

# betaDelta: References

Ivan Jacob Agaloos Pesigan

## References

- Andrews, D. W. K. (1991). Heteroskedasticity and autocorrelation consistent covariance matrix estimation. *Econometrica*, 59(3), 817. <https://doi.org/10.2307/2938229>
- Andrews, D. W. K. (2000). Inconsistency of the bootstrap when a parameter is on the boundary of the parameter space. *Econometrica*, 68(2), 399–405. <https://doi.org/10.1111/1468-0262.00114>
- Andrews, D. W. K., & Monahan, J. C. (1992). An improved heteroskedasticity and autocorrelation consistent covariance matrix estimator. *Econometrica*, 60(4), 953. <https://doi.org/10.2307/2951574>
- Arbuckle, J. L. (1996). Full information estimation in the presence of incomplete data. In G. A. Marcoulides & R. E. Schumacker (Eds.), *Advanced structural equation modeling*. <https://doi.org/10.4324/9781315827414>
- Arbuckle, J. L. (2020). *Amos 27.0 user's guide*. Chicago, IBM SPSS.
- Arbuckle, J. L. (2021). *Amos 28.0 user's guide*. Chicago, IBM SPSS.
- Aroian, L. A. (1947). The probability function of the product of two normally distributed variables. *The Annals of Mathematical Statistics*, 18(2), 265–271. <https://doi.org/10.1214/aoms/1177730442>
- Asparouhov, T., Hamaker, E. L., & Muthén, B. (2017). Dynamic structural equation models. *Structural Equation Modeling: A Multidisciplinary Journal*, 25(3), 359–388. <https://doi.org/10.1080/10705511.2017.1406803>

- Asparouhov, T., & Muthén, B. O. (2022). *Multiple imputation with Mplus* (tech. rep.). [http: www.statmodel.com](http://www.statmodel.com). <http://www.statmodel.com/download/Imputations7.pdf>
- Baltes, P. B., & Nesselroade, J. R. (1979). History and rationale of longitudinal research. In J. R. Nesselroade & P. B. Baltes (Eds.), *Longitudinal research in the study of behavior and development*. Academic Press.
- Barnard, G. A., Collins, J. R., Farewell, V. T., Field, C. A., Kalbfleisch, J. D., Nash, S. W., Parzen, E., Prentice, R. L., Reid, N., Sprott, D. A., Switzer, P., Warren, W. G., & Weldon, K. L. (1981). Nonparametric standard errors and confidence intervals: Discussion. *The Canadian Journal of Statistics / La Revue Canadienne de Statistique*, 9(2), 158–170. <https://doi.org/10.2307/3314609>
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173–1182. <https://doi.org/10.1037/0022-3514.51.6.1173>
- Bauer, D. J., Preacher, K. J., & Gil, K. M. (2006). Conceptualizing and testing random indirect effects and moderated mediation in multilevel models: New procedures and recommendations. *Psychological Methods*, 11(2), 142–163. <https://doi.org/10.1037/1082-989x.11.2.142>
- Beran, R. (2003). The impact of the bootstrap on statistical algorithms and theory. *Statistical Science*, 18(2). <https://doi.org/10.1214/ss/1063994972>
- Biesanz, J. C., Falk, C. F., & Savalei, V. (2010). Assessing mediational models: Testing and interval estimation for indirect effects. *Multivariate Behavioral Research*, 45(4), 661–701. <https://doi.org/10.1080/00273171.2010.498292>
- Blanca, M. J., Arnau, J., López-Montiel, D., Bono, R., & Bendayan, R. (2013). Skewness and kurtosis in real data samples. *Methodology*, 9(2), 78–84. <https://doi.org/10.1027/1614-2241/a000057>
- Boettiger, C., & Eddelbuettel, D. (2017). An introduction to Rocker: Docker containers for R. *The R Journal*, 9(2), 527. <https://doi.org/10.32614/rj-2017-065>
- Bollen, K. A., & Stine, R. (1990). Direct and indirect effects: Classical and bootstrap estimates of variability. *Sociological Methodology*, 20, 115. <https://doi.org/10.2307/271084>

- Boos, D. D. (2003). Introduction to the bootstrap world. *Statistical Science*, 18(2). <https://doi.org/10.1214/ss/1063994971>
- Bradley, J. V. (1978). Robustness? *British Journal of Mathematical and Statistical Psychology*, 31(2), 144–152. <https://doi.org/10.1111/j.2044-8317.1978.tb00581.x>
- Browne, M. W. (1984). Asymptotically distribution-free methods for the analysis of covariance structures. *British Journal of Mathematical and Statistical Psychology*, 37(1), 62–83. <https://doi.org/10.1111/j.2044-8317.1984.tb00789.x>
- Casella, G. (2003). Introduction to the silver anniversary of the bootstrap. *Statistical Science*, 18(2). <https://doi.org/10.1214/ss/1063994967>
- Chen, G., Glen, D. R., Saad, Z. S., Hamilton, J. P., Thomason, M. E., Gotlib, I. H., & Cox, R. W. (2011). Vector autoregression, structural equation modeling, and their synthesis in neuroimaging data analysis. *Computers in Biology and Medicine*, 41(12), 1142–1155. <https://doi.org/10.1016/j.combiomed.2011.09.004>
- Cheong, J., MacKinnon, D. P., & Khoo, S. T. (2003). Investigation of mediational processes using parallel process latent growth curve modeling. *Structural Equation Modeling: A Multidisciplinary Journal*, 10(2), 238–262. [https://doi.org/10.1207/s15328007sem1002\\_5](https://doi.org/10.1207/s15328007sem1002_5)
- Chesher, A., & Jewitt, I. (1987). The bias of a heteroskedasticity consistent covariance matrix estimator. *Econometrica*, 55(5), 1217. <https://doi.org/10.2307/1911269>
- Cheung, G. W., & Lau, R. S. (2007). Testing mediation and suppression effects of latent variables. *Organizational Research Methods*, 11(2), 296–325. <https://doi.org/10.1177/1094428107300343>
- Cheung, M. W.-L. (2007). Comparison of approaches to constructing confidence intervals for mediating effects using structural equation models. *Structural Equation Modeling: A Multidisciplinary Journal*, 14(2), 227–246. <https://doi.org/10.1080/10705510709336745>
- Cheung, M. W.-L. (2009a). Comparison of methods for constructing confidence intervals of standardized indirect effects. *Behavior Research Methods*, 41(2), 425–438. <https://doi.org/10.3758/brm.41.2.425>

