

Ken Kelley's Curriculum Vitae

Ken Kelley
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Mendoza College of Business
University of Notre Dame
Notre Dame, Indiana 46556

Positions

Current

University of Notre Dame

- Edward Frederick Sorin Society Professor of IT, Analytics, and Operations.
- Associate Dean for Faculty and Research, Mendoza College of Business.
- Concurrent Professor, Department of Psychology (Quantitative Program).

Former

University of Notre Dame

- Professor, Department of IT, Analytics, and Operations; June 2016 – April 2018.
- Professor, Department of Management; July 2015 – June 2016.
–In 2016 the Department of Management was reorganized into two departments.
- Concurrent Associate Professor, Department of Psychology; August 2014 – June 2015.
- Viola D. Hank Associate Professor, Department of Management; September 2011 – June 2015.
- Associate Professor with Tenure, Department of Management; July 2011 – June 2015.
- Assistant Professor, Department of Management; July 2008 – June 2011.

Indiana University – Bloomington

- Adjunct Assistant Professor, Department of Statistics; November 2006 – July 2008.
- Assistant Professor, Inquiry Methodology Program, Department of Counseling and Educational Psychology; August 2005 – July 2008.

Education

University of Notre Dame

- Doctor of Philosophy, Quantitative Psychology, May 2005.
Dissertation: *Estimating nonlinear change models in heterogeneous populations when class membership is unknown: Defining and developing the latent classification differential change model.*
Advisors: Scott E. Maxwell and Ke-Hai Yuan.
- Master's, Quantitative Psychology, August 2003.
Thesis: *Delineating the average rate of change and consequences of fitting an incorrect growth model.*
Advisor: Scott E. Maxwell.

University of Cincinnati

- Bachelor's, Psychology, July 2000 (*High honors* from department and *cum laude* from university).
Thesis: *95 Million t tests: The empirical findings when the assumption of independence is violated in the two-sample t test.*
Advisor: Richard S. Melton.

Accreditation

- Accredited Professional Statistician™ (PStat®) by the American Statistical Association.

Scholarship

Peer Reviewed Journal Articles

* Denotes a student with whom I collaborated.

° Denotes when I am a corresponding author when not first author.

–Citation information (ISI Web of Science) <http://www.researcherid.com/rid/C-7322-2009>.

–Citation information (Google Scholar) <http://scholar.google.com/citations?user=G9J0RkUAAAAJ&hl>.

MacMillan, K., Hurst, Jung, Howell, J., & Kelley, K., (in press). Who says there's a problem? Preferences on the sending and receiving of prohibitive voice. *Human Relations*, *X*, X–X.

Tofighi, D., & Kelley, K., (in press). Indirect effects in sequential mediation models: Evaluating methods for hypothesis testing and confidence interval formation. *Multivariate Behavioral Research*, *X*, X–X.

Liu, X. S., Carlson, R., & Kelley, K., (in press). Common language effect size for correlations. *The Journal of General Psychology*, *X*, X–X.

Kelley, K., Darku, F. B., & Chattopadhyay, B. (in press). Sequential accuracy in parameter estimation for population correlation coefficients. *Psychological Methods*, *X*, X–X.

Authors contributed equally.

Rosenzweig, E., Queenan, C. & Kelley, K. (in press). Virtuous cycles of service quality: An empirical test. *International Journal of Operations and Production Management*, *X*, X–X.

McNeish, D., & Kelley, K. (2019). Fixed effects models versus mixed effects models for clustered data: Reviewing the approaches, disentangling the differences, and making recommendations. *Psychological Methods*, *24*, 20–35.

Adjerid, I., & Kelley, K. (2018). Big data in psychology: A framework for research advancement. *American Psychologist*, *73*, 899–917.

Lachowicz, M. J.*, Preacher, K. J., & Kelley, K. (2018). A novel measure of effect size for mediation analysis. *Psychological Methods*, *23*, 244–261.

Kelley, K., Darku, F. B.*, & Chattopadhyay, B. (2018). Accuracy in parameter estimation for a general class of effect sizes: A sequential approach. *Psychological Methods*, *23*, 226–243.

Authors contributed equally.

Anderson, S. F.*, Kelley, K. & Maxwell, S. E. (2017). Sample size planning for more accurate statistical power: A method adjusting sample effect sizes for publication bias and uncertainty. *Psychological Science*, *28*, 1547–1562.

Angst, C. M., Handley, S. Wowak, K., & Kelley, K. (2017). Antecedents of information systems sourcing strategies in U.S. hospitals: A longitudinal study. *Management Information Systems Quarterly*, *41*, 1129–1152.

Angst, C. M., Block, E. S., D'Arcy, J., & Kelley, K. (2017). When do IT security investments matter? Accounting for the influence of institutional factors in the context of healthcare data breaches. *Management Information Systems Quarterly*, *41*, 893–916.

Chattopadhyay, B. & Kelley, K.° (2017). Estimating the standardized mean difference with minimum risk: Maximizing accuracy and minimizing cost with sequential estimation. *Psychological Methods*, *22*, 94–113. Both authors contributed equally; authorship is alphabetical.

Chattopadhyay, B. & Kelley, K.° (2016). Estimation of the coefficient of variation with minimum risk: A sequential method for minimizing sampling error and sampling cost. *Multivariate Behavioral Research*, *51*, 627–648. Both authors contributed equally; authorship is alphabetical.

