
Life course perspective and health trajectories in Switzerland: what are the consequences for health promotion?

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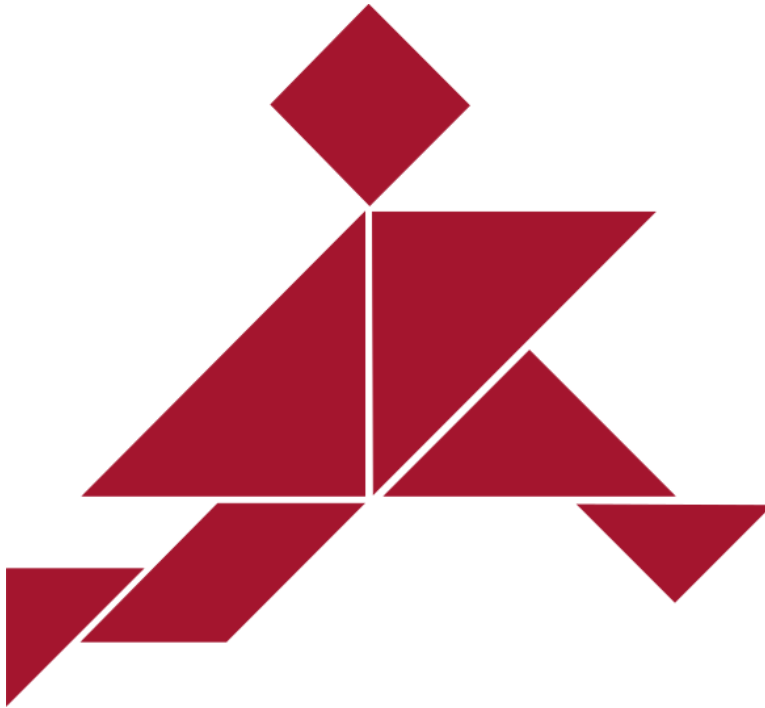
LIVES and ESRC International Center for Lifecourse
Studies in Society and Health

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Swiss National Centre of Competence in Research

OVERCOMING VULNERABILITY: LIFE COURSE PERSPECTIVES

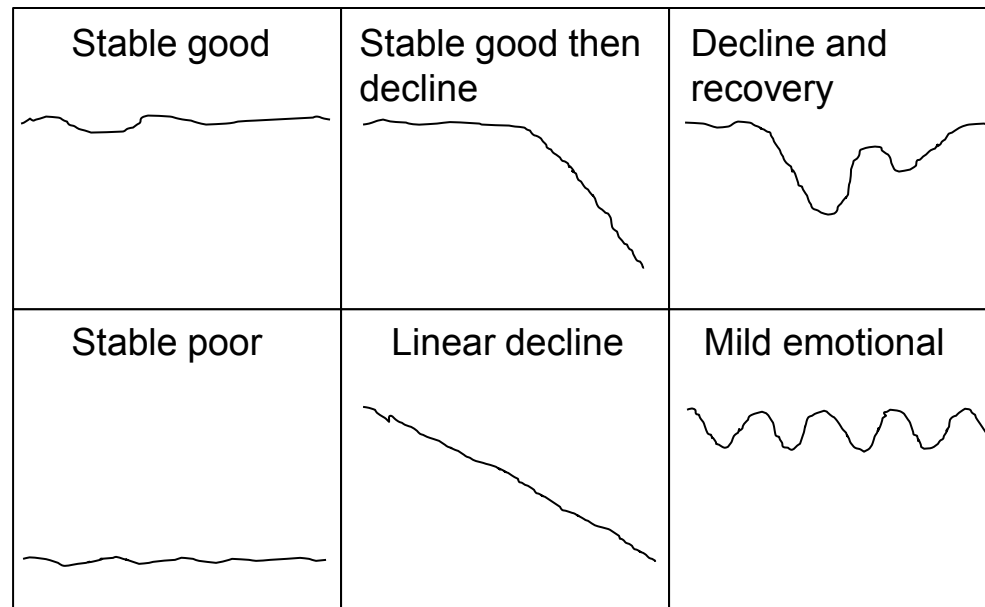


Life course perspective on health trajectories

- From health as a static state to health as a dynamic state
- Health trajectories as a continuous development
- Comprehensive approach of complex interactions developing over time

Life course perspective: what questions?

- Do individuals have linear patterns in their health trajectories over the life course?
 - Common patterns of self-rated general health:

