Assignment: Conceptualization and the measurement of constructs

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|  | **Unit 5:** In this assignment you will learn about the conceptualization of constructs and about the construction of typologies, indices and scales. | | | | |
|  | [Concepts and facets](https://vimeo.com/user29453510/review/200830882/1753439f0d) [Dimensions of concepts](https://vimeo.com/user29453510/review/200979186/f21ba5259a) [Indices, scales and typologies](https://vimeo.com/user29453510/review/138071439/7fa8a39352)  \*SPSS compute command |  | Concept aka term; Dimension (of a concept) aka facet; Conceptualization; types; traits; Scale; Index; Typology.  \*SPSS compute command. | | |
|  | Babbie Ch. 6 p. 156-172 (17 p.)  Babbie Ch. 6 p. 178-180 (4 p.) |  |  |  | 90 minutes |
|  | Read this assignment carefully and answer the questions. Bring either a print or digital version to the lecture. | | | | |
|  | In the meeting, we will discuss the answers to the questions below. | | | | |

1. By now you have become familiar with many ‘concepts’ in the substantive courses of this module. Identify at least two different concepts from substantive courses you found interesting. Concepts like: centralization, democracy, personality, framing.

No answers.

2. Is this ‘concept’ you have selected about units (of analysis), is it a variable, a set of variables, a value/attribute (as part of a variable)? If it is a (set of) variables, which units are described by that (set of) variable(s)?

In the meeting, we will make in inventory of concepts and discuss the ‘role’ of the concept. For example, centralization can be a characteristic of an organization or of a country. It is a construct, a variable describing a unit (organization/country). Likewise, democracy is also a variable, describing a country or a political party (which are the possible units described by that variable). Personality, by contrast is a set of variables describing individuals. It is not ONE single construct/variable. Check ‘the big five’ on the internet for finding 5 different variables describing individuals. Finally, ‘framing’ is not a clear construct or variable at all. SOMETIMES it is a variable (how is that topic (the unit) framed, as something a or a something b), where the values are different types of frames that can be used to describe a topic. Most often, however, it refers more to the general idea that framing occurs.

3. Variables are complete sets of mutually exclusive values/attributes. ‘Populism’ is sometimes seen as a characteristic of individual (voter)s. What could be the ‘values’ or ‘attributes’ of the variable ‘populism’?

(Since students often mix up ‘values/attributes’ and ‘traits’ we want them to answer this first).

The answer is simply yes/no (dichotomous) or low-level – …. - high level (ordinal/interval). This is a theoretical choice, not something inherent in the word itself.

4. Some people argue that ‘populism’ is (by definition) based on two ‘traits’ (the traits are dichotomies here): ‘the opinion that the population of the country is homogenous in many ways and different from other (foreign) groups/populations’ and ‘the opinion that there is a corrupted (political) elite, oppressing the population and furthering their own interests’. Create a fourfold typologyusing these two traits. Give names to all four types.

|  |  |  |  |
| --- | --- | --- | --- |
|  | People are homogenous and  basically one group | |  |
| Elite is neither (extremely) corrupted nor oppressing | *Type 1: Harmony* | *Type 2: Populist* | Elite is corrupted and oppressing |
| *Type 3: Non-populist* | *Type 4: Anti-elite* |
|  | People are very different from each other and many will be closer to people from other countries | |  |

5. What type (measurement level) of variable is the created typology?

Nominal

6. Many (popular) management and personnel coaching instruments make use of ‘types’. Examples are the nine Belbin team roles (<http://www.belbin.com/about/belbin-team-roles/)> or the 16 Brig Myers personality types (<http://www.worldpersonality.com/brig_mayers_personality_types.html)>.

The general assumption is that types can be identified; people have a personality type. In addition, it is often thought that teams composed of different types of personality are more effective than teams that do not have different personalities (team homogeneity is having a negative effect on team effectivity). Go to a Wikipedia website explaining Brig/Myer and identify the traits and types of the Brig Myers typology.