- Guo, H., Cheng, H. K., & Kelley, K. (2016). Impact of network structure on malware propagation: A growth curve perspective. *Journal of Management Information Systems*, *33*, 296–325.
- Kelley, K., & Pornprasertmanit, S.* (2016). Confidence intervals for population reliability coefficients: Evaluation of methods, recommendations, and software for composite measures. *Psychological Methods*, *21*, 69–92.
- Tofighi, D. & Kelley, K. (2016). Assessing omitted confounder bias in multilevel mediation models. *Multivariate Behavioral Research*, *51*, 86–105.
- Fuhs, M. W., McNeil, N. M., Kelley, K., O’Rear, C., & Villano, M. (2016). The role of non-numerical stimulus features in approximate number system training in preschoolers from low-income homes. *Journal of Cognition and Development*, *17*, 737–764.
- Simon, L. S.*, Hurst, C., Kelley, K., & Judge, T. A. (2015). Understanding cycles of abuse: A multi-motive approach. *Journal of Applied Psychology*, *100*, 1798–1810.
- Glavas, A. & Kelley, K. (2014). The effects of perceived corporate social responsibility on employee attitudes. *Business Ethics Quarterly*, *24*, 165–202.
- Finch, H., Bolin, J. E., & Kelley, K. (2014). Group membership prediction when known groups consist of unknown subgroups: A Monte Carlo comparison of methods. *Frontiers in Quantitative Psychology and Measurement*, *5*, 1–12.
- Judge, T. A., Simon, L. S.*, Hurst, C., & Kelley, K. (2014). What I experienced yesterday is who I am today: Relationship of work motivations and behaviors to within-individual variation in the five-factor model. *Journal of Applied Psychology*, *99*, 199–221.
- Chesney, D. L., McNeil, N. M., Brockmole, J. R., & Kelley, K. (2013). An eye for relations: Eye-tracking indicates long-term negative effects of operational thinking on understanding of math equivalence. *Memory & Cognition*, *17*, 1079–1095.
- Kelley, K., & Preacher, K. J. (2012). On effect size. *Psychological Methods*, *17*, 137–152.
- Kelley, K. & Cheng, Y. (2012). Estimation of and confidence interval formation for reliability coefficients of homogeneous measurement instruments. *Methodology*, *8*, 39–50. —Awarded *Best Paper* for articles published in *Methodology* in 2012–2013 by the European Association of Methodology.
- Terry, L. J*. & Kelley, K.° (2012). Sample size planning for composite reliability coefficients: Accuracy in parameter estimation via narrow confidence intervals. *British Journal of Mathematical and Statistical Psychology*, *65*, 371–401.
- Alexander, J., Johnson, K. E., & Kelley, K. (2012). Longitudinal analysis of the relations between opportunities to learn about science and the development of interests related to science. *Science Education*, *96*, 763–786.
- Lai, K*. & Kelley, K.° (2012). Accuracy in parameter estimation for ANCOVA and ANOVA contrasts: Sample size planning via narrow confidence intervals. *British Journal of Mathematical and Statistical Psychology*, *65*, 350–370.
- Warren, J*. Stoerger, S. M.*, & Kelley, K. (2012). Longitudinal gender and age bias in a prominent amateur new media community. *New Media & Society*, *14*, 7–27.
- Kelley, K., & Rausch, J. R. (2011). Sample size planning for longitudinal models: Accuracy in parameter estimation for polynomial change parameters. *Psychological Methods*, *16*, 391–405.
- Holden, J. E., Finch, W. H., & Kelley, K. (2011). A comparison of two-group classification methods. *Educational and Psychological Measurement*, *71*, 870–901.

- Kelley, K. & Lai, K*. (2011). Accuracy in parameter estimation for the root mean square error of approximation: Sample size planning for narrow confidence intervals. *Multivariate Behavioral Research*, 46, 1–32.
- Lai, K.*, & Kelley, K.° (2011). Accuracy in parameter estimation for targeted effects in structural equation modeling: Sample size planning for narrow confidence intervals. *Psychological Methods*, 16, 127–148.
- Preacher, K. J., & Kelley, K. (2011). Effect size measures for mediation models: Quantitative strategies for communicating indirect effects. *Psychological Methods*, 16, 93–115.
- Angst, C. M., Agarwal, R., Sambamurthy, V., & Kelley, K. (2010). Social contagion and information technology diffusion: The adoption of electronic medical records in U.S. hospitals. *Management Science*. 56, 1219–1241.
- Holden, J. E.* , & Kelley, K.° (2010). The effects of initially misclassified data on the effectiveness of discriminant function analysis and finite mixture modeling. *Educational and Psychological Measurement*, 70, 36–55.
- Kelley, K. (2009). The average rate of change for continuous time models. *Behavior Research Methods*, 41, 268–278.
- Rausch, J. R. & Kelley, K. & (2009). A comparison of linear and mixture models for discriminant analysis under nonnormality. *Behavior Research Methods*, 41, 85–98.
- Kelley, K. (2008). Sample size planning for the squared multiple correlation coefficient: Accuracy in parameter estimation via narrow confidence intervals. *Multivariate Behavioral Research*, 43, 524–555.
- Yuan, K-H., Kouros, C. D., & Kelley, K. (2008). Diagnosis for covariance structure models by analyzing the path. *Structural Equation Modeling*, 15, 564–602.
- Kelley, K. (2008). Nonlinear change models in populations with unobserved heterogeneity. *Methodology*, 4, 97–112.
- Kelley, K., & Maxwell, S. E. (2008). Delineating the average rate of change in longitudinal models. *Journal of Educational and Behavioral Statistics*, 33, 307–332.
- Agarwal, R., Metiku, T., Tegegne, G. G., Light, R. P., Bunaye, Z., Bekele, D. M., & Kelley, K. (2008). Diagnosing hypertension by intradialytic blood pressure recordings. *Clinical Journal of the American Society of Nephrology*, 3, 1364–1372.
- Singh, A. K., Kelley, K., & Agarwal, R. (2008). Interpreting results of clinical trials: A conceptual framework. *Clinical Journal of the American Society of Nephrology*, 3, 1246–1252.
- Anderson, J. A. Wright, E. R, Kelley, K., & Kooreman, H. E. (2008). Patterns of clinical functioning over time for young people served in a system of care. *Journal of Emotional and Behavioral Disorders*, 16, 90–104.
- Holden, J. E.* , Kelley, K., & Agarwal, R. (2008). Analyzing change: A primer on multilevel models with applications to nephrology. *American Journal of Nephrology*, 28, 792–801.
- Alexander, J. M., Johnson, K. E., Leibham, M. E., & Kelley, K. (2008). The development of conceptual interests in young children. *Cognitive Development*, 23, 324–334.
- Stright, A. D., Gallagher, K. C., & Kelley, K. (2008). Infant temperament moderates relations between maternal parenting in early childhood and children’s adjustment in first grade, *Child Development*, 79, 186–200.