- Cheung, M. W.-L. (2009b). Constructing approximate confidence intervals for parameters with structural equation models. *Structural Equation Modeling: A Multidisciplinary Journal*, 16(2), 267–294. <https://doi.org/10.1080/10705510902751291>
- Cheung, M. W.-L. (2021). Synthesizing indirect effects in mediation models with meta-analytic methods. *Alcohol and Alcoholism*, 57(1), 5–15. <https://doi.org/10.1093/alcalc/agab044>
- Cheung, S. F., & Pesigan, I. J. A. (2023a). FINDOUT: Using either SPSS commands or graphical user interface to identify influential cases in structural equation modeling in AMOS. *Multivariate Behavioral Research*, 1–5. <https://doi.org/10.1080/00273171.2022.2148089>
- Cheung, S. F., & Pesigan, I. J. A. (2023b). semlbci: An R package for forming likelihood-based confidence intervals for parameter estimates, correlations, indirect effects, and other derived parameters. *Structural Equation Modeling: A Multidisciplinary Journal*, 1–15. <https://doi.org/10.1080/10705511.2023.2183860>
- Cheung, S. F., Pesigan, I. J. A., & Vong, W. N. (2022). DIY bootstrapping: Getting the non-parametric bootstrap confidence interval in SPSS for any statistics or function of statistics (when this bootstrapping is appropriate). *Behavior Research Methods*, 55(2), 474–490. <https://doi.org/10.3758/s13428-022-01808-5>
- Chow, S.-M., Ho, M.-h. R., Hamaker, E. L., & Dolan, C. V. (2010). Equivalence and differences between structural equation modeling and state-space modeling techniques. *Structural Equation Modeling: A Multidisciplinary Journal*, 17(2), 303–332. <https://doi.org/10.1080/10705511003661553>
- Chow, S.-M., Losardo, D., Park, J., & Molenaar, P. C. M. (2023). Continuous-time dynamic models: Connections to structural equation models and other discrete-time models. In R. H. Hoyle (Ed.), *Handbook of structural equation modeling* (2nd ed.). The Guilford Press.
- Cochran, W. G. (1952). The  $\chi^2$  test of goodness of fit. *The Annals of Mathematical Statistics*, 23(3), 315–345. <https://doi.org/10.1214/aoms/1177729380>
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Routledge. <https://doi.org/10.4324/9780203771587>

- Cole, D. A., & Maxwell, S. E. (2003). Testing mediational models with longitudinal data: Questions and tips in the use of structural equation modeling. *Journal of Abnormal Psychology*, 112(4), 558–577. <https://doi.org/10.1037/0021-843x.112.4.558>
- Craig, C. C. (1936). On the frequency function of  $xy$ . *The Annals of Mathematical Statistics*, 7(1), 1–15. <https://doi.org/10.1214/aoms/1177732541>
- Cribari-Neto, F. (2004). Asymptotic inference under heteroskedasticity of unknown form. *Computational Statistics & Data Analysis*, 45(2), 215–233. [https://doi.org/10.1016/s0167-9473\(02\)00366-3](https://doi.org/10.1016/s0167-9473(02)00366-3)
- Cribari-Neto, F., & da Silva, W. B. (2010). A new heteroskedasticity-consistent covariance matrix estimator for the linear regression model. *AStA Advances in Statistical Analysis*, 95(2), 129–146. <https://doi.org/10.1007/s10182-010-0141-2>
- Cribari-Neto, F., Souza, T. C., & Vasconcellos, K. L. P. (2007). Inference under heteroskedasticity and leveraged data. *Communications in Statistics - Theory and Methods*, 36(10), 1877–1888. <https://doi.org/10.1080/03610920601126589>
- Cribari-Neto, F., Souza, T. C., & Vasconcellos, K. L. P. (2008). Errata: Inference under heteroskedasticity and leveraged data, Communications in Statistics, Theory and Methods, 36, 1877–1888, 2007. *Communications in Statistics - Theory and Methods*, 37(20), 3329–3330. <https://doi.org/10.1080/03610920802109210>
- Cronbach, L. J., & Furby, L. (1970). How we should measure "change": Or should we? *Psychological Bulletin*, 74(1), 68–80. <https://doi.org/10.1037/h0029382>
- Curran, P. J., & Bauer, D. J. (2011). The disaggregation of within-person and between-person effects in longitudinal models of change. *Annual Review of Psychology*, 62(1), 583–619. <https://doi.org/10.1146/annurev.psych.093008.100356>
- Davidson, R., & MacKinnon, J. G. (1993). *Estimation and inference in econometrics*. Oxford University Press.
- Davison, A. C., & Hinkley, D. V. (1997). *Bootstrap methods and their application*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511802843>