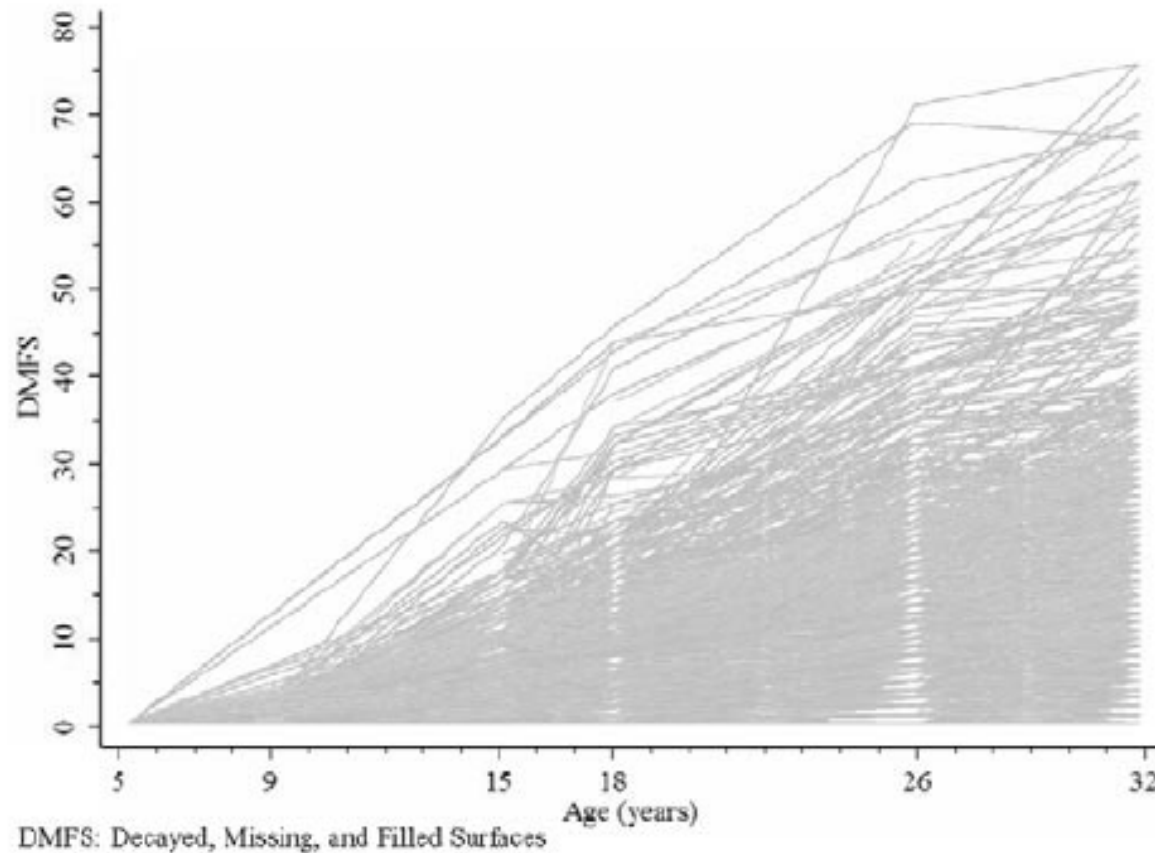


Clipp E et al Behavior, Health, & Aging 1992, 2:159-79

Life course perspective: what questions?

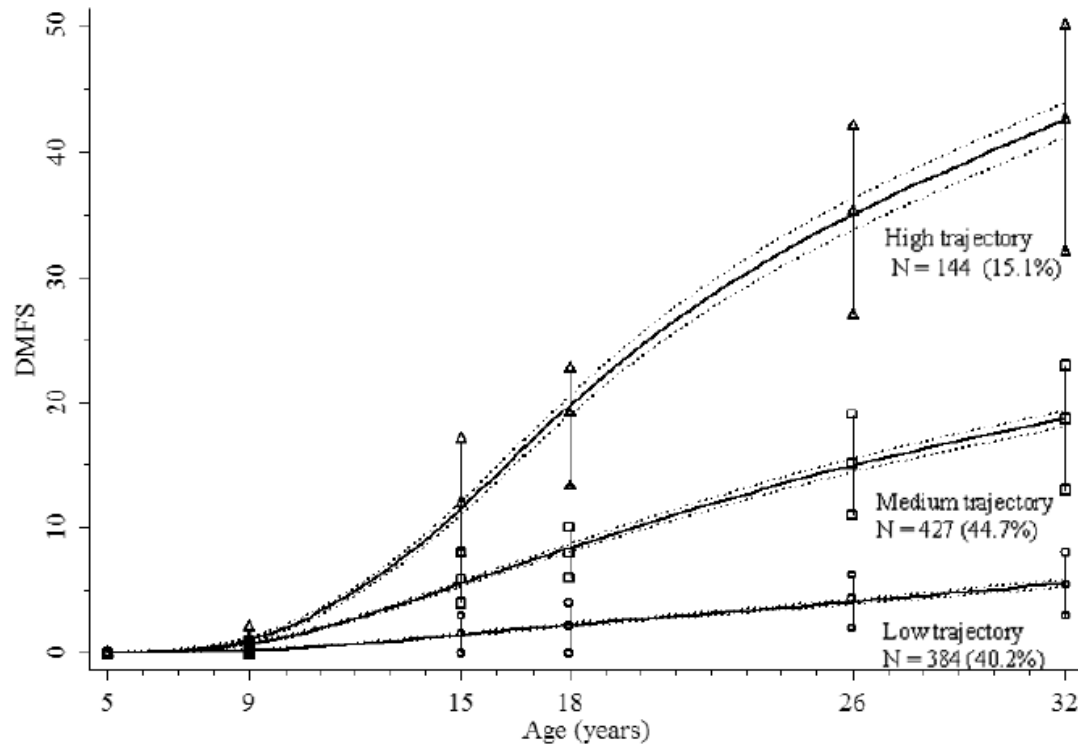
- Do individuals have linear patterns in their health trajectories over the life course?
 - Different dental trajectories from 5 years to 32 years old

Individual dental trajectories of a birth cohort born in Dunedin (New Zealand)



Broadbent JM et al J Dent Res 2008 87(1):69-72

Patterns of dental trajectories



Bars represent interquartile range, dotted lines represent 95% CI
DMFS: Decayed, Missing, and Filled Surfaces

Figure 2. Trajectory plot of mean DMFS scores for three-group caries trajectory analysis model.

Broadbent JM et al J Dent Res 2008 87(1):69-72

Life course perspective: what questions?

- Do individuals have life course health trajectories with linear patterns?
 - Different trajectories of premenstrual syndrome from young adulthood (22-27) to middle age (34-39y)

Life course perspective: what questions?

