The National Centres of Competence in Research (NCCR)
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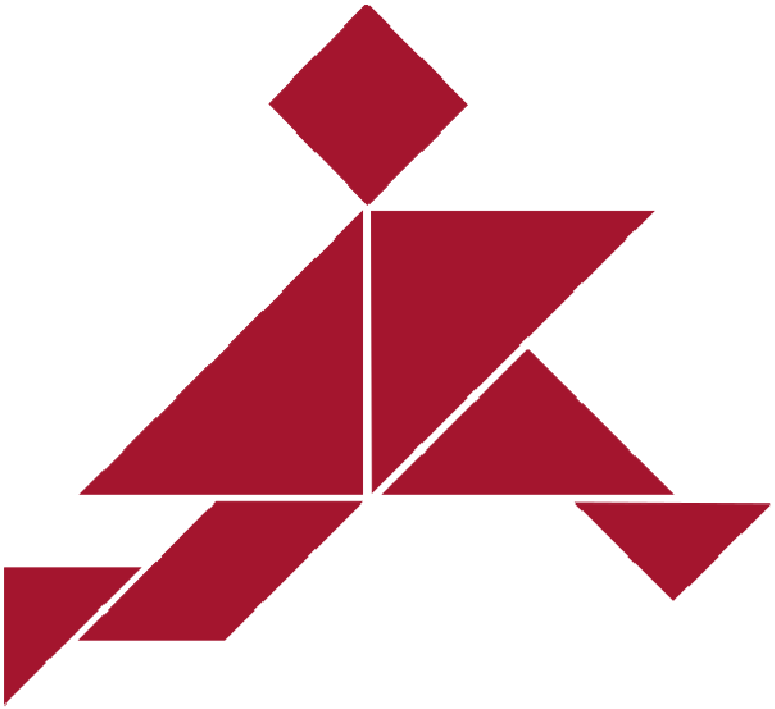
Parcours de vie et inégalités sociales dans les trajectoires de santé



Stéphane Cullati, PhD

Mercredi 29 mars 2017

Forum du master en sociologie – semestre de Printemps

LIVES
Swiss National Centre of Competence in Research
OVERCOMING VULNERABILITY: LIFE COURSE PERSPECTIVES

SLLS Society for Longitudinal and Life Course Studies

Presentation

1. Health inequalities
2. Life Course study of health
3. Change of health inequalities over the life course
4. Concluding remarks

The social gradient

Mortality, life expectancy and disability free life expectancy, England

Figure 8 Mortality of men in England and Wales in 1981–92, by social class and employment status at the 1981 Census

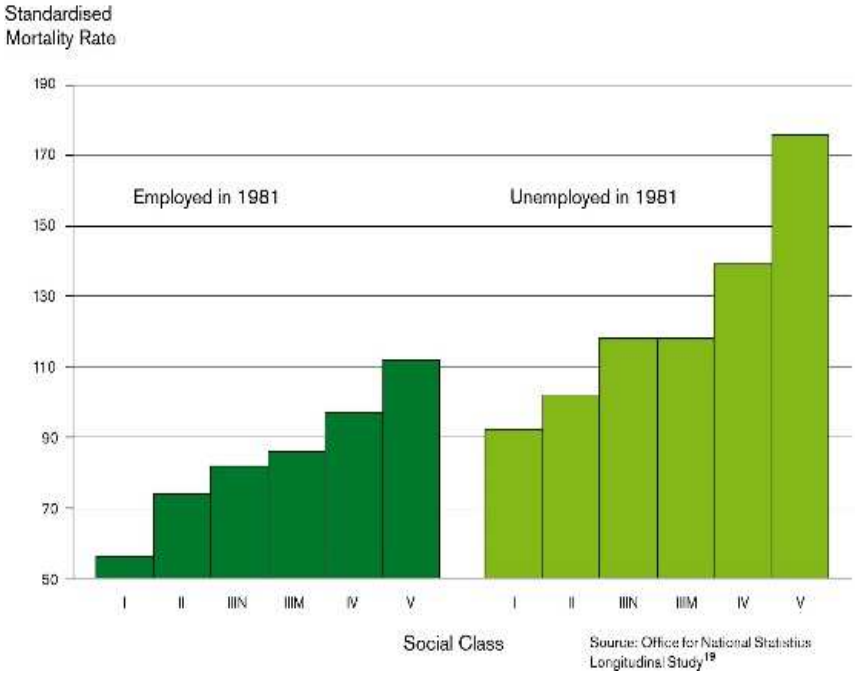
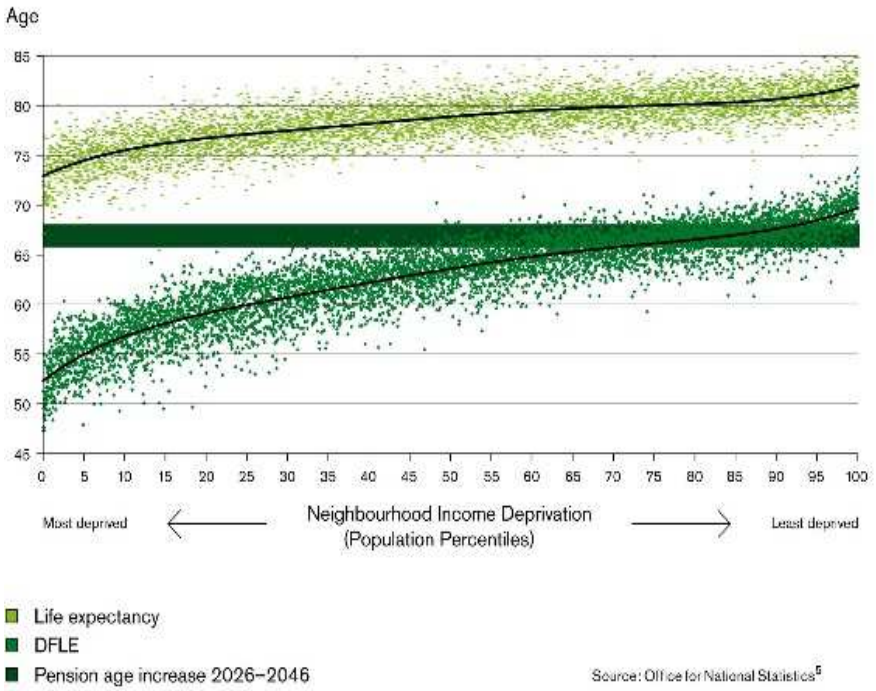


Figure 1 Life expectancy and disability-free life expectancy (DFLE) at birth, persons by neighbourhood income level, England, 1999–2003



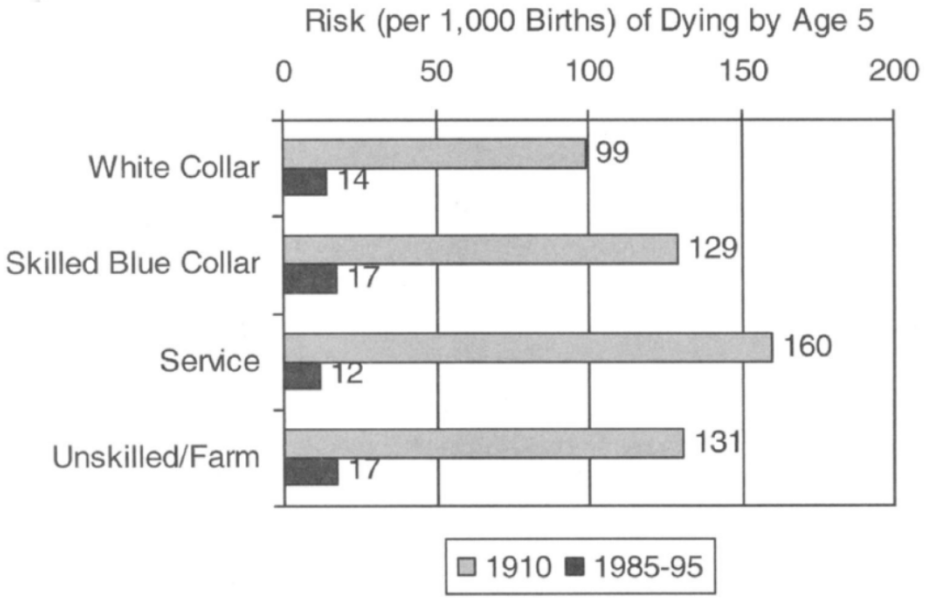
Health inequalities

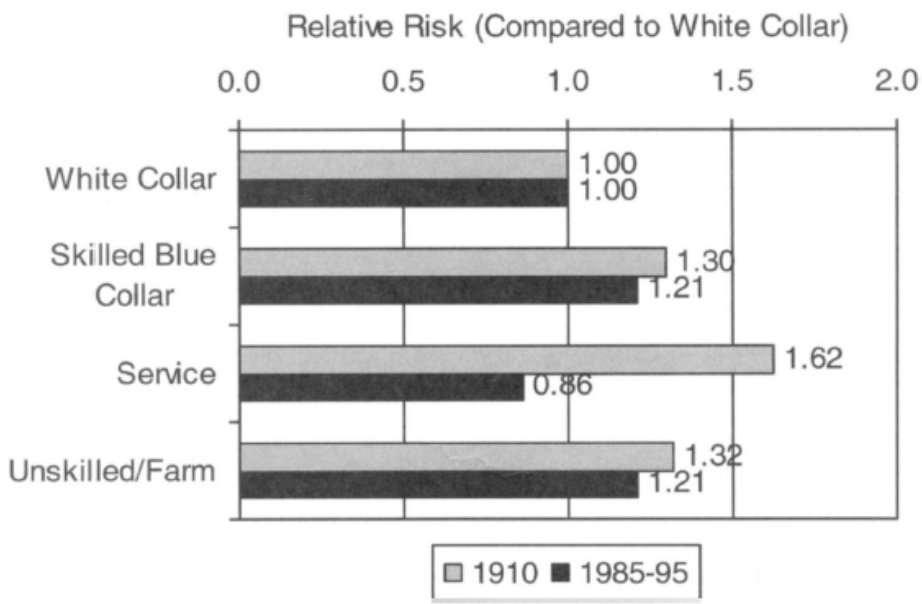
"These inequities in health, avoidable health inequalities, arise because of the circumstances in which people grow, live, work and age, and the systems put in place to deal with illness"

WHO, 2008

- Many high income countries targeted reducing health inequalities
- Despite this, in high income countries, the social gradient in health is
  - persistent
  - increasing