- Davison, A. C., Hinkley, D. V., & Young, G. A. (2003). Recent developments in bootstrap methodology. *Statistical Science*, 18(2). <https://doi.org/10.1214/ss/1063994969>
- Deboeck, P. R., & Preacher, K. J. (2015). No need to be discrete: A method for continuous time mediation analysis. *Structural Equation Modeling: A Multidisciplinary Journal*, 23(1), 61–75. <https://doi.org/10.1080/10705511.2014.973960>
- Demeshko, M., Washio, T., Kawahara, Y., & Pepyolshev, Y. (2015). A novel continuous and structural VAR modeling approach and its application to reactor noise analysis. *ACM Transactions on Intelligent Systems and Technology*, 7(2), 1–22. <https://doi.org/10.1145/2710025>
- Dudgeon, P. (2017). Some improvements in confidence intervals for standardized regression coefficients. *Psychometrika*, 82(4), 928–951. <https://doi.org/10.1007/s11336-017-9563-z>
- Eddelbuettel, D. (2013). *Seamless R and C++ integration with Rcpp*. Springer New York. <https://doi.org/10.1007/978-1-4614-6868-4>
- Eddelbuettel, D., & Balamuta, J. J. (2017). Extending R with C++: A brief introduction to Rcpp. *PeerJ Preprints*, 3188v1(3). <https://doi.org/10.7287/peerj.preprints.3188v1>
- Eddelbuettel, D., Francois, R., Allaire, J., Ushey, K., Kou, Q., Russell, N., Ucar, I., Bates, D., & Chambers, J. (2023). *Rcpp: Seamless R and C++ integration*. <https://CRAN.R-project.org/package=Rcpp>
- Eddelbuettel, D., & François, R. (2011). Rcpp: Seamless R and C++ integration. *Journal of Statistical Software*, 40(8). <https://doi.org/10.18637/jss.v040.i08>
- Eddelbuettel, D., & Sanderson, C. (2014). RcppArmadillo: Accelerating R with high-performance C++ linear algebra. *Computational Statistics & Data Analysis*, 71, 1054–1063. <https://doi.org/10.1016/j.csda.2013.02.005>
- Efron, B. (1979a). Bootstrap methods: Another look at the jackknife. *The Annals of Statistics*, 7(1). <https://doi.org/10.1214/aos/1176344552>
- Efron, B. (1979b). Computers and the theory of statistics: Thinking the unthinkable. *SIAM Review*, 21(4), 460–480. <https://doi.org/10.1137/1021092>

- Efron, B. (1981a). Nonparametric standard errors and confidence intervals. *Canadian Journal of Statistics / La Revue Canadienne de Statistique*, 9(2), 139–158. <https://doi.org/10.2307/3314608>
- Efron, B. (1981b). Nonparametric standard errors and confidence intervals: Rejoinder. *The Canadian Journal of Statistics / La Revue Canadienne de Statistique*, 9(2), 170–172. <https://doi.org/10.2307/3314610>
- Efron, B. (1987). Better bootstrap confidence intervals. *Journal of the American Statistical Association*, 82(397), 171–185. <https://doi.org/10.1080/01621459.1987.10478410>
- Efron, B. (1988). Bootstrap confidence intervals: Good or bad? *Psychological Bulletin*, 104(2), 293–296. <https://doi.org/10.1037/0033-2909.104.2.293>
- Efron, B. (2003). Second thoughts on the bootstrap. *Statistical Science*, 18(2). <https://doi.org/10.1214/ss/1063994968>
- Efron, B. (2012). Bayesian inference and the parametric bootstrap. *The Annals of Applied Statistics*, 6(4). <https://doi.org/10.1214/12-aos571>
- Efron, B., & Tibshirani, R. J. (1993). *An introduction to the bootstrap*. Chapman & Hall. <https://doi.org/10.1201/9780429246593>
- Enders, C. K. (2010). *Applied missing data analysis*. Guilford Publications.
- Epskamp, S., Waldorp, L. J., Mottus, R., & Borsboom, D. (2018). The Gaussian graphical model in cross-sectional and time-series data. *Multivariate Behavioral Research*, 53(4), 453–480. <https://doi.org/10.1080/00273171.2018.1454823>
- Ernst, M. D., & Hutson, A. D. (2003). Utilizing a quantile function approach to obtain exact bootstrap solutions. *Statistical Science*, 18(2). <https://doi.org/10.1214/ss/1063994978>
- Fairchild, A. J., & MacKinnon, D. P. (2014). Using mediation and moderation analyses to enhance prevention research. In *Defining prevention science* (pp. 537–555). Springer US. [https://doi.org/10.1007/978-1-4899-7424-2\\_23](https://doi.org/10.1007/978-1-4899-7424-2_23)
- Ferrer, E., & McArdle, J. (2003). Alternative structural models for multivariate longitudinal data analysis. *Structural Equation Modeling: A Multidisciplinary Journal*, 10(4), 493–524. [https://doi.org/10.1207/s15328007sem1004\\_1](https://doi.org/10.1207/s15328007sem1004_1)

- Fritz, M. S., & MacKinnon, D. P. (2007). Required sample size to detect the mediated effect. *Psychological Science*, 18(3), 233–239. <https://doi.org/10.1111/j.1467-9280.2007.01882.x>
- Fritz, M. S., Taylor, A. B., & MacKinnon, D. P. (2012). Explanation of two anomalous results in statistical mediation analysis. *Multivariate Behavioral Research*, 47(1), 61–87. <https://doi.org/10.1080/00273171.2012.640596>
- Gates, K. M., Molenaar, P. C., Hillary, F. G., Ram, N., & Rovine, M. J. (2010). Automatic search for fMRI connectivity mapping: An alternative to Granger causality testing using formal equivalences among SEM path modeling, VAR, and unified SEM. *NeuroImage*, 50(3), 1118–1125. <https://doi.org/10.1016/j.neuroimage.2009.12.117>
- Goodman, L. A. (1960). On the exact variance of products. *Journal of the American Statistical Association*, 55(292), 708–713. <https://doi.org/10.1080/01621459.1960.10483369>
- Graham, J. W., Olchowski, A. E., & Gilreath, T. D. (2007). How many imputations are really needed? some practical clarifications of multiple imputation theory. *Prevention Science*, 8(3), 206–213. <https://doi.org/10.1007/s11121-007-0070-9>
- Hall, P. (2003). A short prehistory of the bootstrap. *Statistical Science*, 18(2). <https://doi.org/10.1214/ss/1063994970>
- Hamaker, E. L., Kuiper, R. M., & Grasman, R. P. P. P. (2015). A critique of the cross-lagged panel model. *Psychological Methods*, 20(1), 102–116. <https://doi.org/10.1037/a0038889>
- Harvey, A. C. (1990). *Forecasting, structural time series models and the Kalman filter*. Cambridge University Press. <https://doi.org/10.1017/cbo9781107049994>
- Hatemi-J, A. (2003). A new method to choose optimal lag order in stable and unstable VAR models. *Applied Economics Letters*, 10(3), 135–137. <https://doi.org/10.1080/1350485022000041050>
- Hatemi-J, A. (2004). Multivariate tests for autocorrelation in the stable and unstable VAR models. *Economic Modelling*, 21(4), 661–683. <https://doi.org/10.1016/j.econmod.2003.09.005>
- Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication Monographs*, 76(4), 408–420. <https://doi.org/10.1080/03637750903310360>
- Hayes, A. F. (2022). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (3rd ed.). Guilford Publications.



