

# Health-related quality of life in Switzerland: normative data for the SF-36 questionnaire

Katharina Roser<sup>1</sup>, Luzius Mader<sup>1</sup>, Julia Baenziger<sup>1</sup>, Grit Sommer<sup>2,3</sup>, Claudia E. Kuehni<sup>2,3</sup>, Gisela Michel<sup>1</sup>

<sup>1</sup> Department of Health Sciences and Medicine, University of Lucerne, Lucerne, Switzerland

<sup>2</sup> Swiss Childhood Cancer Registry, Institute of Social and Preventive Medicine, University of Bern, Bern, Switzerland

<sup>3</sup> Department of Paediatrics, University Children's Hospital, University of Bern, Bern, Switzerland



---

## BACKGROUND

- Health-related quality of life (HRQOL) important concept to describe well-being
- Short Form-36 (SF-36) widely used questionnaire assessing self-reported HRQOL
- No normative data available for Switzerland



---

## AIMS

- i) Provide normative data for HRQOL (physical and mental health) for Switzerland
  - ii) Identify sociodemographic characteristics associated with better HRQOL (physical and mental health)
- 

Roser K, Mader L, Baenziger J, Sommer G, Kuehni CE, Michel G. (2019) Health-related quality of life in Switzerland: normative data for the SF-36v2 questionnaire. Qual Life Res. 28(7):1963-1977. doi: 10.1007/s11136-019-02161-5

<https://link.springer.com/article/10.1007%2Fs11136-019-02161-5>



## METHODS

### Sample

- People living in Switzerland in 2015 and aged 18–75 years



### Procedure

- Questionnaire survey, 1 reminder



### Measure: SF-36

- Eight health domain subscales
  - Physical functioning (PF)
  - Physical role functioning (RP)
  - Bodily pain (BP)
  - General health perceptions (GH)
  - Vitality (VT)
  - Social role functioning (SF)
  - Emotional role functioning (RE)
  - Mental health (MH)
- Two summary measures for HRQOL
  - Physical health (PCS)
  - Mental health (MCS)

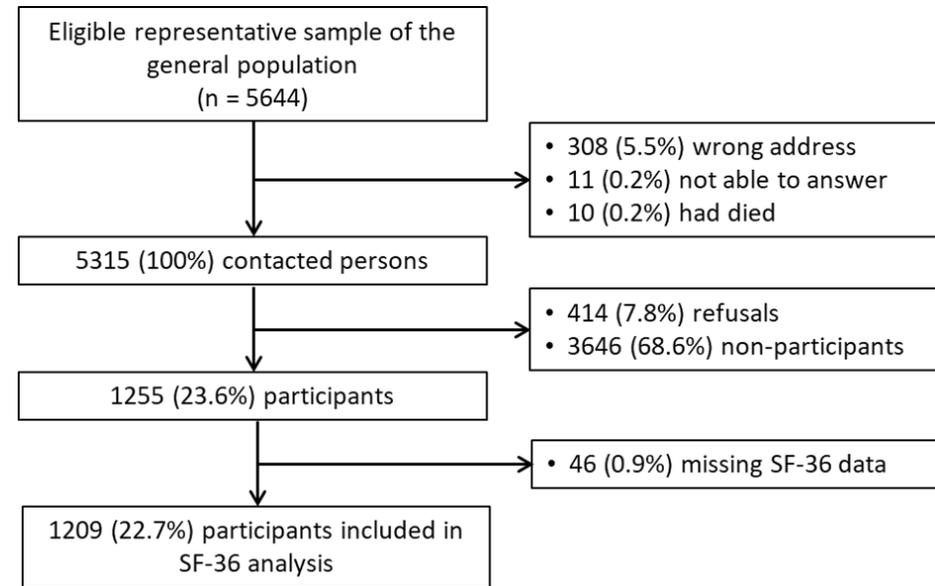


Figure 1: Flow chart of the study sample.