Historical variations in health inequalities





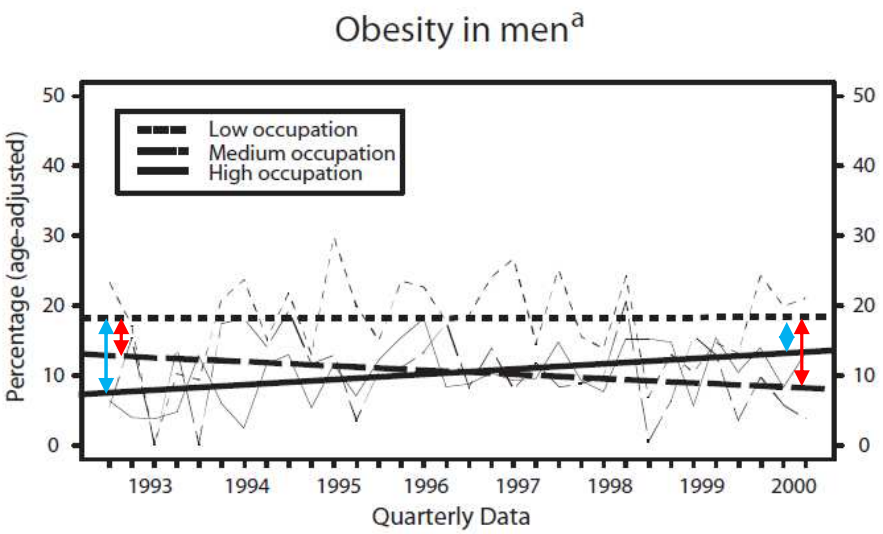
Risk of dying before age 5 by household occupation, 1910 and 1985-95, United States Census Data (1910) & Current Population Surveys (1985-95)

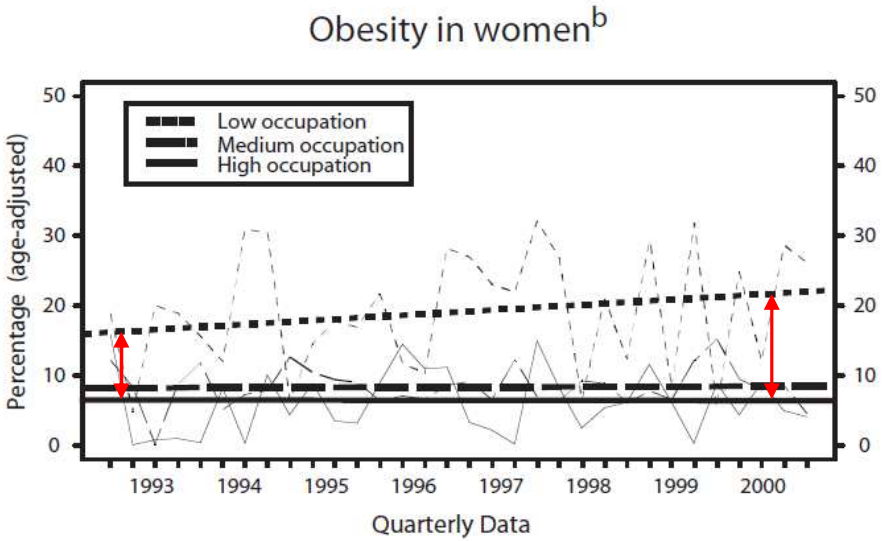
Growing differences in life expectancy

Table 1: Life expectancy by sex and level of education; Switzerland 1990-95 and 2000-05

	men			women			men			women		
1990-95	e_{30}	σ_{e30}	Δ	e_{30}	σ_{e30}	Δ	e_{65}	σ_{e65}	Δ	e_{65}	σ_{e65}	Δ
primary	**45.2**	0.06		**52.4**	0.04		**15.2**	0.04		**20.2**	0.03	
secondary	**47.1**	0.04	1.9	**54.0**	0.05	1.6	**16.4**	0.03	1.2	**21.5**	0.04	1.3
tertiary	**49.7**	0.07	4.5	**55.2**	0.15	2.8	**17.9**	0.06	2.7	**22.4**	0.14	2.2
	men			**women**			**men**			**women**		
2000-05	e_{30}	σ_{e30}	Δ	e_{30}	σ_{e30}	Δ	e_{65}	σ_{e65}	Δ	e_{65}	σ_{e65}	Δ
primary	**47.9**	0.06		**53.8**	0.04		**16.9**	0.04		**21.2**	0.03	
secondary	**50.1**	0.04	2.2	**55.4**	0.04	1.6	**18.4**	0.04	1.5	**22.3**	0.04	1.1
tertiary	**53.0**	0.06	5.1	**56.9**	0.12	3.1	**20.1**	0.06	3.2	**23.6**	0.11	2.4

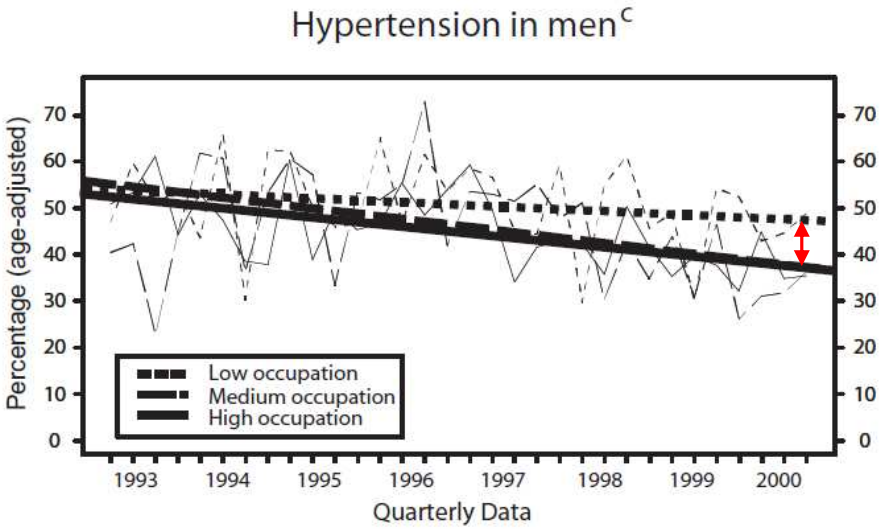
Trends in obesity prevalence (age-adjusted), by occupations, Geneva, 1993-2000

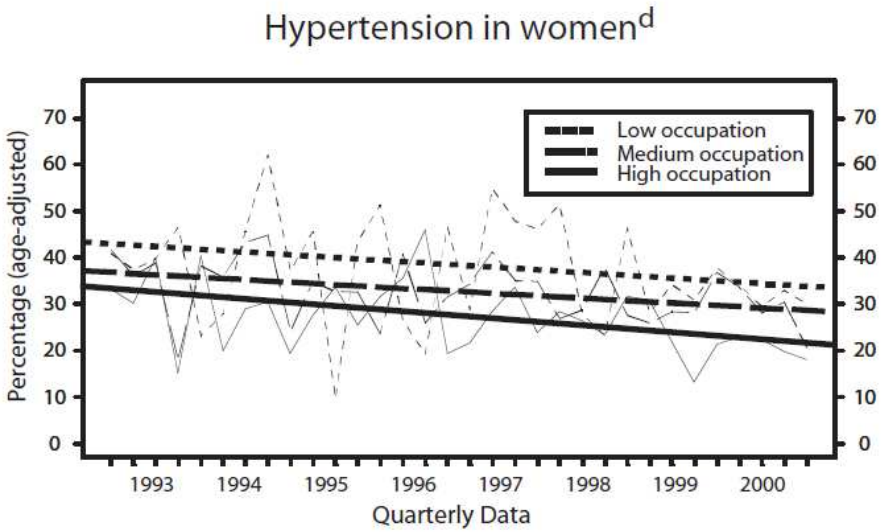




Low: manual and lower occupations
Medium: skilled nonmanual
High: professional and intermediate professions

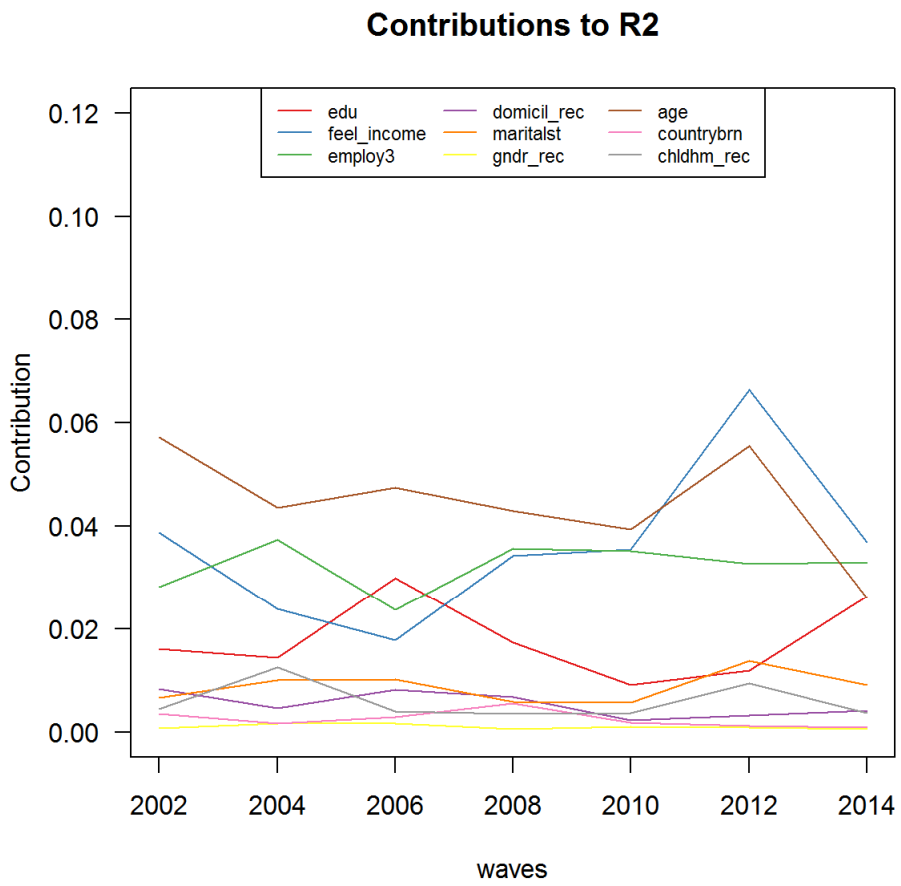
Trends in hypertension prevalence (age-adjusted), by occupations, Geneva, 1993-2000

