

# **The effects of extended working hours on health and social well-being**

**– a comparative analysis of four  
independent samples**

Anna Wirtz  
Friedhelm Nachreiner

GAWO Gesellschaft für Arbeits-, Wirtschafts- und Organisationspsychologische  
Forschung e.V.

**19<sup>th</sup> International Symposium on Shiftwork and Working Time  
Venice, 2009-08-02 to 06**

# Background & research question

---

- long working hours have been shown to lead to impairments of employees' health and social well-being
- moderating effects of work load, working conditions, individual characteristics, other characteristics of the work schedule
- Are such results **valid, reliable**, and can they be **generalized** ?

# Method

- **Cross-validation:** Can similar effects of long working hours on health and wellbeing be found in different data sets?

Survey	Origin	Size	Notation
German survey on the quality of work („Was ist Gute Arbeit?“)	DE 2004	n = 3,455	GA 2004
German survey on working conditions („BIBB/BAuA Erwerbstätigenbefragung“)	DE 2006	n = 16,005	BB 2006
3rd European Working Conditions Survey	EU 15 2000	n = 16,793	EU 2000 (EU 15)
4th European Working Conditions Survey	EU 15 2005	n = 11,041	EU 2005 (EU 15)

- independent variables
  - usual number of weekly working hours
  - chronology of working hours
    - working in shifts,
    - working on saturdays, sundays, evenings, nights
  
- dependent variables
  - list of different health complaints
  
- moderating variable
  - subjective work-life balance

## ➤ **Problems:**

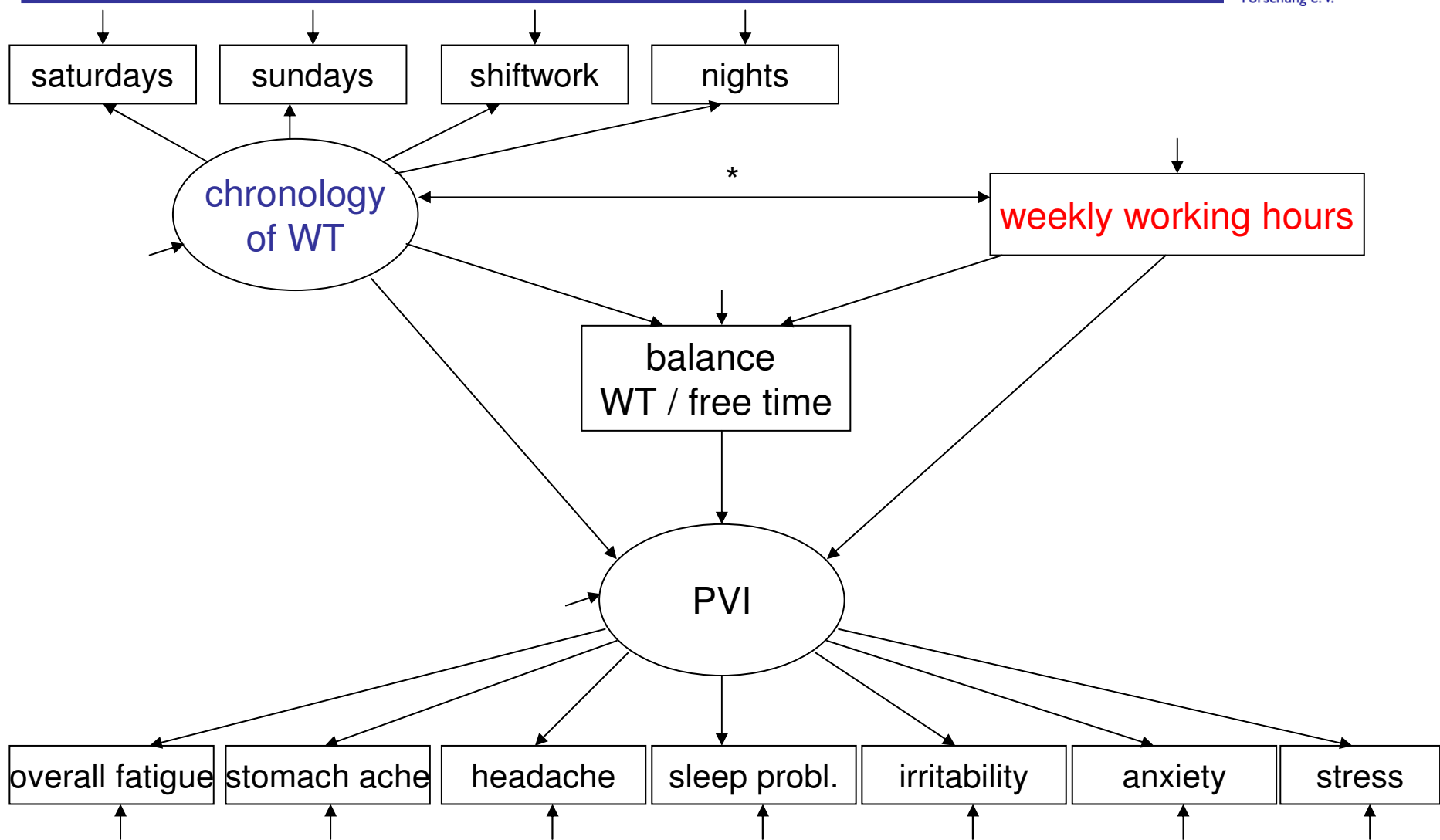
- different operationalisations
- different variables
- different facets

