

Labour Status and Subjective Well-being

A Partial Ordering Application in Synthesizing Dimensions of Subjective Well-being



Decent Work and Social Sustainability



Work conditions are very relevant both in term of



Social SUSTAINABILITY



and



Subjective WELL-BEING



Labour Status and Subjective Well-being

Labour status is just one of the aspect decent work, it concerns the way people define themselves in term of occupational condition

Subjective well-being (SWB) is a multidimensional concept

The main three dimensions of SWB are (OECD 2013)

LIFE SATISFACTION

EUDAIMONIA

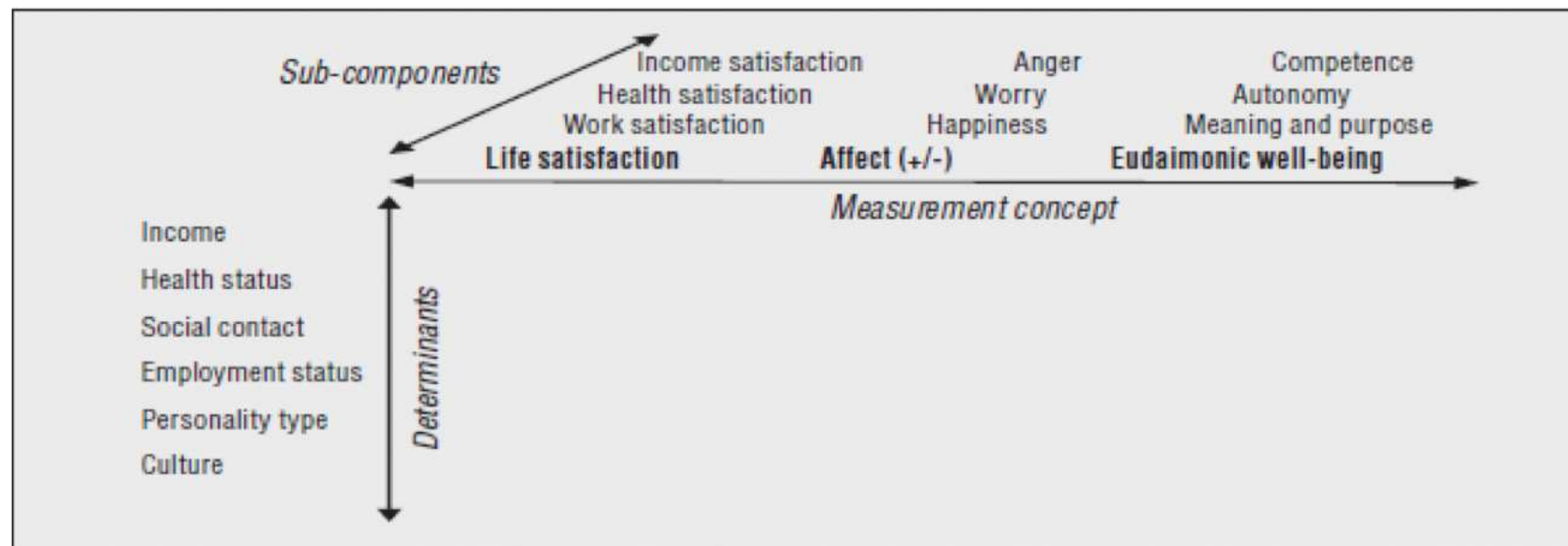
EMOTIONAL STATUS



Subjective Well-being: a Multidimensional Perspective

The different aspects of subjective well-being (life evaluation, affect, eudaimonia) represent **distinct constructs**

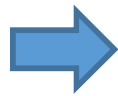
Guidelines on Measuring Subjective Well-being (2013)



