

## List of Key References in Missing Data Analysis

Provided by:  
Todd D. Little, Ph.D.

Medicine: Mind the Gap Seminar  
Optimizing Inferences Using Principled Missing Data Treatments  
June 29, 2016

Allison, P. D. (2002). *Missing data*. Thousand Oaks, CA: Sage Publications.

Anderson, T. W. (1957). Maximum likelihood estimates for a multivariate normal distribution when some observations are missing. *Journal of the American Statistical Association*, 52(278), 200–203. doi:10.1080/01621459.1957.10501379

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* (pp. 243–277). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Carpenter, J. R., & Kenward, M. G. (2012). *Multiple imputation and its applications*. John Wiley & Sons.

Collins, L. M., Schafer, J. L., & Kam, C. M. (2001). A comparison of inclusive and restrictive strategies in modern missing data procedures. *Psychological Methods*, 6, 330–351. doi: 10.1037/1082-989X.6.4.330

Dempster, A. P., Laird, N. M., & Rubin, D. B. (1977). Maximum likelihood from incomplete data via the EM algorithm. *Journal of the Royal Statistical Society, Series B*, 39, 1–38.

Enders, C. K. (2010). *Applied missing data analysis*. New York, NY: Guilford.

Enders, C. K., & Bandalos, D. L. (2001). The relative performance of full information maximum likelihood estimation for missing data in structural equation models. *Structural Equation Modeling*, 8, 430–457. doi: 10.1207/S15328007SEM0803\_5

Graham, J. W. (2003). Adding missing-data-relevant variables to FIML-based structural equation models. *Structural Equation Modeling*, 10, 80–100. doi: 10.1207/S15328007SEM1001\_4

- Graham, J. W. (2012). *Missing data: Analysis and design*. New York, NY: Springer.  
doi:10.1007/978-1-46144018-5\_1
- 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, 206–213. doi: 10.1007/s11121-007-0070-9
- Graham, J. W., Taylor, B. J., & Cumsille, P. E. (2001). Planned missing data designs in the analysis of change. In L. M. Collins & A. G. Sayer (Eds.), *New methods for the analysis of change* (pp. 335–353). Washington, DC: American Psychological Association. doi: 10.1037/10409-011
- Graham, J. W., Taylor, B. J., Olchowski, A. E., & Cumsille, P. E. (2006). Planned missing data designs in psychological research. *Psychological Methods*, 11, 323–343. doi: 10.1037/1082-989X.11.4.323
- Honaker, J., & King, G. (2010). What to do about missing values in time-series cross-section data. *American Journal of Political Science*, 54(2), 561–581. doi: 10.1111/j.1540-5907.2010.00447.x
- Little, R. J. A., & Rubin, D. B. (2002). *Statistical analysis with missing data*. Hoboken, NJ: John Wiley & Sons.
- Orchard, T., & Woodbury, M. A. (1972). *A missing information principle: Theory and applications*. Paper presented at the sixth Berkeley symposium on mathematical statistics and probability, University of California, Berkeley, CA.
- Raghunathan, T. E., Lepkowski, J. M., Van Hoewyk, J., & Solenberger, P. (2001). A multivariate technique for multiply imputing missing values using a sequence of regression models. *Survey Methodology*, 27(1), 85–96.
- Rubin, D. B. (1976). Inference and missing data. *Biometrika*, 63, 581–592. doi: 10.1093/biomet/63.3.581
- Rubin, D. B. (1978). Multiple imputations in sample surveys—A phenomenological bayesian approach to nonresponse. *Proceedings of the Survey Research Methods Section of the American Statistical Association*, 30–34.

Rubin, D. B. (1987). *Multiple imputation for nonresponse in surveys*. New York, NY: Wiley. doi: 10.1002/9780470316696

Rubin, D. B. (1996). Multiple imputation after 18+ years. *Journal of the American Statistical Association*, *91*, 473–489. doi: 10.1080/01621459.1996.10476908

Savalei, V., & Rhemtulla, M. (2012). Teacher's corner: On obtaining estimates of the fraction of missing information from FIML. *Structural Equation Modeling*, *19*, 477–494. doi: 10.1080/10705511.2012.687669

Schafer, J. L. (1997). *Analysis of incomplete multivariate data*. New York, NY: Chapman Hall.