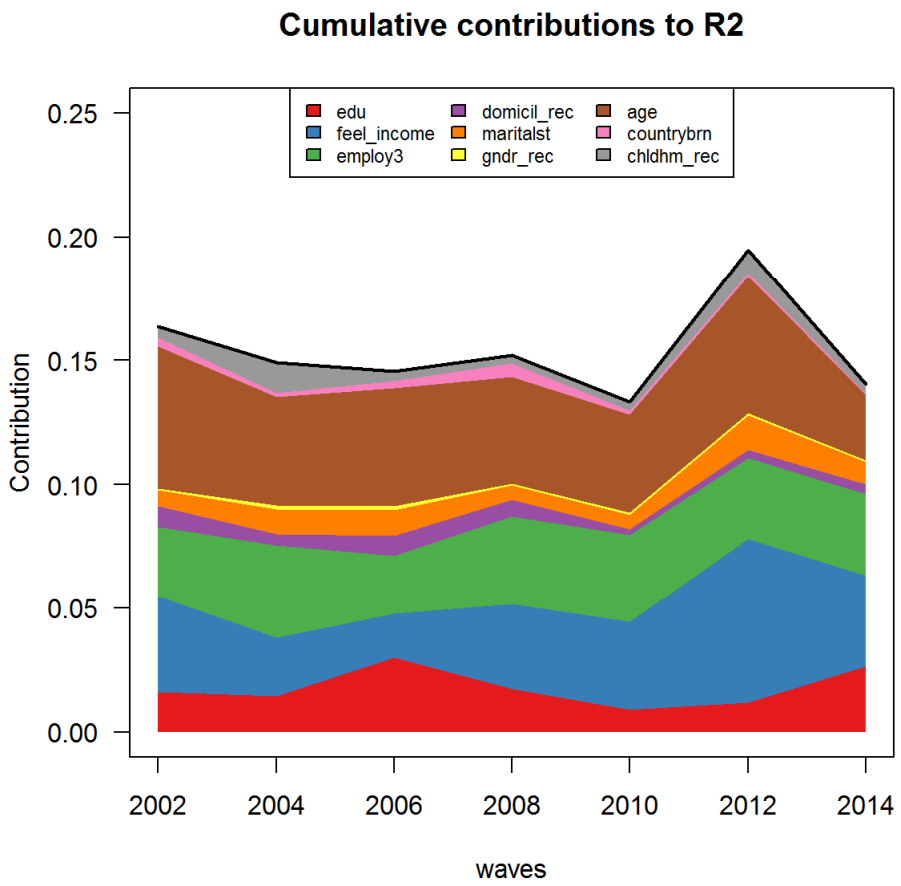




Low: manual and lower occupations
Medium: skilled nonmanual
High: professional and intermediate professions

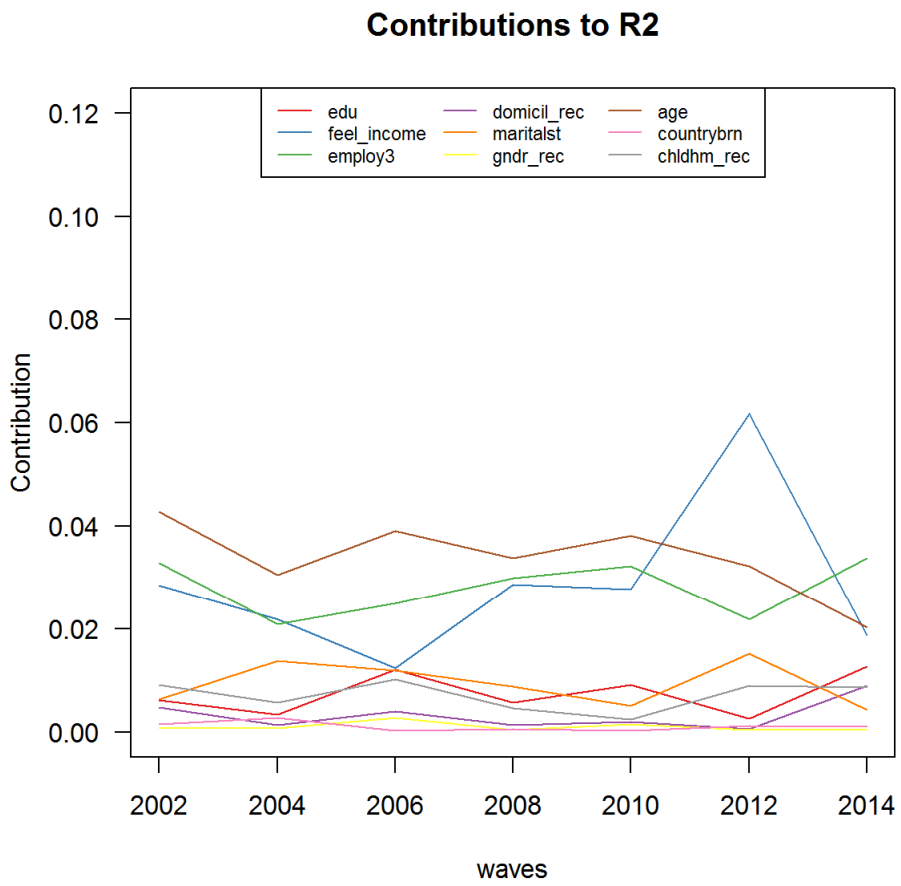
Trends in self-rated health inequalities

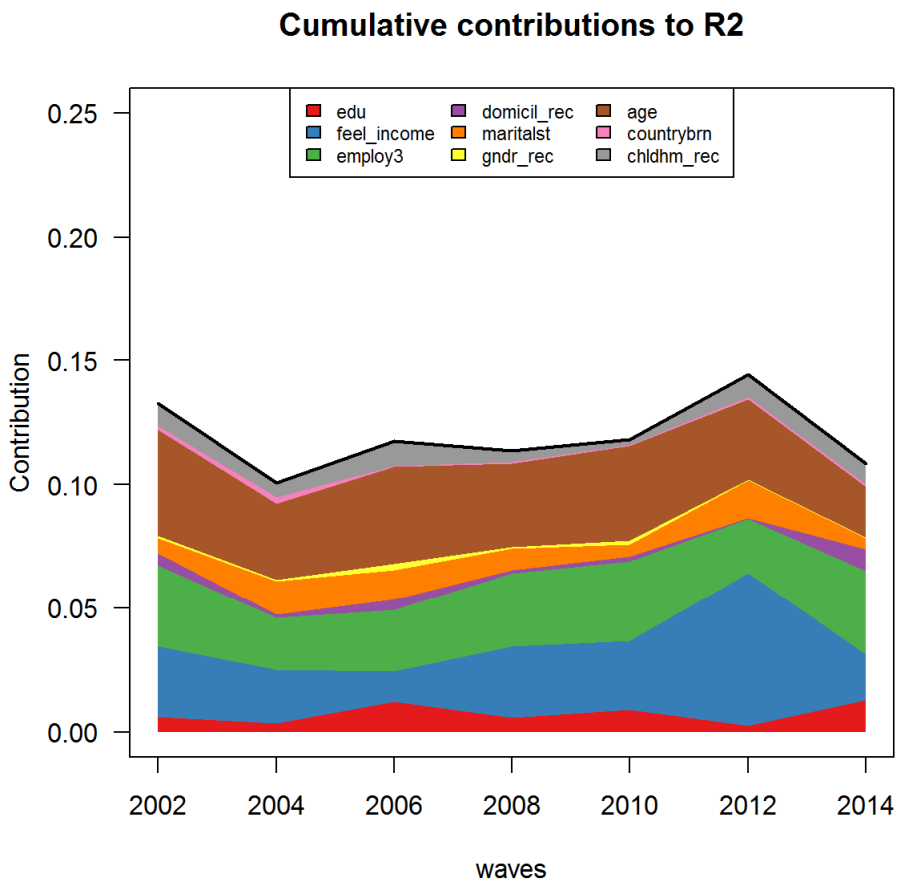




Trends in inequalities:

Being hampered in daily activities by illness or other health problems

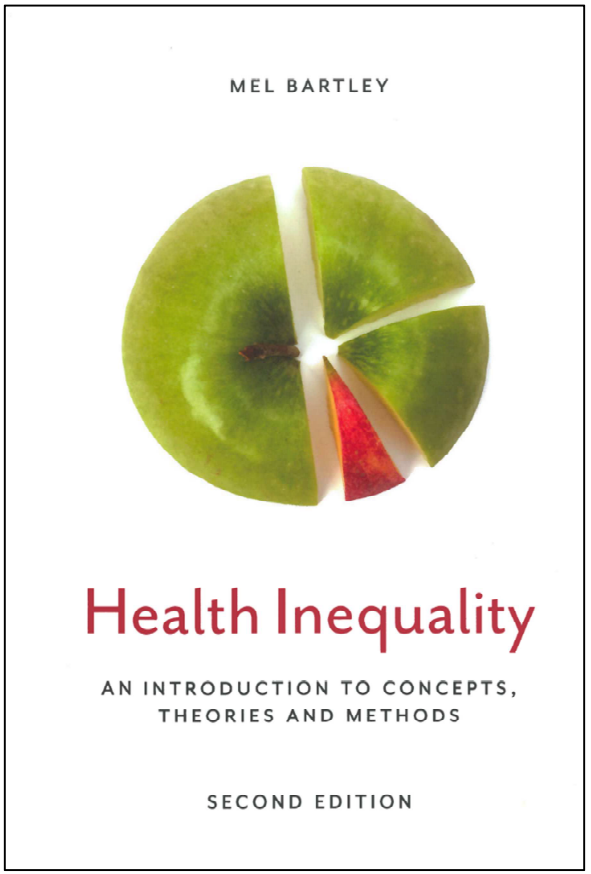




Explaining health inequalities

- Materialist
- Behavioural and “cultural”
- Psycho-social

⇨ Life course



Inequalities linked with health

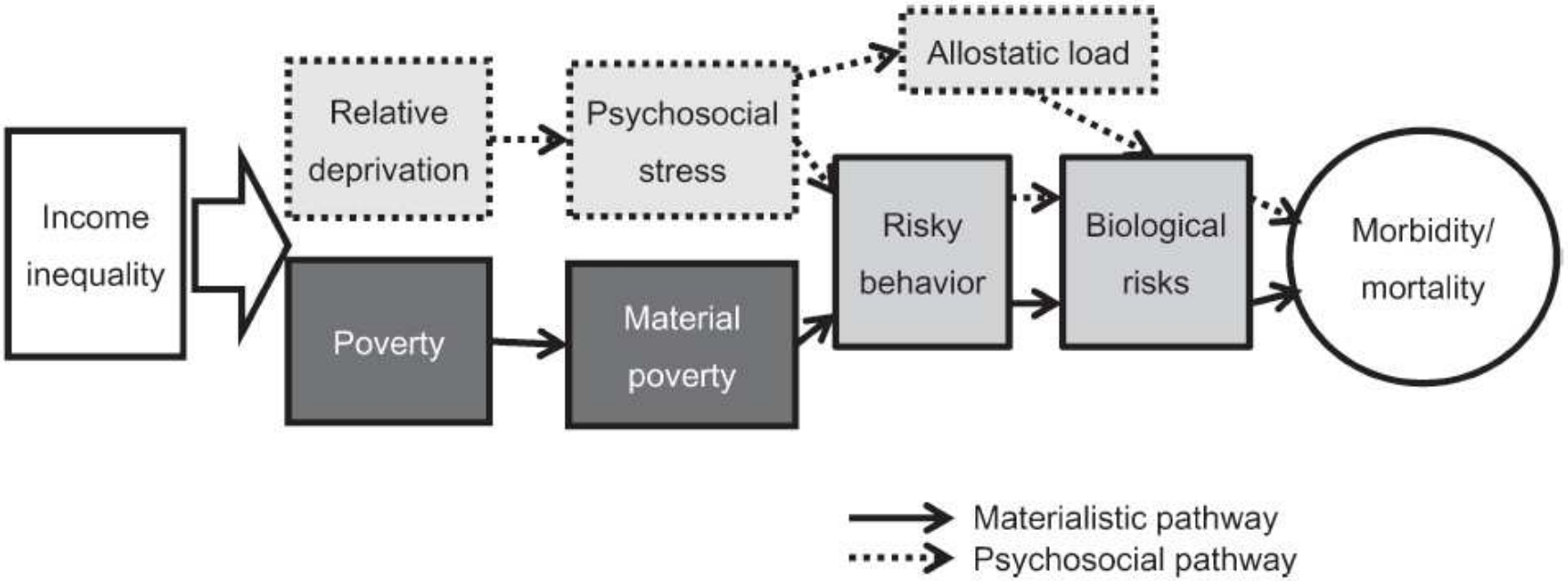
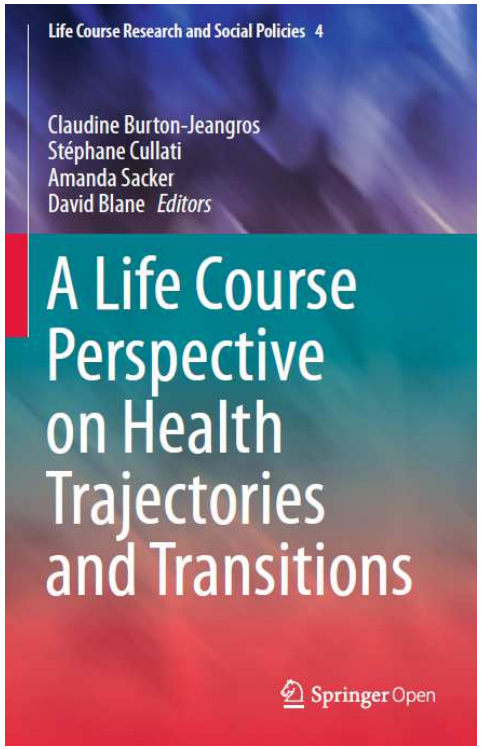


Figure 1. Hypothetical pathways linking income inequality and health

Life Course approach to health inequalities

- Emergence in the 1980s in relationship with the high prevalence of chronic diseases
- Fundamentally interdisciplinary
- Assess the timing (age) of exposure / events ; importance of early life (When?)
- The place and time (historical) where people live (When? Where?)
- Link lives and life domains



https://www.ncbi.nlm.nih.gov/books/NBK385362/

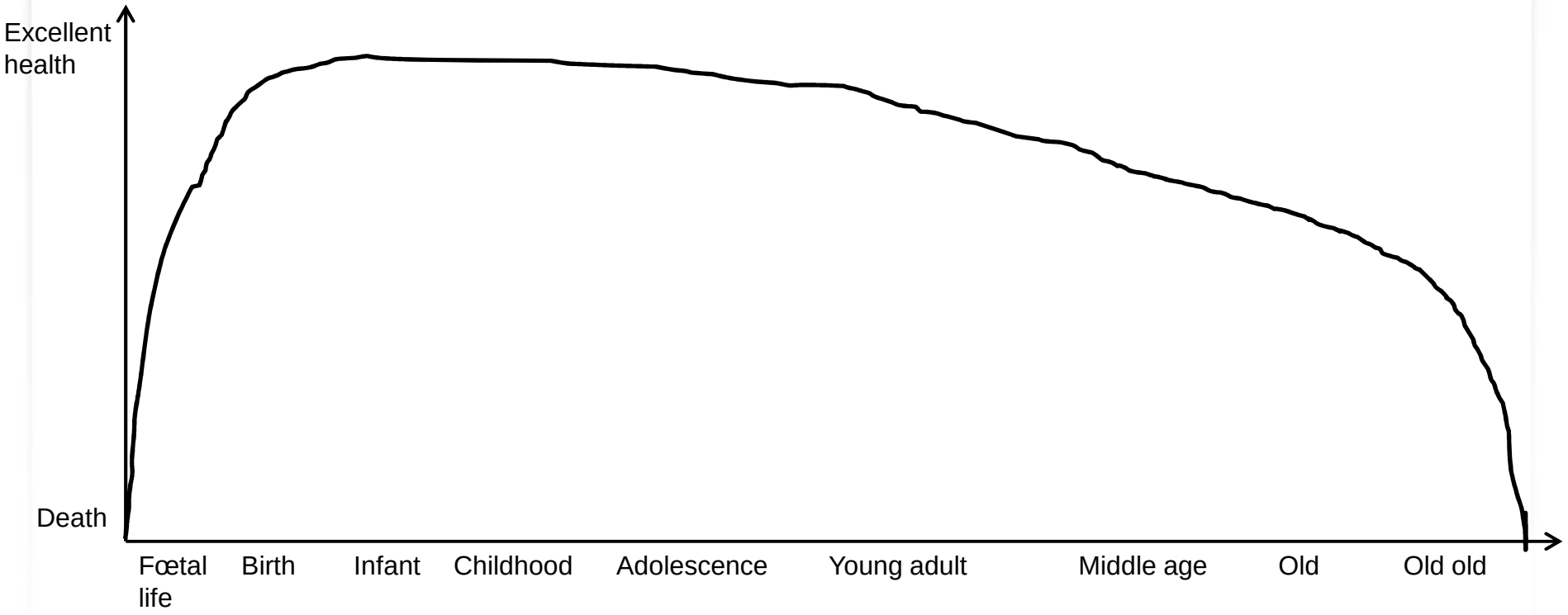
The dynamic of health

Health trajectories

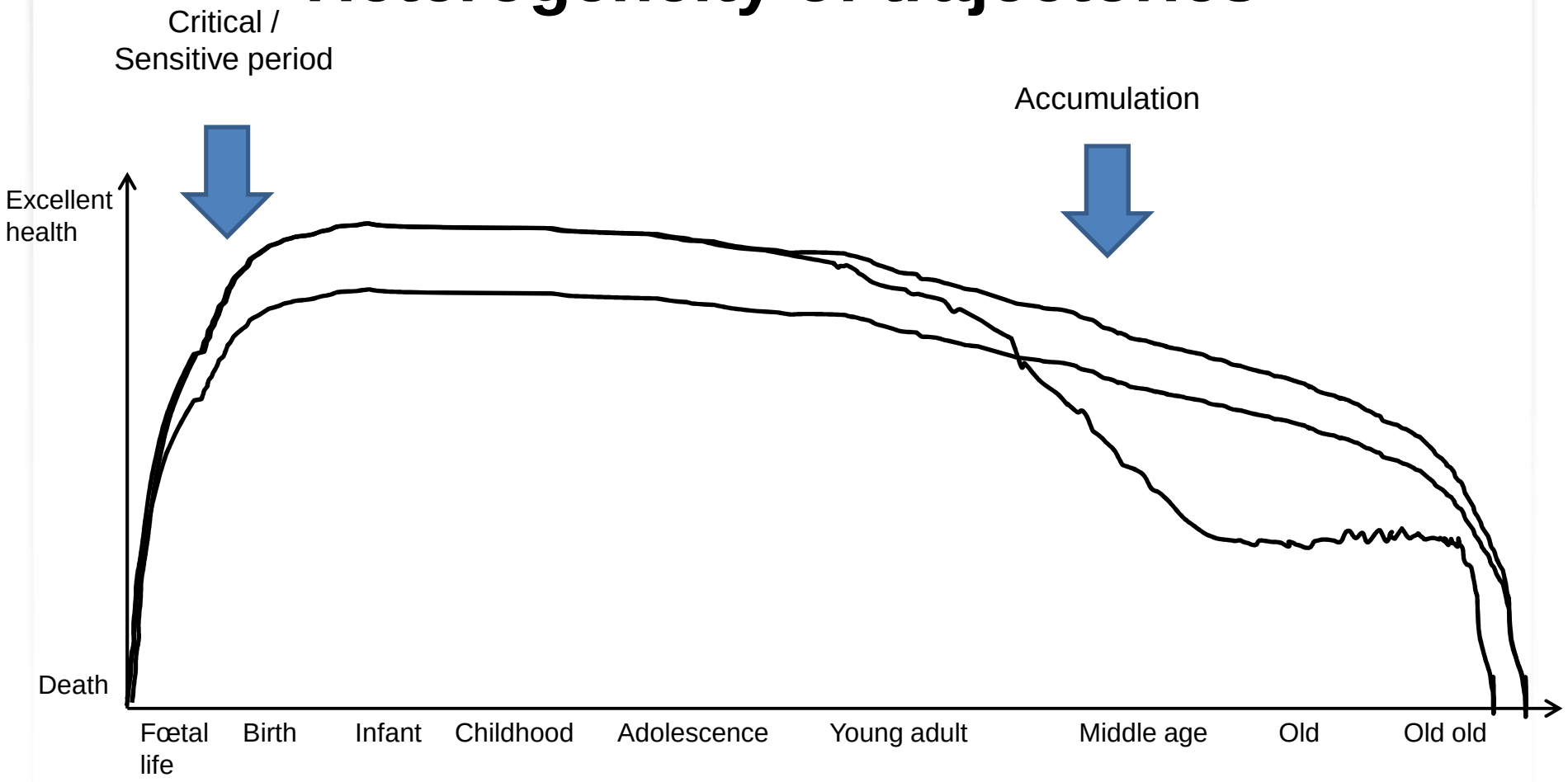
- Health is dynamic: changes in how we function and feel
- Sun-path metaphor:
  - (best) growing
  - (longest) maintaining
  - (latest and slowest) declining

- Grip strength:
  - Increases through childhood
  - Peaks in adulthood
  - Start to decline in 50s or 60s