of the underlying constructs of working time and health

## ➤ **Structural Equation Modelling (SEM)**

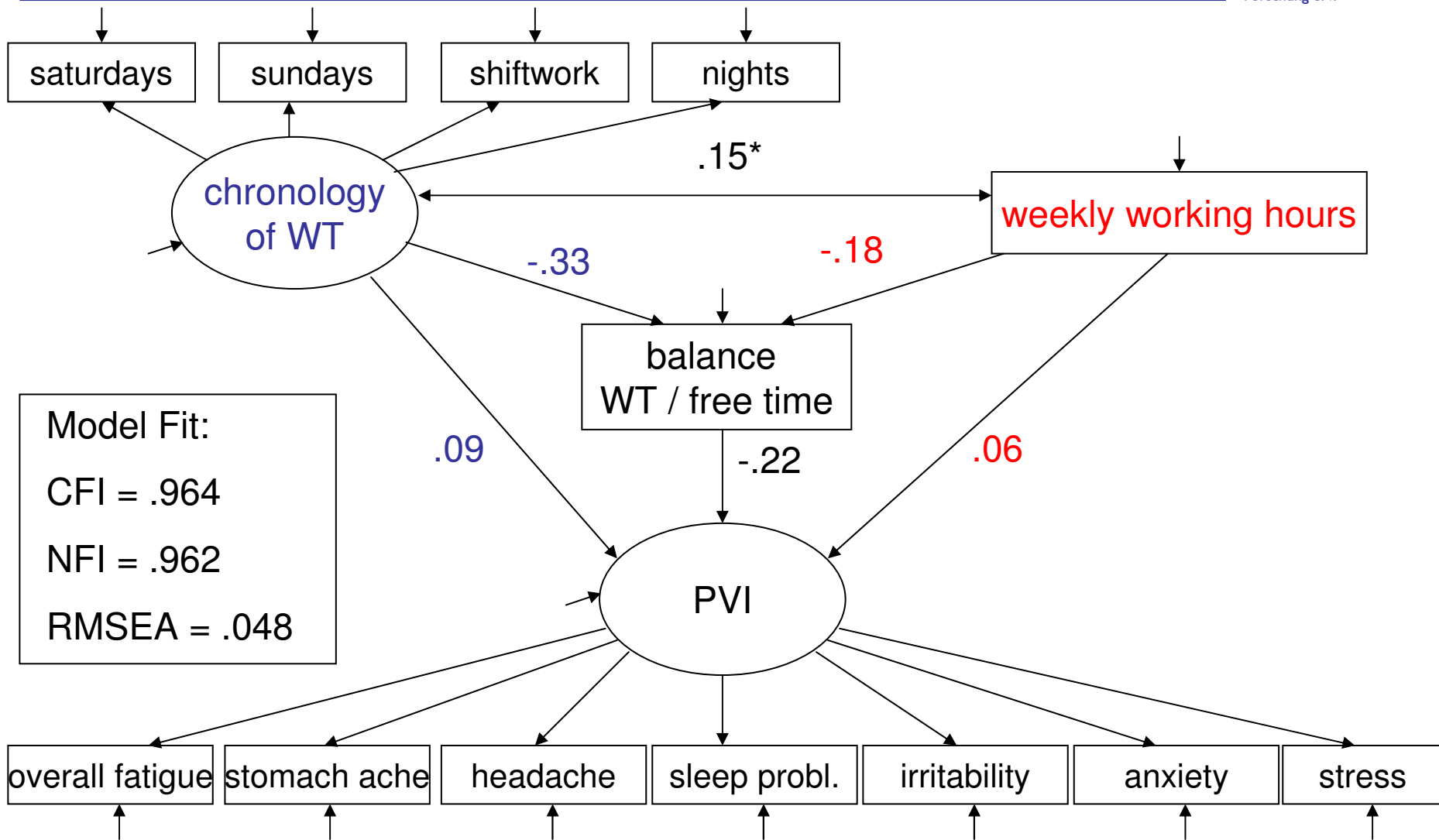
- analysis of structural relations between **latent constructs**
- cross-validation of the same model over 4 samples
  - Does the model hold in each sample?
  - Goodness of fit?
  - Similar path coefficients?

