

# Equivalence of Subjective Wellbeing Measures across Modes of Data Collection

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Previous research shows that mode of data collection impacts on widely used measures of subjective wellbeing - such as happiness- and the relationship between them, pointing towards the idea that such measures may not be equivalent across modes. This study shows that personal subjective wellbeing (SWB) and social wellbeing have a high level of measurement equivalence across Web, mail and telephone.

## 1. Introduction & Background

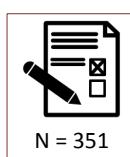
- Increasing number of studies that involve data from more than one mode of data collection:
  - From mixed-mode surveys (e.g. combining telephone and mail)
  - From different data-bases to make comparisons (e.g. across countries)
- Different modes attract different respondents (e.g. Swiss in telephone mode)
- Same type of respondent gives different answers to different modes (e.g. different interpretation)
- Different mode, different SWB score → same construct?**

## 2. Research question

Are SWB measures comparable across modes?

## 3. Data

- LIVES & FORS mixed-mode experiment
- 25 minute questionnaire on wellbeing
- Parallel and sequential mixed-mode
- French speaking part of Switzerland
- Three modes: web, mail and telephone
- Response mode = allocated mode



## 4. Analytical approach

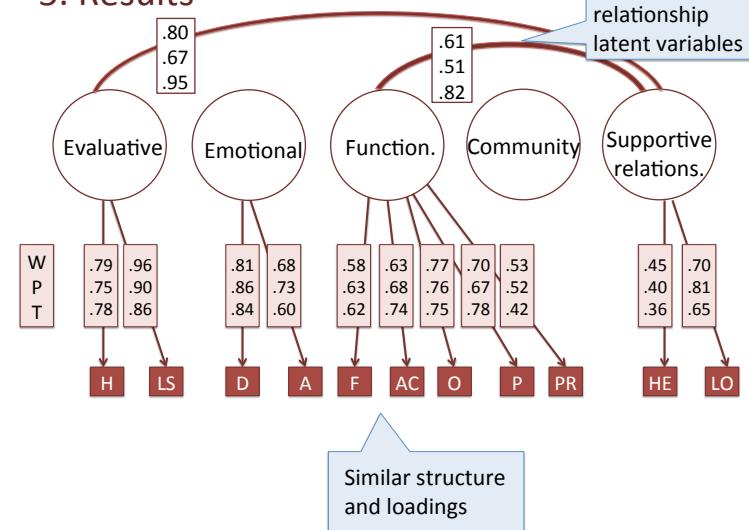
- Multiple-group confirmatory factor analysis
  - Personal subjective wellbeing and social wellbeing
  - European Social Survey model
- Are the SWB measures equivalent?
  - Measurement invariance test
  - Are covariance and correlation matrices different for mail, web and telephone?

### SWB items:

H: Happiness  
LS: Life satisfaction  
D: Depression  
A: Anxiety  
F: Freedom

A: Accomplishment  
P: Positive  
PR: Overcome problems  
HE: Gets help  
LO: Loneliness

## 5. Results



Model fit is adequate and similar for the three modes

Model	X <sup>2</sup> (df)	RMSEA	CFI
All modes	234.458(45)	0.061	0.964
Web	137.857(45)	0.068	0.955
Paper	123.429(45)	0.071	0.951
Telephone	83.105(45)	0.049	0.980

Invariance X <sup>2</sup> (df)	RMSEA	CFI	Change
Configural 299.17(147)	0.052	0.958	-
Metric 314.41(163)	0.049	0.959	<0.01
Scalar 331.61(179)	0.047	0.958	<0.01
Strict 390.61(201)*	0.047	0.957	<0.01

No significant change in CFI= invariance

Significant difference in chi-square: not enough for strict invariance

## 6. Conclusions

- SWB measure is the same for Web, mail and paper: very similar structure
- The measure is comparable if there are more than two SWB measures available (multivariate analysis)
- Sum scores and mean comparisons may be misleading

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