Health over the life course: ideal trajectory

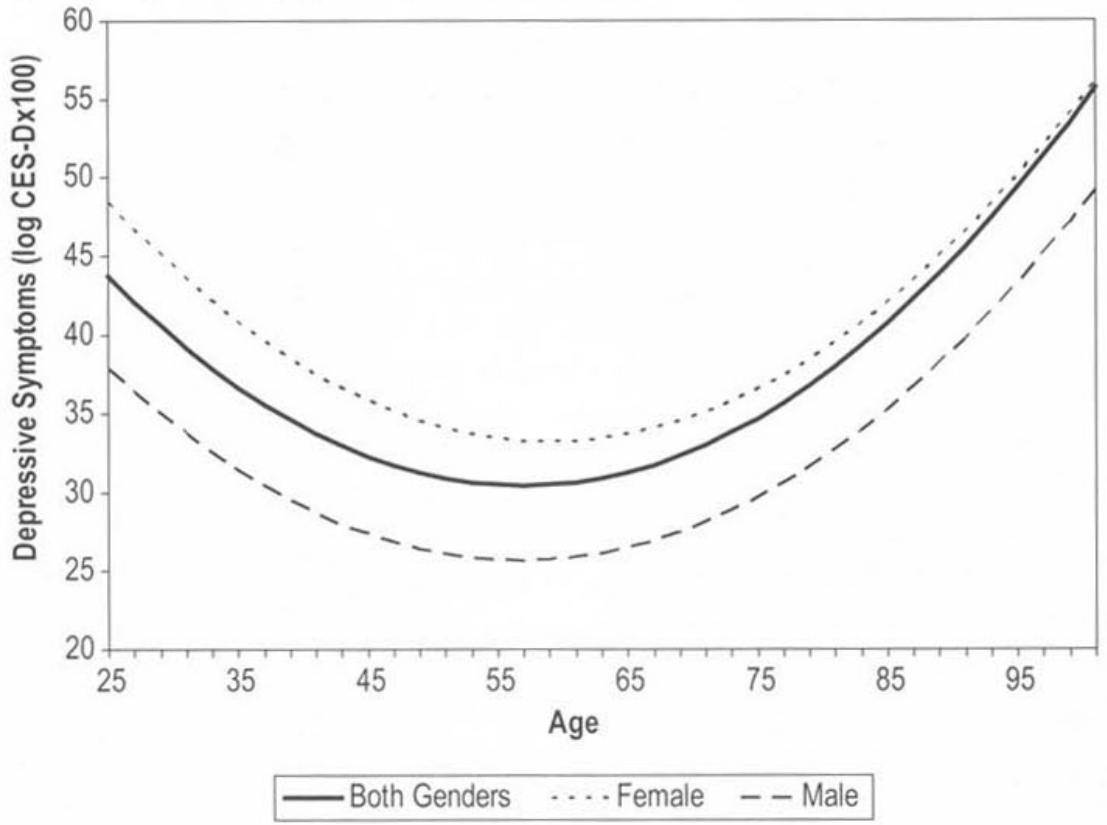


Health over the life course: Heterogeneity of trajectories



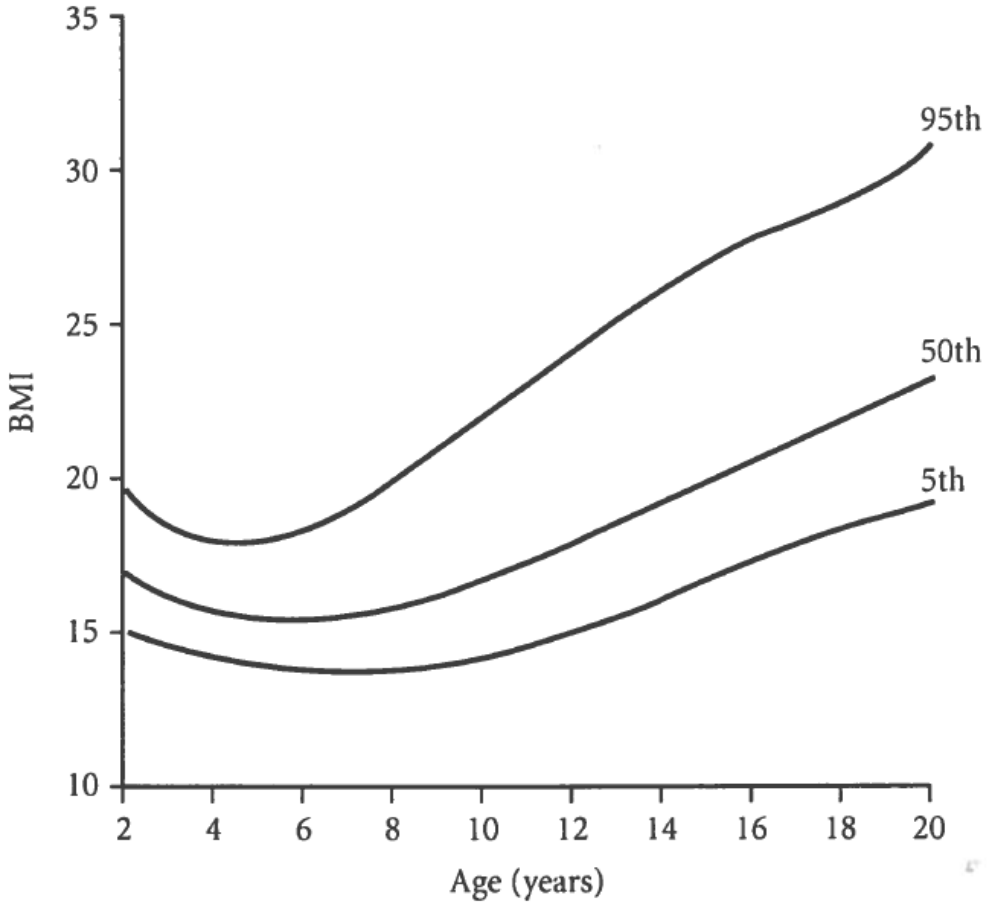
Depressive symptoms trajectories over adulthood

Figure 1. Depressive Symptoms over the Adult Life Course

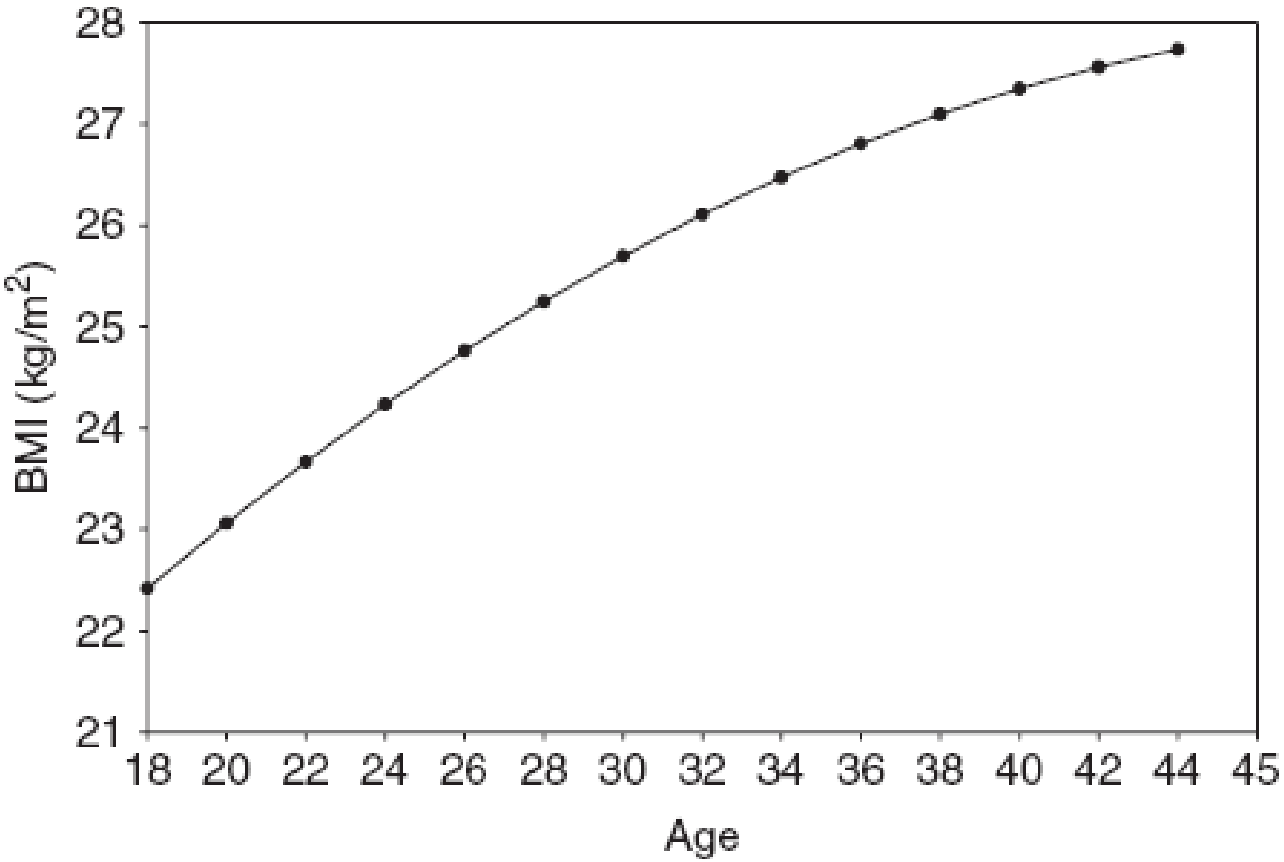


Source: Americans' Changing Lives Study (1986-2001)

BMI trajectories in childhood

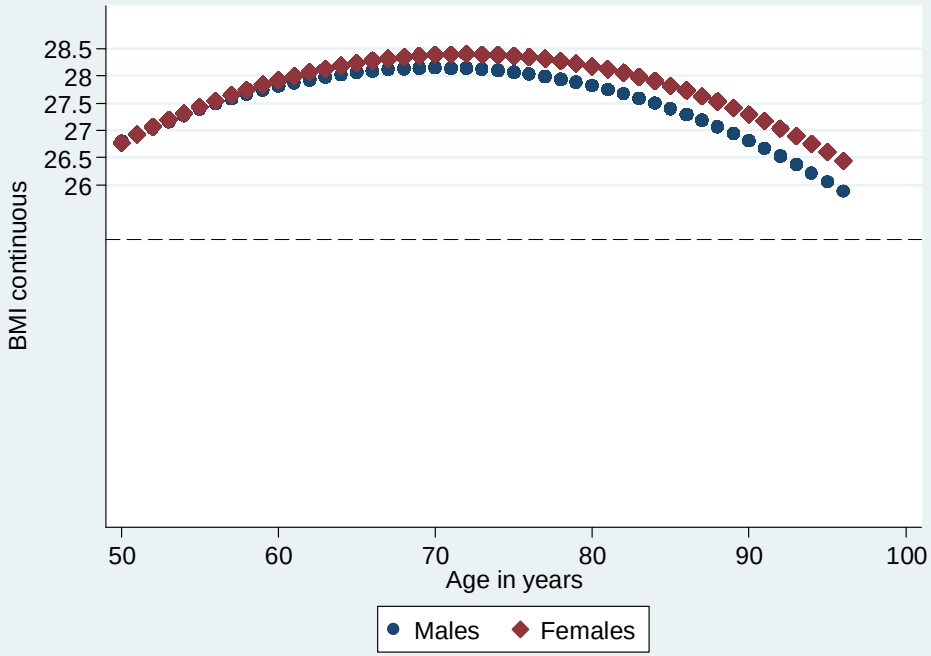


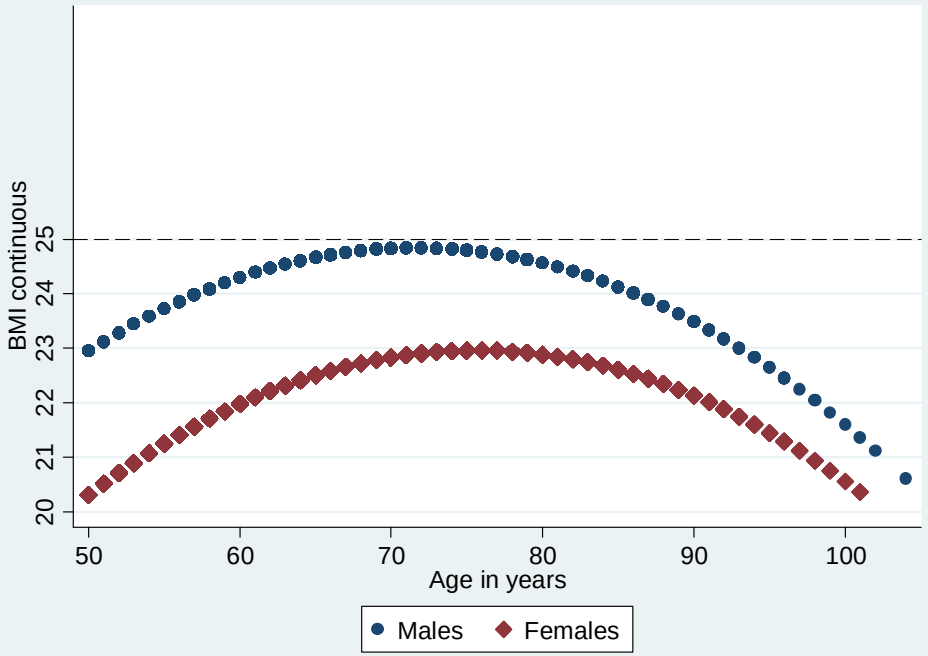
BMI trajectories over adulthood



Clarke P et al. 2009 *Int. J. Epidemiol.* 38:499-509

BMI trajectories in older age





England (ELSA)