# Theoretical structural model



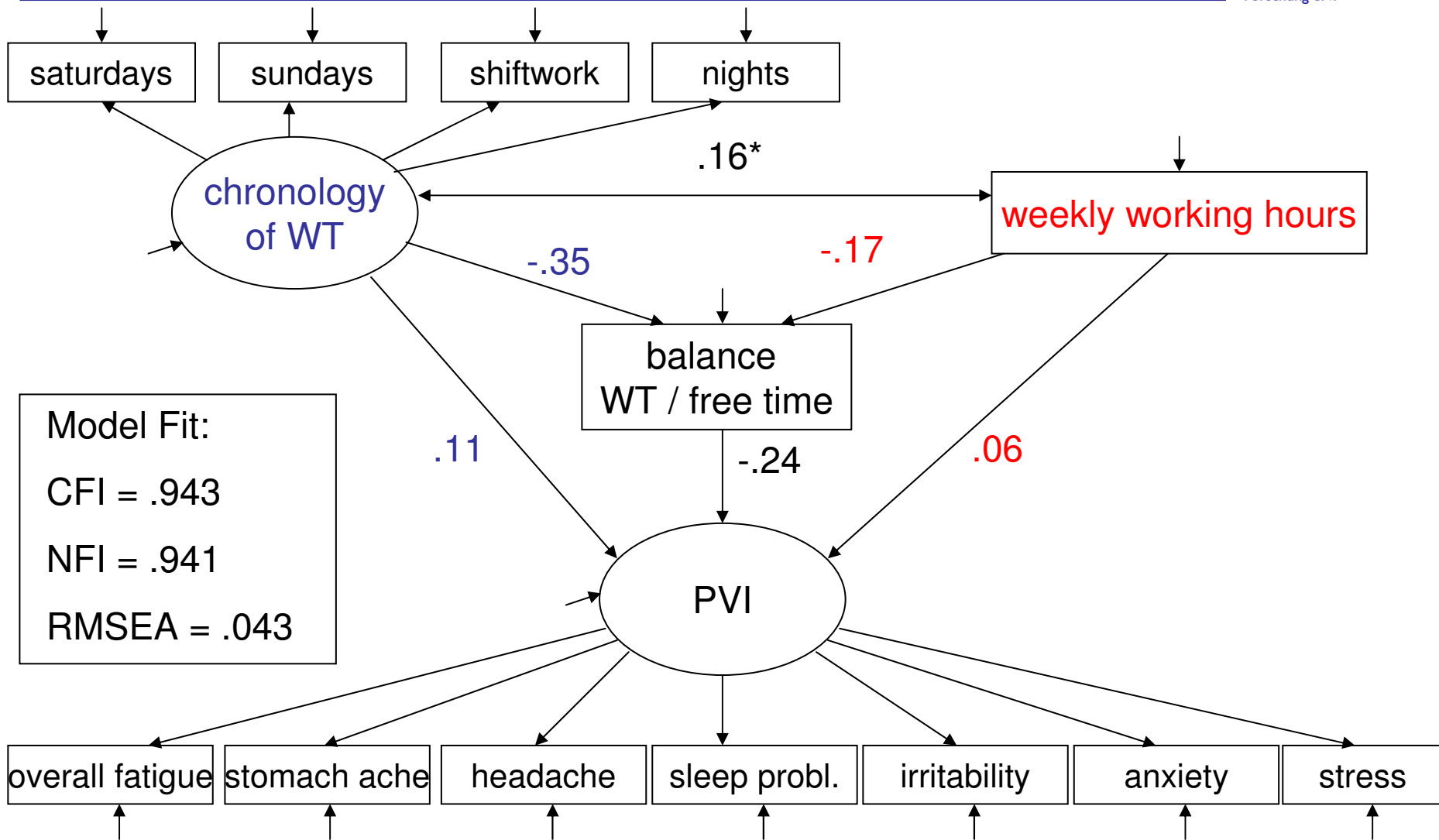
\*(covariance of errors)