Four traits:

E/I dichotomy: Extraversion & Introversion

S/N dichotomy: Sensing / Intuïtion

T/F dichotomy: Thinking/ Feeling

J/P dichotomy (Judging Perceiving)

Gives us (2z2x2x2 =) 16 types

7. Go to the Wikipedia website about ‘The Big Five’ (<https://en.wikipedia.org/wiki/Big_Five_personality_traits)> and study the introduction in which the five factors (which is the empirical equivalent of a ‘trait’) are identified.

OCEAN (as traits, no attempts to develop typologies)

8. Compare the *traits* (of Brig Myer) and the *factors* (The Big Five). How do they relate? What is different? What is the same?

(E/I seems similar, rest is different)

Despite its frequent use (even at the University of Twente) most research shows that the Belbin and Brig Myer ‘types’ cannot be found: people are far more different than assumed, there are not simple types, not even ‘somewhat’. The Big Five, however ARE frequently found in research and used in many research projects.

In addition, there is very little evidence that team homogeneity (as measured by these types) is having a *negative* effect on team effectivity.

\*\* PLEASE NOTE \*\*

The questions below can be rephrased to connect better to the various programs. The idea is to do a simple index construction (also in SPSS) and to reflect on the correlation between items (without further reference to consistency as an aspect of reliability)

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**FOR IBA:**

9. Constructs/variables are often measured with a series of items. In the list below there are 20 survey questions(items) that scrutinize the way in which people evaluate their work circumstances.

Survey Questions (items)

|  |  |
| --- | --- |
| 1 | I can determine my working hours entirely myself |
| 2 | I am often exposed to physical danger at my work |
| 3 | I can use all my talents and skills in my current job |
| 4 | I feel close to the people at work |
| 5 | I believe management is concerned about me |
| 6 | I feel that I need training paid for by my employer |
| 7 | I can determine the pace of my work entirely myself |
| 8 | I feel that there is a well-thought protocol to ensure safety |
| 9 | I feel good about my job |
| 10 | I can determine the exact content of the tasks myself |
| 11 | I feel good about recognition for a job well done |
| 12 | I can determine the order of the tasks I perform entirely myself |
| 13 | I feel secure about my job |
| 14 | I feel good about working at this company |
| 15 | I believe the work I do is good for my physical health |
| 16 | I feel that my bargaining options are limited in the company |
| 17 | I feel that my safety is a permanent concern for my company |
| 18 | I feel that there should always be a worker representative at the HR department |
| 19 | I feel that what I receive in terms of money for what I do is fair |
| 20 | I get along with supervisors |

Construct *three different indices* from these items: index of autonomy, index of job satisfaction, and index of perceived safety. Choose the relevant items for each of these indices (why does a particular item ‘belong’ to that item?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Index 1 | Index 2 | Index 3 |
| 1 | I can determine my working hours entirely myself |  |  | x |
| 2 | I am often exposed to physical danger at my work |  | X? |  |
| 3 | I can use all my talents and skills in my current job | x |  |  |
| 4 | I feel close to the people at work | x |  |  |
| 5 | I believe management is concerned about me | x |  |  |
| 6 | I feel that I need training paid for by my employer | ? | ? | ? |
| 7 | I can determine the pace of my work entirely myself |  |  | x |
| 8 | I feel that there is a well-thought protocol to ensure safety |  | x |  |
| 9 | I feel good about my job | x |  |  |
| 10 | I can determine the exact content of the tasks myself |  |  | x |
| 11 | I feel good about recognition for a job well done | x |  |  |
| 12 | I can determine the order of the tasks I perform entirely myself |  |  | x |
| 13 | I feel secure about my job | x |  |  |
| 14 | I feel good about working at this company | x |  |  |
| 15 | I believe the work I do is good for my physical health | x |  |  |
| 16 | I feel that my bargaining options are limited in the company |  |  | x |
| 17 | I feel that my safety is a permanent concern for my company |  | x |  |
| 18 | I feel that there should always be a worker representative at the HR department | ? | ? | ? |
| 19 | I feel that what I receive in terms of money for what I do is fair | x |  |  |
| 20 | I get along with supervisors | x |  |  |

10. Suppose all items are answered using ‘yes or no’ as answers, how would you construct an index? What is the range for each of the three indices?

Range, suppose all negative answers are 0, positive answers are 1:

Min = 0

Max is number of items in the index.

Please check whether items should be reversed! NOT in the first index. But compare 2 and 8, What happens if you just add the answers!