Field of Application

EU-SILC - *European Union Statistics on Income and Living Conditions*

2013 ad-hoc Module on Subjective Well-being



22 questions

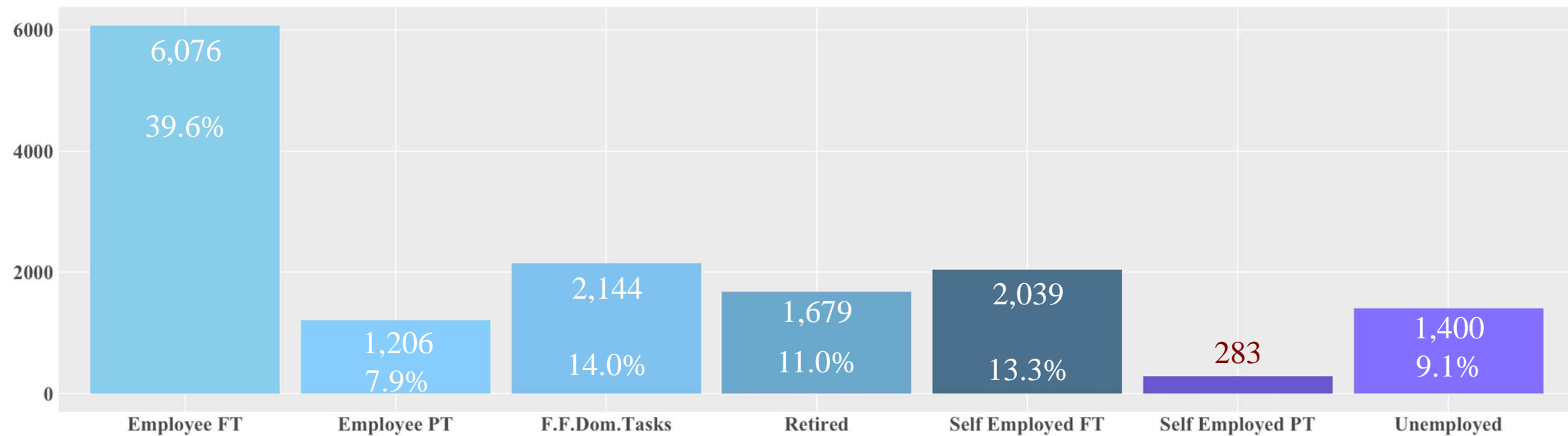
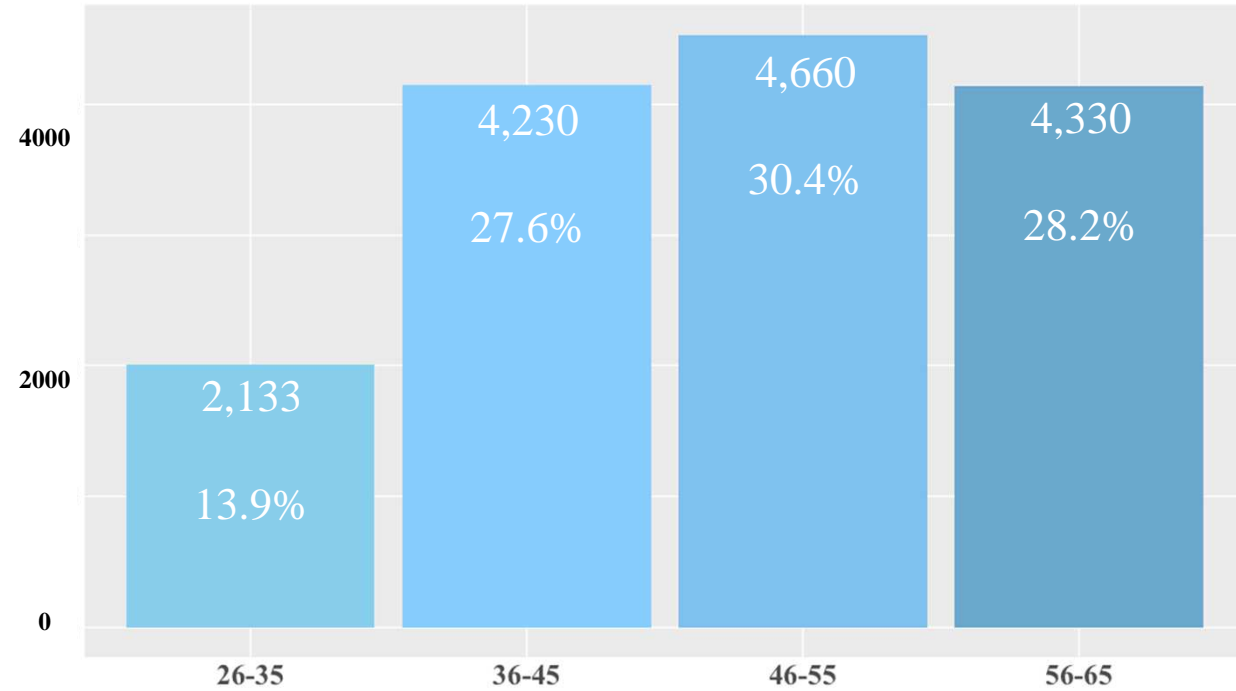
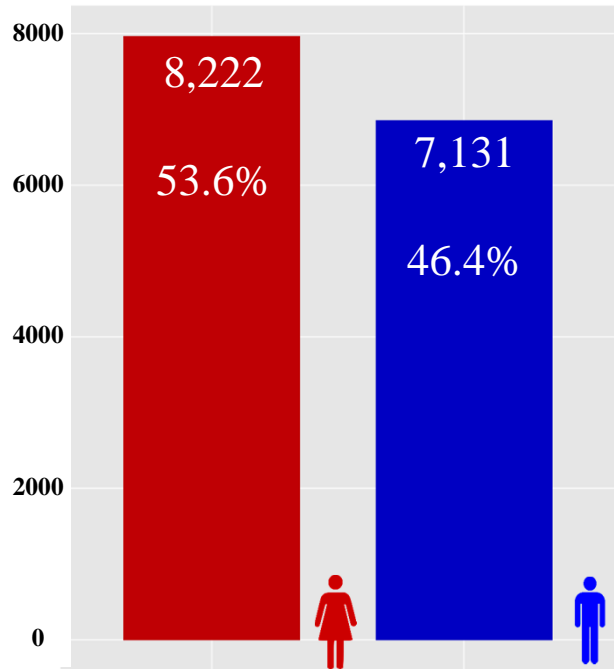
- nine on satisfaction (0-10 scale) **LIFE SATISFACTION**
- one on meaning of life (0-10 scale) **EUDAIMONIA**
- five on affects (1-5) **EMOTIONAL STATUS**

The question about the labour status concerns the self definition of the respondents as employee, unemployed, retired, etc.

10 possible answers



The EU-Silc 2013 Dataset



Labour Status and Subjective Well-being

The Choice to Apply Poset

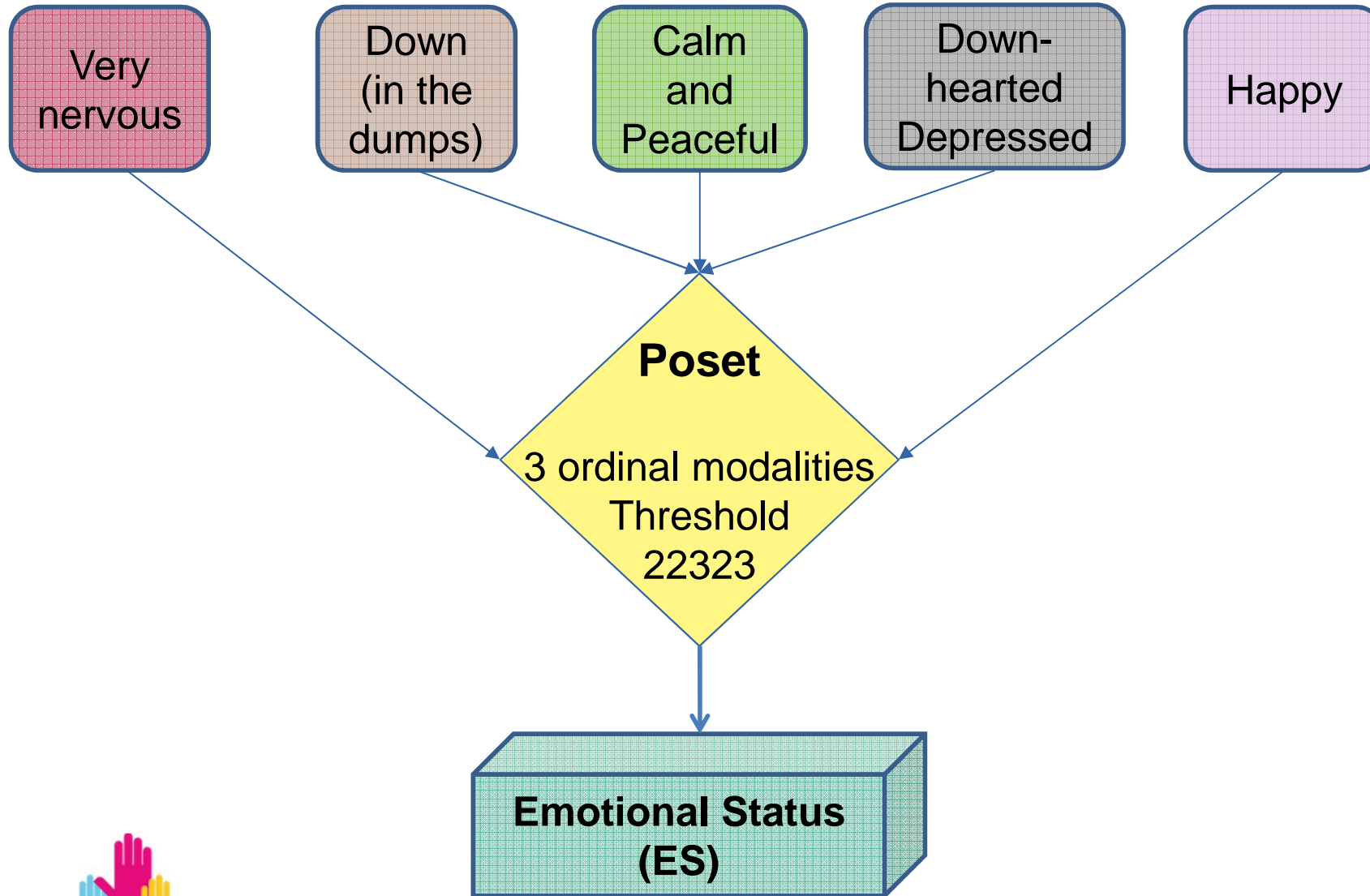
Analysing relationship between labour status and subjective well-being

