



# Work in Life

## Work and health from a life course perspective

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**The 5th Nordic Conference in Work & Rehabilitation, Oslo, October 1, 2018**

# Take home message

- Appreciate key life course concepts
- Recognize the complexity of the work & health relationship
- Consider integrating life course concepts in research and practice



# My life



Groningen, The Netherlands

# My working life



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# My working life



University Medical Center Groningen  
Health Sciences, Community & Occupational Medicine

# Interplay of Work and Health

- fundamental to life,
- interdependent and
- shaped by the context

# Work, health and society

Being sufficiently healthy is a condition for work, and maximizing healthy life as a proportion of total life is therefore a desirable goal for individuals and society.

Dame Carol Black, 2008, 2012

# Challenges to building a society of good work and good health

1. To minimize ill-health and its effects on work functioning.
2. To ensure good physical and psychosocial work environments.

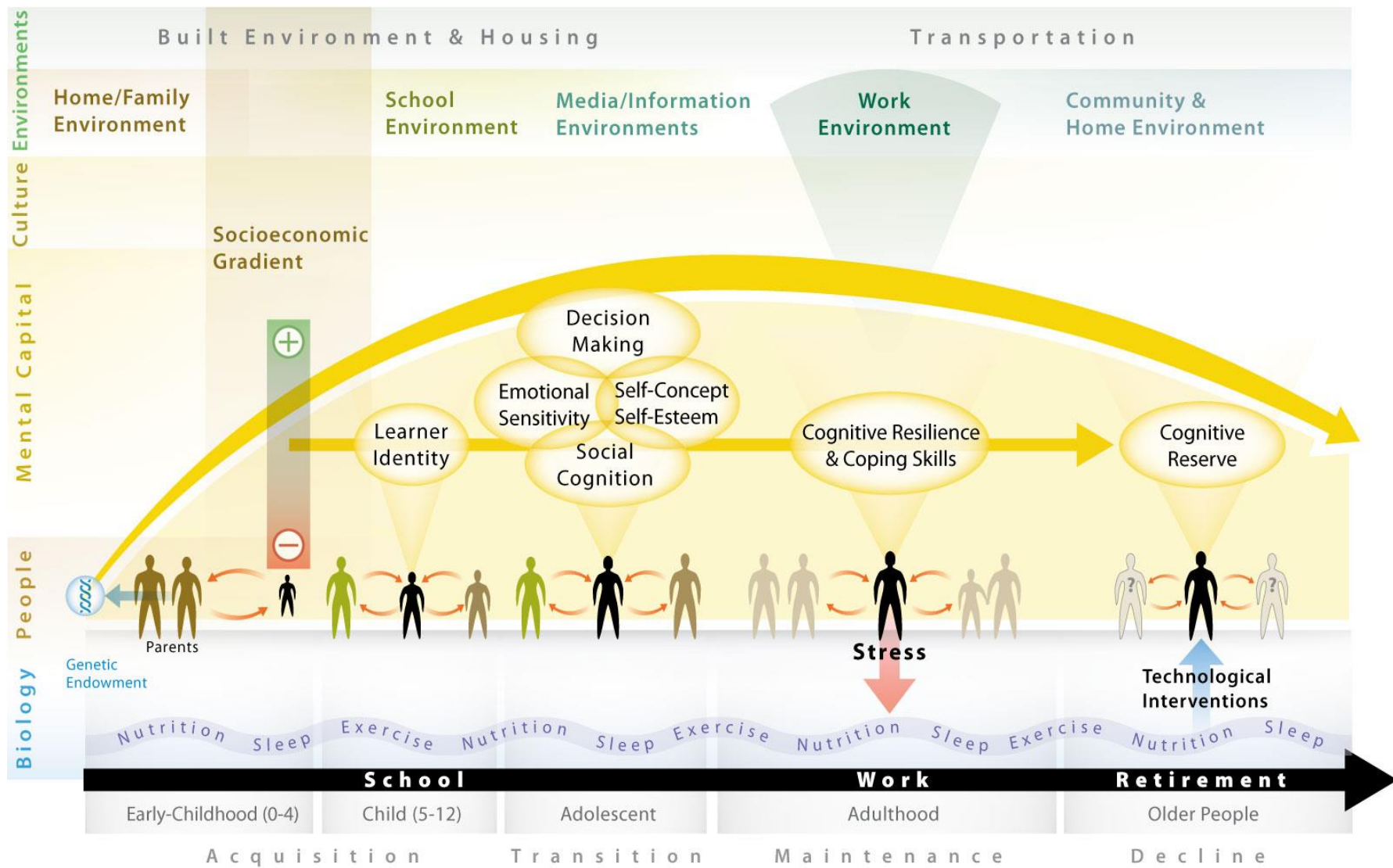


All solutions should work for workers / families at the top and bottom of society and throughout the **life course**.



