

# Scales

Ordinal

level of measurement or higher,  
used as an indicator of a phenomenon

# Pre-view Rest of Course

- We have **three weeks left**, 6 lectures; 2 seminars; Please do read Neuman (2003: C7, C10, C1, C4)
- Week 11: Scales (Seminars? Yes!)
- Week 11: Questionnaires (Seminars? Yes!)
- Week 12: Samples ( Seminars? No )
- Week 12: Surveys ( Seminars? No )
- Week 13: Methodology versus method/technique
- Week 13: “Meanings” of Methodology and Bakker’s “Ideal Type Model” (ITM) of Methodology and “Theory in general” (Tg): Pm, Ps, Pr, Hermeneutic Spril (HS), Tm, Tr, H, E, Idiographic-Nomothetic Continuum, Hypothetico-Deductive Method (HD)
- ***Please attend the Seminars Weeks 11 & 13***

# Likert Scale

## (Rensis Likert, 1970)

- Summated-rating, additive scale
- Evenly balanced choices, without prejudicing (“strongly agree” should be balanced with “strongly disagree”, etc.)
- Box 7.8: Rosenberg Self-Esteem Scale
- Should there be a neutral score? (“0”?)
- Scoring: -2, -1, 0, +1, +2
- Index: add up the scores & divide by Q’s

# Thurstone

## (L.L. Thurstone 1970)

- Individual subjective judgments treated as if they are comparable ( so-called “law” of comparative judgment is not a true law!)
- Intervals are treated as if they are equal (even though we know they may not be)
- Judges (“raters”) evaluate a series of statements and reduce them to those deemed o.k.
- Inter-rater reliability = similar judgments by different “judges”
- Limited use today since it costs a lot in time and money and does not measure intensity, etc.

# Bogardus

## (Emory Bogardus, 1959)

- “social distance” (perceived by respondents, e.g. “cultural race” “cultural gender” “cultural class” “cultural ethnicity”)
- How “distant” does person A feel about Group X?
- Neutral category important! (Neil Williams’ research on “religious tolerance” which involved “made up” Groups X, Y & Z)
- Increasing levels of intimacy and wide-range of Groups helps to make the meaning somewhat clearer, but still limited to conjectures

# Semantic Differential

- Indirect measure of “attitude” (feelings)
- Polar opposites
- Classified into three categories (bad-good, strong-weak, active/fast-passive/slow)
- How one person views several concepts
- How different people view same concept
- Strong-fast-good v. weak-slow-bad!
- “Affect Control Theory” (David Heise, Neil MacKinnon), where “Affect” refers to emotions and feelings ( German “Affekt”); uses Sem. Diff.

# Guttman

(Louis Guttman 1950, 1970)

- Used after the fact ( a posteriori )
- From 3 to 20 indicators used
- Consider all possible combinations
- Hierarchical logic: “ordinal” but with a kind of value judgment about good v. bad, etc.
- “Errors” = cannot be scaled (real errors?)
- Score of zero = random pattern
- Score of 100 = perfectly scaled, hierarchical pattern (or, at least, one assumes!)

# Minimal Marginal Reproducibility (Kenneth D. Bailey 1987)

- Alternative to Guttman Scaling
- More than just yes v. no
- More than 100 items
- Logic of scales and indices has been discussed by Bailey (1975, 1983, 1984, 1986, 1987, 1986, 1992)

# “Fuzzy” v. “Crisp” Sets

- All parametric and non-parametric quantitative techniques for statistics and scales & indices rely on “crisp sets” with clear boundaries ( polar opposites )
- But in mathematics the theory of “fuzzy sets” is very useful for dynamic and complex systems ( like human groups and human societies, etc. “collectivities”)
- Charles Ragin (1999) has evaluated such theory for comparative-historical sociology (CHS)
- In a fuzzy set one can look at the same information in more than one way in one study!

# Ordinary Life is “Fuzzy”!

- In Qt RD there is an underlying assumption (an axiom) that it is possible to create “crisp” categories.
- That is true even for interval and ratio levels of measurement; there is no allowance for intermediate types, etc.
- But much of ordinary life in social groups is not “crisp”; it is “fuzzy”.
- Think of your participation in a “nuclear family” or “friendship group” (i.e. any small group)
- Think of your citizenship in “Canada” as a nation

# Continuum from Pure Idiographic to Pure Nomothetic?

- Pure Idiographic = descriptive statement relevant for one specific time (t-1) and place/space (s-1)
- Pure Nomothetic = law-full generalization relevant for all Time (T-u) and all Space (S-u) for a “Universe”
- Continuum? Is there a continuum between those two “pure types”?
- Is there any recognizable “middle ground” between the two pure types?
- Bakker believe that that is most social science!

