The Evaluation of Personal Constructs

Personal Constructs

Are beliefs the same as constructs?

- Example: You believe that "I need to change the oil in my car"
  - In what ways are beliefs like this one similar to or dis-similar to constructs as we have spoken of it in this class (*ie.* in Meehl's nomological network) ?

Personal Constructs

Recap: What is a construct?

- Meehl's nomological net:
  1.) To say what something is means to say what laws it is subject to. The sum of all laws to which an entity is subject is that entity's nomological network.
  2.) Laws may relate observable and theoretical elements
  3.) A entity is only admissable as existing if at least some of the laws to which it is subject involve observables
  4.) Elaboration of a entity's nomological net = learning more about that entity
  5.) Ockham's razor + Einstein's addendum (make things as simple as possible, but no simpler)
  6.) Identity means 'playing the same role in the same net'

Personal Constructs

How to measure *belief* validity

i.) Get expert judgments of the belief content

ii.) Analyze the internal consistency of a set of beliefs

iii.) Study the relationships between beliefs and other variables which are known/presumed to reflect the same construct (such as action)

iv.) Question your subjects about their beliefs in order to elicit underlying reasons for their actions.

v.) Demonstrate expected changes over time

Personal Constructs

How to measure construct validity

vi.) Study the relationships between the believer's actions and other actions which are known/presumed to relate to the same construct

Does the subject who claims a belief act like other people who claim to hold the same belief?

Personal Constructs

Constructivism

"Verum ipsum factum": 'The truth is the same as the made'

"As God's truth is what God comes to know as he creates and assembles it, so human truth is what man comes to know as he builds it, shaping it by his actions. Therefore science (*scientia*) is the knowledge (*cognitio*) of origins, of the ways and the manner how things are made."

Giambattista Vico
De Anquissimia Italorum Sapientia

Personal Constructs

Constructivism

"Every man's world picture is and always remains a construct of his mind and cannot be proved to have any other existence."

Erwin Schrödinger
Mind And Matter

- Some other constructivists:

Paul Watzlawick

Jordan Peterson

Ernst Mach

Jay Efran

Ludwig Wittgenstein (sort of)

Maturana

F. Varela

Personal Constructs

George Kelly & Personal Construct Theory

- A psychotherapist & academic psychologist
- Concerned about the fact that *the object* of psychological study was also *the content* of that study: i.e. we try to make sense of the very tools by which sense-making is possible
- *The Psychology Of Personal Constructs* (1955) tried to make sense of this

Personal Constructs

George Kelly & Personal Construct Theory

- Kelly emphasized
  1. The active exploratory propensities of the individual
  2. The similarity between normal human daily life and scientific thinking

Personal Constructs

Some similarities between science and ordinary psychological functioning

- Both science and ordinary psychology:
  1. Assume that reality exists, matters, and is coherent
  2. Try to pinpoint what is important in what is observed
  3. Formulate and test hypotheses
  4. Aim for consistency, by keeping consistent explanatory notions and discarding inconsistent ones
  5. Strive for as much accuracy as possible while recognizing that total accuracy is impossible

Personal Constructs

Accumulative Fragmentism

- Kelly rejected 'accumulative fragmentism' : the idea that truth is collected piece by piece
  - We might call this the 'Lego theory of truth'
  - We add little bits to an edifice that remains essentially stable and unalterable
  - The implication in such theories is that changes to what we already know are catastrophic, requiring destruction and re-building, with all the associated costs of such radical, time-consuming, and frightening undertakings

Personal Constructs

Constructive alternativism

- He substituted 'constructive alternativism': the idea that each new piece of information is judged by the contribution it can make to the current system of understanding,
  - What will count as true depends on what we know now
  - This is a 'plasticine theory of truth': We continually unmake and alter what we already already have in order to fit in what we want to add
  - Changes are possible on either side (in the new piece or the old edifice)

Personal Constructs

Personal Construct Theory

- Fundamental postulate: A person's psychological processes are "channelized " by the way he anticipates events
  - The network of channels is flexible and modifiable, but also structured so as to both facilitate and hinder particular action possibilities
  - 'Anticipation' is important:
    - Because we structure our world based on past feedback
    - Because Kelly wanted to build in *motivation* and thereby to dissociate himself from a simplistic behaviorism

Personal Constructs

Personal Construct Theory

- Construction corollary: A person anticipates events by construing their replications
  - This is done by noting that ways in which the anticipated event is similar and contrasted to past events
  - 'Similarity' and 'contrast' are the basic building blocks of a constructed psychological world (just like...statistical constructs)
  - A person's construction system is composed of a finite number of dichotomous constructs, each of which makes a basic contrast between two groups of entities relevant to the current system

Personal Constructs

Personal Construct Theory

- Choice corollary: A person chooses a construct set that he anticipates will give the greater possibility for elaboration of his system
  - The only 'value' judgment in the the theory, revealing an optimistic view of humankind
  - Kelly believed that people will seek out alternatives that give a clearer view of what they encounter (= defining the system), or a base from which to strike out to explore (= extending their system)
  - Such alternatives will provide the best basis for anticipating future events

Personal Constructs

Personal Construct Theory

- Other aspects of the theory address a construct system's individuality (every person is different); its limitations (every system is partial and operates over a small range of possibility); its flexibility (it changes over time in response to new information); and the potential incompatibility of its components (constructs may conflict with each other)