Tanner, M. A., & Wong, W. H. (1987). The calculation of posterior distributions by data augmentation. *Journal of the American Statistical Association*, *82*, 528–540. doi: 10.1080/01621459.1987.10478458

Van Buuren, S. (2012). *Flexible imputation of missing data*. Boca Raton, FL: CRC Press. doi: 10.1201/b11826

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.

Von Hippel, P. T. (2009). How to impute interactions, squares, and other transformed variables. *Sociological Methodology*, *39*, 265–291. doi: 10.1111/j.1467-9531.2009.01215.x

#### **Self Citations:**

Garnier-Villarreal, M., Rhemtulla, M., & Little, T. D. (2014). Two-method planned missing designs for longitudinal research. *International Journal of Behavioral Development*, *38*, 411-422. (doi: 10.1177/0165025414542711). ^

Howard, W. J., Rhemtulla, M., & Little, T. D. (2015). Using principal component analysis (PCA) to obtain auxiliary variables for missing data estimation in large data sets. *Multivariate Behavioral Research*, *50*, 285-299. (doi 10.1080/00273171.2014.999267).

Jia, F., Moore, E. W. G., Kinai, R., Crowe, K. S., Schoemann, A. M., & Little, T. D. (2014). Planned missing data design on small sample size: How small is too small? *International Journal of Behavioral Development*, *38*, 1-18.

- Jorgensen, T. D., Rhemtulla, M., Schoemann, A., McPherson, B., Wu, W., & Little, T. D. (2014). Optimal assignment methods in three-form planned missing data designs for longitudinal panel studies. *International Journal of Behavioral Development, 38*, 397-410.
- Lang, K. M., & Little, T. D. (2014). The supermatrix technique: A simple framework for hypothesis testing with missing data. *International Journal of Behavioral Development, 38*, 461-470.
- Lang, K. M., & Little, T. D. (in press). Principled missing data treatments. *Prevention Science*.
- Little, T. D., Jorgensen, T. D., Lang, K. M., & Moore, E. W. G. (2014). On the joys of missing data. *Journal of Pediatric Psychology, 39*, 151-162.
- Little, T. D., Lang, K. M., Wu, w., & Rhemtulla, M. (in press). Missing data. In D. Cicchetti (Ed.), *Developmental Psychopathology* (3rd Ed., pp 000-000). New York, NY: Wiley.
- Little, T. D., & Rhemtulla, M. (2013). Planned missing data designs for developmental researchers. *Child Development Perspectives, 7*, 199-204. (doi:10.1111/cdep.12043).
- Rhemtulla, M., Jia, F., Wu, W., & Little, T. D. (2014). Planned missing designs to optimize the efficiency of latent growth parameter estimates. *International Journal of Behavioral Development, 38*, 423-434.
- Rhemtulla, M., & Little, T. D. (2012). Planned missing data designs for research in cognitive development. *Journal of Cognition and Development, 13*, 425-438.
- Rhemtulla, M., & Little, T. D. (2014). Planned missing data designs for longitudinal organizational research. In M. Hassett & E. Paavilainen-Mäntymäki (Eds.), *Handbook of longitudinal research methods in studying organisations* (pp. 56-77). Cheltenham Glos, UK: Edward Elgar Publishing.
- Rhemtulla, M., Savalei, V., & Little, T. D. (2014). On the asymptotic relative efficiency of planned missingness designs. *Psychometrika, 1-28*. (doi:10.1007/s11336-014-9422-0). ^
- Wu, W., Jia, F., Rhemtulla, M., & Little, T.D. (2015). Search for efficient complete and planned missing data designs for analysis of change. *Behavior Research Methods, 47*.
- Hogue, C. M., Pornprasertmanit, S., Fry, M. D., Rhemtulla, M., & Little, T. D. (2013). Planned missing data designs for spline growth models in salivary cortisol research. *Measurement in Physical Education and Exercise Science, 17*, 310-325.