- Hayes, A. F., & Cai, L. (2007). Using heteroskedasticity-consistent standard error estimators in OLS regression: An introduction and software implementation. *Behavior Research Methods*, 39(4), 709–722. <https://doi.org/10.3758/bf03192961>
- Hayes, A. F., & Scharkow, M. (2013). The relative trustworthiness of inferential tests of the indirect effect in statistical mediation analysis. *Psychological Science*, 24(10), 1918–1927. <https://doi.org/10.1177/0956797613480187>
- Hesterberg, T. C. (2014). What teachers should know about the bootstrap: Resampling in the undergraduate statistics curriculum. <https://arxiv.org/abs/1411.5279>
- Hesterberg, T. C. (2015). What teachers should know about the bootstrap: Resampling in the undergraduate statistics curriculum. *The American Statistician*, 69(4), 371–386. <https://doi.org/10.1080/00031305.2015.1089789>
- Hinkley, D. V. (1977). Jackknifing in unbalanced situations. *Technometrics*, 19(3), 285–292. <https://doi.org/10.1080/00401706.1977.10489550>
- Holmes, S. (2003a). Bootstrapping phylogenetic trees: Theory and methods. *Statistical Science*, 18(2). <https://doi.org/10.1214/ss/1063994979>
- Holmes, S. (2003b). Bradley Efron: A conversation with good friends. *Statistical Science*, 18(2). <https://doi.org/10.1214/ss/1063994981>
- Horn, S. D., Horn, R. A., & Duncan, D. B. (1975). Estimating heteroscedastic variances in linear models. *Journal of the American Statistical Association*, 70(350), 380–385. <https://doi.org/10.1080/01621459.1975.10479877>
- Horowitz, J. L. (2003). The bootstrap in econometrics. *Statistical Science*, 18(2). <https://doi.org/10.1214/ss/1063994976>
- Hunter, M. D. (2017). State space modeling in an open source, modular, structural equation modeling environment. *Structural Equation Modeling: A Multidisciplinary Journal*, 25(2), 307–324. <https://doi.org/10.1080/10705511.2017.1369354>
- Iacus, S. M. (2008). *Simulation and inference for stochastic differential equations*. Springer New York. <https://doi.org/10.1007/978-0-387-75839-8>

- James, L. R., & Brett, J. M. (1984). Mediators, moderators, and tests for mediation. *Journal of Applied Psychology*, 69(2), 307–321. <https://doi.org/10.1037/0021-9010.69.2.307>
- Jones, J. A., & Waller, N. G. (2013a). Computing confidence intervals for standardized regression coefficients. *Psychological Methods*, 18(4), 435–453. <https://doi.org/10.1037/a0033269>
- Jones, J. A., & Waller, N. G. (2013b). *The normal-theory and asymptotic distribution-free (ADF) covariance matrix of standardized regression coefficients: Theoretical extensions and finite sample behavior* (tech. rep.). University of Minnesota-Twin Cities. Retrieved July 22, 2022, from <http://users.cla.umn.edu/~nwaller/downloads/techreports/TR052913.pdf>
- Jones, J. A., & Waller, N. G. (2015). The normal-theory and asymptotic distribution-free (ADF) covariance matrix of standardized regression coefficients: Theoretical extensions and finite sample behavior. *Psychometrika*, 80(2), 365–378. <https://doi.org/10.1007/s11336-013-9380-y>
- Jorgensen, T. D., Pornprasertmanit, S., Schoemann, A. M., & Rosseel, Y. (2022). *semTools: Useful tools for structural equation modeling*. <https://CRAN.R-project.org/package=semTools>
- Judd, C. M., & Kenny, D. A. (1981). Process analysis. *Evaluation Review*, 5(5), 602–619. <https://doi.org/10.1177/0193841x8100500502>
- Kalman, R. E. (1960). A new approach to linear filtering and prediction problems. *Journal of Basic Engineering*, 82(1), 35–45. <https://doi.org/10.1115/1.3662552>
- Kauermann, G., & Carroll, R. J. (2001). A note on the efficiency of sandwich covariance matrix estimation. *Journal of the American Statistical Association*, 96(456), 1387–1396. <https://doi.org/10.1198/016214501753382309>
- Kim, C.-J., & Nelson, C. R. (1999). *State-space models with regime switching: Classical and Gibbs-sampling approaches with applications*. The MIT Press. <https://doi.org/10.7551/mitpress/6444.001.0001>
- Kisbu-Sakarya, Y., MacKinnon, D. P., & Miočević, M. (2014). The distribution of the product explains normal theory mediation confidence interval estimation. *Multivariate Behavioral Research*, 49(3), 261–268. <https://doi.org/10.1080/00273171.2014.903162>