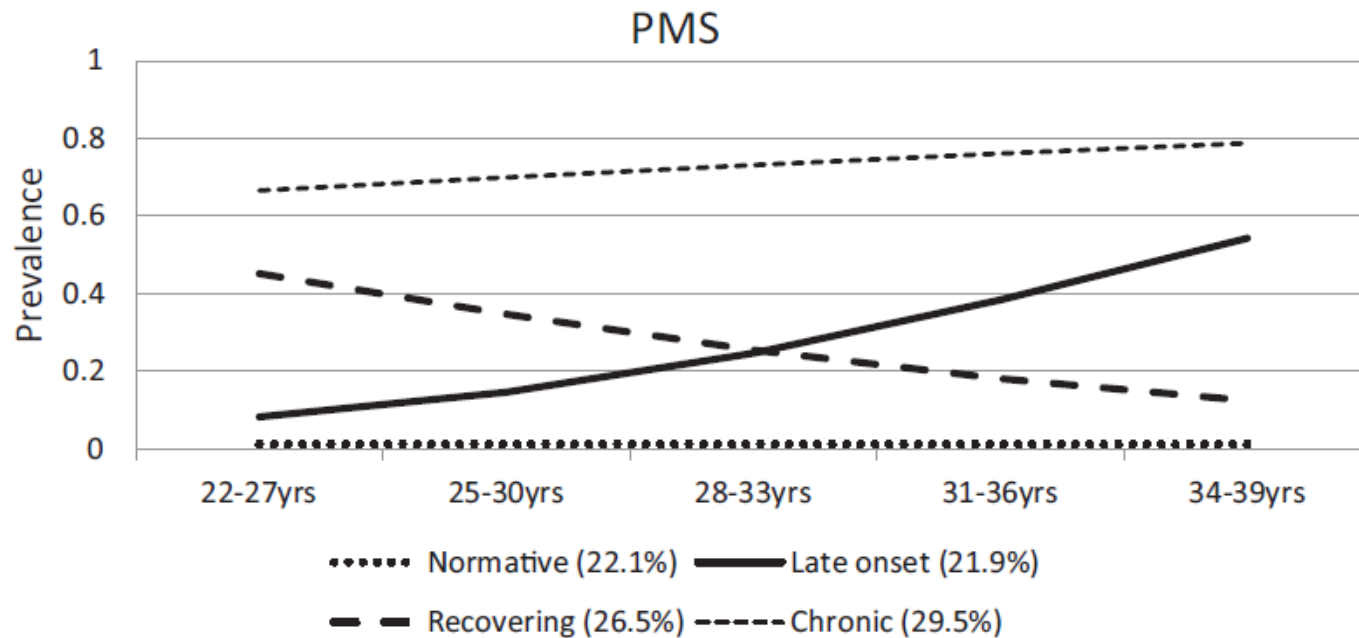


Fig. 4. Trajectories of PMS for the cohort of Australian women from year 2000 (survey 2) to 2012 (survey 6) (PMS, premenstrual syndrome).

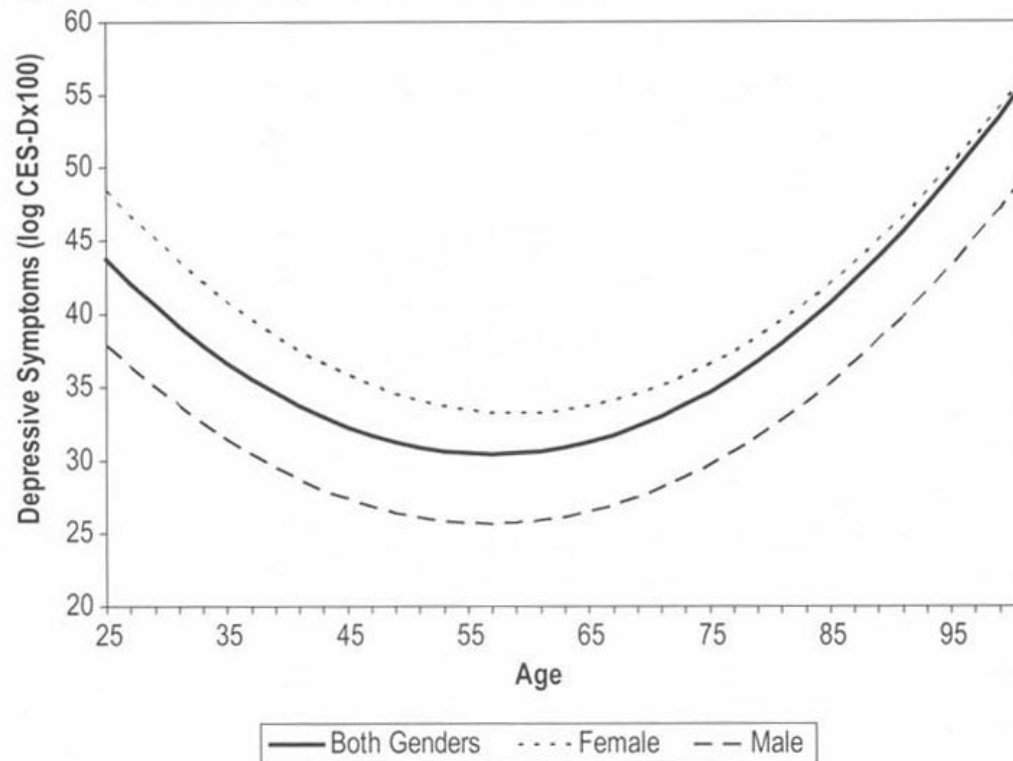
Ju H et al Maturitas 2014, 78:99-105

Life course perspective: what questions?

- Do individuals have life course health trajectories with linear patterns?
 - Quadratic trajectories of depressive symptoms

Life course perspective: what questions?

Figure 1. Depressive Symptoms over the Adult Life Course



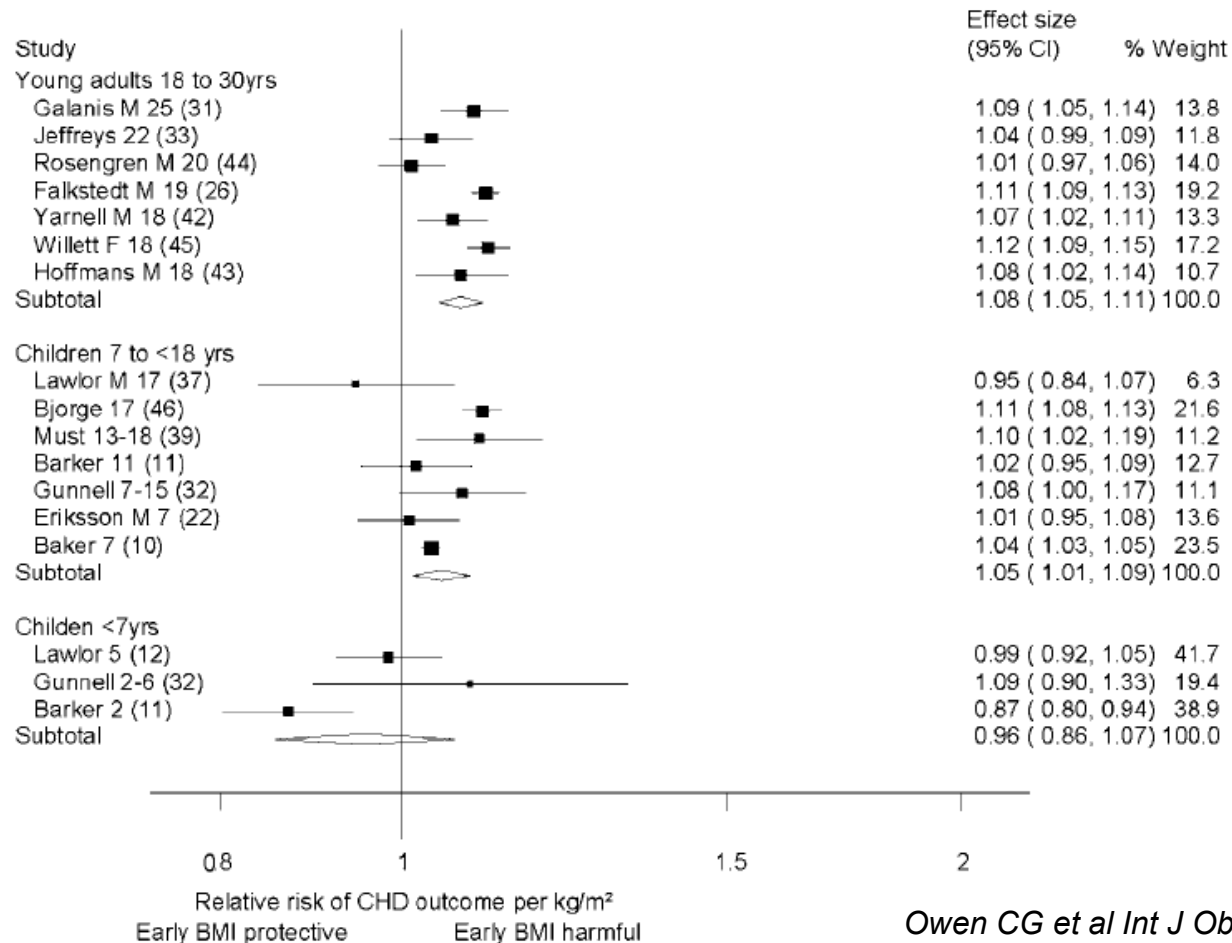
Source: Americans' Changing Lives Study (1986-2001)