# Expected life course

Foresight Report: Mental Capital and Wellbeing 2008



# Help workers to participate in work and to extend working life in good health

- (Chronic) health problems
- Changing work and labor markets
- Socio-economic gradient



# Challenges – think differently!

- Current work and health research is fragmented.
- Focus on jobs, exposures, work organization or employment contracts. (Berkman et al., 2014)
- Traditional occupational or (psycho-)social epidemiology research is no longer sufficient. (Amick, et al., 2016)

# Why a life course lens for looking at work and health?



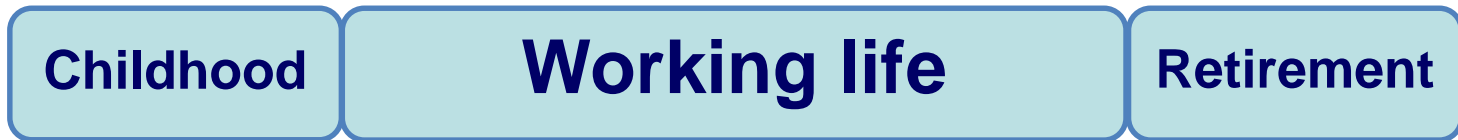
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# Why a life course lens for looking at work and health?



# Why a life course lens for looking at work and health?

A person's health does not start when work begins!

Where a person works depends on where the person grew up, who the person grew up with and the education.

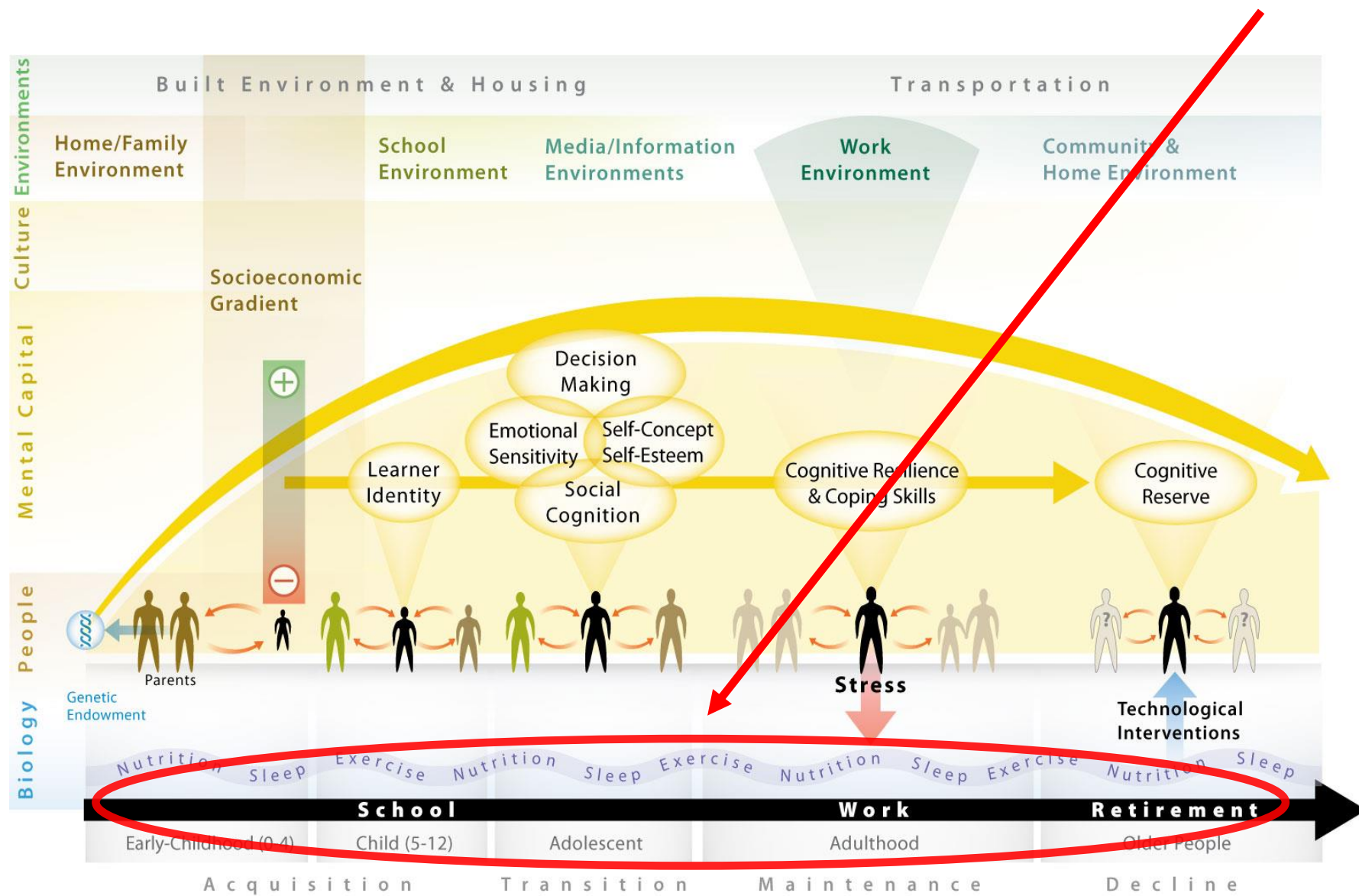


A more integrated approach is needed that considers the **working life course**.

