

PRATHIBA NATESAN

updated January 2020

Associate Professor

Department of Educational Psychology, University of North Texas

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AREAS OF EXPERTISE

- Bayesian Statistics, Statistical Simulation-based Approaches
- Single-case Designs (e.g. *n-of-1* designs)
- Latent Variable Models: Item Response Theory (IRT), Structural Equation Models

EDUCATION

Institution	Major	Degree	Date
University of Madras India	Architecture (Honor Roll)	B. Arch	2001
Texas A&M University	Construction Management	M.S.	2003
Texas A&M University	Major: Statistics and Measurement Department of Curriculum and Instruction	Ph.D.	2007

Professional experience

Year	Institution	Title
2016	Oxford University	Visiting Scholar
2015	Institute of Policy Research Northwestern University	Research Fellow
2014 – present	Department of Educational Psychology University of North Texas	Associate Professor
2014 – 2017	Office of Research Consulting University of North Texas	Director
2009 – 2014	Department of Educational Psychology University of North Texas	Assistant Professor
2008 – 2009	Department of Educational & Psychological Studies Florida International University	Visiting Assistant Professor
2007 – 2008	Department of Educational & Psychological Studies University of Miami	Visiting Assistant Professor
2002 – 2007	Department of Teaching, Learning & Culture Texas A&M University	Graduate Assistant

Publications

Published/In Press

*Co-authored with students, ** first and second authors contributed equally to the manuscript
Natesan, P., Minka, T., & Hedges, L. V. (In Press). Investigating immediacy in multiple phase-change single case experimental designs using a Bayesian unknown change-points model.

- Behavioral Research Methods*. IF: 4.617
- Natesan, P., Mehta, S. & Hitchcock, J. (In Press). Integrating Visual and Statistical Analyses in Single Case Experimental Research using Bayesian Unknown Change-Point Models. *Behavioral Disorders*. IF: 1.343
- Natesan, P. (2019). Fitting Bayesian Models for Single-Case Experimental Designs: A Tutorial. *Methodology*, 15, 147-156. <https://doi.org/10.1027/1614-2241/a000180>. IF: 1.452
- *Frey-Clark, M., Natesan, P., & O'Bryant, M. (2019). Statistical anxiety among traditional and online students: Testing measurement invariance. *Frontiers in Psychology: Quantitative Psychology and Measurement*, 10, 1-7. IF: 2.089
- Natesan, P., Haddid, D., & Hitti, E. A. (2019). Comparing patients and families perceptions of satisfaction and predictors of overall satisfaction in a Lebanese Emergency Department. *PLOS ONE*. <https://doi.org/10.1371/journal.pone.0221087>. IF: 2.766
- *Contractor, A., Weiss, N., Dolan, M., Natesan, P., & Caldas, S. (2019). Examination of the stability of the construct of posttraumatic stress disorder: A systematic review. *Journal of Traumatic Stress*. <https://doi.org/10.1002/jts.22389>. IF: 2.456.
- Natesan, P. (2019). Conceptualizing Statistical Simulation Studies as Multiple Methods Inquiry: A Primer. *International Journal of Multiple Research Approaches*, 11, 77-89.
- Natesan, P., Bakhti, R., El-Doueihi, P. Z., & Batley, N. J. (2018). Measuring ACGME Milestones and Competencies: Lessons learned and recommendations. *International Journal of Emergency Medicine*, 11, 39. <https://doi.org/10.1186/s12245-018-0198-3> SNIP: 0.932, SJR: 0.416, Citescore: 1.060.
- *Kearns, N. T., Blumenthal, H., Natesan, P., Zamboanga, B. L., Ham, L. S., & Cloutier, R. M. (2018). Development and initial psychometric validation of the brief - caffeine expectancies questionnaire (B-CaffeEQ). *Psychological Assessment*. doi: 10.1037/pas0000614. IF: 4.107
- *,** Natesan, P., Mitchell, M., & Glover, R. (2018). Early predictors of child's bully and victim statuses: A longitudinal investigation using parent, teacher, and student reports from national data. *Frontiers in Education*, 3, 48. <https://doi.org/10.3389/feduc.2018.00048>.
- Onwuegbuzie, A., Hitchcock, J., Natesan, P., & Newman, I. (2018). Using fully integrated Bayesian thinking to address the 1 + 1 = 1 integration challenge. *International Journal of Multiple Research Approaches*, 10, 666-678.
- *Ruckthongsook, W., Oppong, J., Tiwari, C., & Natesan, P. (2018). Threshold Selection for Adaptive Kernel Density Estimation in Disease Mapping. *International Journal of Health Geographics*, 17, 10. DOI: 10.1186/s12942-018-0129-9. IF: 3.386
- Natesan, P. & Hedges, L. V. (2017). Bayesian unknown change-point models to investigate immediacy in single case designs. *Psychological Methods*, 22, 743-759. DOI: 10.1037/met0000134. IF: 10.315.
- *, **Turner, H. J., Natesan, P., & Henson, R. K. (2017). Performance evaluation of confidence intervals for ordinal coefficient alpha. *Journal of Modern Applied Statistical Methods*, 16, 157-185. SJF: 0.3. 21.9% Acceptance rate.
- Natesan, P., Nandakumar, R., Minka, T., & Rubright, J. (2016). Bayesian Prior Choice in IRT estimation using MCMC and Variational Bayes. *Frontiers in Psychology: Quantitative*

