

# COPSOQ Norway

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# How it all started....





# Background

- Labour is the fundamental resource in a country's economy, and human capital is considered the most prominent input factor in the production of goods and services *Stone et al, 2020*
- Human capital needs active investment rather than passive management or administration, and the quality of the work environment can be viewed as a key performance indicator for the human capital at the workplace *Searcy et al, 2016*
- Productivity is a key element of the economic attractiveness of investing in OHS *Dormann, 2000*

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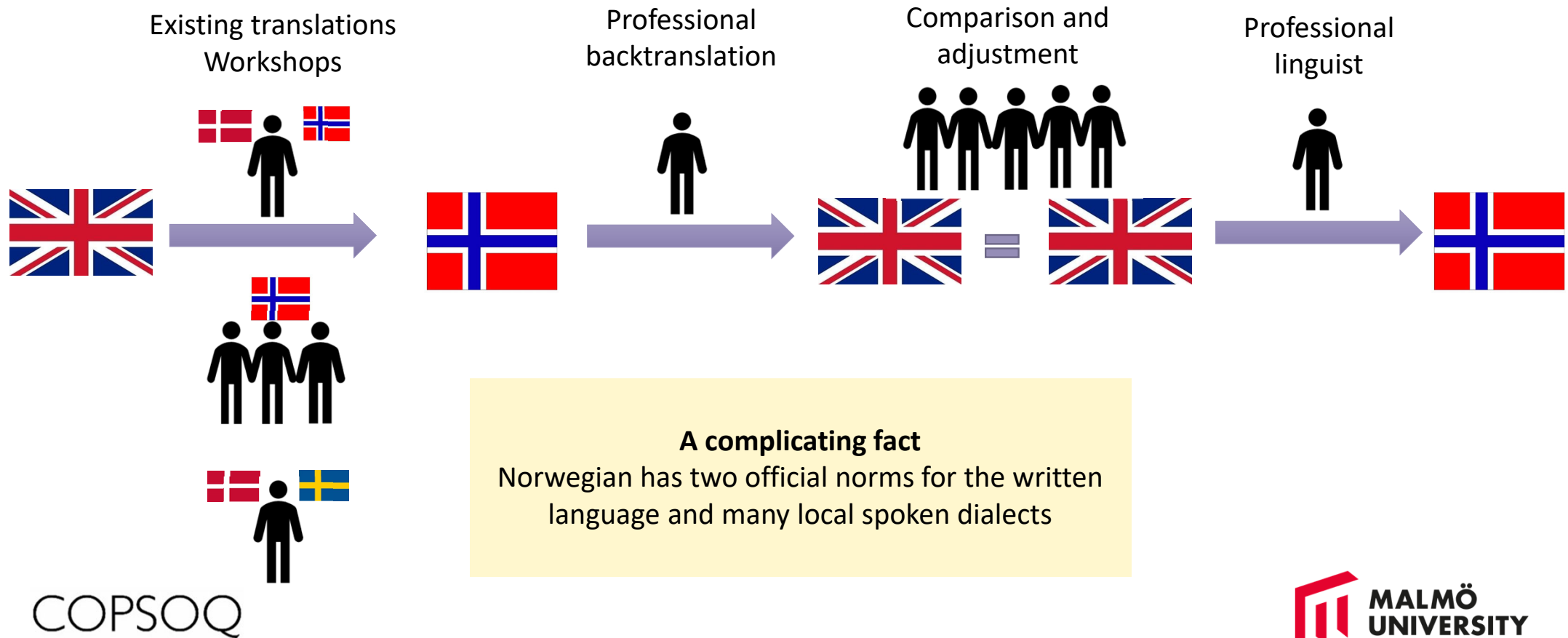


# Aim

The objectives were to

- translate the original English version of COPSOQ III into Norwegian;
- evaluate the statistical properties of the data collected with the translated version in a large sample of licensed nurses.