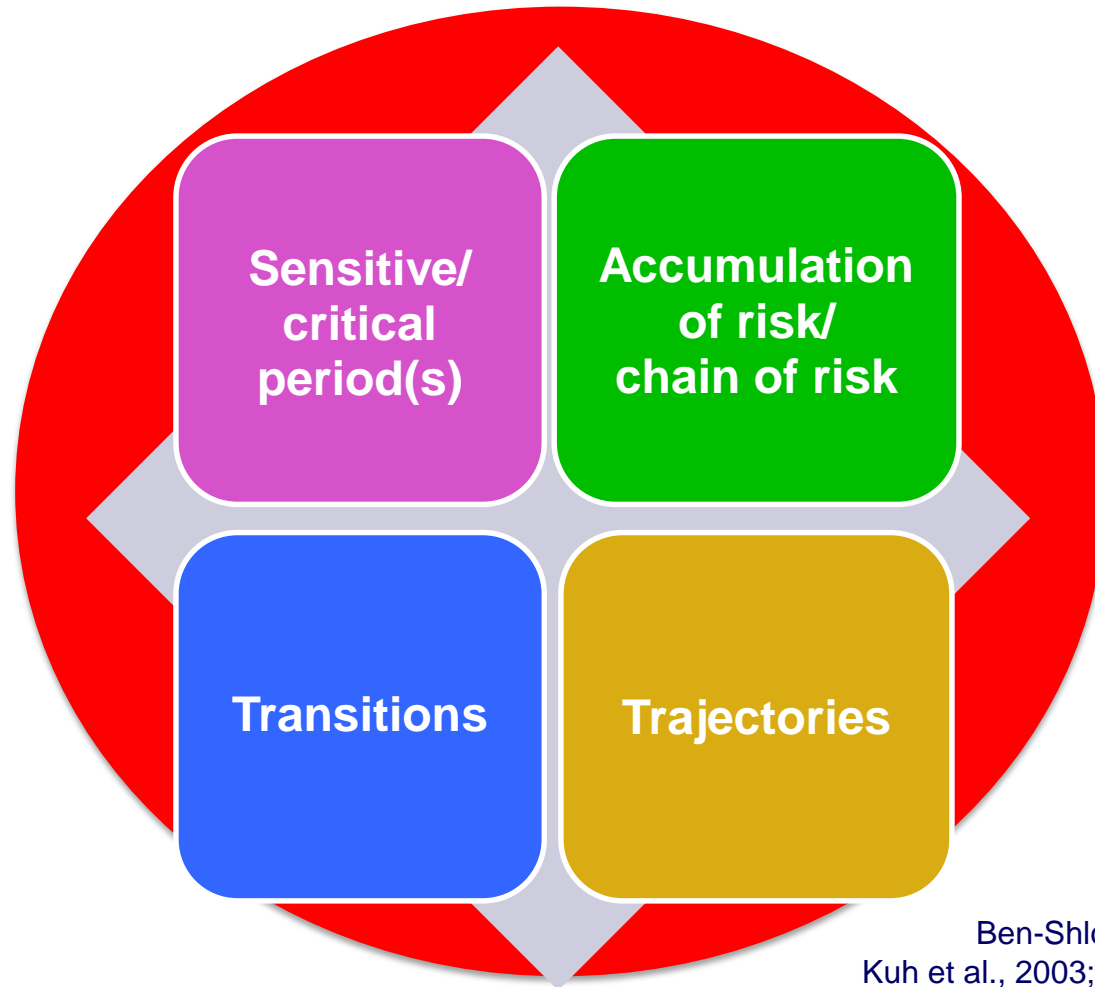


# Working life course and health

Foresight Report: Mental Capital and Wellbeing 2008



# Key life course concepts



Ben-Shlomo & Kuh, 2002;  
Kuh et al., 2003; Amick et al., 2016

# Sensitive/critical periods

MODEL 3



Sensitive/critical periods in early life and during working life, e.g. youth unemployment or sickness absence in mid-life.

# Accumulation of risk

MODEL 3



Accumulation of health risks or advantages over time, e.g. working year after year in poor working conditions, but working is also good for health.

# Work-life transitions

MODEL 3



The nature and timing of work-life transitions are constructed by the social context; e.g. school to work, changing careers, getting unemployed.