# Example of Idiographic Description

- “About thirty men and several women attended the first congressional campaign workers’ meeting for George Ravello. All were Italians [i.e. Italian-Americans] except two representatives from Syrian [i.e. Syrian-American] clubs” (Whyte 1981 [1943]: 219).
- This quotation from William Foote Whyte is similar to thousands of descriptions in Street Corner Society, his famous ethnographic study.
- This is at the “micro” level of “symbolic interaction” among different people from the North Side of Boston in the 1930s-1940s.

# Example of Nomothetic Law

- Almost all of the physical sciences have nomothetic law-full generalizations
- “Light travels at a finite speed” is an example. Light does not travel at variable speeds; it always travels at “the speed of light”, everywhere in the Universe
- The Periodic Law as summarized in the Periodic Table of the Elements is a very complex example of a Nomothetic Law or set of such laws (e.g. the atomic weight and atomic mass of Polonium or Uranium is the same everywhere in the Universe, at all Time and in all Spaces!)

# Example of a Micro “Ideal Type”

- While he might not agree, Bob Prus (1991 [1977]: 169-71) presents many statements from the argot of the “road hustler” (C.R.D. Sharper) that could be considered “Ideal Types”
- The concept of a “fence” (“dealer”)
- The idea of “taking an edge” (“breaking rules”)
- The “generic social process” of “Cooling the Mark Out!” (calming down someone afterwards)
- These are not pure descriptions but cover a host of situations; however, they are limited in time and space to the 1970s and English-Canada.

# Example of Meso Ideal Type Model (ITM)

- Max Weber's (1968 [1920]) ITM of a "modern, rational-legal bureaucracy"
- Clearly distinguished from "bureaucracy" in general, as a generic idea
- Has a number of component "ideal types" such as "hierarchy" and "career paths"
- Limited in time and space to "modernity" and modern, industrial, capitalist societies
- Methodological status of this concept is often ignored and misunderstood; many sociology textbooks treat "bureaucracy" unclearly

# Example of Macro ITM

- “Nation-state” is a macro-level ITM (v. city-state)
- Not all “societies” or “countries” or “nations” are “nation-states” (e.g. Empires, Kingdoms, Dukes)
- To be a nation-state a political entity must have certain basic attributes, each of which is a kind of “ideal type” of its own
- A nation-state, for example, has a “head of state” (e.g. in Canada that is the Governor-General, who represents a Queen/King)
- Some nation-states combine the idea of a head of state and a political ruler (e.g. U.S. President)

# [True] Descriptions, [ITM] Generalizations, or [True] Laws?

- Most research in the social science attempts to develop “generalizations” which are valid for a set of times and places, but not necessarily true laws.
- Even very “descriptive” studies in soc. & anthro. often have many implicit ideal types built into them (e.g. “Italian” clearly means “Italian-American” in Whyte’s ethnographic field work, although he does not link his use of such terms to the epistemology of Ideal Type Models, etc.)

# Scales and Indices as Ideal Types & ITMs

- Every scale in the social sciences is essentially a way of summarizing an ideal type or ITM
- An index is an ITM which utilizes scales that are Its!
- Not everyone would agree with this way of thinking about IT's and ITMs
- But the scales and/or indices cannot be treated as “real” in the epistemological sense of being true for T-u and S-u; there is no such thing as a scale used in 2004 that is also valid and reliable for the last 100,000 years of human existence!

# Cultural Relativity?

- The term “cultural relativity” is sometimes used to express a notion of complete relativity and lack of any patterns.
- However, it is not necessary to take that “strong” definition as the only possible def.
- A “weak” def. of cultural relativity can encompass the idea that almost everything we have “signs” for (icons, indices and symbols) is generalizable only to a set of times and spaces.
- Even such ideas as “idiot” change from generation to generation (e.g. Shakespearean language v. contemporary English).

# “Methodological Individualism”?

- The phrase methodological individualism (MI) also has a strong v. weak def.
- The strong def. would refer to the idea that the individual respondent in a survey study is a representative of the group in some way and can be interviewed for opinions
- The weaker def. would see interviewing or surveying individual respondents as merely a convenient way of getting information and not necessarily as a valid indicator of group level phenomena
- Opposite of “ecological f.” is “atomistic fallacy”