- Agarwal, R., Kelley, K., & Light, R. L. (2008). Diagnostic utility of blood volume monitoring in hemodialysis patients. *American Journal of Kidney Diseases*, *51*, 242–254.
- Maxwell, S. E., Kelley, K., & Rausch, J. R. (2008). Sample size planning for statistical power and accuracy in parameter estimation. *Annual Review of Psychology*, *59*, 537–563.
- Kelley, K. (2007). Sample size planning for the coefficient of variation from the accuracy in parameter estimation approach. *Behavior Research Methods*, *39*, 755–766.
- Kelley, K. (2007). Methods for the Behavioral, Educational, and Social Sciences: An R Package. *Behavior Research Methods*, *39*, 979–984.
- Kelley, K., Aricak, O. T., Light, R. L., & Agarwal, R. (2007). Proteinuria is a determinant of quality of life in diabetic nephropathy: Modeling lagged effects with path analysis. *American Journal of Nephrology*, *27*, 488–494.
- Kelley, K., Light, R. L., & Agarwal, R. (2007). Trended cosinor change model for analyzing hemodynamic rhythm patterns in hemodialysis patients. *Hypertension*, *50*, 143–150.
- Kelley, K. (2007). Confidence intervals for standardized effect sizes: Theory, application, and implementation. *Journal of Statistical Software*, *20*(8), 1–24.
- Kelley, K., & Rausch, J. R. (2006). Sample size planning for the standardized mean difference: Accuracy in parameter estimation via narrow confidence intervals. *Psychological Methods*(4), *11*, 363–385. —Reprinted in Vogt, W. P. (Ed). (2009). *Selecting research methods* (Vol. 2, pp. 113–147). Thousand Oaks, CA: Sage.
- Kelley, K. (2005). The effects of nonnormal distributions on confidence intervals around the standardized mean difference: Bootstrap and parametric confidence intervals. *Educational and Psychological Measurement*, *65*, 51–69.
- Kelley, K. (2004). Assessing the assumption of symmetric proximity measures in the context of multidimensional scaling. *Journal of Applied Measurement*, *5*, 419–429.
- Kelley, K. & Maxwell, S.E. (2003). Sample size for multiple regression: Obtaining regression coefficients that are accurate, not simply significant. *Psychological Methods*, *8*, 305–321.
- Kelley, K., Maxwell, S.E., & Rausch, J.R. (2003). Obtaining power or obtaining precision: Delineating methods of sample-size planning. *Evaluation and the Health Professions*, *26*, 258–287.
- Rausch, J. R., Maxwell, S.E., & Kelley, K. (2003). Analytic methods for questions pertaining to a randomized pretest, posttest, follow-up design. *Journal of Clinical Child and Adolescent Psychology*, *32*, 467–486.

Journal Articles – Submitted for Publication

Books

- Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing Experiments and Analyzing Data: A model comparison perspective* (3rd ed.). New York, NY: Routledge.
—Accompanying website <https://designingexperiments.com/>.
—Available at <https://www.routledge.com/9781138892286>.
- Finch, W. H., Bolin, J. H., & Kelley, K. (2014). *Multilevel modeling using R*. New York, NY: Chapman & Hall/CRC. —Accompanying website <http://www.mlminr.com>.
—Available at <http://www.crcpress.com/9781466515857>.

Book Chapters

* Denotes a student with whom I collaborated.

- Kelley, K. & Maxwell, S. E. (in press). Multiple Regression. In G. R. Hancock & R. O. Mueller (Eds.) *The reviewer's guide to quantitative methods in the social sciences* (2nd edition) (pp. x–x). New York, NY: Routledge.
- Kelley, K., & Lai, K. (2018). Sample size planning for confirmatory factor models: Power and accuracy for effects of interest. In P. Irwing, T. Booth, & D. J. Hughes (Eds.) *The Wiley handbook of psychometric testing: A multidisciplinary reference on survey, scale and test development* (pp. 113–138). London: Wiley.
- Kelley, K., & Bolin, J. H. (2013). Multiple regression. In T. Teo (Ed.) *Handbook of quantitative methods for educational research* (pp. 71–101). Boston: Sense Publishers.
- Kelley, K. (2012). Effect size and sample size planning. In T. D. Little (Ed.) *The Oxford handbook of quantitative methods, Vol. 1: Foundations* (pp. 206–222). New York, NY: Oxford University Press.
- Kelley, K. & Maxwell, S. E. (2012). Sample size planning. In H. Cooper (Ed.) *APA handbook of research methods in psychology, Volume 1: Foundations, Planning, Measures, and Psychometrics* (pp. 181–202). Washington, DC: American Psychological Association.
- Maxwell, S. E., & Kelley (2011). Sample size planning and ethics. In A. T. Panter & S. K. Sternberg (Eds.) *Handbook of Ethics in Quantitative Methodology* (pp. 159–184). New York, NY: Routledge.
- Kelley, K. & Maxwell, S. E. (2010). Multiple Regression. In G. R. Hancock & R. O. Mueller (Eds.) *The reviewer's guide to quantitative methods in the social sciences* (pp. 281–298). New York, NY: Routledge.
- Kelley, K. Lai, K.*, & Wu, P-J.* (2008). Using R for data analysis: A best practice for research. In J. Osbourne (Ed.) *Best practices in quantitative methods* (pp. 535–572). Newbury Park, CA: Sage.
- Kelley, K. & Maxwell, S. E. (2008). Sample Size Planning with applications to multiple regression: Power and accuracy for omnibus and targeted effects. In P. Alasuuta, J. Brannen, & L. Bickman (Eds.) *The Sage handbook of social research methods* (pp. 166–192). Newbury Park, CA: Sage.

