Facet Theory for Behavioral System Research:
Concept Structure and P.O. Measurement

Abstract
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Behavioral systems typically involve a large number of interacting variables. Interaction patterns are often complex and cannot be traced as sequences of causes and effects. Modern Facet Theory offers procedures for sampling variables (mapping sentences) and for inferring content structures (Faceted SSA). Above all, it offers a new paradigm for behavioral research: a scientific imagery with its own notion of relationships between behaviors, and a “statistic” of new kind (geometric). Thus, whether we study human intelligence, quality of life, organizational efficacy, mice behavior or indeed the behavior of a complex computer program, this imagery raises new kinds of research questions with prospects for discovering stable scientific lawfulness.

Facet-theoretical measurement of behavioral systems forgoes any unjustified weighting schemes and is content with discovering the minimal number of scales commensurate with the system’s inherent diversity. This is the principle underlying Multiple Scaling by Partial Order Scalogram Analysis (POSAC, a generalization of the Guttman Scale).

In this lecture the principles of facet theory will be presented and illustrated. And, if time permits, a surprising mathematical relationship will be shown between the concept-space and the p.o. measurement-space (i.e., between columns and rows of the system’s data matrix).

Reference:

Further Reading:

