

Time to Get Personal: An Introduction to Latent Profile Analysis

Takuya Yanagida

University of Vienna

Abstract

The person-oriented approach is based on a person-oriented theory representing a holistic-interactionistic perspective on individual functioning and on person-oriented methods mainly concerned with clustering individuals according to their shared characteristics. The workshop offers an introduction to latent profile analysis, a person-oriented method based on a categorical latent variable model that focuses on identifying distinct subgroups within a population. First the variable-oriented approach as dominant paradigm in psychological research and the person-oriented approach as an alternative paradigm will be contrasted. Next, latent profile analysis (LPA) is introduced to discuss model estimation (e.g., maximum likelihood estimation and model convergence), model comparison (e.g., information criteria and bootstrap likelihood-ratio test) and model specification (e.g., within-class variance-covariance structures). Last, bias-adjusted three-step approaches to relate latent profile membership to external variables (covariates and outcomes) will be discussed. The program Mplus will be used for all examples throughout the workshop for specifying and estimation LPA models.

Content

The following topics will be covered:

- Variable- and person-oriented approach
- Latent Profile Analysis
 - Model estimation and model comparison
 - Specification of the within-class variance-covariance structures
 - Bias-adjusted three-step approach for inclusion of covariates and outcomes
- Model specification in Mplus and interpreting Mplus outputs

Software

The program Mplus (see <https://www.statmodel.com/>) will be used for all examples during the workshop. Basic familiarity with Mplus is desirable, but

participants without experience in Mplus should also be able to follow the presentation. The demo version of the program can be downloaded from the Mplus website: <https://www.statmodel.com/demo.shtml>

Literature

- Bakk, Z., & Kuha, J. (2021). Relating latent class membership to external variables: An overview. *The British Journal of Mathematical and Statistical Psychology*, *74*, 340-362. <https://doi.org/10.1111/bmsp.12227>
- Lanza, S. T., Bray, B. C., & Collins, L. M. (2012). An introduction to latent class and latent transition analysis. In J. A. Schinka, W. F. Velicer, & I. B. Weiner (Eds.), *Handbook of psychology* (2nd ed., Vol. 2, pp. 691-716). Wiley.
- Masyn, K. (2013). Latent class analysis and finite mixture modeling. In T. D. Little (Ed.), *The Oxford handbook of quantitative methods in psychology* (Vol. 2, pp. 551-611). Oxford University Press.