Encyclopedias and Glossaries

- Kelley, K. (2010). Sample size planning. In I. B. Weiner & W. E. Craighead (Eds.), *The Corsini Encyclopedia of Psychology* (4th ed., Vol. 4, pp. 1490–1491). Hoboken, NJ: Wiley.
- Kelley, K. (2010). Accuracy in parameter estimation (AIPE). In N. J. Salkind, D. M. Dougherty, & B. Frey (Eds.), *Encyclopedia of research design* (Vol. 1, pp. 2–4). Thousand Oaks, CA: Sage.
- Kelley, K. (2010). A priori Monte Carlo simulation. In N. J. Salkind, D. M. Dougherty, & B. Frey (Eds.), *Encyclopedia of research design* (Vol. 1, pp. 37–38). Thousand Oaks, CA: Sage.
- Kelley, K. (2010). MBESS. In N. J. Salkind, D. M. Dougherty, & B. Frey (Eds.), *Encyclopedia of research design* (Vol. 2, pp. 778–779). Thousand Oaks, CA: Sage.
- Kelley, K. (2010). Monte Carlo Simulation Study. In N. J. Salkind, D. M. Dougherty, & B. Frey (Eds.), *Encyclopedia of research design* (Vol. 2, pp. 830–832). Thousand Oaks, CA: Sage.
- Kelley, K. (2010). Sample size planning. In N. J. Salkind, D. M. Dougherty, & B. Frey (Eds.), *Encyclopedia of research design* (Vol. 3, pp. 1301–1302). Thousand Oaks, CA: Sage.
- Kelley, K. (2009). Estimation (point and interval). In L. E. Sullivan, R. B. Johnson, C. C. Mercado & K. J. Terry (Eds.), *The SAGE glossary of the social and behavioral sciences* (p. 184). Thousand Oaks, CA: Sage.

Software

- Anderson, S. F., & Kelley, K. (2017). BUCSS: Bias and Uncertainty Corrected Sample Size [computer software and manual], Accessible from <http://cran.r-project.org>. Note: A package for the R statistics language and environment to accompany Anderson, Kelley, & Maxwell (in press).
- Kelley, K. (2015). AMCP: A Model Comparison Perspective [computer software and manual], Accessible from <http://cran.r-project.org>. Note: A package for the R statistics language and environment to accompany *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (3rd ed.; Maxwell, Delaney, & Kelley, 2018).
- Kelley, K. (2015–Present). MBESS (Version 4.0.0 and higher) [computer software and manual], Accessible from <http://cran.r-project.org>. Note: A package for the R statistics language and environment to implement selected advanced and nonstandard quantitative methods.
- Kelley, K. & Lai., K. (2010–2014). MBESS (Version 3.0.0 – 3.3.3) [computer software and manual], Accessible from <http://cran.r-project.org>. Note: A package for the R statistics language and environment to implement selected advanced and nonstandard quantitative methods.
- Kelley, K. (2007–2008). MBESS (Version 2.0.0) [computer software and manual], Accessible from <http://cran.r-project.org>. Note: With Version 2.0.0, the Methods for the Behavioral, Educational, and Social Sciences R package was renamed MBESS.
- Kelley, K. (2006–2008). Methods for the Behavioral, Educational, and Social Sciences (Version 0.0.1–1.0.1) [computer software and manual], Accessible from <http://cran.r-project.org>. Note: A package for the R statistics language and environment to implement selected advanced and nonstandard quantitative methods.

Research Funding

- Kelley, K. (2008–Present). Summer research grant. Mendoza College of Business, University of Notre Dame.
- Kelley, K. (July 2012). Research design and ethics in business: Issues of effect sizes, research questions, and planning sample size. Notre Dame Deloitte Center for Ethical Leadership; \$19,770 direct costs. Role: Principal Investigator.
- Kelley, K. (June 2007 – August 2007). Accuracy in parameter estimation for standardized effect sizes related to means and ANOVAs. Proffitt Fellowship for Educational Research at Indiana University; \$10,000 direct costs. Role: Principal Investigator.
- Agarwal, R. (April 2007 – March 2008). Pathobiology of kidney disease: Role of iron. National Institutes of Health (1 R01 DK071633-01A2); \$270,000 direct cost. Role: Statistician.
- Kelley, K. (July 2006 – June 2008). Sample size planning for effect sizes and an R package for implementation: Designing educational studies for accurate parameter estimates, Proffitt Endowment for Educational Research at Indiana University; \$40,000 direct costs. Role: Principal Investigator.

Conference Presentations

* Denotes a student with whom I collaborated.

† Denotes an invited talk.

- Kelley, K. (2018, October). Accuracy in Parameter Estimation for Correlation Measures: A Sequential Approach. A talk given at the annual meeting of the Society of Multivariate Experimental Psychology, Albuquerque, NM.†

