Workflow for Wearables:

Life cycle of research studies, from study design to analysis, using continuous activity monitoring devices

Further Reading & Resources

Multivariate Growth Model

Grimm, K. J., Ram, N., & Estabrook, R. (2016). *Growth modeling: Structural equation and multilevel modeling approaches*. Guilford Publications.

McArdle, J. J. (1988). Dynamic but structural equation modeling of repeated measures data. In *Handbook of multivariate experimental psychology* (pp. 561-614). Boston, MA: Springer US.

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://thechangelab.stanford.edu/tutorials/growth-modeling/

Change Scores and Post Scores

Allison, P. D. (1990). Change Scores as Dependent Variables in Regression Analysis. *Sociological Methodology, 20, 93-114. https://doi.org/10.2307/271083*

Clifton, L., & Clifton, D. A. (2019). The correlation between baseline score and post-intervention score, and its implications for statistical analysis. *Trials, 20(1), 43.* *https://doi.org/10.1186/s13063-018-3108-3*

Fu R, Holmer HK. Change Score or Followup Score? An Empirical Evaluation of the Impact of Choice of Mean Difference Estimates. Research White Paper. (Prepared by the Oregon Evidence-based Practice Center under Contract No. 290-2007-10057-I.) AHRQ Publication No. 15-EHC016-EF. Rockville, MD: Agency for Healthcare Research and Quality. April 2015. *www.effectivehealthcare.ahrq.gov/reports/final.cfm*.

Crager, M. R. (1987). Analysis of covariance in parallel-group clinical trials with pretreatment baselines. *Biometrics, 43(4), 895-901*.

Senn, S. (1994). Testing for baseline balance in clinical trials. *Stat Med, 13(17), 1715-1726. https://doi.org/10.1002/sim.4780131703*

Senn, S. (2006). Change from baseline and analysis of covariance revisited. *Statistics in Medicine, 25(24), 4334-4344. https://doi.org/10.1002/sim.2682*

Missing Data Reports

https://www.sas.com/content/dam/SAS/en_ca/User%20Group%20Presentations/TASS/Zdeb-MissingData.pdf

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