- ◆ *the Poset allows to preserve the multidimensionality of SWB*
- ◆ *the Poset allows to compare the synthetic SWB value between different subgroups*



1st Step Poset Applied to Emotional Status

How much of the time, during the past 4 weeks have you been/felt ...



A Focus on the Emotional Status

Emotional Status

How much of the time, during the past 4 weeks have you been/felt ...

- a) Very nervous
- b) Down (in the dumps)
- c) Calm and Peaceful
- d) Downhearted and Depressed
- e) Happy



1. All of the time
2. Most of the time
3. Some of the time
4. A little of the time
5. None of the time

These are the questions of the **Mental Health Scale** in the SF-36 questionnaire, widely adopted in health studies.

John E. Ware et al. (1993), defined SF-36 for the Health Institute of Boston. It consists of eight scales, assessing the benefits of treatments in term of extent to which changes in a patient's functioning or well-being meet her or his need and expectations.



How Scholars Synthesize Mental Well-being Measures

Ware et al.

- Answers are in an ordinal six-step scale
- Items **a** and **b** are recoded in reverse order (**7-xk**) in **ar** and **br**
- Range from 5 to 30

$$MHI - 5 = (ar + br + c + d + e)$$

Ist. M. Negri

- Adopted the same scale and the same recoding way of Ware et al.
- Range from 1 to 6

$$MHmean = \left(\frac{ar + br + c + d + e}{5} \right)$$

Eurostat

- Analysing EU-SILC 2013 data, *Mental Well-being* score items **a** and **b** are recoded in reverse order (**6-xk**) in **ar** and **br**
- Items are scored from 0 to 100 ($ar^l, br^l, c^l, d^l, e^l$)
- Range from 0 to 100

$$MWB = mean(ar^l + br^l + c^l + d^l + e^l)$$



Toward a Synthesis of the Emotional Status

Step 1

- Analysing EU-SILC 2013 data
- Items a and b are recoded in reverse order (6-xk) in ar and br



Step 2

- Analysing the relationship among the variables
- Analysis of the Kendall's Tau-b Correlation Matrix



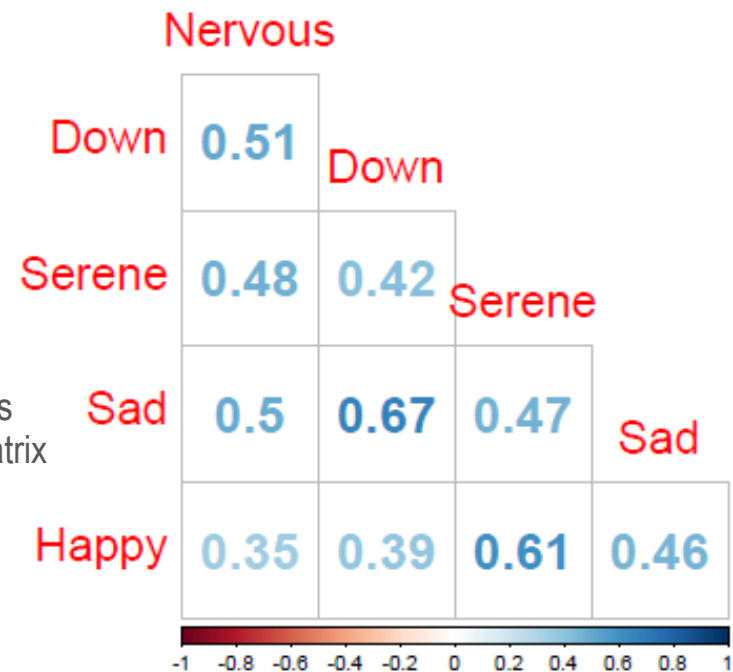
Step 3

- Recoding variables from 5 to 3 items
- Applying Poset using parsec library on R
- Identifying 217 profiles

