Methods of Configural Frequency Analysis
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Configural Frequency Analysis (CFA; Lienert, 1968; von Eye, 2002) is a method for the inspection of individual cells in multivariate cross-classifications. CFA proceeds under the assumption that associations among variables often are "local." That is, associations may be present in small segments of the data space only, whereas, in other segments, variables remain unrelated. Therefore, CFA asks, for each cell, whether the number of cases observed differs from the number expected for this cell. If more cases were observed than expected based on some chance model, the cell is said to constitute a "type." If fewer cases were observed than expected based on the chance model, the cell is said to constitute an "antitype." Sample fields of application include product planning and marketing. In these and many other fields, CFA can be used to scan the market. For example, CFA can be used to identify those market segments that contain more competitors or products than expected by chance (types), and those that contain fewer competitors or products than expected by chance (antitypes). The implications of types and antitypes differ, and are of importance for planning, marketing, and product strategies.

In this course, methods of CFA will be covered. Specifically, chance models will be discussed, hypothesis testing, alpha protection, and modeling in the CFA context. Participants will learn these methods at the conceptual, computational, and applied levels. A computer program will be made available that enables one to estimate most CFA models.

Sequence of Modules

Module	Literature
Goals and steps of CFA	von Eye (2002; Ch. 1)
Base models of CFA	von Eye (2002; Ch. 2); von Eye (2004)
Hypothesis testing in CFA: - significance tests - protection of α	Krauth (1996); von Eye (2002, Ch. 3); von Eye & Gutiérrez-Peña (2004)
Global models of CFA	Krauth (1996); von Eye (2002; Ch. 4, 5)
Regional models of CFA: - Interaction Structure Analysis - Prediction CFA - k-group CFA	von Eye (2002; Ch. 6,7)
Methods of longitudinal CFA	von Eye (2002; Ch. 8, 9)
Special CFA models: - CFA of groups of cells - aggregation of results from CFA - covariates in CFA - CFA of rater agreement	von Eye (2002; Ch. 10); von Eye & Mun (2006)
Computational issues: - A FORTRAN program for CFA - R modules for CFA	von Eye (2002; Ch. 12)
Applications and examples	

References

Funke, S., Mair, P., & von Eye, A. (2007). Analysis of configuration frequencies. Program module in R. http://cran.r-project.org/

Krauth, J. (1996). *Einführung in die Konfigurationsfrequenzanalyse*. Weinheim: Beltz.

Lienert, G. A. (1968). *Die "Konfigurationsfrequenzanalyse" als Klassifikationsmethode in der klinischen Psychologie.* Paper presented at the 26. Kongress der Deutschen Gesellschaft für Psychologie in Tübingen 1968.

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