- Koopman, J., Howe, M., & Hollenbeck, J. R. (2014). Pulling the Sobel test up by its bootstraps. In *More statistical and methodological myths and urban legends: Doctrine, verity and fable in organizational and social sciences* (pp. 224–243). Routledge/Taylor & Francis Group. <https://doi.org/10.4324/9780203775851>
- Koopman, J., Howe, M., Hollenbeck, J. R., & Sin, H.-P. (2015). Small sample mediation testing: Misplaced confidence in bootstrapped confidence intervals. *Journal of Applied Psychology*, 100(1), 194–202. <https://doi.org/10.1037/a0036635>
- Kuiper, R. M., & Ryan, O. (2018). Drawing conclusions from cross-lagged relationships: Re-considering the role of the time-interval. *Structural Equation Modeling: A Multidisciplinary Journal*, 25(5), 809–823. <https://doi.org/10.1080/10705511.2018.1431046>
- Kurtzer, G. M., cclerget, Bauer, M., Kaneshiro, I., Trudgian, D., & Godlove, D. (2021). hpcng/singularity: Singularity 3.7.3. <https://doi.org/10.5281/ZENODO.1310023>
- Kurtzer, G. M., Sochat, V., & Bauer, M. W. (2017). Singularity: Scientific containers for mobility of compute (A. Gursoy, Ed.). *PLOS ONE*, 12(5), e0177459. <https://doi.org/10.1371/journal.pone.0177459>
- Kwan, J. L. Y., & Chan, W. (2011). Comparing standardized coefficients in structural equation modeling: A model reparameterization approach. *Behavior Research Methods*, 43(3), 730–745. <https://doi.org/10.3758/s13428-011-0088-6>
- Kwan, J. L. Y., & Chan, W. (2014). Comparing squared multiple correlation coefficients using structural equation modeling. *Structural Equation Modeling: A Multidisciplinary Journal*, 21(2), 225–238. <https://doi.org/10.1080/10705511.2014.882673>
- Lahiri, P. (2003). On the impact of bootstrap in survey sampling and small-area estimation. *Statistical Science*, 18(2). <https://doi.org/10.1214/ss/1063994975>
- Lele, S. R. (2003). Impact of bootstrap on the estimating functions. *Statistical Science*, 18(2). <https://doi.org/10.1214/ss/1063994973>
- Li, K. H., Raghunathan, T. E., & Rubin, D. B. (1991). Large-sample significance levels from multiply imputed data using moment-based statistics and an  $F$  reference distribution. *Journal of the*

- American Statistical Association*, 86(416), 1065–1073. <https://doi.org/10.1080/01621459.1991.10475152>
- Li, Y., Oravecz, Z., Zhou, S., Bodovski, Y., Barnett, I. J., Chi, G., Zhou, Y., Friedman, N. P., Vrieze, S. I., & Chow, S.-M. (2022). Bayesian forecasting with a regime-switching zero-inflated multilevel poisson regression model: An application to adolescent alcohol use with spatial covariates. *Psychometrika*, 87(2), 376–402. <https://doi.org/10.1007/s11336-021-09831-9>
- Li, Y., Wood, J., Ji, L., Chow, S.-M., & Oravecz, Z. (2021). Fitting multilevel vector autoregressive models in Stan, JAGS, and Mplus. *Structural Equation Modeling: A Multidisciplinary Journal*, 29(3), 452–475. <https://doi.org/10.1080/10705511.2021.1911657>
- Little, R. J. A., & Rubin, D. B. (2019). *Statistical analysis with missing data* (3rd ed.). Wiley. <https://doi.org/10.1002/9781119482260>
- Long, J. S., & Ervin, L. H. (2000). Using heteroscedasticity consistent standard errors in the linear regression model. *The American Statistician*, 54(3), 217–224. <https://doi.org/10.1080/00031305.2000.10474549>
- Lütkepohl, H. (2005). *New introduction to multiple time series analysis*. Springer Berlin Heidelberg. <https://doi.org/10.1007/978-3-540-27752-1>
- MacKinnon, D. P. (1994). Analysis of mediating variables in prevention and intervention research. *NIDA research monograph*, 139, 127–153.
- MacKinnon, D. P. (2008). *Introduction to statistical mediation analysis*. Erlbaum Psych Press. <https://doi.org/10.4324/9780203809556>
- Mackinnon, D. P., & Dwyer, J. H. (1993). Estimating mediated effects in prevention studies. *Evaluation Review*, 17(2), 144–158. <https://doi.org/10.1177/0193841x9301700202>
- MacKinnon, D. P., Fritz, M. S., Williams, J., & Lockwood, C. M. (2007). Distribution of the product confidence limits for the indirect effect: Program PRODCLIN. *Behavior Research Methods*, 39(3), 384–389. <https://doi.org/10.3758/bf03193007>
- MacKinnon, D. P., Lockwood, C. M., Hoffman, J. M., West, S. G., & Sheets, V. (2002). A comparison of methods to test mediation and other intervening variable effects. *Psychological Methods*, 7(1), 83–104. <https://doi.org/10.1037/1082-989x.7.1.83>

- MacKinnon, D. P., Lockwood, C. M., & Williams, J. (2004). Confidence limits for the indirect effect: Distribution of the product and resampling methods. *Multivariate Behavioral Research*, 39(1), 99–128. [https://doi.org/10.1207/s15327906mbr3901\\_4](https://doi.org/10.1207/s15327906mbr3901_4)
- MacKinnon, J. G., & White, H. (1985). Some heteroskedasticity-consistent covariance matrix estimators with improved finite sample properties. *Journal of Econometrics*, 29(3), 305–325. [https://doi.org/10.1016/0304-4076\(85\)90158-7](https://doi.org/10.1016/0304-4076(85)90158-7)
- Maxwell, S. E., & Cole, D. A. (2007). Bias in cross-sectional analyses of longitudinal mediation. *Psychological Methods*, 12(1), 23–44. <https://doi.org/10.1037/1082-989x.12.1.23>
- Maxwell, S. E., Cole, D. A., & Mitchell, M. A. (2011). Bias in cross-sectional analyses of longitudinal mediation: Partial and complete mediation under an autoregressive model. *Multivariate Behavioral Research*, 46(5), 816–841. <https://doi.org/10.1080/00273171.2011.606716>
- McArdle, J. J. (2009). Latent variable modeling of differences and changes with longitudinal data. *Annual Review of Psychology*, 60(1), 577–605. <https://doi.org/10.1146/annurev.psych.60.110707.163612>
- McNeish, D., & Hamaker, E. L. (2020). A primer on two-level dynamic structural equation models for intensive longitudinal data in Mplus. *Psychological Methods*, 25(5), 610–635. <https://doi.org/10.1037/met0000250>
- McNeish, D., & MacKinnon, D. P. (2022). Intensive longitudinal mediation in Mplus. *Psychological Methods*. <https://doi.org/10.1037/met0000536>
- Merkel, D. (2014). Docker: Lightweight Linux containers for consistent development and deployment. *Linux Journal*, 2014(239), 2. <https://www.linuxjournal.com/content/docker-lightweight-linux-containers-consistent-development-and-deployment>
- Micceri, T. (1989). The unicorn, the normal curve, and other improbable creatures. *Psychological Bulletin*, 105(1), 156–166. <https://doi.org/10.1037/0033-2909.105.1.156>
- Muthén, B. O., & Curran, P. J. (1997). General longitudinal modeling of individual differences in experimental designs: A latent variable framework for analysis and power estimation. *Psychological Methods*, 2(4), 371–402. <https://doi.org/10.1037/1082-989x.2.4.371>