- Psychology and Measurement*, 7, 1-11. IF: 2.089
- *Natesan, P. & Aerts, Q. (2016). Can library users distinguish between minimum, perceived, and desired levels of service quality? Validating LibQUAL+® using multitrait multimethod analysis. *Library & Information Science Research*, 38, 30-38. IF: 1.886.
- Natesan, P. (2015). Comparing interval estimates for small sample ordinal CFA models. *Frontiers in Psychology: Quantitative Psychology and Measurement*, 6, 1599. IF: 2.089
- *Saylor, M. F., Boazman, J., Natesan, P., & Periathiruvadi, S. (2015). Subjective well-being of gifted American college students: An examination of psychometric properties of the PWI-A. *Gifted Child Quarterly*, 59, 236-248. IF: 1.179
- *, ** Natesan, P., Ponce, H., & Chavez, A. (2015). Are LibQUAL+® and LibQUAL+® Lite scores psychometrically comparable? *Library & Information Science Research*, 37, 21-27. IF: 1.886.
- *, ** Kalinowski, K., Natesan, P., & Henson, R. (2014). Stratified Item Selection and Exposure Control in Unidimensional Adaptive Testing in the Presence of Two-dimensional Data. *Applied Psychological Measurement*, 38, 563-576. IF: 1.353.
- *Glover, R. J., Natesan, P., Wang, J., Rohr, D., McAfee Etheridge, L., Booker, D. D., Bishop, J., Lee, D., Kildare, C., & Wu, M. (2014). Judgment and intuition: An exploration of relationships between moral judgment and moral foundations. *Journal of Moral Education*, 43, 394-412. IF: 0.825.
- *Henson, R., Natesan, P., & Axelson, E. (2014). Comparisons of Improvement-over chance Effect Sizes for Two Groups under Variance Heterogeneity and Prior Probabilities. *Journal of Experimental Education*, 82, 205-228. IF: 1.867.
- **Kieftenbeld, V. & Natesan, P. (2013). Examining the Measurement and Structural Invariance of LibQUAL+® across User Groups. *Library & Information Science Research*, 35, 143-150. doi: 10.1016/j.lisr.2012.11.003. IF: 1.886.
- Natesan, P. & Kieftenbeld, V. (2013). Measuring Urban Teachers' Beliefs About African American Students: A Psychometric Analysis. *Journal of Psychoeducational Assessment*, 31, 3-15. doi: 10.1177/0734282912448243. IF: 1.614.
- *Kieftenbeld, V. & Natesan, P. (2012). Recovery of Graded Response Model Parameters: A Comparison of Marginal Maximum Likelihood and Markov Chain Monte Carlo Estimation. *Applied Psychological Measurement*, 36, 399-419. IF: 1.353.
- *Lane, F., Anderson, B., Ponce, H. F., & Natesan, P. (2012). Longitudinal Invariance of the LibQUAL+® as a Measure of Library Service Quality. *Library & Information Science Research*, 34, 22-30. IF: 1.886.
- Natesan, P., Carter, N. P., Webb-Johnson, G., & Walter-Roberts, P. (2011). Validity of the Cultural Awareness and Beliefs Inventory of Urban Teachers: A Parallel Mixed Methods Study. *International Journal of Multiple Research Approaches*, 5, 238 - 253.
- Maghelal, P., Natesan, P., Naderi, J. R., & Kweon, B. (2011). Pedestrian Virtual Environment: Testing the adaptability of driving simulator, *Journal of Architectural Planning Research*, 28, 104-117. SJR: 0.14.
- *Kieftenbeld, V., Natesan, P., & Eddy, C. (2011). An Item Response Theory Analysis of the Mathematics Teaching Efficacy Beliefs Instrument. *Journal of Psychoeducational Assessment*, 29, 443-454. IF: 1.614.

- Pookulangara, S. & Natesan, P. (2010). Examining consumers' channel-migration intention utilizing theory of planned behavior: A multigroup analysis. *International Journal of Electronic Commerce Studies*, 1, 97-116. SJR: 0.16
- Natesan, P., Limbers, C., & Varni, J. W. (2010). Bayesian Estimation of Graded response multilevel models using Gibbs sampling: Formulation and illustration, *Educational and Psychological Measurement*, 70, 420-439. IF: 2.301.
- Carter, N. P., Hawkins, T. N., & Natesan, P. (2008). The impact of verve on the academic achievement of African American and European American middle school students. *The Journal of Educational Foundations*, 22, 29-46.
- Natesan, P. (2008). Time for paradigm diversity: A meta-analytic argument for the use of quantitative research in urban education, *The National Journal of Urban Education and Practice*, 1, 351-371.
- Natesan, P. & Thompson, B. (2007). Extending improvement-over-chance I-index effect size simulation studies to cover some small-sample cases. *Educational and Psychological Measurement*, 67, 59-72. IF: 2.301.