- Anderson, S.* , Kelley, K., & Maxwell, S. (2018, July). Recovering from a Crisis of Confidence: Designing and conducting effective replication studies. A talk given at the International Meeting of the Psychometric Society, New York, NY.
- Tofghi, D. & Kelley, K. (2018, March). Assessing Omitted Confounder Bias in Multilevel Mediation Models. A talk given at the Modern Modeling Methods Conference, Storrs, CT.
- Kelley, K. (2017, October). Accuracy in Parameter Estimation for a General Class of Effect Size: A Sequential Approach. A talk given at the annual meeting of the Society of Multivariate Experimental Psychology, Minneapolis, MN.†
- Kelley, K., Darku, F. B.* , & Chattopadhyay, B. (2017, July). Accuracy in Parameter Estimation for a General Class of Effect Sizes: A Sequential Approach. A talk given at the Joint Statistics Meeting, Baltimore, MD.
- Anderson, S.* , Maxwell, S., & Kelley, K. (2016, July). The illusion of intended statistical power: Avoiding underpowered replication studies via effective sample size planning. A talk given at the Modern Modeling Methods Conference, University of Connecticut, Storrs, CT.
- Kelley, K., & Chattopadhyay, B. (2016, July). Estimating effect sizes with minimum risk: Maximizing accuracy and minimizing cost with sequential estimation. A talk given at the International Meeting of the Psychometric Society, Asheville, NC.
- Lachowicz, M.* , Preacher, K. Kelley, K. (2016, May). A novel effect size measure for the indirect effect in mediation analysis. A talk given at the Modern Modeling Methods Conference, University of Connecticut, Storrs, CT.
- Wowak, K., Handley, S., Kelley, K., Angst, C. (2015, October). A longitudinal study of the relationship between information systems sourcing strategy and hospital performance. A talk given at the Patient-Centric Healthcare Management in the Age of Analytics, Indiana University, Bloomington, IN.
- Rosenzweig, E., Queenan, & Kelley, K. (2015, May). Service excellence in US hotels: A Longitudinal Analysis. A talk given at the annual conference of the Production and Operations Management Society, Washington, DC.†
- Kelley, K. (2014, August). Comments on my past work and future plans: Acceptance of the *Anastasi Early Career Award* from the Evaluation, Measurement, & Statistics Division of the American Psychological Association. A talk given at the annual meeting of the American Psychological Association, Washington, DC.†
- Kelley, K. (2014, August). A modern, general, and highly flexible approach to sample size planning for modern research designs. A talk given at the annual meeting of the American Psychological Association, Washington, DC.
- Kelley, K. (2014, August). Monte Carlo simulation methods for modern designs: A general approach to sample size planning. A talk given at the Joint Statistics Meeting, Boston, MA.
- Kelley, K. (2014, July). Comments on Kelley and Cheng (2012): Acceptance of the “Best Paper” in *Methodology* Award. A talk given at the biannual meeting of the European Congress of Methodology, Utrecht, The Netherlands.†
- Kelley, K. (2014, July). A flexible approach to sample size planning for modern research questions. A talk given at the biannual annual meeting of the European Congress of Methodology, Utrecht, The Netherlands.†
- Queenan, C., Rosenzweig, E. D., & Kelley, K. (2013, May). National culture and the service-profit chain: A longitudinal study in the hotel industry. A talk given at the meeting of the Production and Operations Management Society, Denver, CO.

- Gallagher, K. C., Stright, A. D., & Kelley, K. (2012, June). The Role of differential susceptibility in infancy on the cognitive, behavioral and psychosocial outcomes of young children. A talk given at the meeting of the International Conference on Infant Studies, Minneapolis, MN.
- Finch, W. H., Holden, J., Starling, J.,M.* & Kelley, K. (2012, April). Classification in the presence of heterogeneous groups: A Monte Carlo comparison of several statistical methods. A talk given at the annual meeting of the American Educational Research Association, Vancouver, British Columbia, Canada.
- Kelley, K. (2011, August). Accuracy in parameter estimation for omnibus or targeted effects in structural equation modeling: Sample size planning for narrow confidence intervals. A talk given at the annual meeting of the American Psychological Association, Washington, DC.[†]
- Kelley, K., & Pornprasertmanit, S.* (2011, July). An evaluation of confidence intervals for composite reliability coefficients. A talk given at the Joint Statistical Meetings, Miami, FL.
- Kelley, K., & Lai, K.* (2010, August). Sample size planning to obtain narrow confidence intervals for the RMSEA. A talk given at the Joint Statistical Meetings, Vancouver, British Columbia, Canada
- Lai, K.* and Kelley, K. (2010, July). Sample size planning for targeted effects in SEM: Obtaining narrow confidence intervals. A talk given at the International Meeting of the Psychometric Society, Athens, GA.
- Kelley, K., & Lai, K.* (2010, July). Sample size, the root mean square error of approximation, and an approach to planning sample size. A talk given at the International Meeting of the Psychometric Society, Athens, GA.
- Kelley, K., & Rausch, J. R. (2009, August). Accuracy in parameter estimation for group effects in longitudinal models: Sample size planning for narrow confidence intervals. A talk given at the Joint Statistical Meetings, Washington, DC.
- Kelley, K. (2008, November). Accuracy in parameter estimation for the RMSEA. A talk given at the annual meeting of the Psychonomic Society, Chicago, IL.
- Kelley, K. (2008, June). The average rate of change in longitudinal models. A talk given at the International Meeting of the Psychometric Society, Durham, NH.[†]
- Holden, J.* & Kelley, K. (2008, March). Effects of misclassified data on two methods of classification analysis: A Monte Carlo simulation study. A paper presented at the annual meeting of the American Educational Research Association, New York, NY.
- Kelley, K. (2007, August). Accuracy in parameter estimation for omnibus and targeted effects in analysis of variance. Poster presented at the annual convention of the American Psychological Association, San Francisco, CA.
- Terry, L. J.* & Kelley, K. (2007, August). Accuracy in parameter estimation for composite reliability coefficients. Poster presented at the annual convention of the American Psychological Association, San Francisco, CA.
- Kelley, K. (2007, April). Accuracy in parameter estimation for standardized means, mean differences, and contrasts. Poster presented at the annual meeting of the American Educational Research Association, Chicago, IL.
- Kelley, K. & Stright, A. D. (2007, March). Temperament and parenting across early childhood: Growth mixture modeling using the NICHD Study of early child care. Poster presented at the Society for Research in Child Development meeting, Boston, MA.

- Kelley, K. (2006, June). Sample size planning for the squared multiple correlation coefficient: Accuracy in Parameter Estimation via narrow confidence intervals. A talk given at the International Meeting of the Psychometric Society, Montreal, Canada.
- Kelley, K. (2006, May). Nonlinear change models in heterogeneous populations: The latent classification differential change model. A talk given at the International Conference on Development and Learning, Bloomington, IN.
- Stright, A. D., Gallagher, K. C., & Kelley, K. (2006, April). Children's temperament moderates the relations between maternal parenting and children's adjustment to school. A poster presented at the annual meeting of the American Educational Research Association, San Francisco, CA.
- Kelley, K. (2004, October). Estimating nonlinear growth models in heterogeneous populations when class membership is unknown: Defining and developing the latent classification differential change model. A talk given at the annual meeting of the Society of Multivariate Experimental Psychology, Fort Myers, FL.
- Lapsley, D.K., Daytner, K., Kelley, K. & Maxwell, S.E. (2002, April). Teacher aides, class size and academic achievement: An evaluation of Indiana's Prime Time. A paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Kelley, K. (2000, May). 95 Million t tests: The empirical findings when the assumption of independence is violated in the two-sample t test. A poster presented at the annual Midwestern Psychological Association meeting, Chicago, IL.