- Muthén, L. K., & Muthén, B. O. (2017). *Mplus user's guide. Eighth edition*. Los Angeles, CA, Muthén & Muthén.
- National Research Council. (1982). *An assessment of research-doctorate programs in the United States: Social and behavioral sciences*. National Academies Press. <https://doi.org/10.17226/9781>
- Neale, M. C., Hunter, M. D., Pritikin, J. N., Zahery, M., Brick, T. R., Kirkpatrick, R. M., Estabrook, R., Bates, T. C., Maes, H. H., & Boker, S. M. (2015). OpenMx 2.0: Extended structural equation and statistical modeling. *Psychometrika*, 81(2), 535–549. <https://doi.org/10.1007/s11336-014-9435-8>
- Nesselroade, J. R., & Cable, D. G. (1974). Sometimes, it's okay to factor difference scores" - the separation of state and trait anxiety. *Multivariate Behavioral Research*, 9(3), 273–284. <https://doi.org/10.1207/s15327906mbr0903.3>
- Newey, W. K., & West, K. D. (1987). A simple, positive semi-definite, heteroskedasticity and autocorrelation consistent covariance matrix. *Econometrica*, 55(3), 703. <https://doi.org/10.2307/1913610>
- Nüst, D., Eddelbuettel, D., Bennett, D., Cannoodt, R., Clark, D., Daróczi, G., Edmondson, M., Fay, C., Hughes, E., Kjeldgaard, L., Lopp, S., Marwick, B., Nolis, H., Nolis, J., Ooi, H., Ram, K., Ross, N., Shepherd, L., Sólymos, P., ... Xiao, N. (2020). The Rockerverse: Packages and applications for containerisation with R. *The R Journal*, 12(1), 437. <https://doi.org/10.32614/rj-2020-007>
- Oravecz, Z., Tuerlinckx, F., & Vandekerckhove, J. (2011). A hierarchical latent stochastic differential equation model for affective dynamics. *Psychological Methods*, 16(4), 468–490. <https://doi.org/10.1037/a0024375>
- O'Rourke, H. P., & MacKinnon, D. P. (2018). Reasons for testing mediation in the absence of an intervention effect: A research imperative in prevention and intervention research. *Journal of Studies on Alcohol and Drugs*, 79(2), 171–181. <https://doi.org/10.15288/jsad.2018.79.171>

- O'Rourke, H. P., & MacKinnon, D. P. (2019). The importance of mediation analysis in substance-use prevention. In *Advances in prevention science* (pp. 233–246). Springer International Publishing. [https://doi.org/10.1007/978-3-030-00627-3\\_15](https://doi.org/10.1007/978-3-030-00627-3_15)
- Ou, L., Hunter, M. D., & Chow, S.-M. (2019). What's for dynr: A package for linear and nonlinear dynamic modeling in R. *The R Journal*, 11(1), 91. <https://doi.org/10.32614/rj-2019-012>
- Oud, J. H., van den Bercken, J. H., & Essers, R. J. (1990). Longitudinal factor score estimation using the Kalman filter. *Applied Psychological Measurement*, 14(4), 395–418. <https://doi.org/10.1177/014662169001400406>
- Oud, J. H. L., & Jansen, R. A. R. G. (2000). Continuous time state space modeling of panel data by means of SEM. *Psychometrika*, 65(2), 199–215. <https://doi.org/10.1007/bf02294374>
- Pawitan, Y. (2013). *In all likelihood: Statistical modelling and inference using likelihood*. Oxford University Press.
- Pesigan, I. J. A. (2022). *Confidence intervals for standardized coefficients: Applied to regression coefficients in primary studies and indirect effects in meta-analytic structural equation modeling* [Doctoral dissertation, University of Macau].
- Pesigan, I. J. A., & Cheung, S. F. (2020). SEM-based methods to form confidence intervals for indirect effect: Still applicable given nonnormality, under certain conditions. *Frontiers in Psychology*, 11. <https://doi.org/10.3389/fpsyg.2020.571928>
- Pesigan, I. J. A., & Cheung, S. F. (2023). Monte Carlo confidence intervals for the indirect effect with missing data. *Behavior Research Methods*. <https://doi.org/10.3758/s13428-023-02114-4>
- Pesigan, I. J. A., Sun, R. W., & Cheung, S. F. (2023). betaDelta and betaSandwich: Confidence intervals for standardized regression coefficients in R. *Multivariate Behavioral Research*, 1–4. <https://doi.org/10.1080/00273171.2023.2201277>
- Peugh, J. L., & Enders, C. K. (2004). Missing data in educational research: A review of reporting practices and suggestions for improvement. *Review of Educational Research*, 74(4), 525–556. <https://doi.org/10.3102/00346543074004525>
- Politis, D. N. (2003). The impact of bootstrap methods on time series analysis. *Statistical Science*, 18(2). <https://doi.org/10.1214/ss/1063994977>

- Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers*, 36(4), 717–731. <https://doi.org/10.3758/bf03206553>
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40(3), 879–891. <https://doi.org/10.3758/brm.40.3.879>
- Preacher, K. J., & Selig, J. P. (2012). Advantages of monte carlo confidence intervals for indirect effects. *Communication Methods and Measures*, 6(2), 77–98. <https://doi.org/10.1080/19312458.2012.679848>
- R Core Team. (2021). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing. Vienna, Austria. <https://www.R-project.org/>
- R Core Team. (2022). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing. Vienna, Austria. <https://www.R-project.org/>
- R Core Team. (2023). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing. Vienna, Austria. <https://www.R-project.org/>
- Raghunathan, T. E., Lepkowski, J. M., Hoewyk, J. V., & Solenberger, P. (2001). A multivariate technique for multiply imputing missing values using a sequence of regression models. *Survey Methodology*, 27(1), 85–95.
- Rasmussen, J. L. (1987). Estimating correlation coefficients: Bootstrap and parametric approaches. *Psychological Bulletin*, 101(1), 136–139. <https://doi.org/10.1037/0033-2909.101.1.136>
- Robey, R. R., & Barcikowski, R. S. (1992). Type I error and the number of iterations in Monte Carlo studies of robustness. *British Journal of Mathematical and Statistical Psychology*, 45(2), 283–288. <https://doi.org/10.1111/j.2044-8317.1992.tb00993.x>
- Rosseel, Y. (2012). lavaan: An R package for structural equation modeling. *Journal of Statistical Software*, 48(2). <https://doi.org/10.18637/jss.v048.i02>
- Rousselet, G. A., Pernet, C. R., & Wilcox, R. R. (2021). The percentile bootstrap: A primer with step-by-step instructions in R. *Advances in Methods and Practices in Psychological Science*, 4(1), 1–10. <https://doi.org/10.1177/2515245920911881>



- Rubin, D. B. (1976). Inference and missing data. *Biometrika*, 63(3), 581–592. <https://doi.org/10.1093/biomet/63.3.581>
- Rubin, D. B. (1987). *Multiple imputation for nonresponse in surveys*. John Wiley & Sons, Inc. <https://doi.org/10.1002/9780470316696>
- Ryan, O., & Hamaker, E. L. (2021). Time to intervene: A continuous-time approach to network analysis and centrality. *Psychometrika*, 87(1), 214–252. <https://doi.org/10.1007/s11336-021-09767-0>
- Savalei, V., & Rosseel, Y. (2021). Computational options for standard errors and test statistics with incomplete normal and nonnormal data in SEM. *Structural Equation Modeling: A Multidisciplinary Journal*, 29(2), 163–181. <https://doi.org/10.1080/10705511.2021.1877548>
- Schafer, J. L. (1997). *Analysis of incomplete multivariate data*. Chapman; Hall/CRC. <https://doi.org/10.1201/9780367803025>
- Schafer, J. L., & Graham, J. W. (2002). Missing data: Our view of the state of the art. *Psychological Methods*, 7(2), 147–177. <https://doi.org/10.1037/1082-989x.7.2.147>
- Schenker, N. (1987). Better bootstrap confidence intervals: Comment. *Journal of the American Statistical Association*, 82(397), 192. <https://doi.org/10.2307/2289150>
- Schouten, R. M., Lugtig, P., & Vink, G. (2018). Generating missing values for simulation purposes: A multivariate amputation procedure. *Journal of Statistical Computation and Simulation*, 88(15), 2909–2930. <https://doi.org/10.1080/00949655.2018.1491577>
- Selig, J. P., & Preacher, K. J. (2009). Mediation models for longitudinal data in developmental research. *Research in Human Development*, 6(2-3), 144–164. <https://doi.org/10.1080/15427600902911247>
- Serlin, R. C. (2000). Testing for robustness in Monte Carlo studies. *Psychological Methods*, 5(2), 230–240. <https://doi.org/10.1037/1082-989x.5.2.230>
- Serlin, R. C., & Lapsley, D. K. (1985). Rationality in psychological research: The good-enough principle. *American Psychologist*, 40(1), 73–83. <https://doi.org/10.1037/0003-066x.40.1.73>
- Shao, J. (2003). Impact of the bootstrap on sample surveys. *Statistical Science*, 18(2). <https://doi.org/10.1214/ss/1063994974>

- Shiffman, S. (2009). Ecological momentary assessment (EMA) in studies of substance use. *Psychological Assessment*, 21(4), 486–497. <https://doi.org/10.1037/a0017074>
- Shiffman, S., Stone, A. A., & Hufford, M. R. (2008). Ecological momentary assessment. *Annual Review of Clinical Psychology*, 4(1), 1–32. <https://doi.org/10.1146/annurev.clinpsy.3.022806.091415>
- Shrout, P. E. (2011). Commentary: Mediation analysis, causal process, and cross-sectional data. *Multivariate Behavioral Research*, 46(5), 852–860. <https://doi.org/10.1080/00273171.2011.606718>
- Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and nonexperimental studies: New procedures and recommendations. *Psychological Methods*, 7(4), 422–445. <https://doi.org/10.1037/1082-989x.7.4.422>
- Shumway, R. H., & Stoffer, D. S. (2017). *Time series analysis and its applications: With R examples*. Springer International Publishing. <https://doi.org/10.1007/978-3-319-52452-8>
- Smith, K. E., & Juarascio, A. (2019). From ecological momentary assessment (EMA) to ecological momentary intervention (EMI): Past and future directions for ambulatory assessment and interventions in eating disorders. *Current Psychiatry Reports*, 21(7). <https://doi.org/10.1007/s11920-019-1046-8>
- Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. *Sociological Methodology*, 13, 290. <https://doi.org/10.2307/270723>
- Sobel, M. E. (1986). Some new results on indirect effects and their standard errors in covariance structure models. *Sociological Methodology*, 16, 159. <https://doi.org/10.2307/270922>
- Sobel, M. E. (1987). Direct and indirect effects in linear structural equation models. *Sociological Methods & Research*, 16(1), 155–176. <https://doi.org/10.1177/0049124187016001006>
- Soltis, P. S., & Soltis, D. E. (2003). Applying the bootstrap in phylogeny reconstruction. *Statistical Science*, 18(2). <https://doi.org/10.1214/ss/1063994980>
- Stoffer, D. S., & Wall, K. D. (1991). Bootstrapping state-space models: Gaussian maximum likelihood estimation and the Kalman filter. *Journal of the American Statistical Association*, 86(416), 1024–1033. <https://doi.org/10.1080/01621459.1991.10475148>