Conference Proceedings

- Kyrillidou, M., Natesan, P., & Cook, C. (2017). Longitudinal Invariance of LibQUAL+: How has LibQUAL+ changed over time? 12th International Conference on Performance Measurement in Libraries, Oxford, UK.

Newsletter

- Natesan, P., Onwuegbuzie, A. J., Hitchcock, J., & Newman, I. (2019). Fully Integrated Bayesian Thinking: A Mixed Methods Approach to the $1 + 1 = 1$ Formula. *AERA Division D Newsletter*, 10-12, http://www.aera.net/Portals/38/docs/DivD/DNews_current/DivDNewsletter_Spring19.pdf

Revise and Resubmit

- Boakye, K., Natesan, P., & Prybutok, V. SERVQUAL gap scores updates: evaluation in the context of multitrait multimethod models. *Journal of Retailing and Consumer Services*. IF: 3.585

Under Review

- Contractor, A., Weis, N., Schick, M., Natesan, P., Forkus, S., & Sharma, R. Comparison of latent typologies of posttraumatic stress disorder and depression symptoms across military personnel from India and the US.
- Contractor, A., Weiss, N., Natesan, P., & Elhai, J. Categorization of trauma exposure types as measured by the Life Events Checklist for DSM-5.
- *O'Bryant, M., Natesan, P., & Onwuegbuzie, A. J. How Attitudes Towards Statistics Courses and the Field of Statistics Predict Statistics Anxiety Among Undergraduate Social Science Majors: A Score-Validation of the Statistical Anxiety. *SAGE: Open*
- *, ** Nandakumar, R., Natesan, P., Shrestha, P., & Palka, J. Comparing Bayesian unknown change-point model and simulation modeling analysis to test immediacy and treatment

effect in single case experimental designs. *Methodology*.

*Natesan, P., Boedeker, P., & Onwuegbuzie, A. J. Prevalence of Bayesian methods in the field of education. *International Journal of Social Research Methods*.

Natesan, P. & Hedges L.-V. Accurate Model vs. Accurate Estimates: A Study of Bayesian Single-Case Experimental Designs. *Multivariate Behavioral Research*.

Under Preparation

*Boedeker, P. & Natesan, P. Measures of heterogeneity and current reporting practices in random-effects meta-analysis. *Review of Educational Research*.

*Kearns, N., Agratap, S., Natesan, P., & Boals, A. Association between event centrality and posttraumatic stress symptoms by trauma type in college students: A multilevel modeling approach.

Natesan, P., Kyrillidou, M., & Cook, C. Longitudinal invariance of LibQUAL+®: How has LibQUAL+® changed over time? *Library and Information Science Research*.

Natesan, P. & Malmberg, L.-E. Applying Bayesian multiple rater graded response model (MGRM) to measure teachers' ratings of students' task focus.

Funded external grants

- 2017-2020 Evaluator: *IREs: Cross-cutting interdisciplinary research and integration of ecology and biocultural conservation in the world's southernmost forests* – National Science Foundation. \$249,963
- 2019 Evaluator: Project STArT – US Department of Education. \$1,247,881
- 2009 – 2010 Senior Investigator: *Collaborative Research: Web-Based Repository of Software Testing Tools (WReSTT)* - National Science Foundation. \$153,930

Funded internal grants

- 2011 – 2012 Principal Investigator: *Investigating Graded Response Multilevel Models and their applications* – Research Initiation Grant, University of North Texas. \$5692.50.
- 2010 – 2011 Principal Investigator: *Impact of culturally responsive professional development program the cultural sensitivity of urban teachers: An item response study* – Junior Faculty Summer Research Fellowship, University of North Texas. \$5000.
- 2009 – 2010 Principal Investigator: *Teachers' ethnicity and culturally responsive professional development: A Bayesian means model analysis of cultural beliefs*. Junior Faculty Summer Research Fellowship, University of North Texas. \$5000.