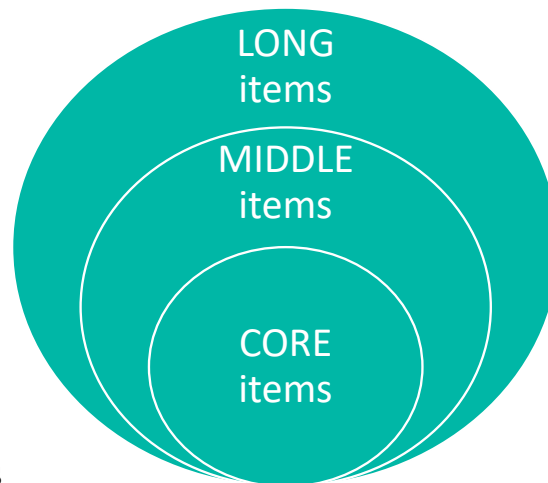
# The translation process



# Material and methods

## Questionnaire

- 133 items
- 86 are included in this study

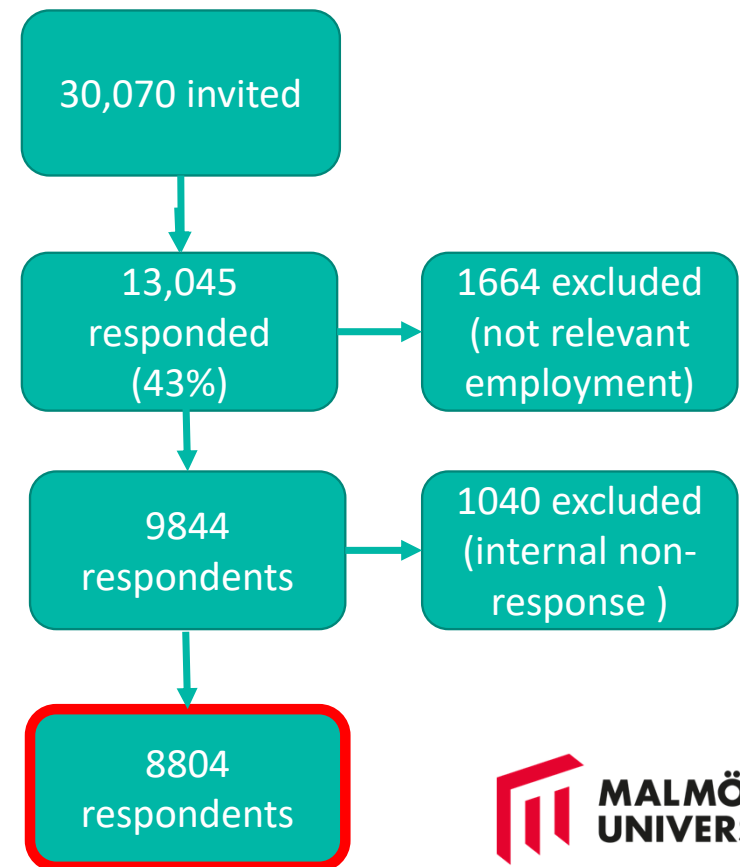


## Analyses

- Descriptive statistics
- Item Response Theory
- Factor Analysis