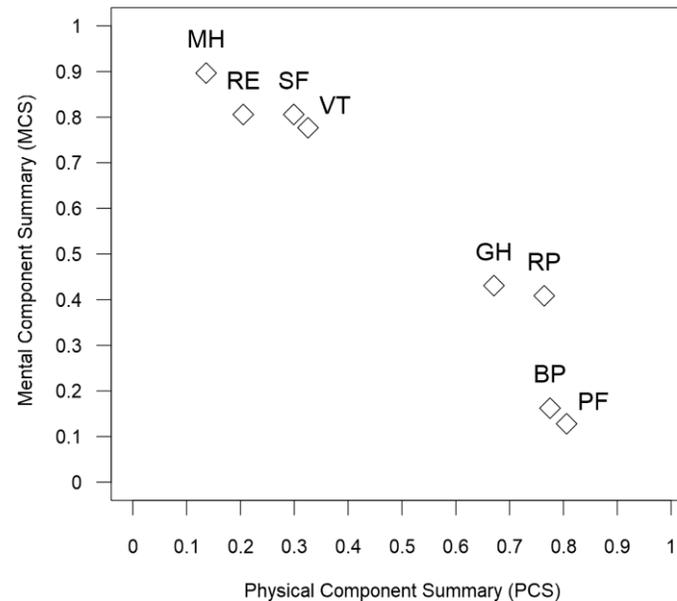


Figure 2: Rotated factor loadings of the health domain subscales on the two summary measures PCS and MCS.

## RESULTS

### Sample

- 1209 participants (response rate of 23%; weighted according to sex, age, and nationality):  
58.1% women, mean age = 48.7 years, 87.1% Swiss

### Measure: SF-36

- SF-36 found to be **valid** and **reliable** in Switzerland
  - Reliability **health domain subscales**: Cronbach's alpha coefficients satisfactory (ranging from 0.73 to 0.92)
  - Reliability **summary measures**: 0.94 for PCS, 0.93 for MCS
  - **Validity**: principal component analysis revealed two factors with eigenvalue > 1 → two-factor structure



---

### Aim i) Normative data

Normative data enable future studies to **compare HRQOL** (physical and mental health) to a **representative sample** of the **Swiss general population**.



---

### Aim ii) Physical and mental health

- Better physical ( $p=0.002$ ) and mental ( $p<0.001$ ) health in German than in French and Italian speaking persons
- Compared to other countries, better physical health and worse mental health in Switzerland