CONFERENCE PRESENTATIONS

International/National Conference Presentations

* presented with students; ** Dean's Award for Outstanding Research Paper;

*** SERA Outstanding Research Paper Award, ****MSERA Outstanding Research Paper Award

Natesan, P. (2019). Bayesian rate ratio effect size for count data in single-case experimental designs. Presented at the annual meeting of the American Educational Research

- Association, Toronto, Canada.
- Natesan, P. & Hedges, L. V. (2019). Accurate model vs. accurate estimates: A study of Bayesian single-case experimental designs. Presented at the annual meeting of the American Educational Research Association, Toronto, Canada.
- ****Natesan, P., Boedeker, P. & Onwuegbuzie, A. J. (2019). Adopting a Meta-Generative Way of Thinking in the Field of Education via the Use of Bayesian Methods. Presented at the annual meeting of the American Educational Research Association, Toronto, Canada.
- Hitchcock, J., Natesan, P., Newman, I., & Onwuegbuzie, A. (2018). *Toward fully mixed integration design and analysis: Learning from a Bayesian framework*. Presented at the annual meeting of the American Educational Research Association, New York, NY.
- Natesan, P., Minka, T.P., & Hedges, L. V. (2018). *Investigating immediacy in multi-phasic single case experimental designs using a Bayesian unknown change-points model*. Presented at the annual meeting of the American Educational Research Association, New York, NY.
- *Palka, J., Natesan, P., Nandakumar, R., & Shrestha, P. (2018). *Comparing Bayesian unknown change-point model and simulation modeling analysis of single case experimental designs*. Presented at the annual meeting of the American Educational Research Association, New York, NY.
- *Shrestha, P., Natesan, P., Nandakumar, R., & Palka, J. (2018). *Illustrating how the Bayesian unknown change point model supplements visual analysis for single case designs*. Presented at the annual meeting of the American Educational Research Association, New York, NY.
- Kyrillidou, M., Natesan, P., & Cook, C. (2017). *Longitudinal invariance of LibQUAL+®: How has LibQUAL+® changed over time?* Presented at the 12th International Conference on Performance Measurement in Libraries, Oxford, UK.
- *Boedeker, P., Natesan, P., & Onwuegbuzie, A. (2017). *Prevalence of Bayesian methods in the field of education*. Paper presented at the annual meeting of the American Educational Research Association, San Antonio, TX.
- *Glover, R., Natesan, P. & Mitchell, M (2015). *Family Context and Peer Victimization: A Longitudinal Analysis*. Poster to be presented at the Biennial Meeting of the Society for Research in Child Development, Philadelphia, PA.
- Natesan, P., Kalinowski, K., & Henson, R. (2014). *Stratified Item Selection and Exposure Control in Unidimensional Adaptive Testing in the Presence of Two-dimensional Data*. Paper presented at the Annual Meeting of the American Educational Research Association, Philadelphia, PA.
- Natesan, P. (2013). *Evaluating Bayesian, Robust Maximum Likelihood, and Robust Least Squares Approaches in Ordinal Confirmatory Factor Analysis for Small Samples*. Paper presented at the International Meeting of the Psychometric Society, Arnhem, The Netherlands.
- *Natesan, P. & Xing, Q. (2012). *Multitrait Multirank Model: Formulation and Demonstration Using LibQUAL+®*. Paper presented at the International Meeting of the Psychometric Society, Lincoln, NE.
- *Ponce, H. & Natesan, P. (2012). *Simulation of LibQUAL+® Lite from LibQUAL+®: An Analysis of Confidence Intervals, Root Mean Square Deviations and Bias*. Paper presented at the International Meeting of the Psychometric Society, Lincoln, NE.

- Natesan, P. (2012). *Bayesian Estimation of One-Step Ordinal Structural Equation Models Using IRT Scores*. Paper presented at the International Meeting of the Psychometric Society, Lincoln, NE.
- Kieftenbeld, V. & Natesan, P. (2012). *Recovery of Graded Response Model Parameters: A Comparison of Marginal Maximum Likelihood and Markov Chain Monte Carlo Estimation*. Paper presented at the Annual Meeting of the American Educational Research Association, Vancouver, Canada.
- Natesan, P. (2012). *One-step Ordinal Structural Equation Modeling Using Latent Trait Scores: A Bayesian Perspective*. Paper presented at the Annual Meeting of the American Educational Research Association, Vancouver, Canada.
- Natesan, P., Nandakumar, R., Minka, T., Qian, Rubright, J. (2012). *Comparison of Three IRT Parameter Estimation Techniques and Priors: MML, MCMC, and Variational Bayesian*. Paper to be presented at the Annual Meeting of the American Educational Research Association, Vancouver, Canada.
- *Klein, R., Natesan, P., Hopewell, C.A., Cooper, D. Kennedy, J. (2011). *Dimensional Analysis and Construct Validity Assessment of the Neurobehavioral Symptom Inventory*. Poster presentation at the meeting of the National Academy of Neuropsychology. Marco Island, FL.
- Natesan, P., Nandakumar, R., Minka, T., Qian, Rubright, J. (2010, July). *Comparison of Three IRT Parameter Estimation Techniques and Priors: MML, MCMC, and Variational Bayesian*. Paper presented at the International Meeting of the Psychometric Society, Athens, GA.
- Pookulangara, S. & Natesan, P. (2010). *Examining Consumers' Channel-Migration Intention Utilizing Theory of Planned Behavior: A Multigroup Analysis*. Paper presented at the International Conference on Internet Studies, Taipei, Taiwan.
- Natesan, P. (2009, July). *Bayesian Estimation of Graded Response Multilevel Models*. Paper presented at the International Meeting of the Psychometric Society, Cambridge, UK.
- Natesan, P. (2009, April). *Graded Response Models in the Hierarchical Generalized Linear Model Framework: A Simulation for Test Lengths, Sample Sizes, and Variations in the Predictor Variable*. Paper presented at the annual meeting of the American Educational Research Association, San Diego.
- Natesan, P. (2009, April). *Multilevel Item Response Theory: Analysis of Urban Teachers' Cultural Awareness in Teaching African American Students*. Paper presented at the annual meeting of the American Educational Research Association, San Diego.
- Natesan, P., Walter-Roberts, P. F., Webb-Johnson, & Carter, N. P. (2009, February). *Validity of the Cultural Awareness and Beliefs Inventory of Urban teachers Using the Mixed Methods Framework*. Paper presented at the annual meeting of the American Educational Research Association, San Diego.
- Natesan, P., Limbers, C., & Varni, J. W. (2008, March). *A Multilevel Item Response Theory Analysis of Health-Related Quality of Life (HRQOL): An Illustration with 11,158 Healthy and Chronically Ill Children Using the PedsQL™ Emotional Functioning Scale*. Paper presented at the International Objective Measurement Workshop (IOMW 2008) conference, New York.
- Natesan, P. (2007, April). *Two-Parameter Multilevel Item Response Models: A Simulation Study*