Inflection point: 71y (♀ /♂)

Switzerland (SHARE)

Inflection point: ♀75y, ♂72y

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Change of health inequalities over the life course

Change of health inequalities over the life course

- Little evidence suggests the health of individuals in low socioeconomic position tend to decline more quickly compared to those in high socioeconomic position.
- Little is known on how health inequalities change over the aging process:
  - Do they widen?
  - Do they narrow?
  - Do they remain stable?

Change of health inequalities over the life course

- The Cumulative Advantage/Disadvantage (CAD) model: a “systemic tendency for interindividual divergence in a given characteristic (e.g., money, health, or status) with the passage of time”

  Dannefer *Journals of Gerontology,* 2003, 58(6):327.

- Lack of “fairness in the social distribution of opportunities and resources” (Ibidem): living in opportunity structures determines future life, by distributing individuals into social positions that will increasingly diverge as people age.

Change in differences in self-rated health trajectories: systematic review

- Inclusion criteria:
  - Self-rated health (SRH) measured at least twice,
  - national databases,
  - probability sampling,
  - adult respondents.
- 3,502 records screened (two independent reviewers)
- 36 papers included (= 45 studies)
- Data extraction sheet designed according to the STROBE checklist and pre-tested.
- Data extracted were cross-checked.

Change in differences in self-rated health trajectories: systematic review

- Socioeconomic factors (education, etc.) are strongly and consistently associated with SRH trajectories.
- CAD hypothesis:
  - **education** was consistently but moderately associated with growing differences in self-rated health trajectories over aging.
  - Little evidence for income, gender, marital status, etc.
- Similarly, the "**age-as-leveler hypothesis**", an alternative to the CAD, found little support.
- Cumulative effect (growing differences) of gender on SRH trajectories stronger in North America compared to Europe

Are health trajectories diverging by SES as people age?

- 3,665 respondents living in Switzerland between 2004-2011, ≥25 years old, participated in at least one wave.
- Outcomes:
  1. SRH: “How do you feel right now?”
  2. Body mass index (BMI)
  3. Anxiety/depression: “Do you often have negative feelings such as having the blues, being desperate, suffering from anxiety or depression?”
  4. “Medicated functioning”: “Do you need to take medication to be able to function in everyday life?”
- Socioeconomic predictors: education, employment status, net household income

Differential change in health trajectories

Covariates	SRH	BMI	Anxiety/ depression	Medicated funct.
Women	-.017**	.076**	.036**	.116**
Men	-.016**	.068**	.021*	.105**

Two-tailed tests: *p<0.05, **p<0.001

- Diverging trajectories among men
- Diverging trajectories consistent with the CAD model:
  - faster increase of BMI for general training level of education, slower increase of BMI for high income
- Diverging trajectories consistent with the age-as-leveler hypothesis:
  - income on SRH (faster decline), anxiety/depression (faster increase) and medicated functioning (faster increase)
- Diverging trajectories of being out the labor force:
  - slower SRH decline, slower increase of BMI and anxiety/depression

Are trajectories of work-and-family conflict correlated with growing differences in SRH trajectories?

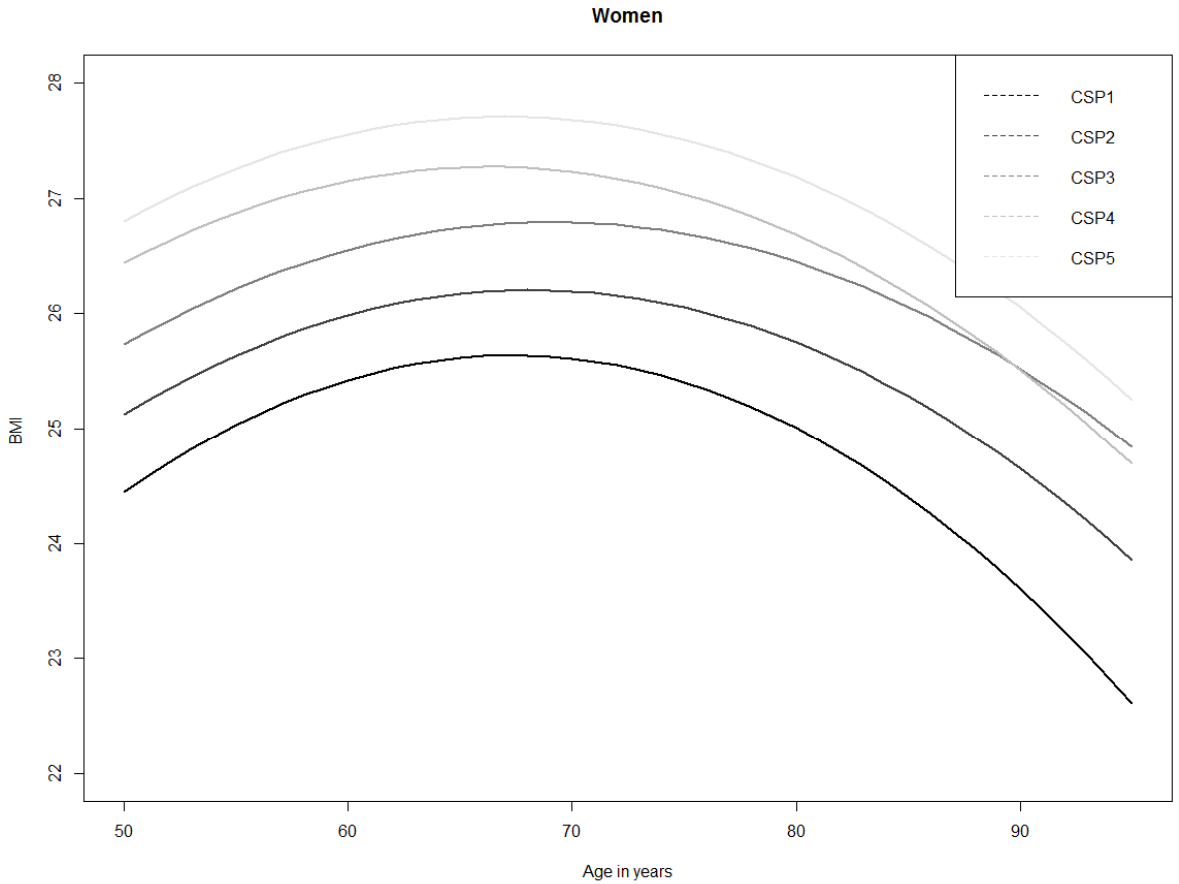
- No growing differences in SRH trajectories over aging by SES and marital life.
- Negative correlation between rates of change of work-and-family conflict and self-rated health.
- When correlated with trajectories of work-and-family, education is associated with diverging self-rated health trajectories : the poorly educated may experience accelerated decline compared to the highly educated.

⇒ Education conditions the way that people cope with family and work activities

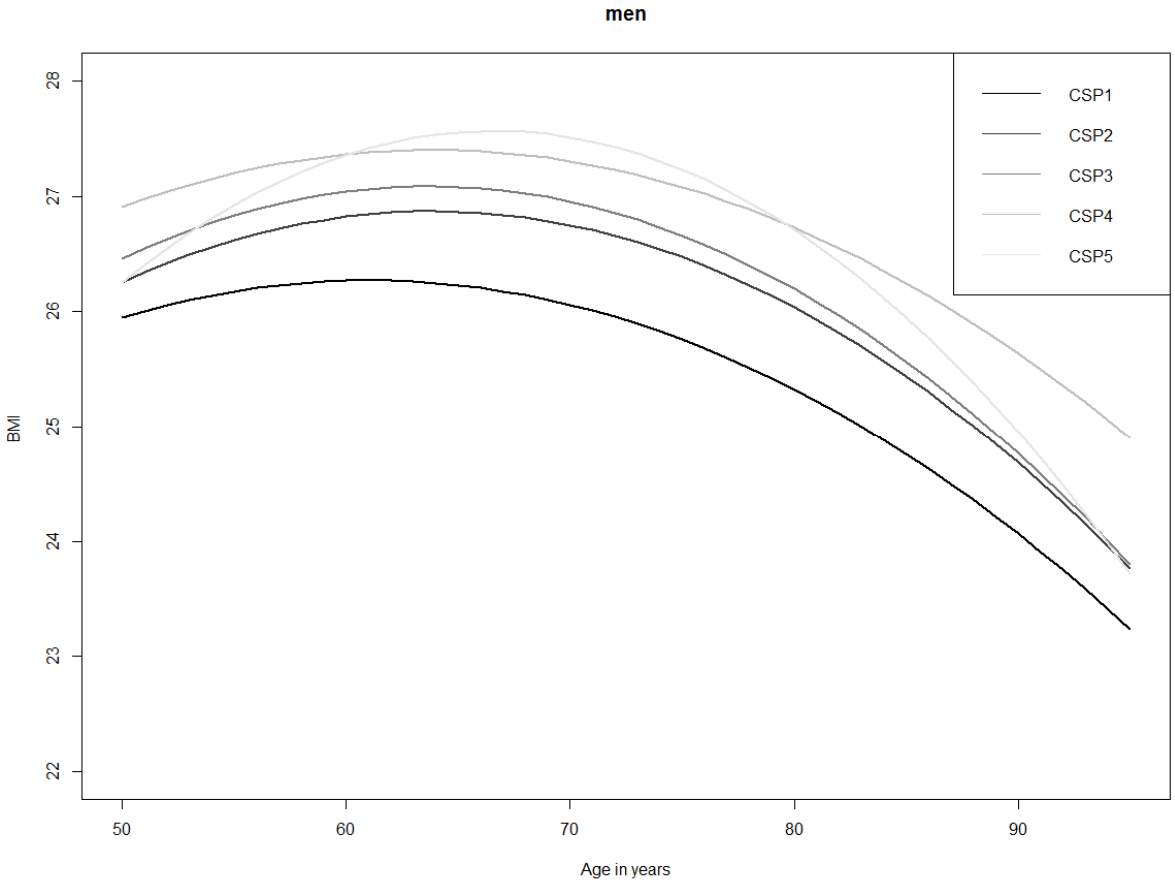
Research questions

- Are BMI trajectories over aging associated with the childhood socioeconomic position? Are differences growing over aging?
- Is this association mediated by the adult socioeconomic position and by other explanatory factors (health status, health behaviours, socio-demographics)?
- Is the adult socioeconomic position mediated by other explanatory factors?

