Psychometrika
Review of Educational Research
Sage
Statistical Methods in Medical Research
Structural Equation Modeling: A Multidisciplinary Journal
Structural Equation Modeling Special Interest Group

Editorial Assistant for Hancock, G. R., & Mueller, R. O. (Eds.) (2006). *Structural equation modeling: A second course*. Greenwich, CT: Information Age Publishing. 2003-2005

Institutional Service at Arizona State University

Member, Personnel Committee 2015-2019
 T. Denny Sanford School of Social and Family Dynamics

Member, Data Science Degree Committee 2017-2018
 College of Liberal Arts and Sciences

Member, Quantitative Sociology Search Committee 2017-2018
 T. Denny Sanford School of Social and Family Dynamics

Chair, Measurement and Statistical Analysis Postdoc Search Committee 2015-2016
 T. Denny Sanford School of Social and Family Dynamics

Member, Research Advisory Committee 2015-2016
 College of Liberal Arts and Sciences

Member, Family and Human Development Graduate Committee 2011-2013
 T. Denny Sanford School of Social and Family Dynamics

Member, Educational Measurement & Assessment Search Committee 2012
 Learning Sciences Institute

Advisor on the curriculum in in Learning, Literacies and Technologies Ph.D. program Mary Lou Fulton Teachers College	2012
Member, Executive Dean Search Committee Mary Lou Fulton Graduate School of Education	2009
Member, Engineering Education Search Committee Mary Lou Fulton Graduate School of Education	2009
Member, Awards Committee Division of Psychology in Education	2008-2009
Member, Curriculum Committee Division of Psychology in Education	2008-2009

Institutional Service at University of Maryland

Member, Department Chair Search Committee Department of Measurement, Statistics & Evaluation	2004-2005
Mentor, 5 th Year B.A./M.A. Program Department of Measurement, Statistics & Evaluation	2002-2006

HONORS AND MEMBERSHIPS

Professional and Academic Honors and Awards

Early Career Award in Measurement and Research Methodology	American Educational Research Association Division D - Measurement and Research Methodology	2012
Presidential Early Career Award for Scientists and Engineers	Awarded by the President of the United States of America	2010
Outstanding Reviewer	<i>Journal of Educational and Behavioral Statistics</i>	2010
Outstanding New Scholar	College of Education University of Maryland	2010
Brenda H. Loyd Outstanding Dissertation Award	National Council on Measurement in Education	2008

Harold Gulliksen Psychometric Research Fellow	Educational Testing Service	2005-2006
Outstanding Doctoral Student Award	College of Education, University of Maryland	2005
Distinguished Teaching Assistant	Center for Teaching Excellence, University of Maryland	2003
W.E. Schlaretzki Prize in Philosophy	Department of Philosophy, University of Maryland	2001

Professional Memberships

Psychometric Society
 National Council on Measurement in Education
 American Educational Research Association
 AERA Structural Equation Modeling Special Interest Group
 AERA Educational Statisticians Special Interest Group
 AERA Cognition and Assessment Special Interest Group
 American Psychological Association
 International Society for Bayesian Analysis
 Society of Multivariate Experimental Psychology