- of Test Length and Sample Size Influences*. Paper presented at the annual meeting of the American Educational Research Association, Chicago.
- Hawkins, T. N., Natesan, P., & Carter, N. P. (2007, April). *The Relationship Between Verve and Academic Achievement of African American and European American Students*. Paper presented at the annual meeting of the American Educational Research Association, Chicago.
- Walter-Roberts, P., Natesan, P., Carter, N. P. (2007, April). *Development and Validation of an Instrument to Assess the Cultural Beliefs/Awareness of Urban Teachers*. Paper presented at the annual meeting of the American Educational Research Association, Chicago.
- Natesan, P. & Thompson, B. (2005, April). *The Improvement-Over-Chance I-Index Effect Size: A Monte Carlo Simulation Study*. Paper presented at the annual meeting of the American Educational Research Association, Montréal.

Regional Conference Presentations

- Natesan, P., Boedeker, P. & Onwuegbuzie, A. J. (2019). Adopting a Meta-Generative Way of Thinking in the Field of Education via the Use of Bayesian Methods. Presented at the annual meeting of the Mid-South Educational Research Association, Pensacola, FL.
- Natesan, P. & Hedges, L. V. (2017). *Bayesian Unknown Change-Point Models to Investigate Causality in Single Case Designs*. Texas Universities' Educational Statisticians and Psychometricians Annual Meeting. Austin, TX.
- *Boedeker, P., Natesan, P., & Onwuegbuzie, A. (2017). *Reframing Quantitative Research: The Role of Bayesian Methodology*. Paper presented at the annual meeting of the Southwest Educational Research Association, San Antonio, TX.
- Natesan, P. (2017). *Bayesian Unknown Change-Point Models to Investigate Causality in Single Case Designs*. Paper presented at the annual meeting of the Southwest Educational Research Association, San Antonio, TX.
- Natesan, P. (2016). *Bayesian Single Subject Designs*. Paper presented at the annual meeting of the Southwest Educational Research Association, New Orleans, LA.
- Natesan, P., Kalinowski, K., & Henson, R. (2014). *Stratified Item Selection and Exposure Control in Unidimensional Adaptive Testing in the Presence of Two-Dimensional Data*. Texas Universities' Educational Statisticians and Psychometricians Annual Meeting. College Station, TX.
- Skidmore, S. & Natesan, P., (2014). *An Introduction to MPlus*. Paper presented at the annual meeting of the Southwest Educational Research Association, New Orleans, LA.
- *Xin, X., Xing, Q., & Natesan, P. (2014). *MCMC Estimation of Bi-factor Graded Response Models*. Paper presented at the annual meeting of the Southwest Educational Research Association, New Orleans, LA.
- Natesan, P., Nandakumar, R., Minka, T., & Rubright, J. (2013). *I-PL Parameter Recovery Using Bayesian, MML, and Variational Bayesian Estimation*, Texas Universities' Educational Statistics and Psychometrics Meeting, Austin, TX.
- Natesan, P. & Kieftenbeld. (2013). *Bayesian ANOVA: An Invitation*. Paper presented at the annual meeting of the Southwest Educational Research Association, San Antonio, TX.