Results


Women
BMI
Age in years
22
23
24
25
26
27
28
50
60
70
80
90
CSP1
CSP2
CSP3
CSP4
CSP5

Results


men
BMI
Age in years
22
23
24
25
26
27
28
50
60
70
80
90
CSP1
CSP2
CSP3
CSP4
CSP5

Discussion

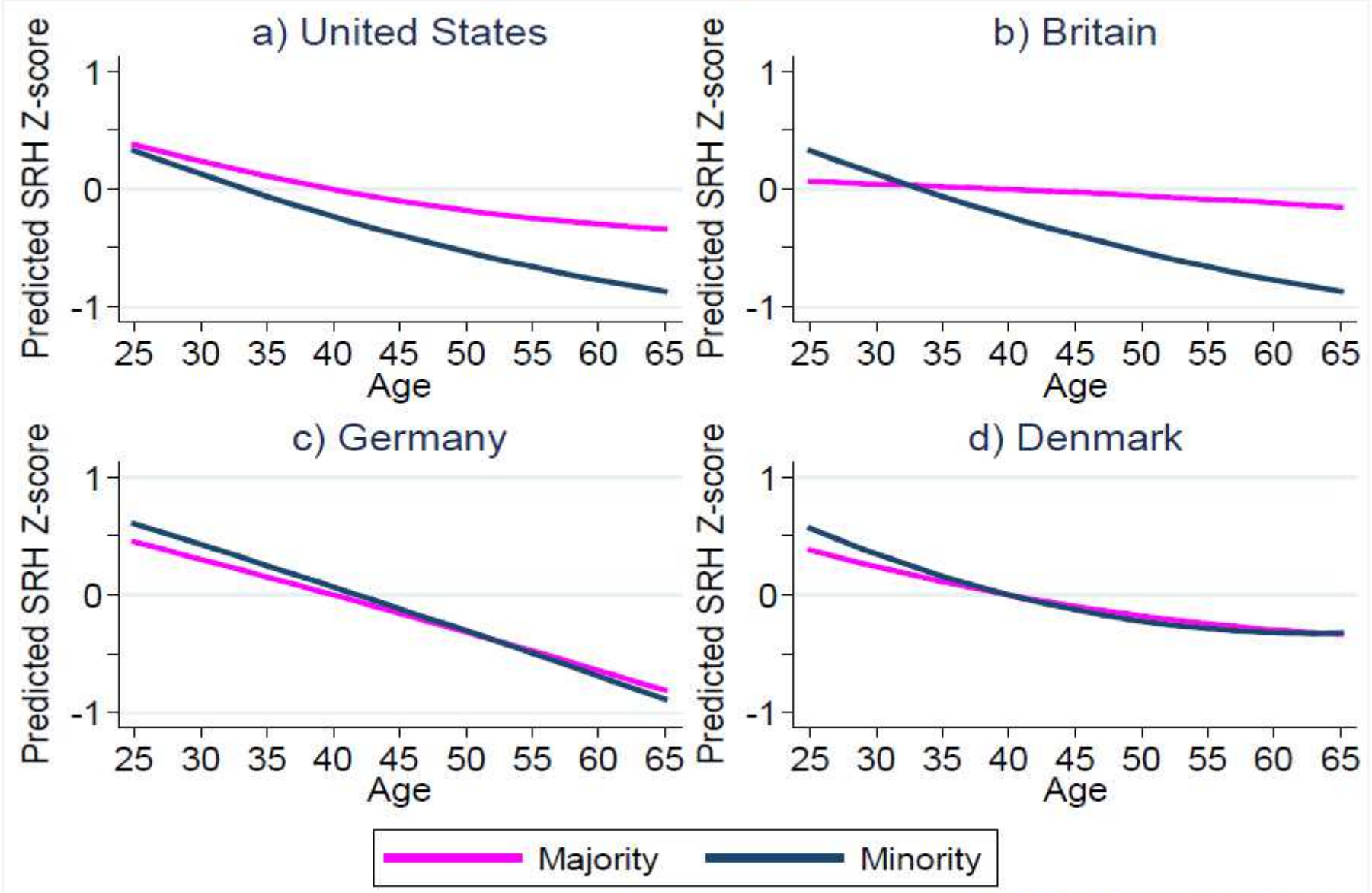
- BMI trajectories are concaves
- CSP is associated with BMI trajectories among men and women.
  - A consistent gradient is observed among men and women
- The pattern of BMI trajectories across CSP groups depicted parallel trajectories among women and men, except for the most disadvantaged men whose trajectories
- Adult SEP was associated with BMI trajectories but did not mediate the CSP – BMI association (*to be confirmed*).

WHERE?

“Where you live can kill you”