Clarke P et al *Social Forces* 2011, 89:1287-1313

Life course perspective: what questions?

- Are there age-related periods associated with higher risk of poor later health?
 - Barker (1991) hypothesis: importance of nutrition of the foetus and the newborn baby for health in adulthood
 - Foetal conditions and later cardiovascular risks, diseases and mortality, through biological mechanisms: impaired organ development, hormonal imbalance, oxydative stress, altered metabolism, and epigenetics modifications (*Blackmore & Ozanne J Mol Cell Cardiol 2014*)

Life course perspective: what questions?



Life course perspective: what questions?

- Are the chips down in fetal and postnatal life?
 - Adaptive phenomenon
 - the mismatch hypothesis (Peter Gluckman): mismatch in nutritional status before and after birth is associated with poorer physical health in animal and human studies (cardiac and renal health)

	Good after	Poor after
Good before	Match	Mismatch Deterioration
Poor before	Mismatch Improvement	Match

Life course perspective: what questions?

- Does velocity in trajectories impact later health?
 - Good evidence of rapid infancy weight gain and adulthood obesity

	Rapid infancy weight gain as a risk factor for childhood and adulthood obesity	Breastfeeding as a protective factor for childhood and adulthood obesity
Study design		
Randomized trials	Not supporting (2 studies)	No data
Meta-analyses or systematic review of observational studies	Supporting	Supporting
Individual observational studies	Supporting	Inconsistent
Criteria for causality		
Consistency between studies	No (Yes for observational studies)	Partially fulfilled
Strength of the association	Yes	Yes
Dose-response relationship	Yes	Yes
Biological plausibility	Yes	Yes
Temporality	Yes	Yes
Experimental reproducibility in animal models	Yes	No data
Experimental reproducibility in humans	No (2 studies)	No data

Figure 1 Critical appraisal of the existing literature on rapid infancy weight gain as a risk factor and breastfeeding as a protective factor for the development of obesity during childhood and adulthood by study design (from the strongest to the weakest design) and by criteria for causality.

Stettler N Int J Obesity 2007 31(7):1035-43

Life course perspective: what questions?

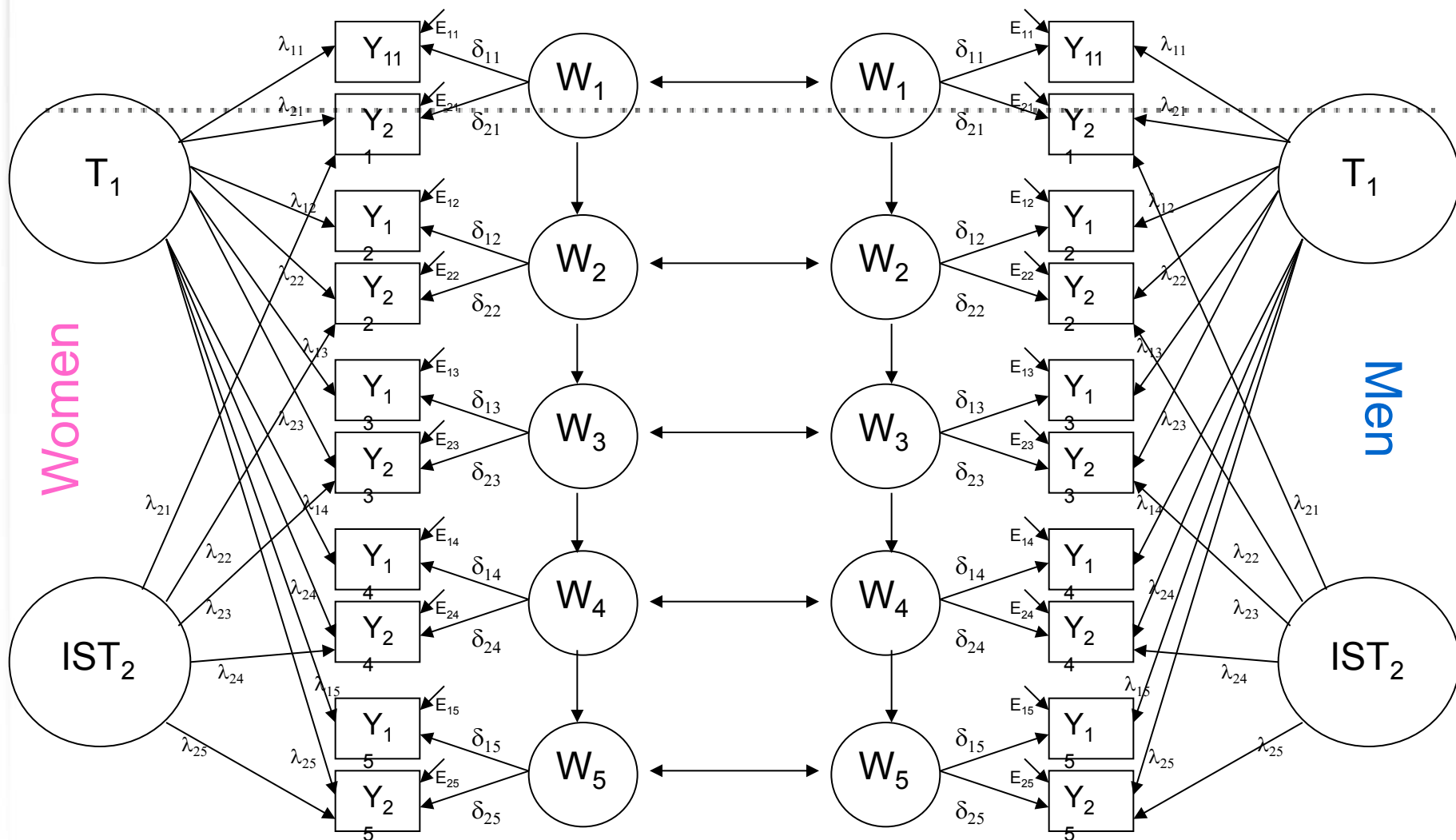
- Life course influences on behavioural risk factors ?
 - higher levels of vegetable consumption in childhood associated with a healthier pattern of food consumption in early old age (*Maynard M et al Eur J Public Health 2006, 16:316-24*)