- *Natesan, P., Johnson, C., Kabakci, M., Ruckthongsook, W., Turner, H., Xing, Q., Xin, X. (2013). *A Primer in Bayesian Statistics*. Paper presented at the annual meeting of the Southwest Educational Research Association, San Antonio, TX.
- Kieftenbeld, V. & Natesan, P. (2012). *Recovery of Graded Response Model Parameters: A Comparison of Marginal Maximum Likelihood and Markov Chain Monte Carlo Estimation*. Paper presented at the annual meeting of the Southwest Educational Research Association, New Orleans, LA.
- Natesan, P. (2012). *One-step Ordinal Structural Equation Modeling Using Latent Trait Scores: A Bayesian Perspective*. Paper presented at the annual meeting of the Southwest Educational Research Association, New Orleans, LA.
- *Ponce, H. & Natesan, P. (2012) *Comparisons Between the Long and Light LibQUAL+® Versions as a Measure of Library Service Quality*. Paper presented at the annual meeting of the Southwest Educational Research Association, New Orleans, LA.
- *Xing, Q. & Natesan, P. (2012). *Multitrait Multilevel Model for Testing the Convergent Validity of LibQUAL+®*. Paper presented at the annual meeting of the Southwest Educational Research Association, New Orleans, LA.
- Zientek, L., Natesan, P., & Nimon, K. (2012). *Conducting and Publishing Research: An Overview of the Research Process*. Paper presented at the annual meeting of the Southwest Educational Research Association, New Orleans, LA.
- *Lane, F., Anderson, B., Ponce, H. F. & Natesan, P. (2011, February). *Longitudinal Invariance of the LibQUAL+® as a Measure of Library Service Quality*. Paper presented at the annual meeting of the Southwest Educational Research Association, San Antonio, TX.
- Natesan, P. & Kieftenbeld, V. (2011, February). *Teaching African American Students in Urban Schools: A Graded Response Multilevel Model Study of Teachers' Beliefs*. Paper presented at the annual meeting of the Southwest Educational Research Association, San Antonio, TX.
- Henson, R., Chen, Q., Hull, D., Natesan, P., Nimon, K. Tashakkori, A. (2010, February). *Quantitative Consultation for Researchers*. Training session presented at the annual meeting of the Southwest Educational Research Association, New Orleans, LA.
- Natesan, P. (2010, February). *Graded Response Multilevel Models: A Demonstration*. Paper presented at the annual meeting of the Southwest Educational Research Association, New Orleans, LA.
- ***Natesan, P., Walter-Roberts, P. F., Webb-Johnson, & Carter, N. P. (2009, February). *Validity of the Cultural Awareness and Beliefs Inventory of Urban teachers using the Mixed Methods Framework*. Paper presented at the annual meeting of the Southwest Educational Research Association, San Antonio.
- Natesan, P. (2008, November). *Measurement of Cultural Awareness and Beliefs of Urban Teachers Using Multilevel Item Response Theory: An Illustration*. Paper presented at the annual meeting of the Florida Educational Research Association, Orlando.
- Natesan, P. (2007, March). *A Multilevel Item Response Theory Analysis of Differential Item Functioning on the Teacher Perceptions of Cultural Awareness and Beliefs – Cultural Awareness Scale*. Paper presented at the annual meeting of the Student Research Week,

College Station.

- **Natesan, P. (2007, February). *The Case for IRT in Latent Trait Measurement: A Literature Review*. Paper presented at the annual meeting of the Southwest Educational Research Association, San Antonio.
- Natesan, P. (2006, March). *A Primer on Multilevel Item Response Theory Models*. Paper presented at the annual meeting of the Student Research Week, College Station.
- Natesan, P. (2006, February). *Cross-Classified Multilevel IRT Models: A Primer*. Paper presented at the annual meeting of the Southwest Educational Research Association, Austin.
- Natesan, P. (2006, February). *Examining Test Bias in Urban Environments Using Cross-Classified Multilevel IRT Models*. Paper presented at the annual meeting of the Southwest Educational Research Association, Austin.
- Natesan, P. & Thompson, B. (2006, January). *Extending Improvement-Over-Chance I-Index Effect Size Simulation Studies to Cover Some Small-Sample Cases*. Poster presented at the Educational Research Exchange, College Station.
- Natesan, P. (2005, February). *Using Spreadsheets to Learn Item Response Theory (IRT)*. Paper presented at the annual meeting of the Southwest Educational Research Association, New Orleans.
- Natesan, P. (2005, January). *Using Spreadsheets to Learn Item Response Theory (IRT)*. Paper presented at the Educational Research Exchange, College Station.
- Natesan, P. (2004, February). *Effect Size Choices and Why Today They Are "Required" at So Many Journals*. Paper presented at the annual meeting of the Southwest Educational Research Association, Dallas.
- Natesan, P. (2004, January). *Effect Size Choices and Why Today They Are "Required" at So Many Journals*. Paper presented at the Educational Research Exchange, College Station.

JOURNAL ACTIVITIES

a. Associate Editor

- Associate Editor – *International Journal of Multiple Research Approaches* (Fall 2017-present)
- Associate Editor – *Frontiers in Psychology: Quantitative Psychology and Measurement* (Fall 2009-present)
- Associate Editor - *The National Journal of Urban Education and Practice* (Spring 2009).

b. Editorial Board Member

- Editorial Board Member - *The National Journal of Urban Education and Practice* (Fall 2008).

c. Editorial Assistant

- Editorial Assistant - *The National Journal of Urban Education and Practice* (Spring 2006).
- Editorial Assistant for *Journal of Public Management and Social Policy, Summer 2004, Vol 10, Issue 1*.

d. Ad-hoc Reviewer

- *Applied Psychological Measurement*

- *American Educational Research Journal – Teaching, Learning, and Human Development*
- *Behavioral Research Methods*
- *Cancer Causes and Control*
- *Journal of Educational and Behavioral Statistics*
- *Journal of Educational Measurement*
- *Journal of Experimental Education*
- *Library and Information Science Research*
- *Psychometrika*
- *Statistics in Medicine*
- *Sage Open*
- *Review of Research in Education*
- *American Educational Research Association (AERA) Annual conference*
- *Southwest Educational Research Association (SERA) Annual conference*
- *Florida Educational Research Association (FERA) Annual conference*

INVITED WORKSHOPS

- *Statistical Simulation: Learning and Playing with Statistics* – Two-day workshop, Oxford University, May 2018
- *Statistical Simulation: Learning and Playing with Statistics in R* – Workshop for faculty and graduate students, Oxford University, May 2016
- *Becoming informed consumers of quantitative research* – American University of Beirut Medical Center, December 2016, March 2017

INVITED TALKS

- *Bayesian unknown change-point models to investigate causality in single case designs* – University of Bristol, May 2018.
- *Bayesian unknown change-point models to investigate causality in single case designs* – Quantitative Hub Seminar Series, Oxford University, June 2016
- *Single-case experimental designs*, NIRE seminar series, Oxford University, June 2016 (co-author: Smita Mehta)
- *Bayesian unknown change-point models to investigate causality in single case designs* – University of Bristol, April 2016
- *Bayesian Estimation of Ordinal Structural Equation Models* - University of Texas, Austin, Feb 2013
- *Bayesian Statistics and Estimation* - University of North Texas, April 2012
- *Item Response Models in Statistical Framework: An Illustration with Cultural beliefs Data* - Department of Statistics, Florida International University, Jan 2009
- *Research Methods and Statistics: A Primer* - Texas Southern University, March 2007
- *Introduction to Quantitative Research and SPSS* - Texas A&M University, November 2005

SELECT HONORS, AWARDS, AND SERVICE

- Invited panelist grant reviewer – Institute of Educational Sciences (2018-2019).
- Chair, Educational Statisticians Special Interest Group, American Educational Research Association (2018-2019)
- Outstanding Research Paper Award for the paper entitled, “*Adopting a Meta-Generative Way of Thinking in the Field of Education via the Use of Bayesian Methods.*”
- Member, AERA Division D Newsletter Committee (2018-present).
- Member, AERA Division D Equity & Inclusion Committee (2018-present)
- Program Chair, Educational Statisticians Special Interest Group, American Educational Research Association (2017-2018)
- President, Southwest Educational Research Association (2017)
- President-Elect and Program Chair, Southwest Educational Research Association (2016)
- Early Career Reviewer – NIH (2015-present)
- Elected member at-large, Board of Directors, Southwest Educational Research Association (2011-2014)
- “*Outstanding Research Paper Award*” by the Southwest Educational Research Association for paper entitled, “*Validity of the Cultural Awareness and Beliefs Inventory of Urban teachers: A Mixed Methods Design*” (February 2009)
- “*Dissertation of the Year Award*” by the College of Education and Human Development, Texas A&M University for doctoral dissertation entitled, “*Estimation of Two-Parameter Multilevel Item Response Theory Models with Predictor Variables: Simulation and Substantiation for an Urban School District*” (September 2008)
- “*Dean’s Award*” for Outstanding Student Paper for a research paper entitled, “*The case for IRT in latent trait measurement: A literature review.*” (February 2007)

INSTRUCTIONAL ACTIVITIES

Areas of Expertise

General Statistics, Research Methods, Structural Equation Modeling, Simulation, Hierarchical Linear Modeling, Psychometrics.

Courses Taught

EPSY 5050: Research Methods

EPSY 5210: Introduction to Statistics

EPSY 6005: Statistical Theory and Simulation

EPSY 6010: Statistics for Educational Research

EPSY 6020: Research Methods for Education

EPSY 6230: Hierarchical Linear Modeling

EPSY 6270: Structural Equation Modeling

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

- a. American Educational Research Association
- b. Southwest Educational Research Association

- c. Psychometric Society
- d. National Council for Measurement in Education

GRADUATE STUDENT ADVISING

1. Doctoral Committee Assignments

a. Chairing/advising (graduating year)