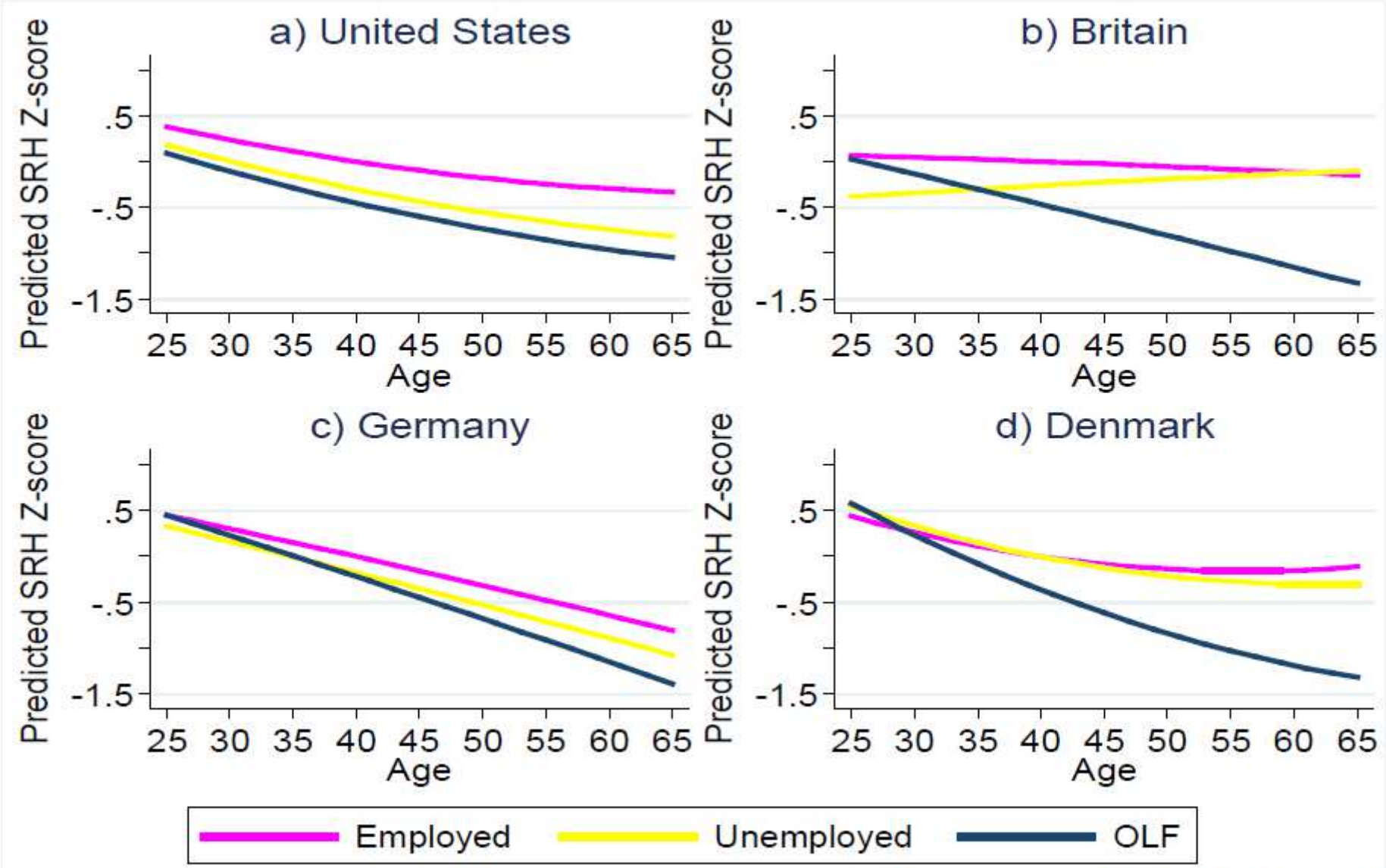
Clare Bambra

Health decline by minority status



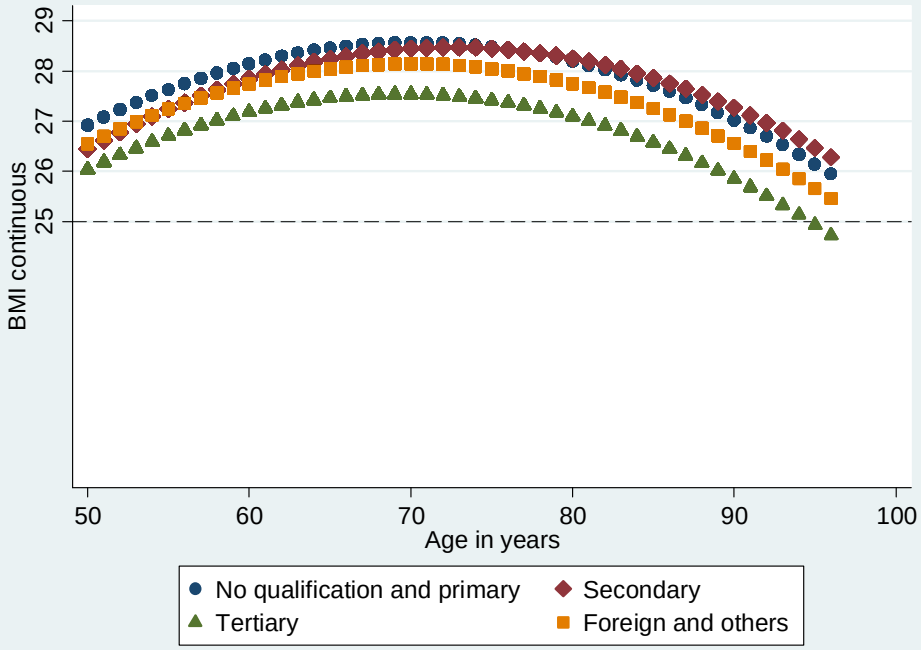
Sacker A et al. (2011) JECH 65(2):130-6

Health decline by employment status

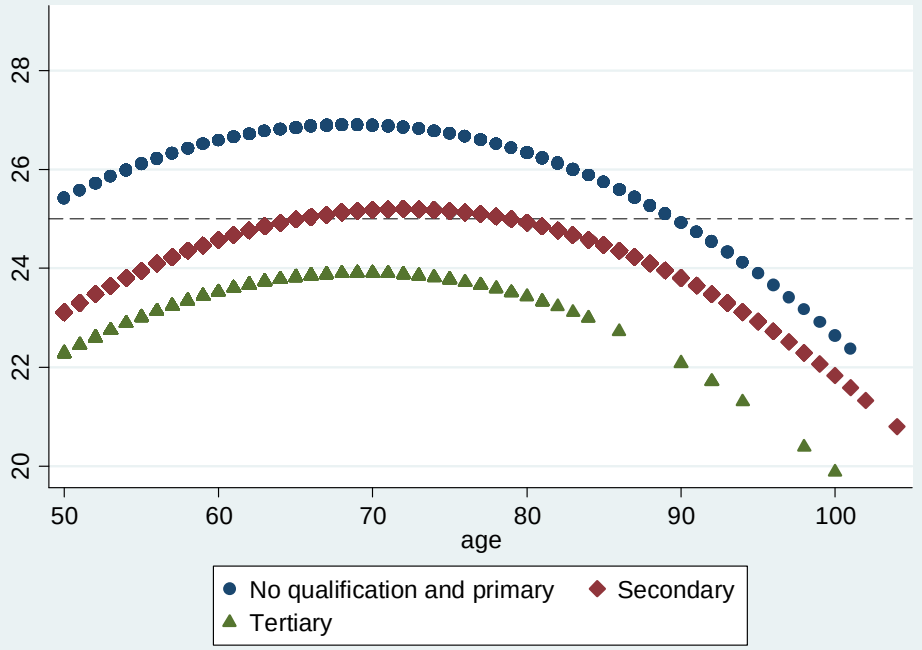


Sacker A et al. (2011) JECH 65(2):130-6

Inequalities assessed by education, Women, unadjusted

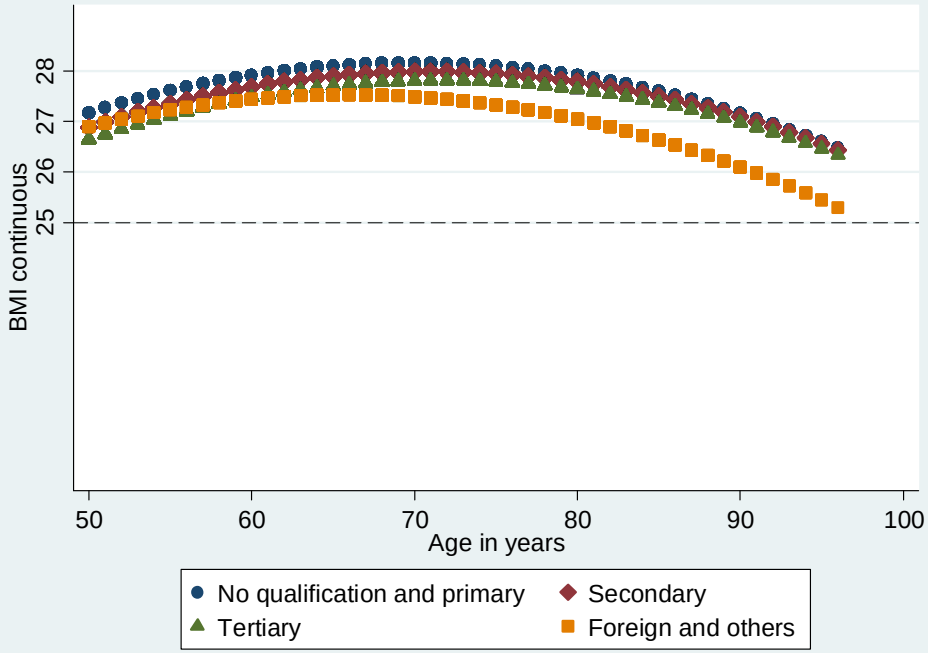


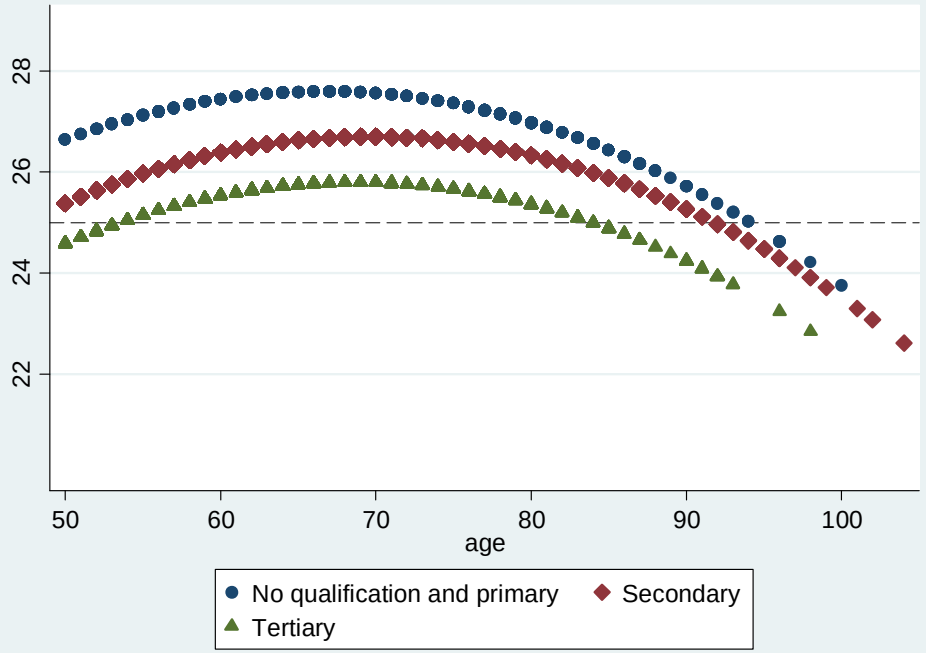
England



Switzerland

Inequalities assessed by education, Men, unadjusted

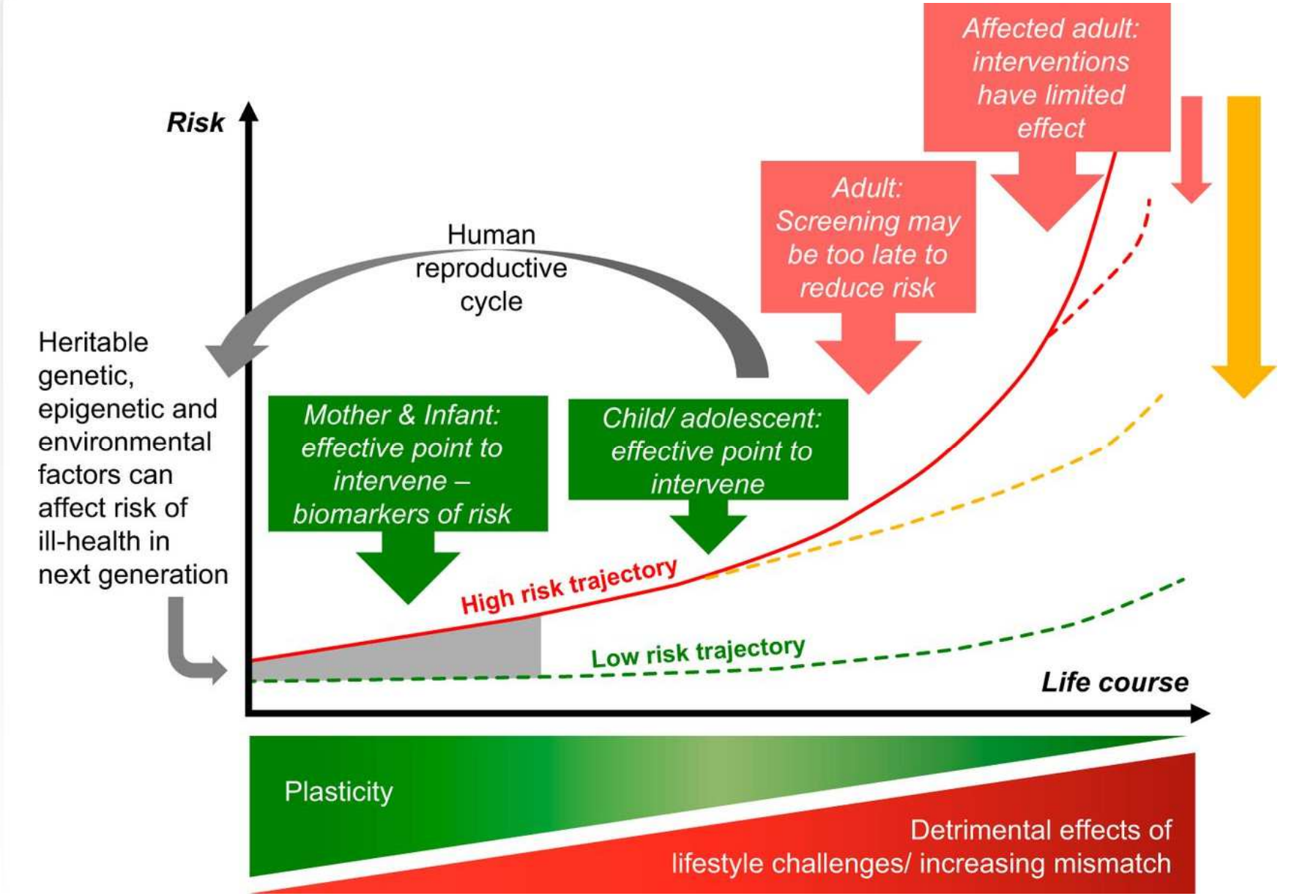




England

Switzerland

WHEN? (age)



Lifecourse view of noncommunicable disease risk.
Source: M. A. Hanson, P. D. Gluckman 2014

Concluding remarks

Life Course approach and public health policy

- In Switzerland, limited evidence suggesting stability of health inequalities over aging
- Including life domains suggest limited evidence of growing health inequalities over aging.

- Importance of examining health inequalities in a life course perspective to
  - Adapt interventions (who, where, when, how)
  - Economic burden => feeling of social justice => elections (rise of populism)

Emerging evidence of life course studies of health

- Limitations:
  - information bias over the life course
  - limited duration of follow-up
  - attrition issues
  - limited number of cohorts

Thank you for your attention

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Acknowledgments:

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