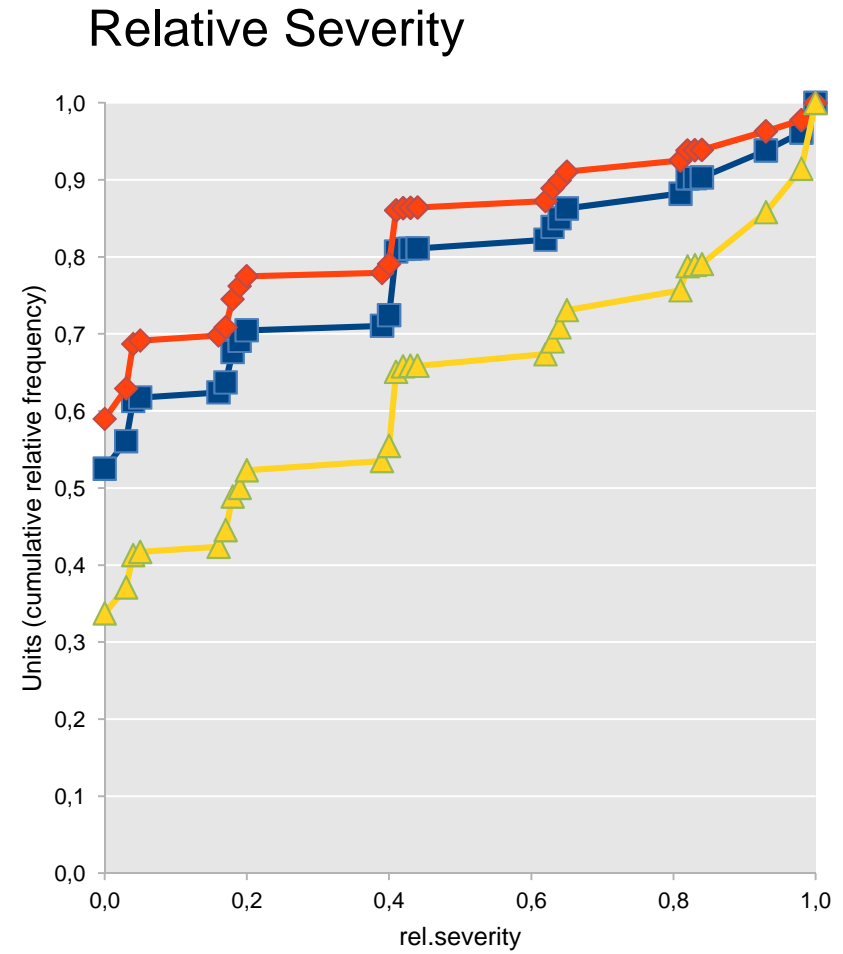
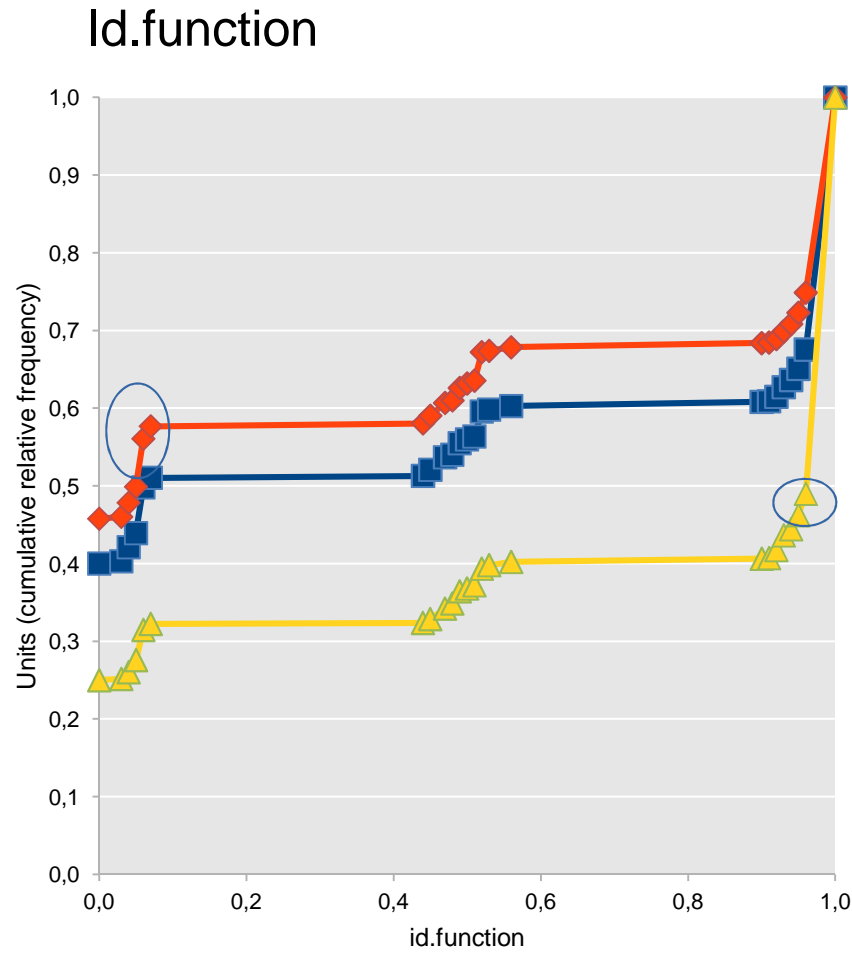


Step 4

- Analysing results (id.function, relative severity, relative wealth)
- Comparing synthetic results (poverty gap and wealth gap) between subgroups



Emotional Status in the Different Subgroups

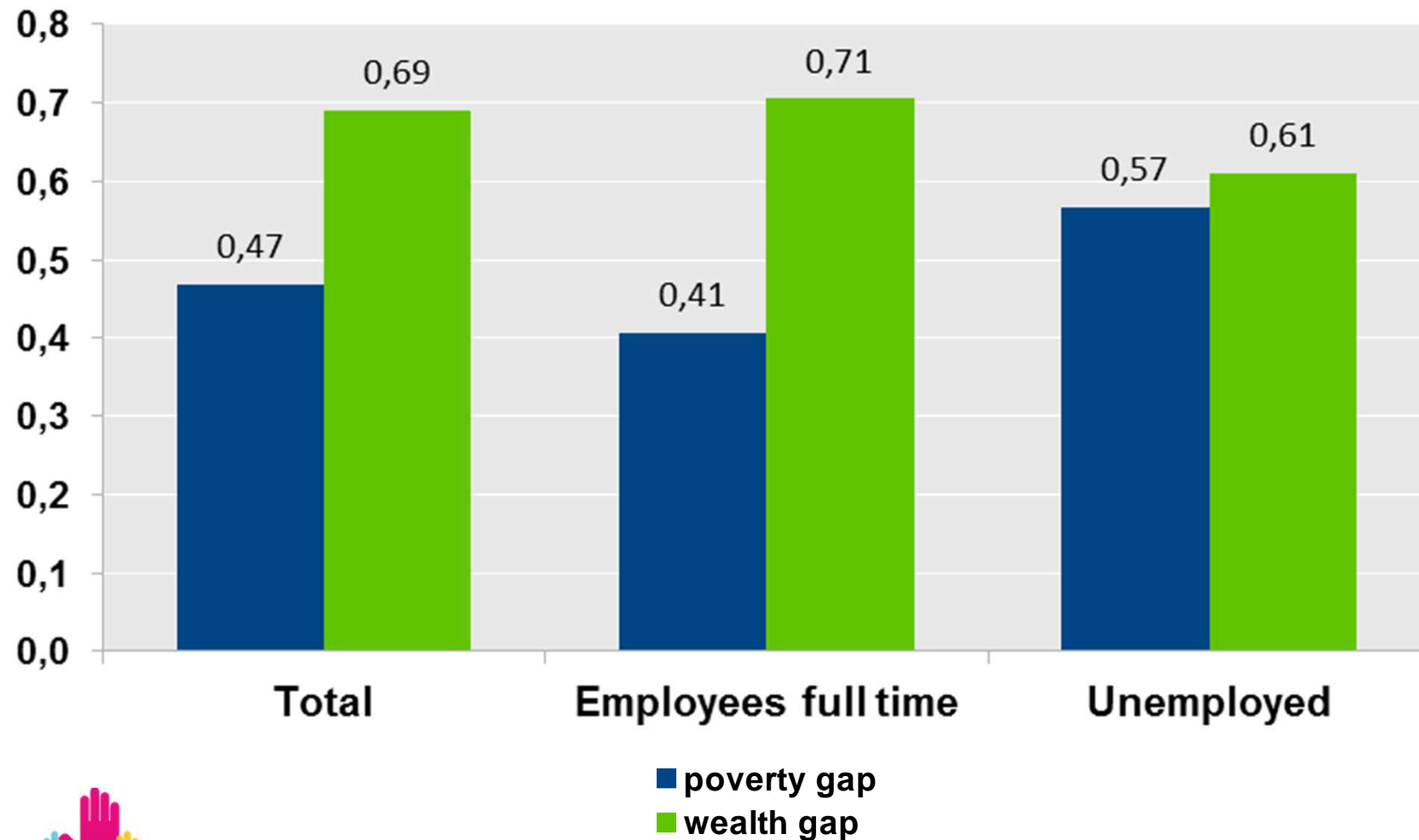


- All respondents
- ◆ EmployeesFT
- ▲ Unemployed

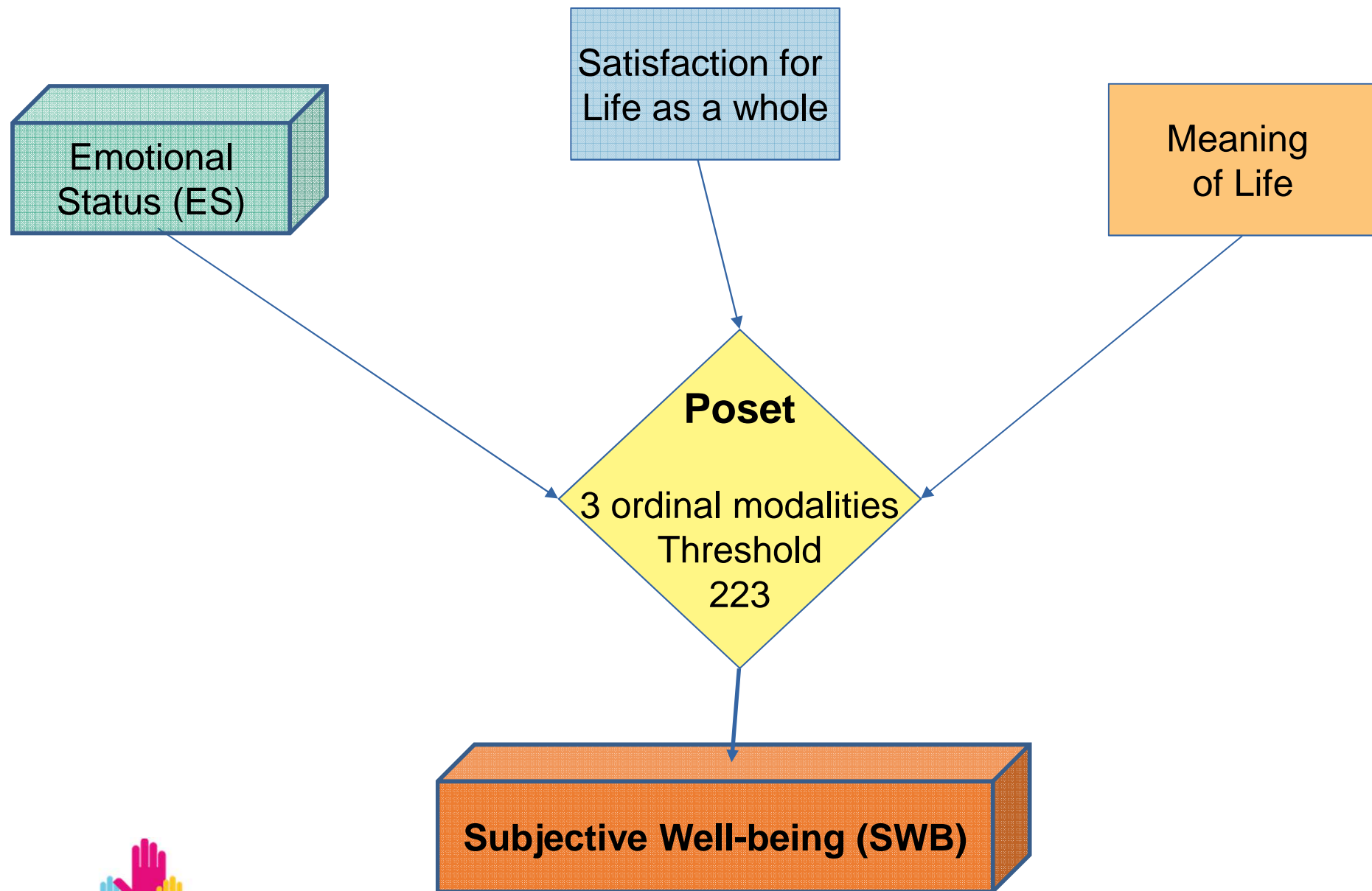


Emotional Status in the Different Subgroups

Synthetic values of Emotional Status in different labour status subgroups



2nd Step Poset Applied to Subjective Well-being



How to Assign a Synthetic Value of ES to Each Profile

First question

Is it possible and proper to assign an Emotional status value to each respondent according to the profile expressed?

Second question

Can we transform the output of the Poset evaluation function into a synthetic variable?

Third question

Can we consider the relative severity or the relative wealth as levels of a synthetic measure (e.g. the Emotional status)?

Fourth question

If so, which information is better to use?