# Working life trajectory

MODEL 3



A sequence of work-life transitions and work experiences together creates the working life trajectory.



# Social context

MODEL 4



Political changes and the global economy change the social context and that affects labor markets; e.g. dynamic, multiple transitions.

# An illustrative working life course

MODEL 4



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## ***Discussion paper***

Scand J Work Environ Health 2016;42(4):346-353

doi:10.5271/sjweh.3567

### **Labor markets and health: an integrated life course perspective**

by Amick BC, McLeod CB, Bültmann U

Integrating a life course perspective into work and health research leads to a new approach to conceptualizing research questions that: (1) account for prior non-work and health states and significant life transitions; (2) offer a new work and health nomenclature reflecting transitions, experiences, trajectories, and context; and, (3) place a primary research focus on labor markets and health trajectories.

# Transitions

- Significant changes in physiological, psychological, social or material states. (Kuh et al, 2003; McLeod et al., 2012)
- Nature, timing, and sequence important.
- Health status, life course and labour market transitions – potential for short-and long-term health and labour market outcomes.

**Table 3. Overview of labor market and health transitions**

Into/out of the labor market

- School to work and/or work to school
- Work into and/or out of retirement
- Work into and/or out of family care
- New labor market entrance (eg, new immigrants)

Within the labor market

- Employment to unemployment and /or out of unemployment to employment
- Work to maternity/paternity leave and/or maternity/paternity leave to work
- Connectedness to the labor market, related to the nature of the contract (working arrangement and time): self-employed to not self-employed and/or vice versa (vv), part-time to full-time and/or vv, salary to hourly/piece and/or vv, permanent to temporary and/or vv, unionized employer to a non-unionized employer and/or vv
- One job to another job
- One firm to another firm

Health-related transitions that affect the work status

- Remain working (accommodated or not)
- Not working, but able to return to work (short-term disability or sickness absence)
- Not working and not able to return to work (eventual exit from the labor market)



# Transitions: not simple, heterogeneous

- Multiple transitions between different labour market experiences and health states. (Sabbath et al., 2015; Flint et al., 2013)
- Working life course: framed by school-to-work transition at front end and work-to-retirement transition at back end. (Shim et al., 2013; Veldman et al., 2015)
- Complex in conceptualization and measurement.





Contents lists available at ScienceDirect

## Social Science & Medicine

journal homepage: [www.elsevier.com/locate/socscimed](http://www.elsevier.com/locate/socscimed)



### Functional health decline before and after retirement: A longitudinal analysis of the Health and Retirement Study



Sander K.R. van Zon <sup>a,\*</sup>, Ute Bültmann <sup>a</sup>, Sijmen A. Reijneveld <sup>a</sup>, Carlos F. Mendes de Leon <sup>b</sup>

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<sup>b</sup> Department of Epidemiology, University of Michigan School of Public Health, 1415 Washington Heights, Ann Arbor, MI 48109, USA