A List of Other Presentations is Available Upon Request

Other Scholarly Work

- Kelley, K. (2016 – Present). *DesigningExperiments.Com*. A (revamped) web site to accompany the book *Designing experiments and analyzing data: A model comparison perspective* (Maxwell, S.E., Delaney, H.D., & Kelley, K. [in press, 3rd ed.], Routledge). Note: This is an instructional web site that explains how the statistical methods discussed in the book can be obtained using R, SAS, and SPSS, as well as other educational material.
- Kelley, K., (2014). *www.MLMinR.Com*. A web site to accompany the book *Multilevel modeling using R* (Finch, W. H., Bolin, J. H., & Kelley, K. [2014], Chapman & Hall/CRC.).
- Kelley, K. (2012, May). Petitions requested for new section. *Amstat News*: The membership magazine of the American Statistical Association, 419, p. 9. Note: This call went out to all members of the American Statistical Association to assess the level of interest among members for a section titled Statistics and Measurement in Psychology and Education.
- Wright, E. R., Anderson, J. A., Kelley, K. & Kooreman, H. (2007, July). Longitudinal impact of family functioning on children served in systems of care. A project funded by with a report submitted to ORC Macro, Calverton, MD.
- Kelley, K., & Rausch, J.R. (2004; 2005). *DesigningExperiments.Com*. A web site to accompany the book *Designing experiments and analyzing data: A model comparison perspective* (Maxwell, S.E., & Delaney, H.D. [2004, 2nd ed.], Lawrence Erlbaum Associates, Inc.). Note: This is an instructional web site that explains how selected univariate and multivariate statistical methods can be obtained using the computer programs SAS and SPSS.
- Lapsley, D.K., Daytner, K., Kelley, K. & Maxwell, S.E. (2002, February). Instructional assistance, class size and academic achievement: An evaluation of Indiana's Prime Time. A project funded by with a report submitted to the Indiana Department of Education, Indianapolis, IN.

Research assistant in Dr. Joel S. Warm's vigilance laboratory; June 1998–March 1999.

Data Safety and Monitoring Board

Data Safety and Monitoring Board Member for Supporting Treatment Adherence Regimens in Pediatric Epilepsy: The STAR Trial (2014–Present). An R01 study funded by the National Institute of Child Health and Human Development (NICHD) of the National Institutes of Health (A. Modi principal investigator). Role: Statistician.

Independent Monitoring Committee Member for Omega Heroes Trial (2017 – Present). An R61 study funded by the National Center for Complementary and Integrative Health (NCCIH) of the National Institutes of Health (S. Keim and L. Rogers, co-principal investigators). Role: Statistician.

Editorial

Associate Editor

- *Psychological Methods*, January 1, 2013 – December 31, 2016.

Editorial Boards

- *Psychological Methods*, 2009 – Present.
- *Frontiers in Quantitative Psychology and Measurement*, 2010 – 2016.

Review

Methodological Journals

Advances in Methods and Practices in Psychological Science / *Behavior Research Methods* /
British Journal of Mathematical and Statistical Psychology / *Communications in Statistics –*
Simulation and Computation / *Computational Statistics and Data Analysis* /
Computer Methods and Programs in Biomedicine / *Journal of Educational and Behavioral Statistics* /
Journal of Biopharmaceutical Statistics / *Journal of Statistical Software* / *Methodology* /
Multivariate Behavioral Research / *Psychological Assessment* / *Psychological Methods* /
Psychometrika / *Sociological Methods & Research* / *Statistics in Medicine* /
Structural Equation Modeling

Applied Journals

European Journal of Social Psychology / *Journal of Consulting and Clinical Psychology* /
Journal of Experimental Psychology: General / *Management Science* / *Perceptual & Motor Skills* /
Production and Operations Management / *Psychological Reports* /
Psicothema / *Review of General Psychology*

Grants

- Institute of Education Sciences of the U.S. Department of Education, Statistics and Modeling Scientific Review Panel, Reviewer & Principal Panel Member (2010-2013).
- Institute of Education Sciences of the U.S. Department of Education, Various Panels, Reviewer & Rotating Panel Member (2009-2013).
- National Science Foundation, Reviewer, Methodology, Measurement, and Statistics Program (2011).
- Swiss National Science Foundation, Interdisciplinary Programme, Reviewer (2009).
- Research Foundation – Flanders (FWO; formerly National Fund for Scientific Research, Belgium), Reviewer (2009).

Conferences

- Division of Evaluation, Measurement, and Statistics (Division 5) of the American Psychological Association Annual Conference (2007 & 2008).
- Division of Measurement and Research Methodology (Division D) of the American Educational Research Association Annual Conference (2007).
- Research Methods Division of the Academy of Management Annual Conference (2008 & 2009).

Teaching

University of Notre Dame (Since August 2008)

I currently teach or have taught a variety of business analytics on statistical methods in the undergraduate, MBA, Executive MBA, Master's of Science in Management and Master's of Science in Business Analytics programs in the Mendoza College of Business. Listed below are the specific courses that I have taught at Notre Dame.

- *Statistical Methods, 2*, required course for the Master of Science in Business Analytics program.
- *Statistical Methods, 1*, required course for the Master of Science in Business Analytics program.
- *Statistics in Business*, required course for the Master of Science in Business program.
- *Introduction to Business Analytics*, required course for the Executive MBA Program.
- *Quantitative Analysis*, required course for the Executive MBA Program.
- *Statistical Inference in Business*, required (intermediate) course for the undergraduate Business program.
- *Statistics in Business*, required (introductory) course for undergraduate Business program.
- *Advanced Statistical Inference*, elective course for MBA students (part of the Business Analytics concentration).

Indiana University (June 2005 – May 2008)

- *Multilevel Modeling*, elective course at the Ph.D. level (Inquiry Methodology Program & Department of Statistics, joint listing).
- *Research on Statistical Issues in the Behavioral and Educational Sciences*, elective seminar at the Ph.D. level (Inquiry Methodology Program).
- *Longitudinal Data Analysis for the Behavioral and Educational Sciences*, elective seminar at the Ph.D. level (Inquiry Methodology Program).
- *Multivariate Statistical Methods*, elective course at the Ph.D. level (Inquiry Methodology Program).
- *Intermediate Statistics*, required course at the Ph.D. level (Inquiry Methodology Program).