11. Suppose all items could be answered from 1 to 5:’ strongly disagree, disagree, neither agree nor disagree, agree, strongly agree’. How would you construct an index? What is the range for each of the three indices?

Range:

Min = number of items (number of 1’s)

Max is number of items in the index times 5.

But by subtracting the number of items and dividing this by 4 times the number of items, you could go back to a range between 0 and the number of items.

Please check whether items should be reversed! NOT in the first index. But compare 2 and 8, What happens if you just add the answers!

12. \*\* I suggest we also let them construct a simple index with a few items in SPSS, this integrates \*\* Get the data file UNIT 5 – employee data. Use the ‘compute’ command to construct an index using items 2, 8 and 17. Paste the command in the syntax file.

Recode V2 (0=1) (1 = 0) into V2rec.

Compute INDEX2 = V2rec + V8 + V17.

\*13. *Suppose* that job satisfaction is indeed a ‘meaningful construct’: people can be said to have a level of job satisfaction. And assume that the items are indications of job satisfaction. What would expect about the association between the items? Why?

We expect the items to be strongly associated. That ‘association’ is why it is not merely an index but an actual scale. This is the basic idea of scale analysis and factor analysis.

**FOR EPA (and CS?):**

9. Constructs/variables are often measured with a series of items. In the list below there are seven survey questions(items) with opinions of people.

*Survey Questions (items)*

|  |  |
| --- | --- |
| (resp | Number for the respondent) |
| v1 | MPs do not care about the opinion of people like me. |
| v2 | The political parties are only interested in my vote and not in my opinion. |
| v3 | People like me do not have any influence on government politics. |
| v4 | MPs raise the right problems. |
| v5 | MPs are arguing too much. |
| v6 | I am well able to play an active role in politics. |
| v7 | I understand the most important political issues that play in our country. |
|  |  |

It is sometimes argued that these items measure two different concepts: internal political efficacy (ability to do something) and external political efficacy (willingness of the elite to listen). Choose the relevant items for each of two indices (why does a particular item ‘belong’ to that item?)

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Index E | Index I |
| V1 | MPs do not care about the opinion of people like me. | X |  |
| V2 | The political parties are only interested in my vote and not in my opinion. | X |  |
| V3 | People like me do not have any influence on government politics. |  | X |
| V4 | MPs raise the right problems. (reversed) | X |  |
| V5 | MPs are arguing too much. | X |  |
| V6 | I am well able to play an active role in politics. (reversed) |  | X |
| V7 | I understand the most important political issues that play in our country. (reversed) |  | x |

10. Suppose all items are answered using ‘yes or no’ as answers, how would you construct an index? What is the range for each of the two indices?

Make sure low vales on the scale relate to low values on the variable ☺.

Range, suppose all negative answers are 0, positive answers are 1:

Min = 0

Max is number of items in the index.

Please check whether items should be reversed! (meaning 0=1 and 1 = 0).

11. Suppose all items could be answered from 1 to 5:’ strongly disagree, disagree, neither agree nor disagree, agree, strongly agree’. How would you construct an index? What is the range for each of the two indices?

Range:

Min = number of items (number of 1’s)

Max is number of items in the index times 5.

But by subtracting the number of items and dividing this by 4 times the number of items, you could go back to a range between 0 and the number of items.

Please check whether items should be reversed first!

12. Get the data file UNIT 5 – DPES 2017. Use the ‘compute’ command to construct an index using items 3 and 6. *Paste the command in the syntax file*.

Recode V6 (2=1) (1 = 2) into V6rec.

Compute INDEX2 = V3 + V6rec.

12\*. If you are able to do so, change V7, so it can be merged with V3 and V6.

This implies some extra recoding and changing the variable, because it has values 1-5 instead of 1 and 0.

13. *Suppose* that internal and external efficacy are separate and meaningful constructs. And assume that the items are indications of efficacy. What would expect about the *association between the items*? Why?

We expect the items within a scale to be strongly associated. That ‘association’ is why it is not merely an index but an actual scale. This is the basic idea of scale analysis and factor analysis. We ALSO expect that the items of one scale are NOT related to the items of another scale, otherwise they measure the same construct.