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Vědecká integrita (v sociálních vědách)

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*„Naše nynější krise je
především krisí mravní.“*

(T. G. Masaryk)



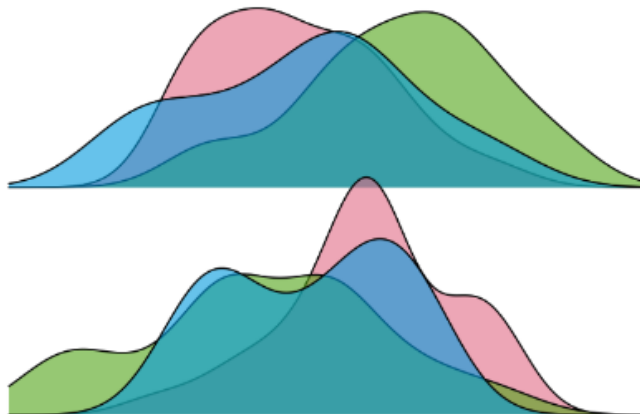
Krásný český text o vědecké integritě:
škoda, že nepřiznává zdroj.

Základní obtíže společenských věd

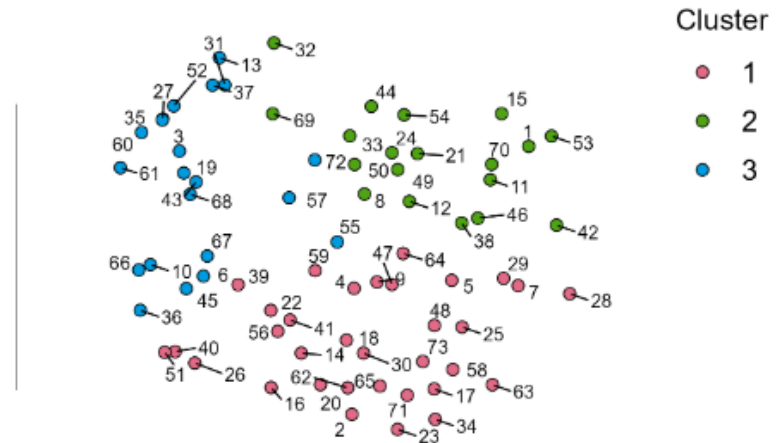
- systematicčnost
- verifikovatelnost
- replikovatelnost
- explanace
- perspektiva
- komplexita
- chaos
- jedinečnost
- interpretace
- perspektiva

Nomotetický přístup (tzv. kvantitativní)

- Založen na tradici přírodních věd
- *Závislý* na postupech statistické analýzy -> Nároky na analytické dovednosti vědce
- ...které u naprosté většiny sociálních vědců prostě chybí
- vývoj analytického software/AI tuto propast dlouhodobě prohlubuje
- -> založen na **víře** ve výsledky analýz



t-SNE Cluster Plot



- boom obtížně průhledných modelovacích nástrojů
- dlouhodobé, masivní selhávání recenzního / oponentního procesu a často i vědeckých, redakčních rad atd.
- náročnost pre- i postgraduálního vzdělávání
 - klikat, nebo počítat?

Co je měření (v psychologii)?

SCIENCE

Vol. 103, No. 2684

Friday, June 7, 1946

On the Theory of Scales of Measurement

S. S. Stevens

Director, Psycho-Acoustic Laboratory, Harvard University

S. S. Stevens:

„měření je přiřazování čísel jevům“

FOR SEVEN YEARS A COMMITTEE of the British Association for the Advancement of Science debated the problem of measurement. Appointed in 1932 to represent Section A (Mathematical and Physical Sciences) and Section J (Psychology), the committee was instructed to consider and report upon the possibility of “quantitative estimates of sensory events”—meaning simply: Is it possible to measure human sensation? Deliberation led only to disagreement, mainly about what is meant by the term measurement. An interim report in 1938 found one member complaining that his colleagues “came out by that same door as they went in,” and in order to have another try at agreement, the committee begged to be continued for another year.

For its final report (1940) the committee chose a common bone for its contentions, directing its arguments at a concrete example of a sensory scale. This was the Sone scale of loudness (S. S. Stevens and H. Davis. *Hearing*. New York: Wiley, 1938), which purports to measure the subjective magnitude of an auditory sensation against a scale having the formal properties of other basic scales, such as those used to

by the formal (mathematical) properties of the scales. Furthermore—and this is of great concern to several of the sciences—the statistical manipulations that can legitimately be applied to empirical data depend upon the type of scale against which the data are ordered.

A CLASSIFICATION OF SCALES OF MEASUREMENT

Paraphrasing N. R. Campbell (Final Report, p. 340), we may say that measurement, in the broadest sense, is defined as the assignment of numerals to objects or events according to rules. The fact that numerals can be assigned under different rules leads to different kinds of scales and different kinds of measurement. The problem then becomes that of making explicit (a) the various rules for the assignment of numerals, (b) the mathematical properties (or group structure) of the resulting scales, and (c) the statistical operations applicable to measurements made with each type of scale.

Scales are possible in the first place only because there is a certain isomorphism between what we can do with the aspects of objects and the properties of numerical series. In dealing with the aspects of

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Jednoduché příklady víry:

Co je měření (v psychologii)?

S. S. Stevens:

„měření je přiřazování číslíc jevům“

Kult koeficientu konzistence

(Cronbachova α)

Kult statistické průkaznosti

(odhady ES pro t-test, byť početně prosté, byly např. do SPSS vloženy v posledním desetiletí)

Mediační modely ex-post facto dat

Bizarní příklad:

Falconerův koeficient dědivosti

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Ideografický přístup (tzv. kvalitativní)

V extrému:

- obrat k subjektivitě, zkušenosti
- jedinečnost autorské práce, interpretace
- jedinečnost situace, setkání, události, prožitku...
- desítky výzkumných paradigmat

- validita ve věrohodnosti, transferabilitě, důvěryhodnosti, autenticitě, spolehlivosti, potvrditelnosti

tedy, víra vs. důvěra

Jak z toho ven?

- Ipění na zažitých postupech, „zlatém standardu“, tradici, zavedených fetiších je v přímém rozporu s vědeckou integritou vědce
 - problém autority
- návrat k tužce a papíru v pregraduálním vzdělávání?
 - rychlý nástup AI mj. ukazuje důležitost vlastních znalostí a dovedností k ovládnání nástroje
 - -> užší spolupráce pisálků a počítačků
- „návrat“ k transparentním postupům analýzy
 - namísto fascinace náročnými modely, které často ani nejsou oprávněné vzhledem k empirickým designům
 - více číst, méně psát ☺
- -> akademická integrita znamená mj. závazek transparentnosti

- širší reforma v akademickém prostředí?
 - budou kapři ochotni vypustit si rybník?