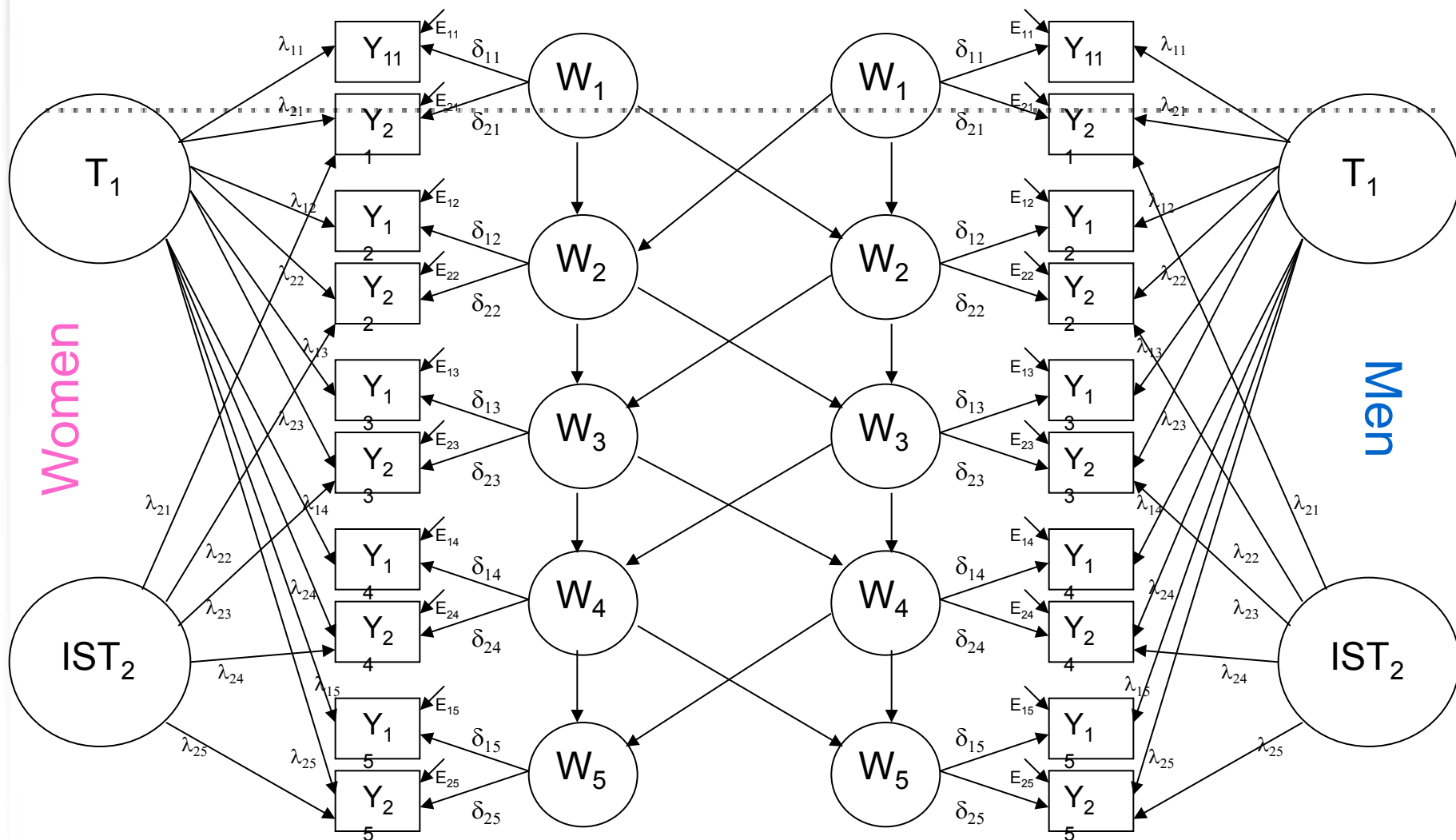
Life course perspective: a linked lives approach