University of Notre Dame (August 2000 – May 2005)

- Co-instructor, *Computing for the Social Sciences*, (Laboratory for Social Research on behalf of the College of Arts and Letters).
- Laboratory instructor and teaching assistant for the graduate experimental design class, Ph.D. level (Department of Psychology).

- Laboratory instructor and teaching assistant for the graduate statistics class, Ph.D. level (Department of Psychology).
- Teaching assistant for the undergraduate introductory psychology class (Department of Psychology).

University of Cincinnati (September 1999 – July 2000)

- Co-teaching assistant for the two-quarter undergraduate statistics sequence; (Department of Psychology).
- Teaching assistant for the three-quarter graduate statistics sequence (Department of Psychology).
- Co-teaching assistant for the two-quarter undergraduate statistics sequence; (Department of Psychology).

Advising

Doctoral & Master's Theses

Current Students

Ian Campbell, Notre Dame Quantitative Psychology Ph.D. Program —Winner of the 2018 ETS Harold Gulliksen Psychometric Research Fellowship.

Dissertations Chaired

Lai, K. (2012). Meta-analyzing structural equation models with study-level moderators: Explaining the systematic heterogeneity among covariance structures. Doctoral dissertation (co-chaired with Scott E. Maxwell), University of Notre Dame. Dr. Lai is now an assistant professor at University of California – Merced.

Holden, J. E. (2009). The effects of misclassified training data on the classification accuracy of supervised and unsupervised classification techniques. Doctoral dissertation, Indiana University. Dr. Holden is now a tenured associate professor at Ball State University, Department of Educational Psychology.[†]

[†] Modified and published as Holden & Kelley (2010; *Educational and Psychological Measurement*).

Dissertation Committee Member

- Served on 14 completed dissertation committees.

Master's Thesis, Acting Chair

Lai, K. (2010). Accuracy in parameter estimation for targeted effects in structural equation modeling: Sample size planning for narrow confidence intervals. Master's thesis, University of Notre Dame.[†]

[†] Modified and published as Lai & Kelley (2011; *Psychological Methods*).

Honors

- Member, Society of Multivariate Experimental Psychology (invitation only, limited to 65 active members), beginning in 2017.
- Poets & Quants, *40-Under-40: Most Outstanding MBA Professors*, 2017.
- Outstanding Faculty Award, Master's of Science in Business Analytics, Class of 2017.
- Fellow, American Psychological Association (Division of Evaluation, Measurement, & Statistics), 2014.

- Awarded the *Anastasi Early Career Award*, 2014, for the Evaluation, Measurement, & Statistics Division of the American Psychological Association. The award recognizes “an early career individual who has made outstanding contributions to assessment, evaluation, measurement, research methods and/or statistics, and who shows promise of continued outstanding work.”
- *Best Paper Award* for Kelley & Cheng (2012) by the European Association of Methodology, 2014. The award is for the best article, as judged by the European Association of Methodology, published in *Methodology* in 2012–2013.
- Fellow, Psychonomic Society, 2008.
- Awarded the *Eli J. and Helen Shaheen Graduate School Research Award in Social Science*, May 2005, University of Notre Dame. The award “recognizes one outstanding graduate student from each of the four divisions of the graduate school.”
- Awarded a Society of Multivariate and Experimental Psychology *Dissertation Research Award*, March 2004.
- Awarded a *Dissertation Fellowship*, August 2004–May 2005, Department of Psychology, University of Notre Dame.
- Awarded the *Clare E. Hubert Senior Man of the Year*, June 2000, Department of Psychology, University of Cincinnati.
- Awarded the *Community and University Service Award*, April 2000, Cincinnati Psychological Association.
- Awarded an *Outstanding Achievement* scholarship from the Scholarship and Awards Committee of the College of Arts and Sciences, University of Cincinnati, May 1999.

Service

- Department** • Member (of a committee of four), *Endowed Chair Search Committee*, Department of IT, Analytics, and Operations, University of Notre Dame, 2018.
- Member (of a committee of five), *Business Analytics Search Committee*, Department of IT, Analytics, and Operations, University of Notre Dame, 2017.
 - Coordinator, *Management Seminar Series* (The series consists of the Robert Vecchio Distinguished Speaker Series, Organizational Behavior Seminar Series, Information Technology Seminar Series, Operations Management Seminar Series, Analytics Seminar Series, and the Strategy Seminar Series), Department of Management, University of Notre Dame, 2012 – 2016.
 - Elected (to a committee of four), *Committee on Appointments and Promotions* (CAP), Department of Management, University of Notre Dame, 2013 – 2016.
 - Member (of a committee of three), *Master of Science in Business Analytics Faculty Search Committee, Multiple Appointments*, Department of Management, University of Notre Dame, 2015.
 - Member (of a committee of three), *Business Analytics Tenure Track Search Committee*, Department of Management, University of Notre Dame, 2015.
 - Member (of a committee of three), *Business Analytics Professional Specialist Search Committee*, Department of Management, University of Notre Dame, 2015.
 - Chair (of a committee of three), *Quantitative Methods Professional Specialist Search Committee*, Department of Management, University of Notre Dame, 2011.
 - Member (of a committee of three), *Quantitative Methods Professional Specialist Search Committee*, Department of Management, University of Notre Dame, 2010.

- Member (on a committee of five), *Faculty Search Committee* (Inquiry Methodology Program), Department of Counseling and Educational Psychology, Indiana University - Bloomington, 2006.
- Twice elected *Quantitative Representative to the Faculty*, Department of Psychology, University of Notre Dame, August 2001 – August 2003.
- Graduate student representative for the *Colloquium Committee*, Department of Psychology, University of Notre Dame, 2001.
- Elected *President of Psi Chi*, The National Honors Society for Psychology, University of Cincinnati Chapter, June 1999 – June 2000.
- Undergraduate representative (on a committee of nine), *Department-head Search Committee*, Department of Psychology, University of Cincinnati, 1998 – 1999.