- Taylor, A. B., & MacKinnon, D. P. (2012). Four applications of permutation methods to testing a single-mediator model. *Behavior Research Methods*, 44(3), 806–844. <https://doi.org/10.3758/s13428-011-0181-x>
- Taylor, A. B., MacKinnon, D. P., & Tein, J.-Y. (2007). Tests of the three-path mediated effect. *Organizational Research Methods*, 11(2), 241–269. <https://doi.org/10.1177/1094428107300344>
- Tofighi, D., & Kelley, K. (2019). Indirect effects in sequential mediation models: Evaluating methods for hypothesis testing and confidence interval formation. *Multivariate Behavioral Research*, 55(2), 188–210. <https://doi.org/10.1080/00273171.2019.1618545>
- Tofighi, D., & Kelley, K. (2020). Improved inference in mediation analysis: Introducing the model-based constrained optimization procedure. *Psychological Methods*, 25, 496–515. <https://doi.org/10.1037/met0000259>
- Tofighi, D., & MacKinnon, D. P. (2015). Monte Carlo confidence intervals for complex functions of indirect effects. *Structural Equation Modeling: A Multidisciplinary Journal*, 23(2), 194–205. <https://doi.org/10.1080/10705511.2015.1057284>
- Uhlenbeck, G. E., & Ornstein, L. S. (1930). On the theory of the brownian motion. *Physical Review*, 36(5), 823–841. <https://doi.org/10.1103/physrev.36.823>
- van Buuren, S. (2018). *Flexible imputation of missing data* (2nd ed.). Chapman; Hall/CRC. <https://doi.org/10.1201/9780429492259>
- van Buuren, S., Brand, J. P. L., Groothuis-Oudshoorn, C. G. M., & Rubin, D. B. (2006). Fully conditional specification in multivariate imputation. *Journal of Statistical Computation and Simulation*, 76(12), 1049–1064. <https://doi.org/10.1080/10629360600810434>
- van Buuren, S., & Groothuis-Oudshoorn, K. (2011). mice: Multivariate imputation by chained equations in R. *Journal of Statistical Software*, 45(3). <https://doi.org/10.18637/jss.v045.i03>
- van Montfort, K., Oud, J. H. L., & Voelkle, M. C. (Eds.). (2018). *Continuous time modeling in the behavioral and related sciences*. Springer International Publishing. <https://doi.org/10.1007/978-3-319-77219-6>
- Venables, W. N., & Ripley, B. D. (2002). *Modern applied statistics with S*. Springer New York. <https://doi.org/10.1007/978-0-387-21706-2>

- Venzon, D. J., & Moolgavkar, S. H. (1988). A method for computing profile-likelihood-based confidence intervals. *Applied Statistics*, 37(1), 87. <https://doi.org/10.2307/2347496>
- Voelkle, M. C., & Oud, J. H. L. (2012). Continuous time modelling with individually varying time intervals for oscillating and non-oscillating processes. *British Journal of Mathematical and Statistical Psychology*, 66(1), 103–126. <https://doi.org/10.1111/j.2044-8317.2012.02043.x>
- Voelkle, M. C., Oud, J. H. L., Davidov, E., & Schmidt, P. (2012). An SEM approach to continuous time modeling of panel data: Relating authoritarianism and anomia. *Psychological Methods*, 17(2), 176–192. <https://doi.org/10.1037/a0027543>
- Waller, N. G. (2022). *fungible: Psychometric functions from the Waller Lab*. The R Foundation. <https://CRAN.R-project.org/package=fungible>
- Wang, L., & Zhang, Q. (2020). Investigating the impact of the time interval selection on autoregressive mediation modeling: Result interpretations, effect reporting, and temporal designs. *Psychological Methods*, 25(3), 271–291. <https://doi.org/10.1037/met0000235>
- White, H. (1980). A heteroskedasticity-consistent covariance matrix estimator and a direct test for heteroskedasticity. *Econometrica*, 48(4), 817–838. <https://doi.org/10.2307/1912934>
- Wright, S. (1918). On the nature of size factors. *Genetics*, 3(4), 367–374. <https://doi.org/10.1093/genetics/3.4.367>
- Wright, S. (1934). The method of path coefficients. *The Annals of Mathematical Statistics*, 5(3), 161–215. <https://doi.org/10.1214/aoms/1177732676>
- Wu, W., & Jia, F. (2013). A new procedure to test mediation with missing data through nonparametric bootstrapping and multiple imputation. *Multivariate Behavioral Research*, 48(5), 663–691. <https://doi.org/10.1080/00273171.2013.816235>
- Yuan, K.-H., & Bentler, P. M. (2000). Three likelihood-based methods for mean and covariance structure analysis with nonnormal missing data. *Sociological Methodology*, 30(1), 165–200. <https://doi.org/10.1111/0081-1750.00078>
- Yuan, K.-H., & Chan, W. (2011). Biases and standard errors of standardized regression coefficients. *Psychometrika*, 76(4), 670–690. <https://doi.org/10.1007/s11336-011-9224-6>

- Yzerbyt, V., Muller, D., Batailler, C., & Judd, C. M. (2018). New recommendations for testing indirect effects in mediational models: The need to report and test component paths. *Journal of Personality and Social Psychology*, 115(6), 929–943. <https://doi.org/10.1037/pspa0000132>
- Zeileis, A. (2004). Econometric computing with HC and HAC covariance matrix estimators. *Journal of Statistical Software*, 11(10). <https://doi.org/10.18637/jss.v011.i10>
- Zeileis, A. (2006). Object-oriented computation of sandwich estimators. *Journal of Statistical Software*, 16(9). <https://doi.org/10.18637/jss.v016.i09>
- Zeileis, A., Köll, S., & Graham, N. (2020). Various versatile variances: An object-oriented implementation of clustered covariances in R. *Journal of Statistical Software*, 95(1). <https://doi.org/10.18637/jss.v095.i01>
- Zhang, Z., & Wang, L. (2012). Methods for mediation analysis with missing data. *Psychometrika*, 78(1), 154–184. <https://doi.org/10.1007/s11336-012-9301-5>
- Zhang, Z., Wang, L., & Tong, X. (2015). Mediation analysis with missing data through multiple imputation and bootstrap. In *Quantitative psychology research* (pp. 341–355). Springer International Publishing. [https://doi.org/10.1007/978-3-319-19977-1\\_24](https://doi.org/10.1007/978-3-319-19977-1_24)