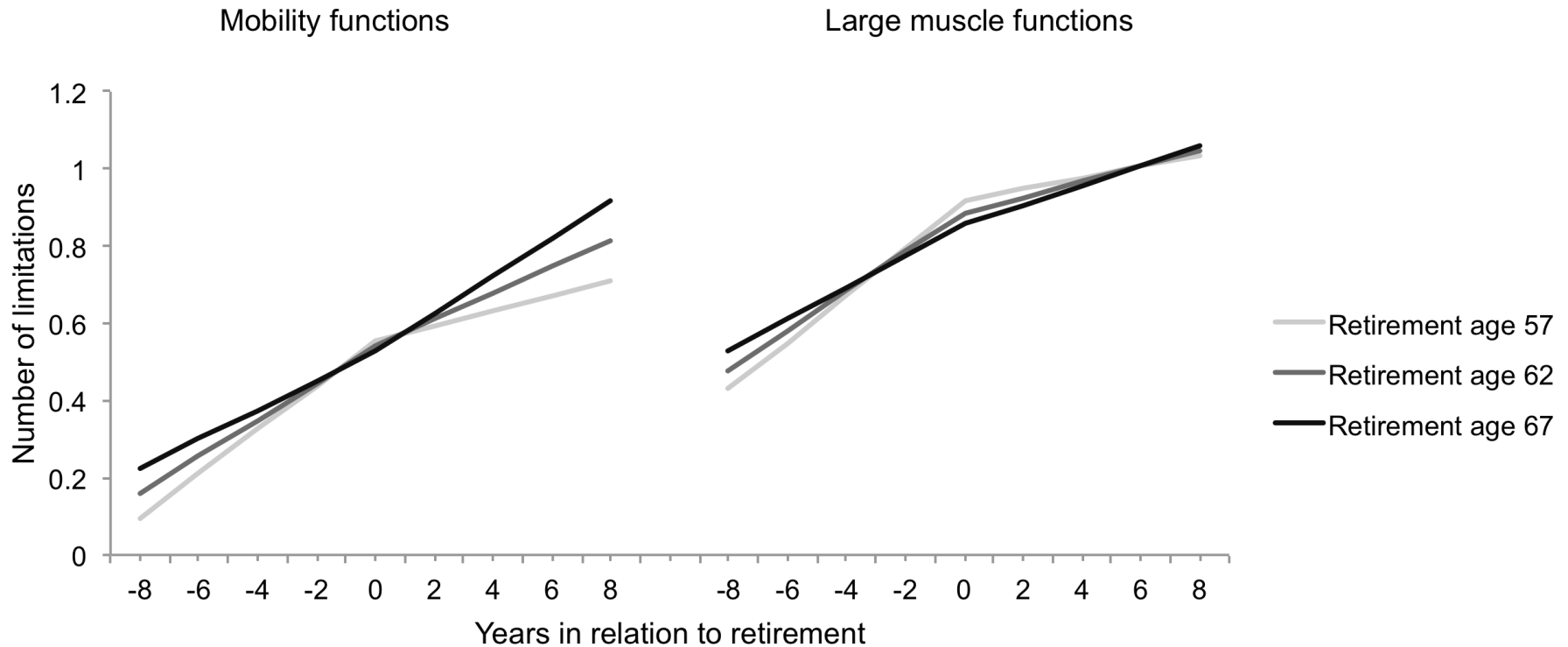
# Work-to-retirement transition

- 1) To examine the pattern of pre- and post-retirement changes in functional health.
- 2) To examine the degree to which socioeconomic position modifies pre- and post-retirement changes in functional health.

# Health and Retirement Study, US

- Longitudinal HRS follow-up data from 1992 to 2012 to model 8 years before and 8 years after retirement transition.
- Trajectories of **limitations in mobility and large muscle functions.**
- Relations of socio-economic position with time before and after retirement were examined.

# Limitation trajectories



Trajectories of limitations in mobility and large muscle functions for white married males with retirement ages 57, 62, and 67

# Conclusions

- Average levels of **limitations increased** significantly in the years prior to retirement.
- Increase **slowed down after retirement**, most prominently for limitations in large muscle functions.

# Implications for policy and practice

- **Prevention** of functional decline in older working adults may be essential in achieving longer and healthier working lives.
- Strategies have to give **special consideration to lower SEP** adults.



# School-to-work transition

Mental health, educational attainment  
and employment:  
A life course perspective



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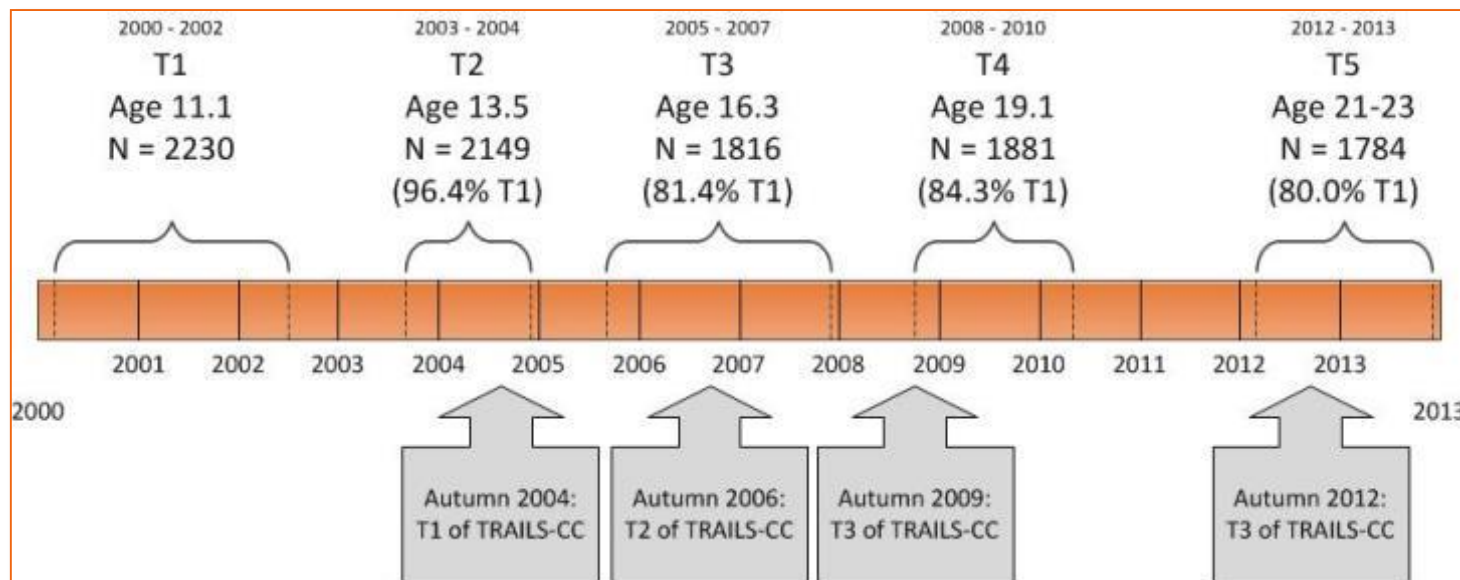