Some Different Ways to Recode the Output

There are many different way to recode the output of the evaluation function into an ordinal variable, e.g we can:

- consider the co-level of a Hasse diagram as modalities of an ordinal variable
- assign the minimum level to all profiles scored 1 (id.function or rel.severity) and the maximum level to all profiles scored 0, then divide all intermediate values into quantiles
- consider the output quantity (e.g. rel.severity) as a continuous measure, and round off the measurements to the whole that interests us

All these options imply a distortion of information. I am looking for the most correct way to handle this delicate passage



Recoding Variables

The variables chosen



id.function & relative severity
(average value)

The recoding method

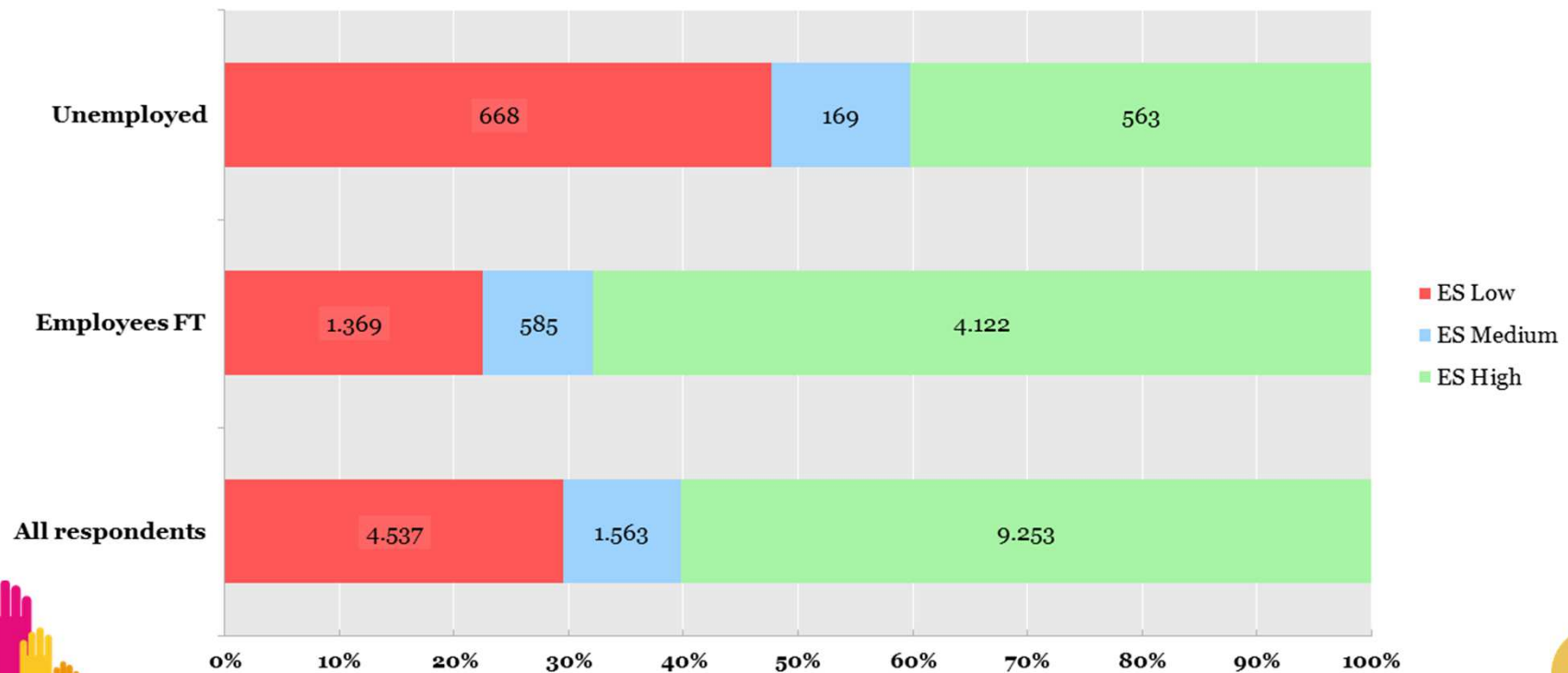


1 = 0.67 : 1

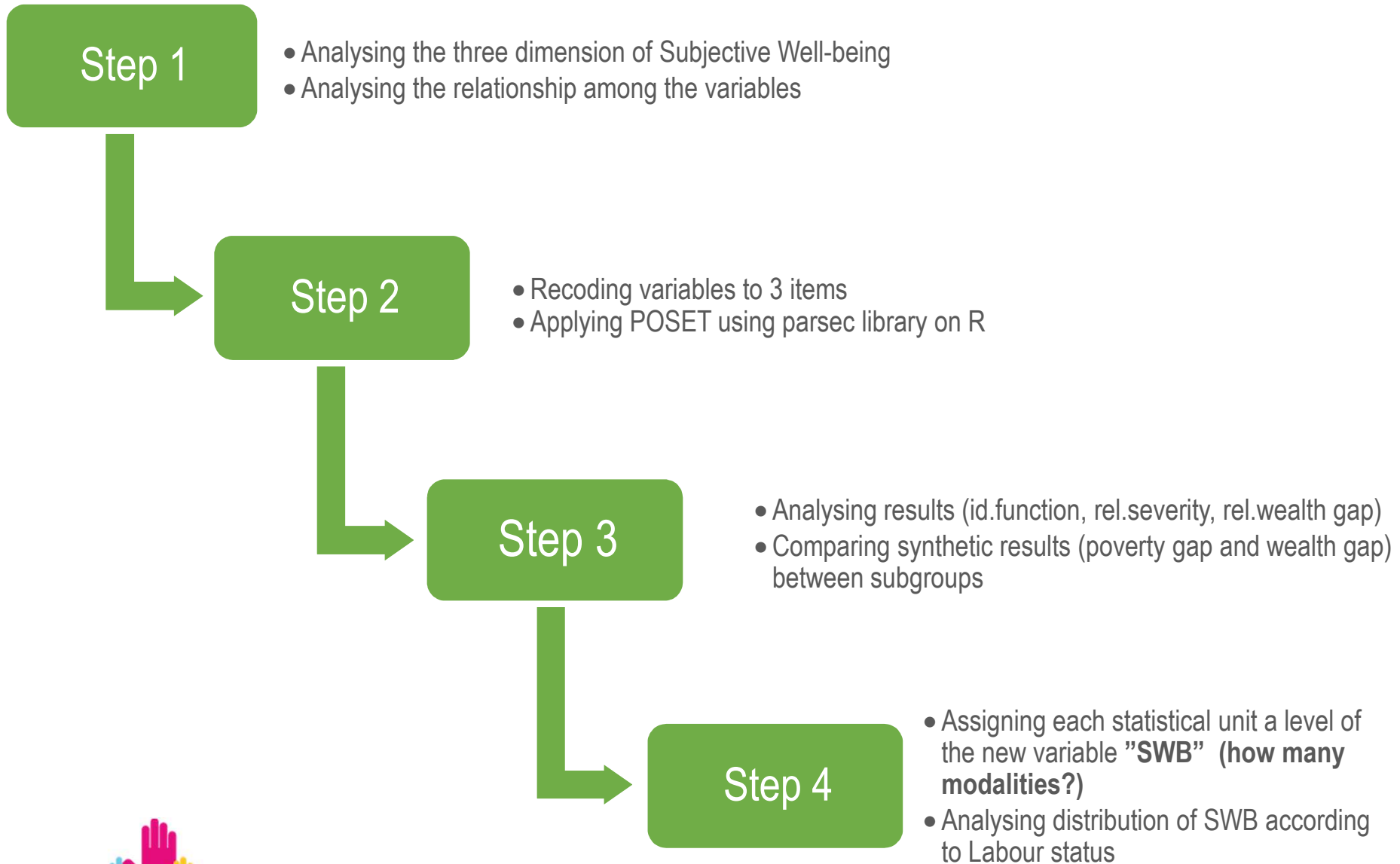
2 = 0.34 : 0.66

3 = 0 : 0.33

Results: Respondents according to Labour status and Emotional status

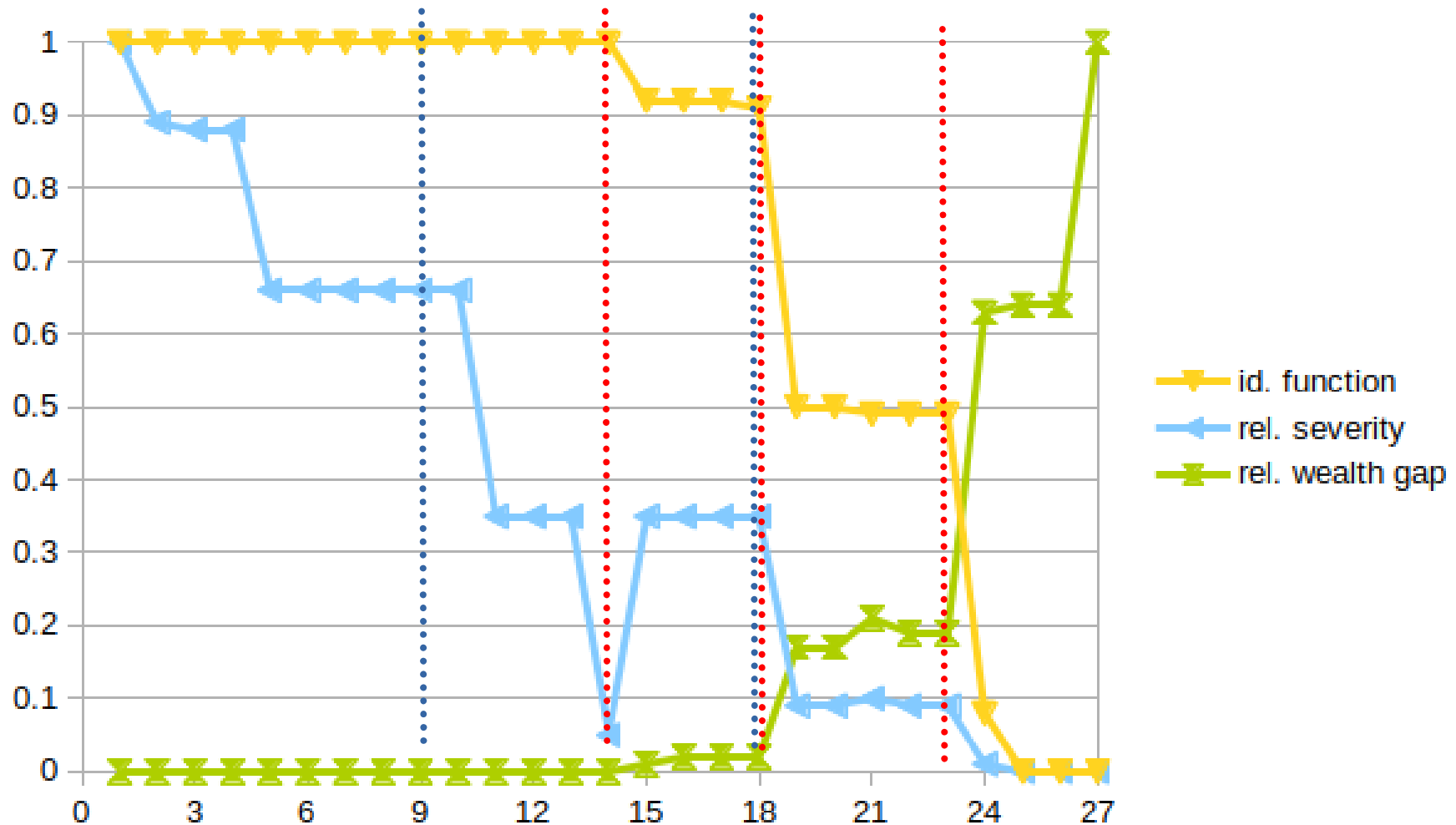


Synthesizing Subjective Well-being



The Choice of the Way to Recode

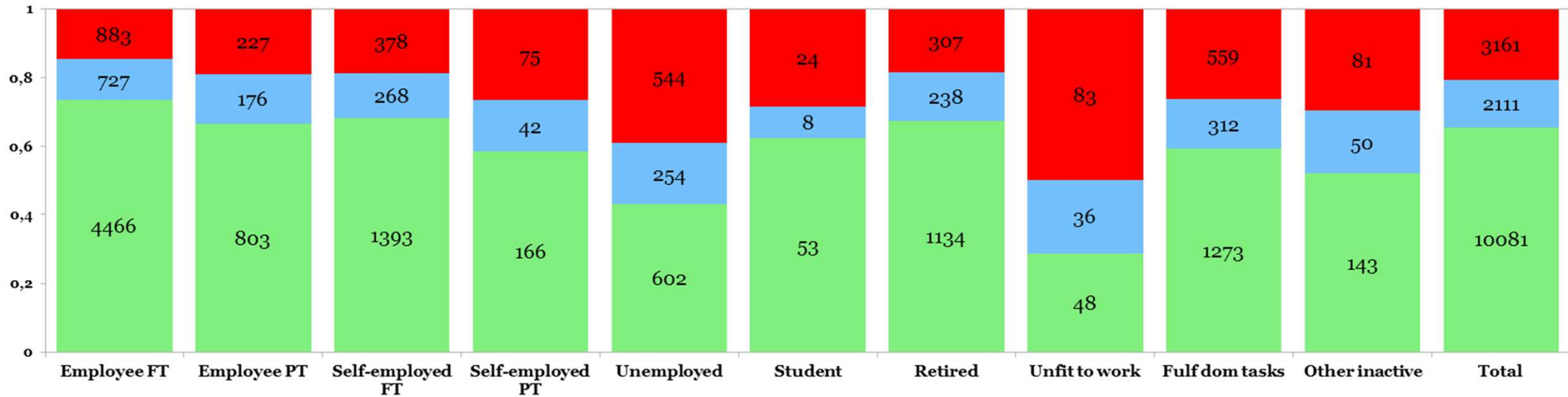
Comparing the output of evaluation function applied to the 27 profiles



