

תורת השטחות לחקר מערכות התנהגותיות: מבנה המושג ומדידה עפ"י סדר חלקי

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:

Shye, S. (1999). Facet Theory. *Encyclopedia of Statistical Sciences, Update, Vol. 3*. New York: Wiley, 231-239.

Further Reading:

Shye, S. (1985). *Multiple Scaling: The Theory and Application of Partial Order Scalogram Analysis*. Amsterdam: North Holland. [Reviews](#)

Shye, S. & Elizur, D. (1994). *Introduction to Facet Theory: Content Design and Intrinsic Data Analysis in Behavioral Research*. Thousand Oaks, CA: Sage.

Borg, I. & Shye, S. (1995). *Facet Theory: Form and Content*. Thousand Oaks, CA: Sage.

Shye, S. (1998). [Modern Facet Theory: Content design and measurement in behavioral research](#). *European Journal of Psychological Assessment*, 14, (2), 160-171.