College

- Numerous activities due to my associate dean role (activities no longer listed individually).
- Associate Dean for Faculty and Research, Mendoza College of Business, University of Notre Dame, 2016 – Present.
- Member (of a committee of 7), *Undergraduate Curriculum Committee*, Mendoza College of Business, University of Notre Dame, May, 2016 – Present.
- Member (of a committee of 5), *Master's of Science in Business Analytics Faculty Advising Committee*, Mendoza College of Business, University of Notre Dame, May, 2014 – Present.
- Member (of a committee of six), *Steering Committee for the Master of Science in Business Analytics Program*, Mendoza College of Business, University of Notre Dame, 2014 – Present.
- Elected (to a committee of 22), *College Council*, Mendoza College of Business, University of Notre Dame, May, 2011 – Present.
- Member (of a committee of four), *Director of Business Analytics Search Committee*, Mendoza College of Business, University of Notre Dame, 2016.
- Member (of a committee of five), Various searches for faculty in the Master's of Science in Business Analytics program, Mendoza College of Business, University of Notre Dame, 2014.
- Member (of a committee of six), *Director of Business Analytics Search Committee*, Mendoza College of Business, University of Notre Dame, 2014.
- Member, (of a committee of six), *Director of Business Analytics Search Committee*, Mendoza College of Business, 2012 – 2014.
- Member, (of a committee of six), Organization and Development Committee for the Master's of Science in Business Analytics Program, Mendoza College of Business, 2012 – 2014.
- Member (of a committee of five), *Committee on Undergraduate Business Statistics Requirements*, Mendoza College of Business, University of Notre Dame, January 2011 – June 2012.
- Chair (of a committee of three), *Dissertation Awards Committee*, Department of Counseling and Educational Psychology, Indiana University - Bloomington, 2006 – 2008.
- Member (on a committee of six), *Dissertation of the Year Award Committee*, School of Education, Indiana University - Bloomington, 2006 – 2007.

University

- Numerous activities due to my associate dean role (activities no longer listed individually).
- Provost’s Learning Initiative Working Committee, University of Notre Dame, Beginning 2018.
- Office of the Provost Working Committee on Service, University of Notre Dame, Beginning 2018.
- University Committee on Elections, University of Notre Dame, Beginning 2018.
- Member, *Scientific Wellness Initiative – Research and Grants Subcommittee*, University of Notre Dame, Beginning 2018.
- Member, *Provost Advisory Committee*, University of Notre Dame, 2018–2021.
- Member (of a committee of 7), *Conflict of Interest Guidelines*, University of Notre Dame, 2017.
- Member (of a committee of 11), *Ad Hoc Committee on the Evaluation of Teaching*, University of Notre Dame, 2017.
- Member (of a committee of 3), *Notre Dame Research Committee*, University of Notre Dame, October, 2016.
- Member (of a committee of 17), *Center for Research Computing Advisory Committee*, University of Notre Dame, October, 2009 – 2016.
- Member (of a committee of 7), *Bernoulli Award for Undergraduate Statistical Research*, University of Notre Dame, May, 2012.

Profession

- Dissertation Research Award Reviewer for Quantitative Methods of the American Psychological Association, 2017.
- Financial Officer & Executive Committee Member, *Division 5 (Quantitative and Qualitative Methods)*, *American Psychological Association*, 2017 – 2020.
- Member, *International Jury Selection Committee*, Interuniversity Graduate School for Psychometrics and Sociometrics (IOPS; for the Netherlands and Belgium Psychometric Doctoral Students), 2015.
- Member, *Liaison Committee*, Mental Health Statistics Section, American Statistical Association, 2012.
- Member (of a committee of five), *New Members Committee*, Research Methods Division of the Academy of Management, 2008 – 2010.
- Organizer and Chair of the “Psychological Statistics and Psychometrics” contributed session at the Joint Statistical Meetings, Vancouver, Canada (2010).
- Elected *Chair* of the Science Student Council of the Science Directorate, American Psychological Association, February 2003 – November 2004.
- Member (of a committee of eight), *Quantitative Representative*, Science Student Council of the Science Directorate, American Psychological Association, October 2002 – February 2005.
- Also see the Editorial section above.

Memberships

Elected

- Society of Multivariate Experimental Psychology (limited to 65 active members), beginning in 2017.
- Fellow of the American Psychological Association, beginning in 2014.
- Fellow of the Psychonomic Society, beginning in 2008.

Professional Associations

—*Associations are listed in alphabetical order.*

- American Statistical Association (ASA), beginning in 2001.
- Association for Psychological Science (APS), beginning in 2009.
- Evaluation, Measurement, and Statistics (Division 5; now called Quantitative and Qualitative Methods) of the American Psychological Association (as well as APA most of this time), beginning in 2001 (Fellow, beginning 2014).
- Division of Measurement and Research Methodology (Division D) of the American Education Research Association (as well as AERA), beginning in 2005.
- European Association of Methodology, beginning in 2008.
- INFORMS (Institute for Operations Research and the Management Sciences), beginning in 2016.
- Psychometric Society, beginning in 2004.
- Research Methods Division of the Academy of Management (as well as AOM), beginning in 2007.
- Society for Industrial & Organizational Psychology (SIOP), beginning in 2009.

Other Positions

Academic

- Statistician, Center for Adolescent and Family Studies, Indiana University-Bloomington; July 2007 – July 2008.
- Dissertation Fellow, Department of Psychology, University of Notre Dame; August 2004 – May 2005.
- Statistical Consultant, Laboratory for Social Research, College of Arts and Letters, University of Notre Dame; August 2003 – August 2004.
- Statistical Consultant, Department of Psychology, University of Notre Dame; August 2002 – August 2003.

Nonacademic

- RDI Marketing Services, Inc. Ended employment as an operations manager in a supervisory role of 110+ telebusiness professional at a given time, helped to develop and implement strategic plans, report generation, data processing of daily transactions, interaction with executive client teams, etc.), 1995 – 2000.