Comparing Levels of SWB among Different Labour Status

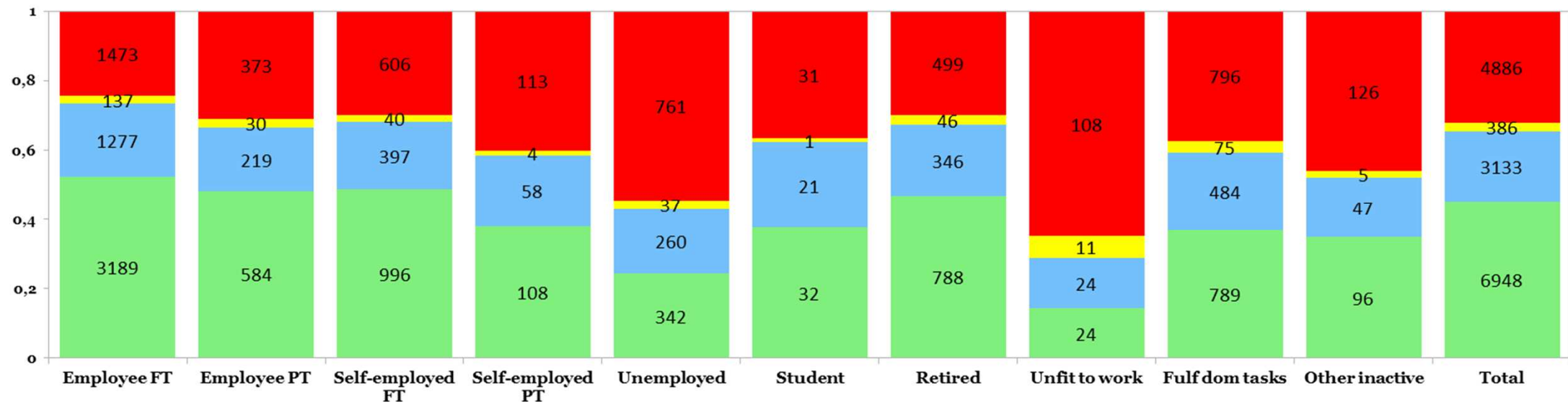
● Low ● Medium ● High

Subjective Well-being 3 levels



● Low ● Medium-low ● Medium-high ● High

Subjective Well-being 4 levels

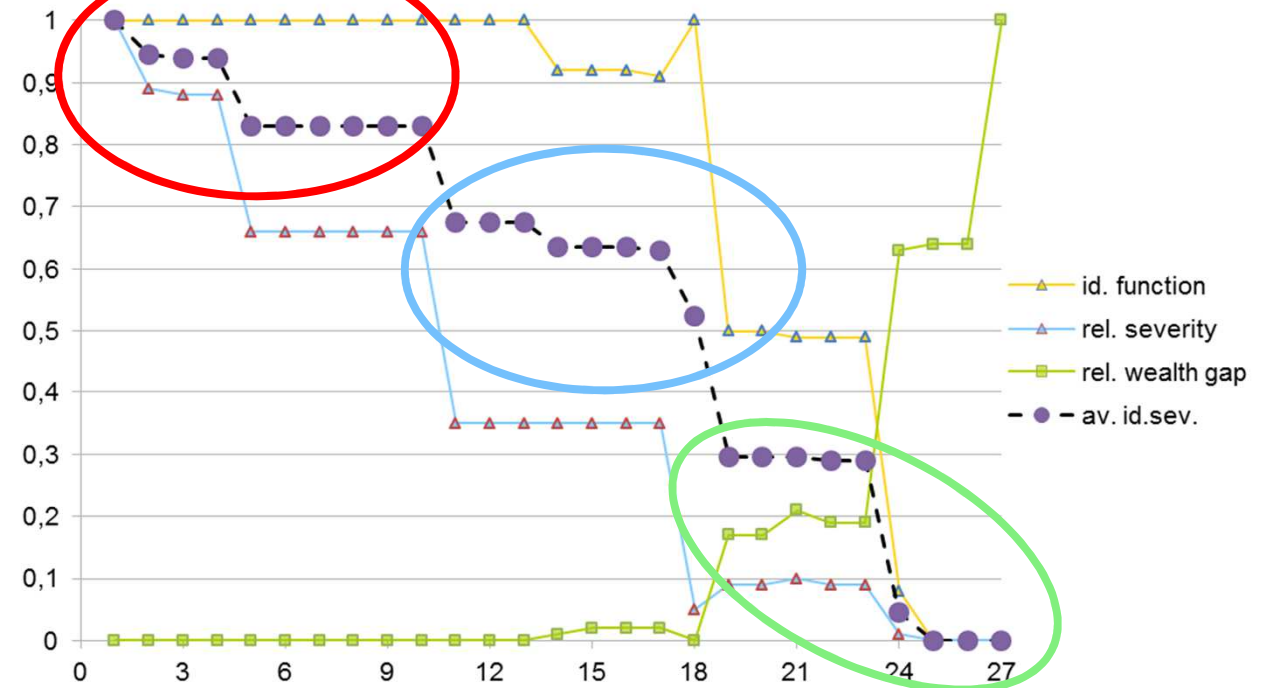


Labour Status and Subjective Well-being

Comparing Levels of SWB among Different Labour Status

If we consider the level of identification with the worst condition, corrected according to the severity of this identification, we obtain a different sorting, and a distribution of the profiles more easily interpretable

$$SWB = (id.function + rel.severity) / 2$$



● Low ● Medium ● High

Subjective Well-being new order



Labour Status and Subjective Well-being

Final Considerations

There is not a substantial difference in the whole distribution of SWB within population and its subgroups. The differences concern the position of some profiles and then the degree of SWB of respondents, which may change according to the method applied.

As we said, we could also use other values, which consider, eg, the relative wealth or the average rank.

My intent was to share with you some of the questions that emerged during the application of the methodology. I would like to have your suggestions or to know how other scholars solved a similar situation

**Thank you for
your attention**