## Physical health



## Mental health



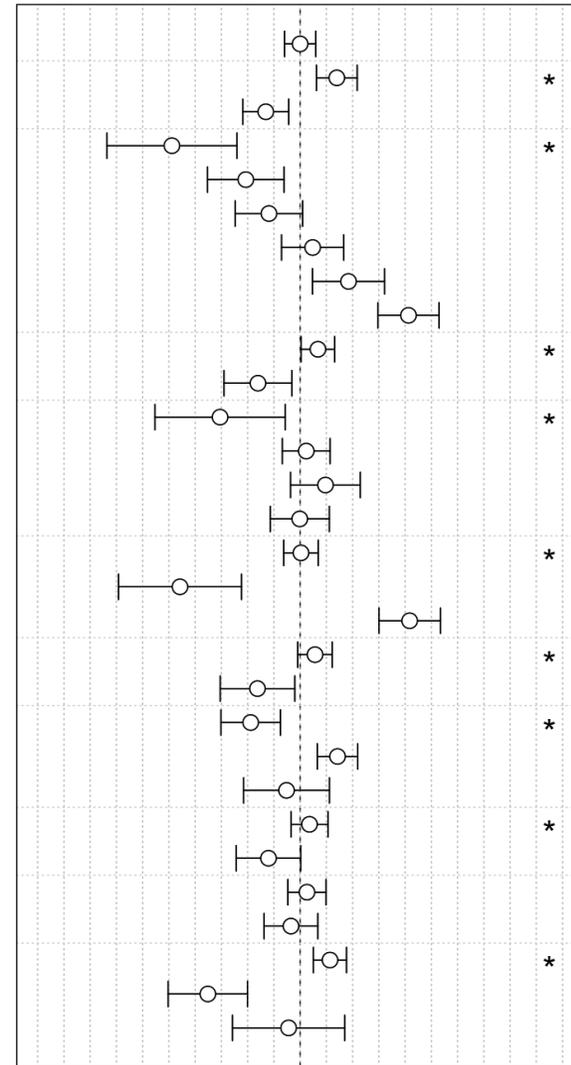
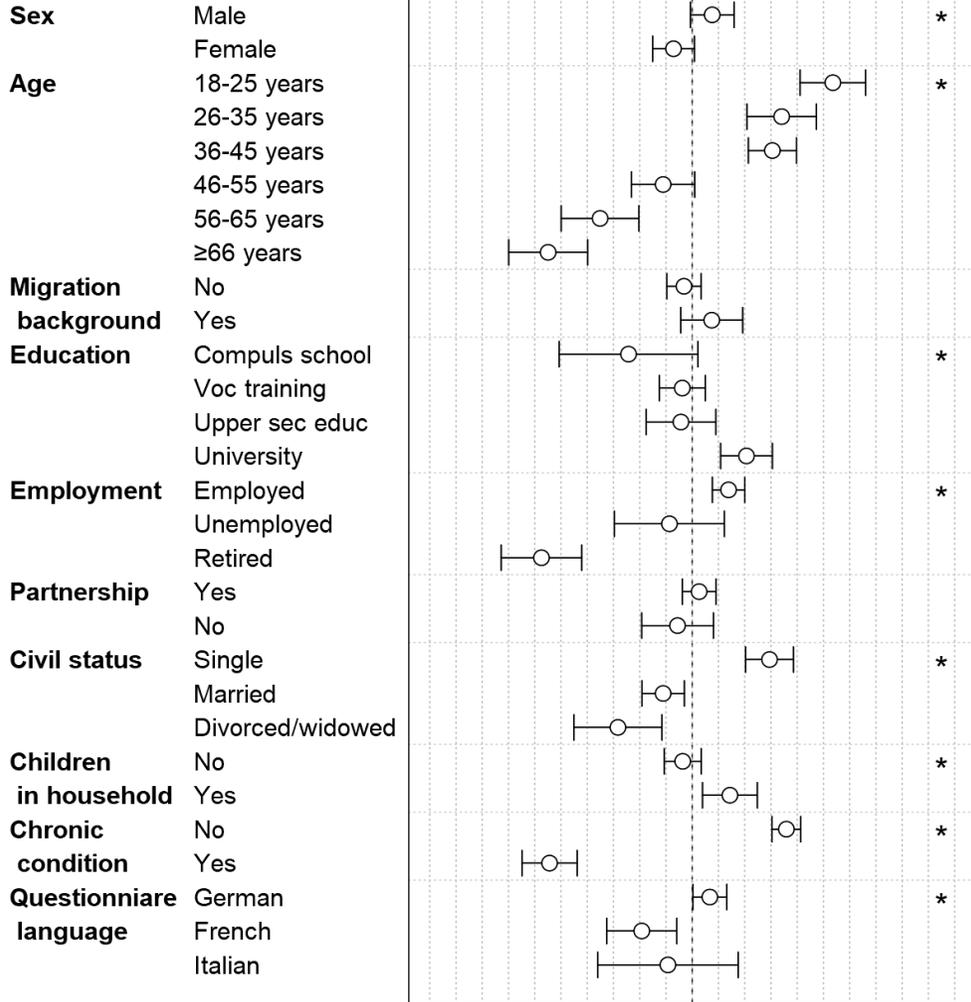
### Physical health better in

- men ( $p=0.012$ ) and younger persons ( $p<0.001$ )
- persons with higher attained education ( $p < 0.001$ ) and employed persons ( $p < 0.001$ )
- single persons ( $p < 0.001$ ) and persons with children in the household ( $p=0.005$ )

### Mental health better in

- men ( $p<0.001$ ) and older persons ( $p<0.001$ )
- persons without migration background ( $p = 0.002$ )
- retired persons ( $p < 0.001$ )
- persons living in a partnership ( $p = 0.006$ ) and persons without children in the household ( $p = 0.030$ )

#### Whole sample



Stars indicate p-values <0.05  
Abbreviations: CI, confidence interval; Compuls school, compulsory schooling; Voc training, vocational training; Upper sec educ, upper secondary education; University, university education

## LIMITATIONS

- Relatively low response rate
- Reporting bias
- Social desirability bias



## STRENGTHS

- Representative for Swiss general population
- SF-36 widely used, reliable, and valid
- Variety of covariates included



## CONCLUSIONS

- HRQOL in Switzerland follows the same pattern as in other countries, with better HRQOL in men than in women and worse physical and better mental health in older persons.
- We present the first SF-36 normative data for Switzerland based on a recent study in a representative sample.

» These normative data enable future studies to compare HRQOL assessed by the SF-36 in healthy and diseased persons to a representative Swiss sample.

## Contact

Katharina Roser, PhD



katharina.rosler@unilu.ch



katharina-roser

## Acknowledgements

We thank all study participants for participating in our survey.

## Funding

- Swiss National Science Foundation (Grant No. 100019\_153268)
- University of Lucerne research committee and Dept Health Science and Health Policy (open access publication)