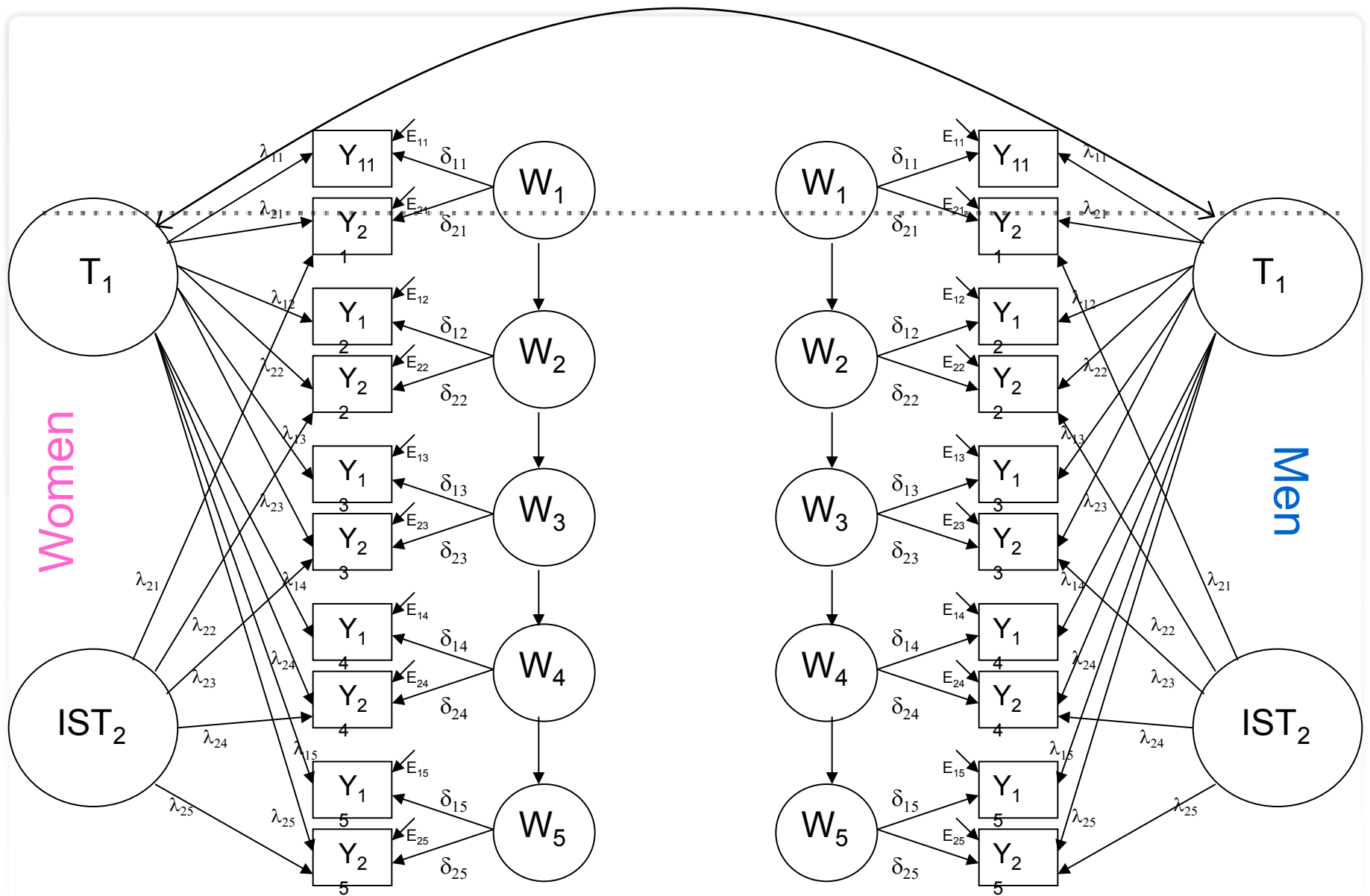
- How close relation influence our health?
- The influence of parental factors on children health trajectories, from childhood to adulthood.
 - Caries at age 32 is associated with maternal oral health at age-5 (*Shearer DM et al Eur J Dent Res 2011, 90:672-77*)
- Emerging literature using dyad analyses:
 - depression of one partner affects cognitive functioning and depression of the other partner
 - Cognitive decline is influenced by the spouse
 - Mostly conducted in elderly and patients populations.

Illustrations with Swiss data

- Question: Does mental health of one partner vary due to variation of mental health of the other one?
- Sample (Swiss Household Panel):
 - respondents living in couple, married or not
 - who answered to 5 waves between 2000 and 2004, without interruption
 - N=624 couples (women 44.2 y, men 46.8 y)
- Mental health was assessed by two indicators: depression, optimism (from 0 to 10)







Results

- Stable mental health of one partner impact on the stable component of the other one.
- Variation mental health in one partner does not impact on those of the other one, neither during the same year nor the next year.
- Evolution of mental health of respondents is influenced by their own history and by the history of the stable part of their partner's mental health.

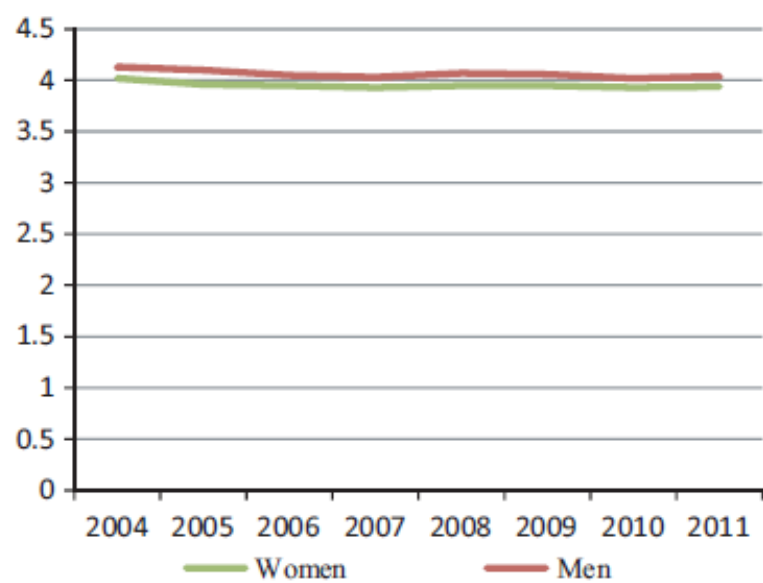
Health trajectories in Switzerland in a life course perspective

- Scarcity of empirical studies
- Scarcity of longitudinal general population databases: Swiss National Cohort, Swiss Household Panel, SHARE (≥ 50 years old), TREE
- Research program: LIVES

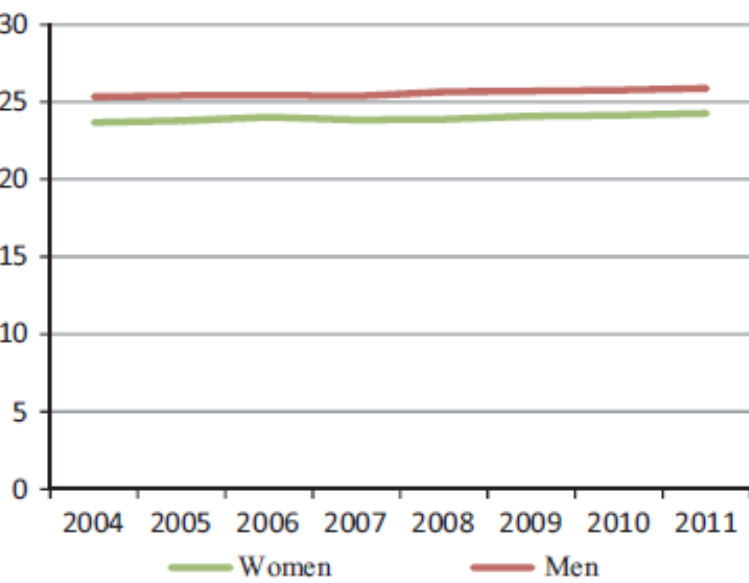
Empirical results in Switzerland

Studies:	Self-rated health	Body Mass Index	Depression	Medicated functioning
<u>Lipps 2010:</u> (follow-up period 2004-2007)				
All ≥18y	-	.07**	-	-
<u>Della Bella 2012:</u> (follow-up period 1999-2009)				
All ≥18y	.027(.001)** ^a	-	-	-
<u>Cullati 2015:</u> (follow-up period 2004-2011)				
Women, ≥25y	-.009(.001)**	.078(.006)**	.005(.003)	.083(.004)**
Men, ≥25y	-.007(.001)**	.066(.006)**	.002(.003)	.085(.004)**