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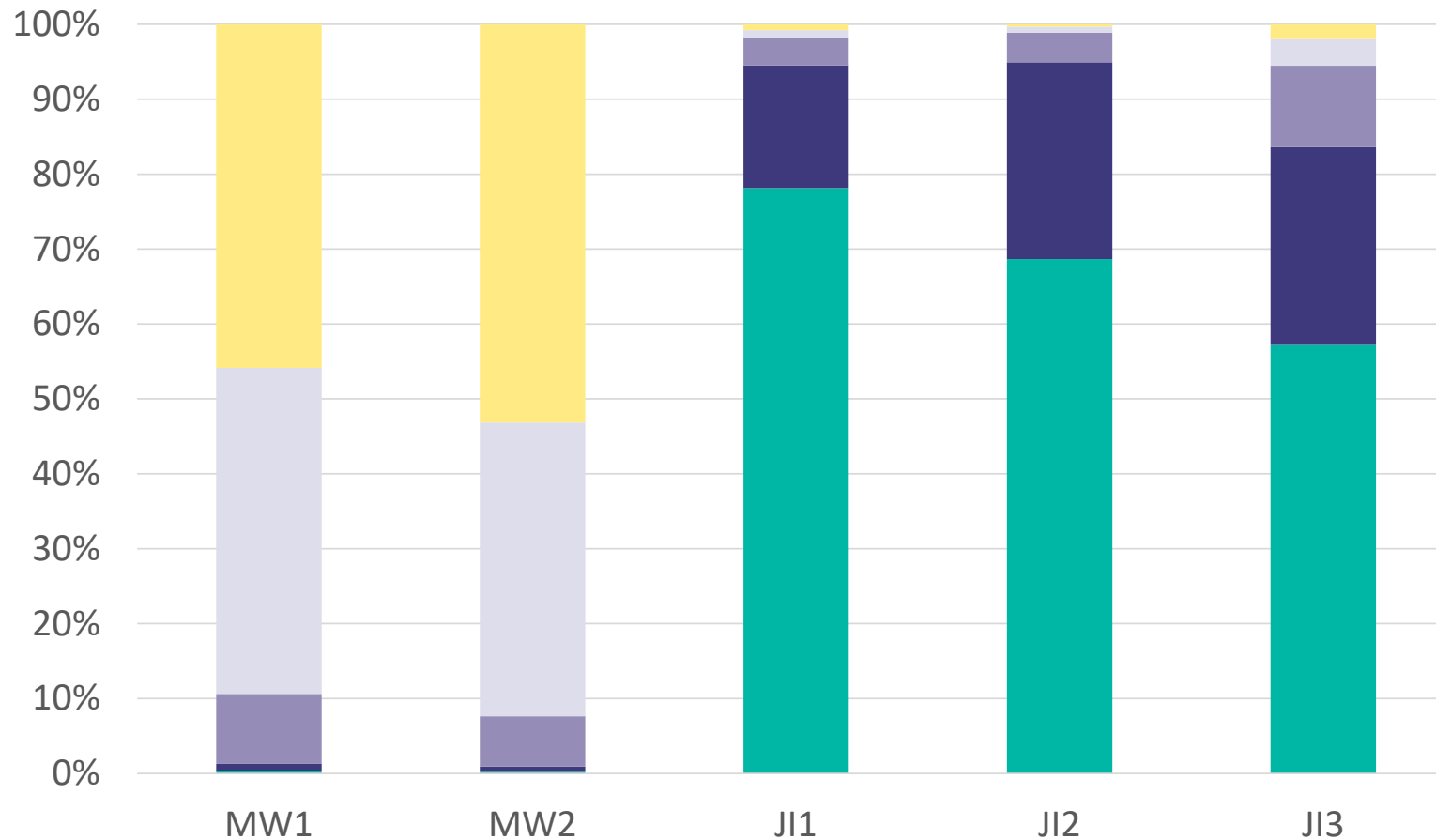
## National survey of licensed nurses





# Ceiling and floor effects

Distribution of responses to *meaning in work* and *job insecurity*



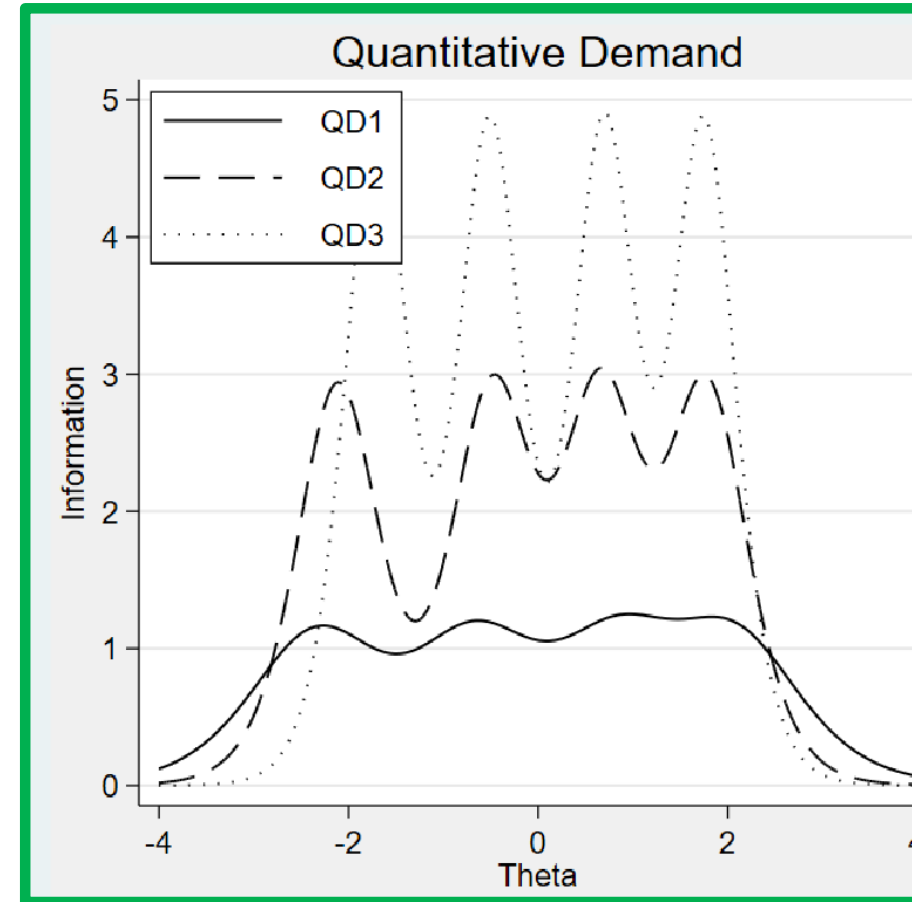
# Item information functions (IIFs)