# SEM EU 2005 (EU 15)



\*(covariance of errors)

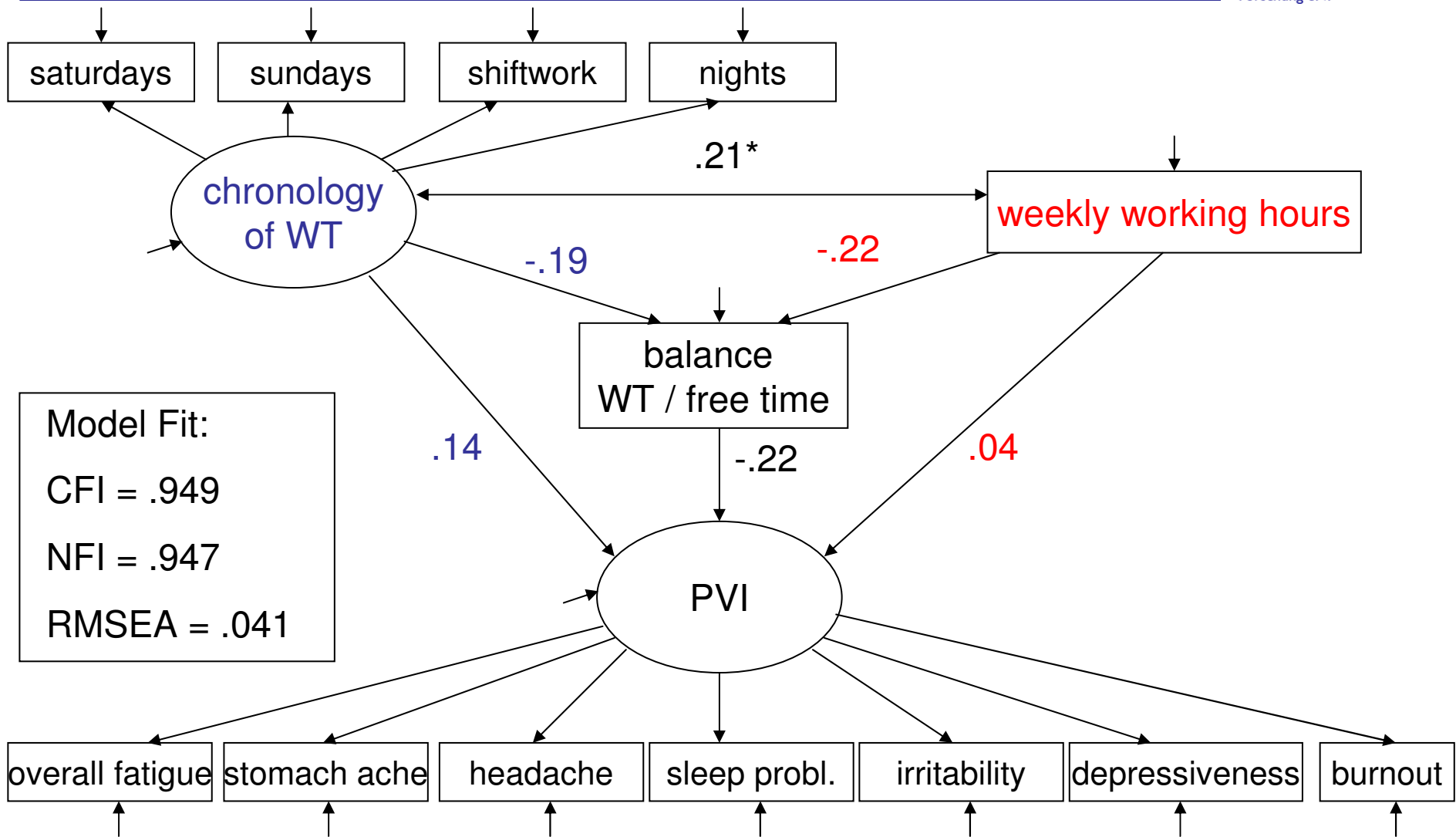
# SEM EU 2000 (EU 15)



\*(covariance of errors)