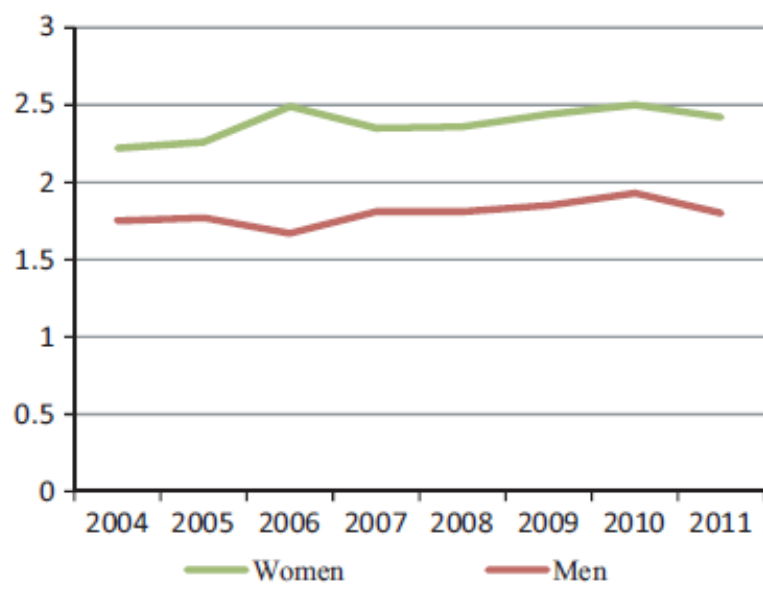
^a inversely coded (1 very well, 5 very poor)



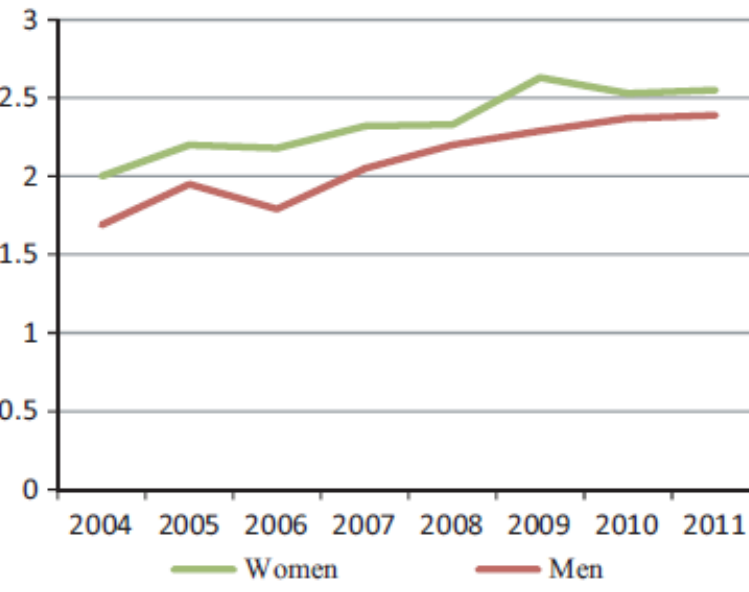
Self-rated health (1 not well at all to 5 very well)



Body Mass Index



Depression/anxiety (0 never to 10 always)



Medicated functioning (0 never to 10 a great deal)