The item response function is a mathematical function that relates the latent variable to the probability of responding with each possible answer to an item,

The IIF is an indication of **item quality** and the **item's ability to differentiate between respondents**.

**Y-axis:** More information (a higher value on the *y-axis* of the IIF) indicates more precise measurement at the continuum of  $\theta$  (Theta). The value on the *y-axis* shows how much empirical information each item is adding to the dimension.

**X-axis:** The value on the *x-axis* shows where this empirical information is occurring along the continuum of the latent work environment variables ( $\theta$ ).





# Items with low discrimination (nurses)

WP3	LONG	Is it necessary to keep working at a high pace?
EDX2	CORE	Do you have to deal with other people's personal problems as part of your work?
IN5	LONG	Can you influence how quickly you work?
IN6	MIDDLE	Do you have any influence on HOW you do your work?
RE2	LONG	Does the management at your workplace respect you?
QL2	LONG	- gives high priority to job satisfaction?
SSX3	LONG	How often does your immediate superior talk with you about how well you carry out your work?
SCX3	LONG	How often do your colleagues talk with you about how well you carry out your work?
CW1	LONG	Do you enjoy telling others about your place of work?
CW2	LONG	Do you feel that your place of work is of great importance to you?
WFX1	LONG	Are there times when you need to be at work and at home at the same time?
WF6	LONG	Due to work-related duties, I have to make changes to my plans for private and family activities.
JU3	LONG	Are all suggestions from employees treated seriously by the management?

# Factor analyses

## Latent dimensionality

CFA with all items constrained to load on the dimension to which they belong:

- ✓ all items load onto the dimensions they are meant to measure with high statistical precision.

## Separability of dimensions

EFA where items can load freely on factors:

- ✓ dimensions that mostly load onto one factor: QD, WP, CD, ED, HE, IN, PD, CT, MW, CL, WE, JI, IW (IW5 low), WF, TE,
- ✓ PR, RE, QL, SS, CW, JS, TM and JU all have high loadings onto the same factor in this sample,
- ✓ CO3 and IT1 seem to form a common factor, suggesting that these two items measure a unique dimension.

# Summing up some main findings

- The scale reliability was high for all dimensions except ‘Demands for Hiding Emotions’
- In general, CORE items discriminate well among respondents
- 14 items were found to be candidates to be removed to obtain a shorter questionnaire for nurses (1 CORE, 1 MIDDLE, 12 LONG)
- The structure and the latent dimensionality in the original English version were replicated
- 8 out of 28 dimensions do probably not separate dimensions as items covering these dimensions loaded onto the same factor



# Limitations and strenghts

- The large national sample of data, covering licenced nurses working in primary and secondary health care is a strength
- The results are not representative for the Norwegian labour market in general

# Conclusion ...so far!

This first validation study shows that the Norwegian version has strong statistical properties like the original and can be used to assess exposure to job demands and resources in organizational and psychosocial work environment

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# Next steps

- Validation of questions regarding negative acts on the same data set
- Inclusion of a large number of items and scales in a large hospital cohort study ‘STUNTH’
- Preliminary thoughts about
  - applying for a national representative study for development of benchmarks
  - Development of homepage

**Thank you for  
your attention!**

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