Personal Constructs

Axes: Fundamental beliefs

- Kelly also emphasized that some beliefs acted as 'axes' for the system to explain why some beliefs do not change even in the face of evidence against them
  - He calls these 'impermeable constructs'
  - Socio-cultural belief systems of all kind provide impermeable constructs: not just religious creed ('Hanuman is my personal savior'), but also scientific creed ('There are definitely no alien abductions or extra-sensory perception')

Personal Constructs

"...though our devices for interpreting circumstances are still meagre , and the human adventure continues to be fraught with dire uncertainties, it does not follow that the facts ever dictate our conclusions, except by the rules we impose on our acts. **Events do not tell us what to do, nor do they carry their meanings engraved on their backs for us to discover. For better or for worse we ourselves create the only meanings they will ever convey during our lifetime.**"

George Kelly, 1966

Personal Constructs

Kelly's Grid method

- Developed for clinical (psychotherapeutic) purposes

  "the primary purpose of psychological measurement in a clinical setting is to survey the pathways along which the subject is free to move, and...the plotting of the most feasible course of movement"

- Grid methods also have wider applications

Grid methods

- Basic idea: Build a table relating psychologically-relevant entities to constructs
  - The entities can be anything: usually people or important life events, but also films, paintings, emotions, types of bread

Repertory Test

- The Rep Test is one method for doing this
  - Give the subject a set of roles (24 in the original, but you can choose your own if relevant)
  - Have the subject sort the cards into piles by similarity/contrast, either in threes or all at once

The Repertory Grid

- Another method for doing similar work
- Subject supplies role names
- Examiner chooses three and asks for a sort on a construct
  - i.e. How are two of these people the same + different from the third?
- S/he then asks about every other role card on that construct, and marks which are positive on it (=similar to the first two)
- Repeat 15-20 times

	Generous	Strong	Rich
Mother	+	+	
Father	-		-
Brother		+	-
Mate	-	-	+

Scoring The Repertory Grid

- The number of times roles match up (= are rated positively on the same constructs) is a measure of how similar they are from the subject's point of view
- We can measure similarity between constructs in a similar fashion, by counting how often they were used to describe the same people
- Be careful of high similarity due to Barnum effects: i.e. similarity because two constructs are very common or very rare

Avoiding Barnum

- There are several ways to stop subjects from relying on 'cheap' (common or unique) constructs

  1. You can ask the subject to pick the 50% of roles highest on the construct (Split-half form)
  2. You can ask the subject to order all roles on each construct (Rank order form)
  3. You can have the subjects rate every role on a scale (Rating form)

Split half

	Generous	Strong	Rich
Mother	+	+	-
Father	-	-	-
Brother	+	+	+
Mate	-	-	+

Rank order

	Generous	Strong	Rich
Mother	1	2	4
Father	3	4	3
Brother	2	1	2
Mate	4	3	1

Rating form (/7)

	Generous	Strong	Rich
Mother	6	5	2
Father	2	3	2
Brother	3	5	2
Mate	1	4	7

Which method is best?

- Which of the four methods do you think is best? Can you justify your answer using principles from this course?

  1. You can do the 'normal' triplet choice method.
  2. You can ask the subject to pick the 50% of roles highest on the construct (Split-half form)
  3. You can ask the subject to order all roles on each construct (Rank order form)
  4. You can have the subjects rate every role on a scale (Rating form)

Reliability of the Repertory Grid

- As with projective tests, reliability has little meaning in grid methods
  - Kelly's constructive alternativism viewed man as "a form of motion", expected to change adaptively at all times
  - Measures of stability of results over time are therefore of limited interest for theoretical reasons

Reliability of the Repertory Grid

- Hunt (1952) asked for 40 elements, and used 20 for grid methods on each of two weeks
    - Subjects reproduced about 70% of the same constructs, with little variability
- Using more elaborate methods, Fjeld and Landfield calculated r = 0.8 for both old and new elements, after two weeks

Reliability of the Repertory Grid

"as a kind of statistical platitude, it can be said that using elements such as people known personally to the subject, with supplied constructs of a conventional type and with either a rank order or split-half matching administration, normal subjects, doing repeat grids, on either the same or different elements, tend to yield co-efficients of reliability which fall largely within the range 0.6-0.8"

- Bannister & Mair, 1968

Validity of the Repertory Grid

- Kelly was critical of the very notion of validity
- He defined validity as "the capacity of a test to tell us what we already know" = the meaningfulness of a construct is assessed by its relationship to a construct that is accepted within a publicly acknowledged network of constructs
- Kelly's *Personal* Construct theory is specifically *not* interested in how the personal constructs relate to other uses, but in how they were used by the individual being assessed

Validity of the Repertory Grid

- Since personal construct theory is interested in *personal construct systems* which may be highly elaborate, its validity is hard to measure: What could they be compared to?
- Face validity is high, since we ask subjects fairly directly to tell us what they think about their world
- Clinical anecdotal evidence supports their validity

Why the repertory grid?

- Repertory grids are interesting to me because they try to tread the line between quantitative psychometrics and projective testing
- They share with projective tests an open-endedness that allows many possibilities to be searched, thereby allowing the subject to bring in personal issues which are particular to their life situation

Why the repertory grid?

- However, they differ from projective tests because:
    - They don't use arbitrary projective surfaces, but allow the subject (and potentially the tester, who can in theory specify constructs and/or roles) to 'project onto his/her life'
    - They can be used to score many different aspects of experience and its interpretation
    - They don't pre-specify (with little validity) how the protocol is to be scored- they allow the subject him/her self to guide the process of interpretation
    - They provide quantitative scores for similarity between both roles and constructs