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# Sampling frame: *trails*

## TRacking Adolescents' Individual Lives Survey



**2016**  
**T6**  
**Age 25-27**  
**N = 1617**  
**(72.5% T1)**

Huisman et al., 2008

# Mental health trajectories from childhood to young adulthood affect the educational and employment status of young adults: results from the TRAILS study

Karin Veldman,<sup>1</sup> Sijmen A Reijneveld,<sup>1</sup> Josue Almansa Ortiz,<sup>1</sup> Frank C Verhulst,<sup>2</sup> Ute Bültmann<sup>1</sup>

Veldman K, *et al. J Epidemiol Community Health* 2015;**69**:588–593. doi:10.1136/jech-2014-204421



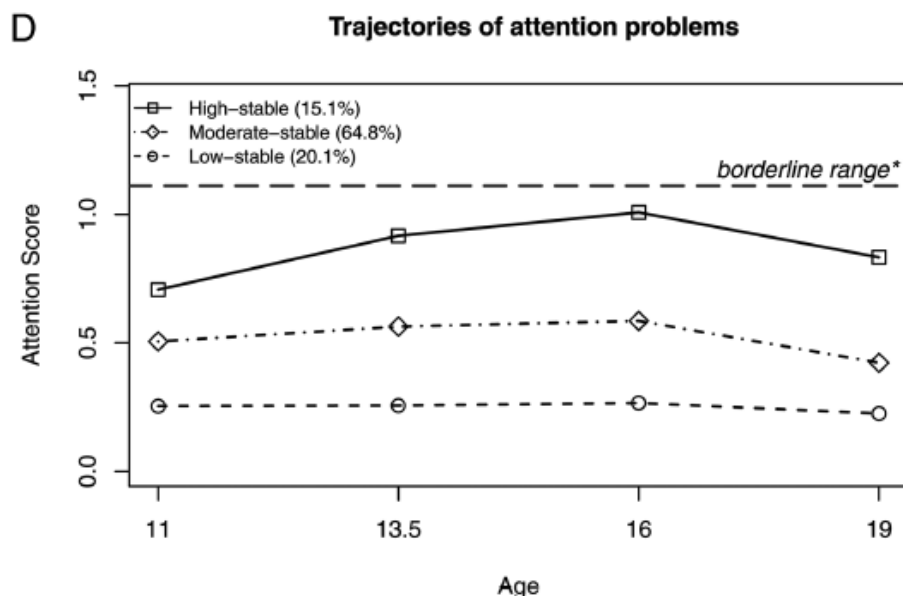
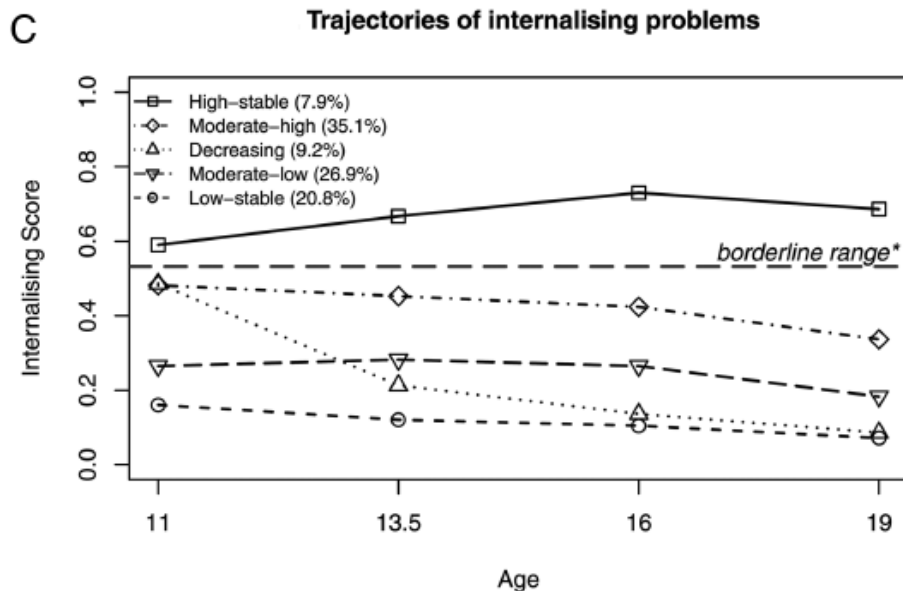
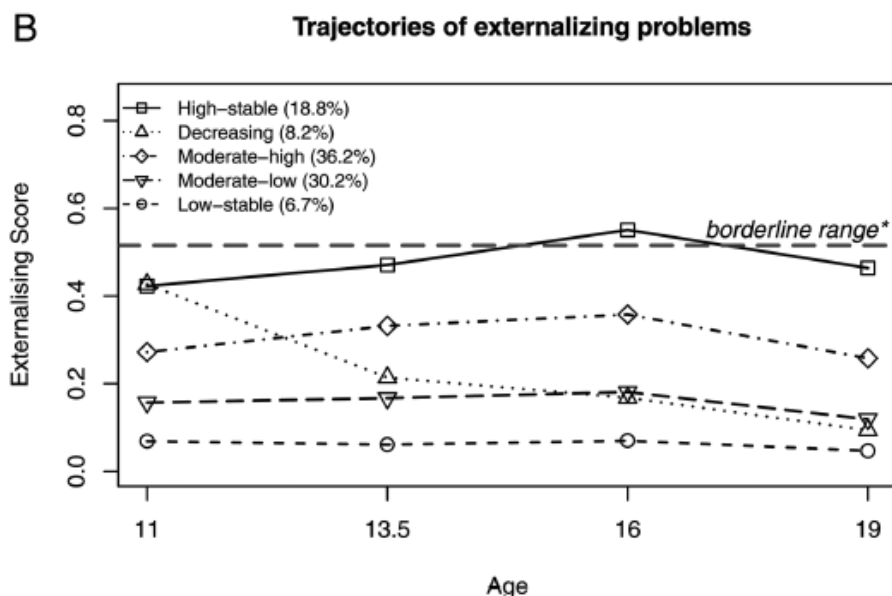
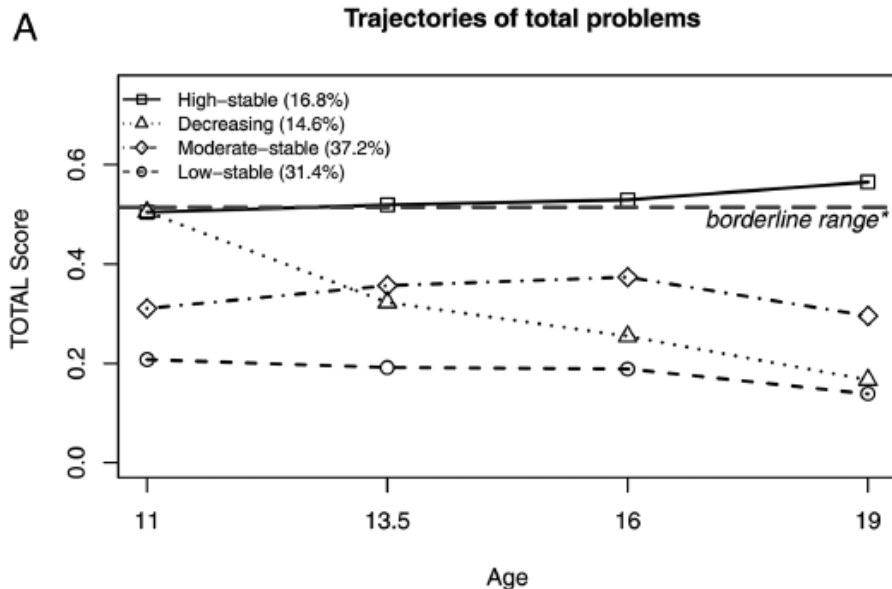
# Mental health trajectories & status