Hector Ponce– (2013)
 Qin Aerts – (2015)
 Xin Xin – (2017)
 Elvalicia Granada – (2015)
 Heather Turner (co-chair) – (2015)
 Monique O’Bryant (2017)
 Peter Boedeker (2018)
 Maside Kabakci (2019)

b. Committee member of completed dissertations

Judy Bolen
 Ursula Johnson
 Vandana Mehta
 Forrest Lane
 Connie Richardson
 Yanet Cordoza
 Eneida Padron
 Jennifer Alward
 Andrew McKenzie
 Lindsay Eason
 David Holland

2. Masters Student Advisement

- a. Amber Ellison (completed)

DISSERTATIONS CHAIRED

- Ponce, H. (2013). Is it more advantageous to administer Libqual+® Lite over Libqual+®? An analysis of confidence intervals, root mean square errors, and bias.
- Aerts, Xing. Q. (2015). Time series data analysis of single subject experimental designs using Bayesian estimation.
- Granado, E. (2015). Comparing three effect sizes for latent class analysis.
- Turner, H. (2015). A Performance Evaluation of Confidence Intervals for Ordinal Coefficient Alpha. (co-chair)
- Xin, Xin. (2016). Using posterior predictive checking of item response theory models to study

invariance.

- O'Bryant, M. (2017). How attitude towards statistics courses and the field of statistics predicts statistics anxiety among undergraduate social science majors: A validation of the statistical anxiety scale.
- Kabakci, M. (2019). Reporting the performance of confidence intervals in statistical simulation studies: A systematic literature review.

SELECT DISSERTATION COMMITTEES SERVED

- Alward, J. (2013). The extent of autism knowledge of novice alternatively certified special education teachers in Texas.
- Bolen, J. (2011). Spatial ability, motivation, and attitude of students as related to science achievement.
- Cordoza, Y. (2013). An exploration of teachers' adoption of the bring your own technology program.
- Danks, S. (2015). Measuring culture of innovation: A validation study of the innovation quotient instrument.
- Eason, L. R. (2014). Computer assisted instruction to improve theory of mind in children with autism.
- Holland, D. F. (2015). Reliability generalization: A systematic review and evaluation of meta-analytic methodology and reporting practice.
- Johnson, U. (2011). Parent involvement and science achievement: A latent growth curve analysis.
- Lane, F. C. (2011). The use of effect size estimates to evaluate covariate selection, group separation, and sensitivity to hidden bias in propensity score matching.
- McKenzie, A. (2014). Measuring teaching effectiveness using value-added and observation rubric scores.
- Mehta, V. (2011). Structural validity and item functioning of the LoTi Digital-Age survey.
- Onsongo, E. N. (2015). Self-efficacy, academic engagement, and student-teacher relationships for ninth-grade African American male students' algebra I achievement: A structural equation model.
- Ruckthongsook, W. (2017). The influence of disease mapping methods on spatial patterns and neighborhood characteristics in health risk.
- Terry, C. (2015). Teaching children with autism to vocally mand for others to perform an action.
- Wang, J. (2015). Moral judgment and digital piracy: predicting attitudes, intention, and behavior regarding digital piracy using a modified version of the defining issues test.
- Wu, W.-N. (2015). Determinants of citizens' 311 use behaviors: 311 citizen-initiated contact, contact channel choice, and frequent use.

SERVICE AT UNT

1. Member, Academic Affairs Committee (2018-present)
2. Member, Graduate Council (2018-present)
3. Member, COE Research and Scholarship Committee (2019)
4. Member, 2 Search Committees for Human Development and Family Studies (2018-2019)
5. Chair, Grade Appeals Committee (2017)

6. Chair, Tenure and Promotion Committee (2016-2017)
7. Member, Search Committee, Faculty in Special Education (2016-2017)
8. Member, Merit and Awards Committee (2016-2017)
9. Member, Student Affairs Committee (2016-2017)
10. Co-chair, The advances in research designs symposium (TARDIS) (2014 – present)
11. Elected member, Faculty Senate Group VI representative (2014 – 2015)
12. Elected member, Faculty Senate – Committee of committees (2014 – 2015)
13. Elected member, Fine Arts Series (2014 – present)
14. Member, SETE Task Force – Faculty Senate (2014)
15. Coordinator, Doctoral core exam (2012-2014)
16. Member, University Teaching Effectiveness (SETE) Committee (2011-2013)
17. Member, Grade Appeals Committee (Jan-Feb 2013)
18. Member, Faculty search committee for family studies (2011-2012)
19. Member, Faculty Advisory Committee (2011-present)
20. Founder/mentor, Bayesian Reading Group for UNT Doctoral Students (2011, 2012)
21. Member, Charter Revision Committee (2010-11)
22. Member, Scholarships Committee (2010-11)
23. Member, Doctoral Admissions Committee (2009-2010)
24. Member, Curriculum Committee (2009-2010)
25. Director, Center for Interdisciplinary Research and Analysis (CIRA) (Spring 2011)
26. Speaker - “Culture of Entrepreneurship and Networking” conducted by the Office of Research and Economic Development, UNT (April 2010)