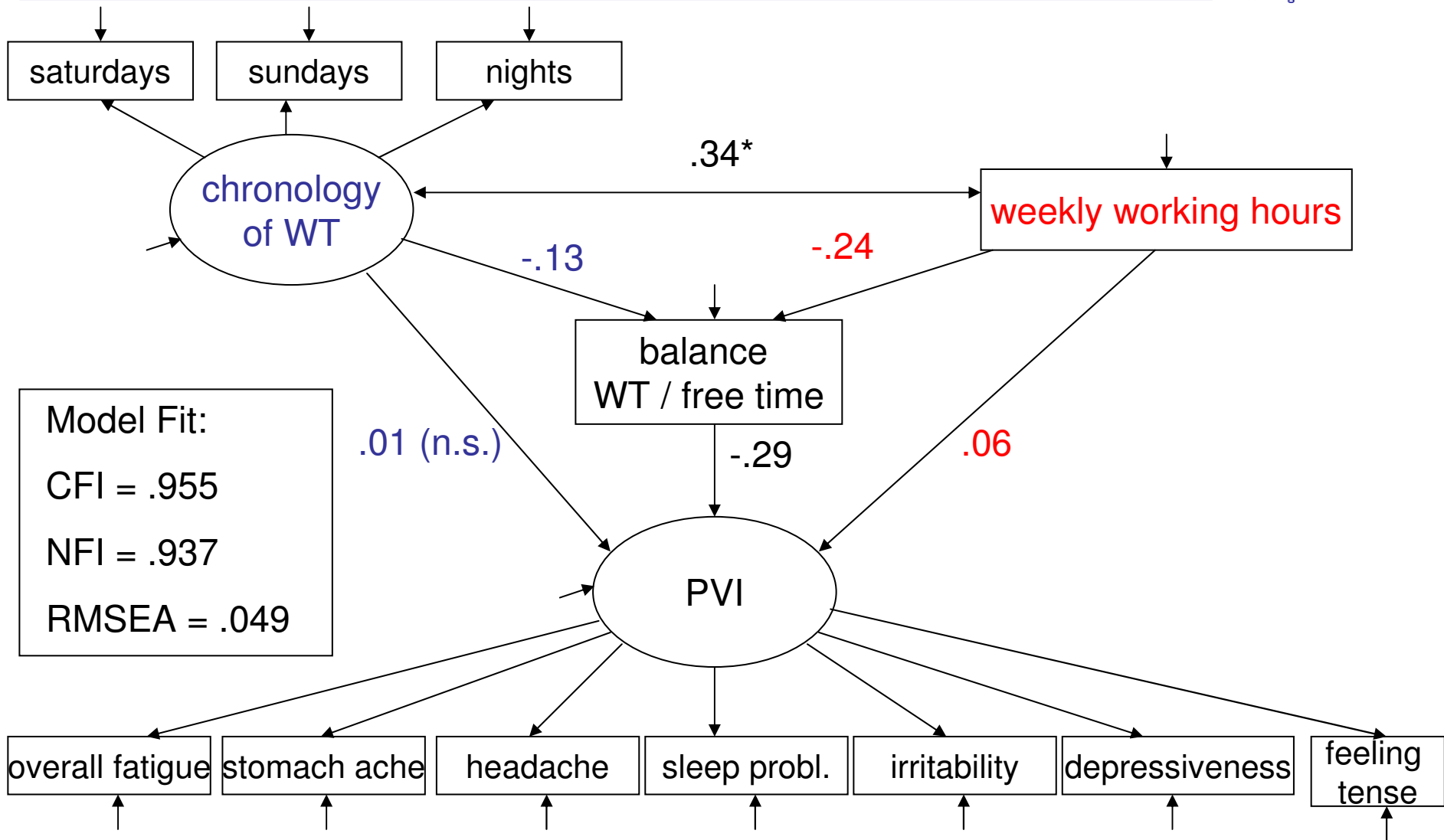


# SEM BB 2006 (DE)



\*(covariance of errors)

# SEM GA 2004 (DE)



\*(covariance of errors)

# Conclusions

---

- The same structural model holds in all samples
  - good / very good model fit
  - almost identical path coefficients
  
- results are thus independent of
  - sample
  - method of the inquiry
    - including specific observed variables
  - survey period
  
- high validity and reliability of the results

# Conclusions

---

- future analyses should be conducted, differentiating / controlling for
  - individual & work load characteristics
  - job types
- investigation of reciprocal effects (e.g. between work hours and health impairments)
- What about relations between working time and leisure activities?

Thank you for your attention !

Contact information

[anna.wirtz@uni-oldenburg.de](mailto:anna.wirtz@uni-oldenburg.de)

[nachreiner@gawo-ev.de](mailto:nachreiner@gawo-ev.de)

[www.gawo-ev.de](http://www.gawo-ev.de)

supported by a grant from Universitätsgesellschaft Oldenburg