Figure 1 Cross-sectional means of health status, by gender 2004–2011

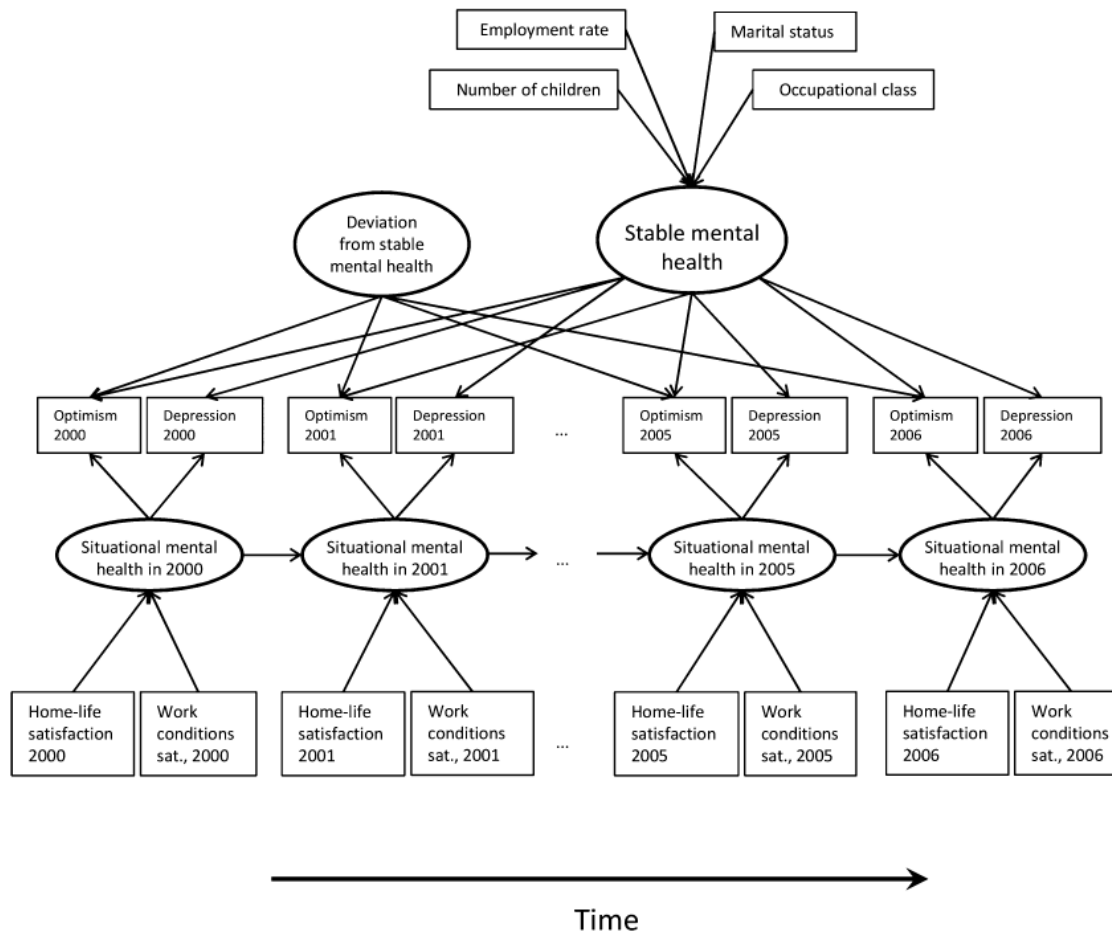
Empirical results in Switzerland

- Education: not associated with diverging self-rated health trajectories (Della Bella 2012, Cullati 2015, Cullati 2014) and other health trajectories (Cullati 2015)
- Higher income is associated with faster self-rated health decline (Della Bella 2012, Cullati 2015). Among men only, higher income is associated faster increase in BMI, depression and medicated functioning (Cullati 2015).
- Unemployment associated with slower increase in depression among men (Cullati 2015).

Empirical results: trajectories of mental health embedded in the daily life

- Life course perspective: People become who they are through the interplay of their social context and their (unique) personal history
 - Two research questions:
 - How stable is individual mental health over time? How sensitive to situational influences is individual mental health over time?
 - Do mental health trajectories vary with work and family satisfaction?
 - Swiss Household Panel: 722 women and 894 men, employed, at least 4 waves (between 2000 and 2006).
 - Structural equation models with latent variables, stratified by gender.
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Empirical results: trajectories of mental health embedded in the daily life



Empirical results: trajectories of mental health embedded in the daily life

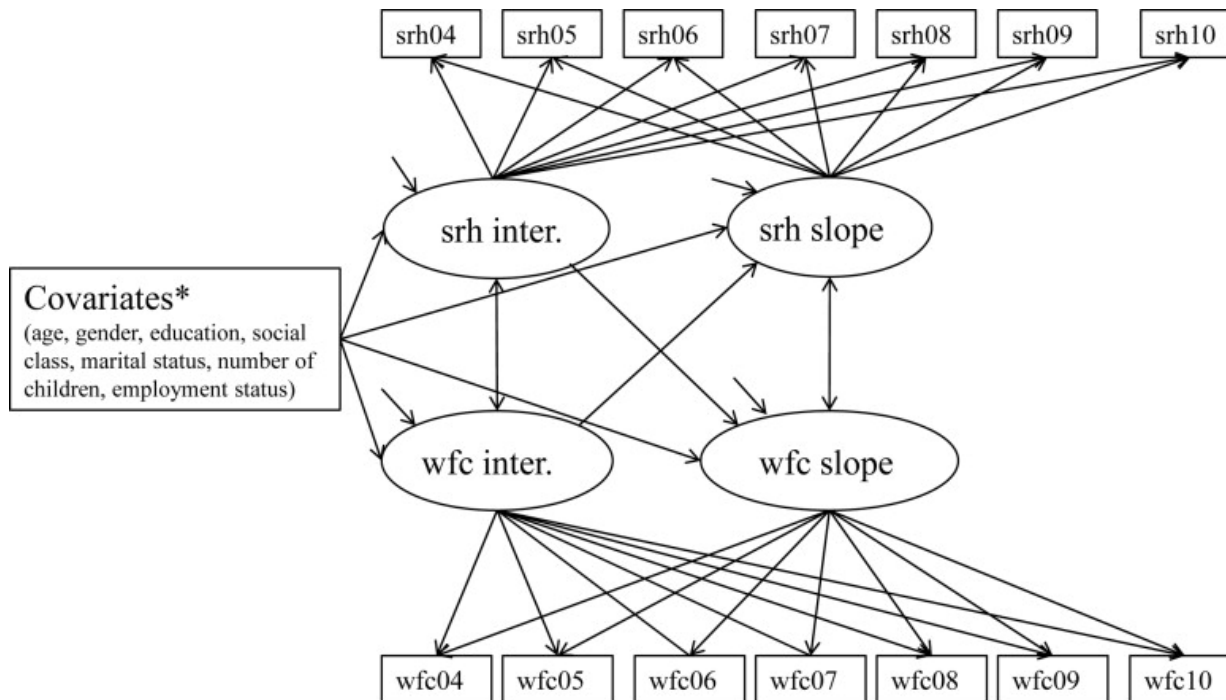
- Mental health trajectories were mostly stable for both men and women, meaning that the mental health trajectories of workers are more constant and stable than they are embedded in situational contexts.
- Both satisfaction with work and with family were associated with situational mental health.
- Men were more influenced than women by satisfaction with work condition and with family life.

Cullati S et al Sociol Health Illn 2014b 36(7):1077-94

Empirical results: trajectories of general health and work-and-family conflict

- Two longitudinal studies of work-and-family conflict influences on general health:
 - Knecht 2011: Swiss Household Panel I, 2002-2008, N=1261
 - Cullati 2014a: Swiss Household Panel II, 2004-2010, N=2327
- Knecht 2011: Cross-sectional correlation between work-and-family conflict and satisfaction with general health, however no longitudinal association. Study has a risk of health selection bias.

Empirical results: trajectories of general health and work-and-family conflict



Cullati S Soc Sci Med 2014a 113:23-33

Empirical results: trajectories of general health and work-and-family conflict

- Negative correlation between rates of change of work-and-family conflict and self-rated health.
- When correlated with trajectories of work-and-family, education is associated with diverging self-rated health trajectories : the poorly educated may experience accelerated decline compared to the highly educated.

Cullati S Soc Sci Med 2014a 113:23-33

Conclusion

- Life course perspective relevant to inequality in chronic diseases.
- More life course research on health trajectories is needed.
- In regard to Health Promotion, life course research on health trajectories can contribute to:
 - identify individuals in stable poor trajectories.
 - identify specific life course periods for health promotion
 - encourage multi-faceted interventions

Thank you

Theoretical references

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