1. To identify trajectories of mental health problems from childhood to young adulthood.
2. To investigate the relation between these trajectories and the educational or employment status of young adults.

# Educational or employment status

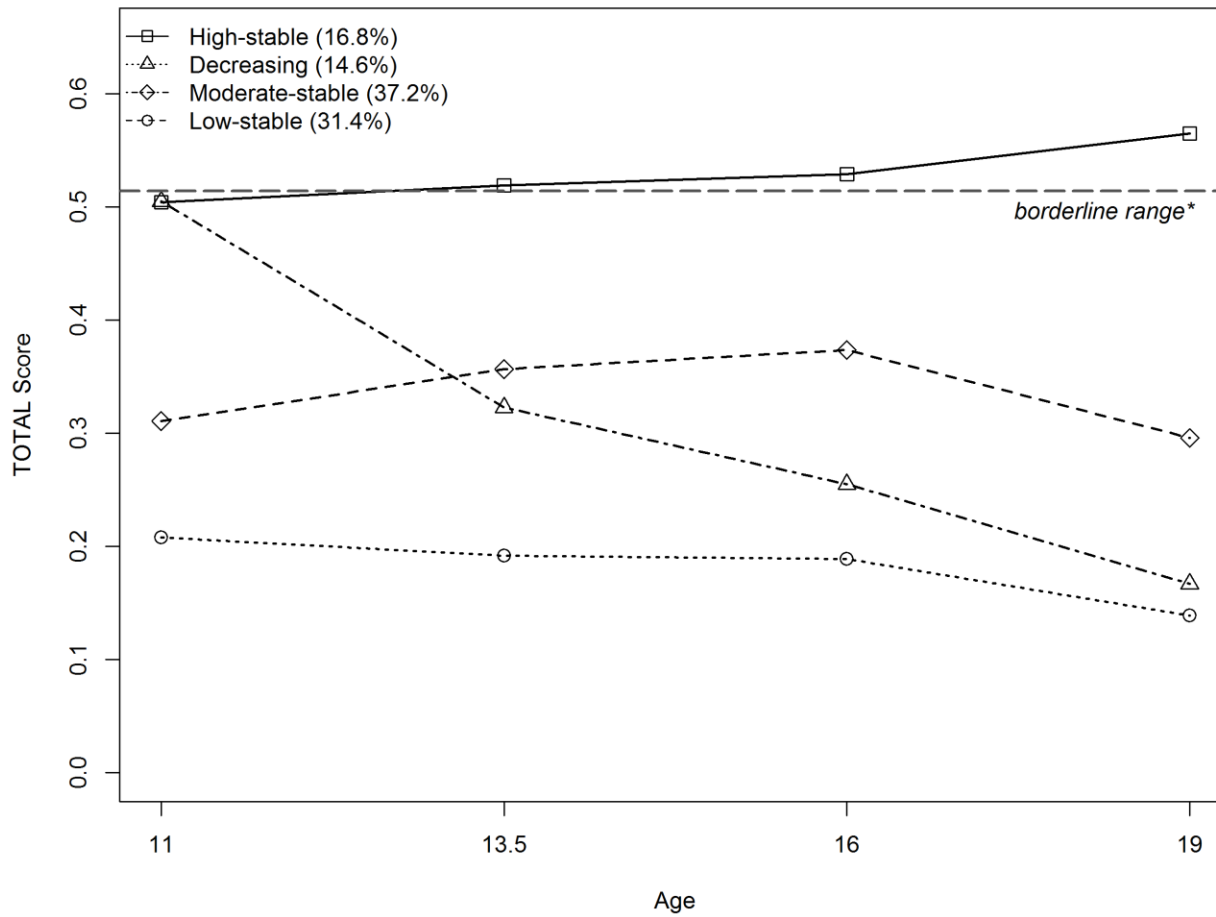
1. At school or at work with Basic Educational Level (BEL)
2. At work without BEL or in NEET  
(Neither in Education, Employment or Training)







# Trajectories: Total problems



# Mental health trajectories & status

- Young adults with **high-stable** trajectories of total problems were more likely to work without BEL or be in NEET at age 19, than to be at school or at work with BEL (28% vs. 16%,  $p=0.01$ ).
- Idem for externalizing problems (29% vs. 18%,  $p=0.03$ ).
- For internalizing and attention problems, no statistically significant differences were found.

# Conclusions and implications

- **Early detection and treatment** is needed to ensure smooth transition into the labor market.
- Adolescence is a **key developmental (critical) period**, that should be linked to later life labor market outcomes.
- **Raise awareness** about history of mental health and later life work outcomes, e.g., in school, at work, among (occupational) health care professionals.

# Life course epidemiology: recognising the importance of adolescence

Russell M Viner,<sup>1</sup> David Ross,<sup>2</sup> Rebecca Hardy,<sup>3</sup> Diana Kuh,<sup>3</sup>  
Christine Power,<sup>1</sup> Anne Johnson,<sup>4</sup> Kaye Wellings,<sup>2</sup> Jim McCambridge,<sup>2</sup>  
Tim J Cole,<sup>1</sup> Yvonne Kelly,<sup>4</sup> G David Batty<sup>4</sup>

Life course epidemiology may be conceptualised as “the study of long term effects on later health or disease risk of physical or social exposures during gestation, childhood, adolescence, young adulthood and later adult life.”<sup>1</sup> Adolescence, the period between childhood and adulthood defined by the WHO as 10–19 years, has an uneasy status in epidemiology. On the one hand, adolescents, who now number over 1.2 billion worldwide—around 20% of the global population—are highly visible in population-based studies. Young people’s behaviours have been an important subject of epidemiological inquiry, from tobacco and alcohol use to violence and sexual activity. Yet, concepts of adolescence as a discrete stage in the life course have been much less discussed

the understanding that periods of rapid organ system development during these phases of life are critical to adult health.<sup>1</sup> Yet, adolescence is second only to fetal and infant life in the rapidity of growth and pervasiveness of change across body systems.

Puberty is one of the central dramas of the human life course, and results in very rapid somatic growth, brain development, sexual maturation and attainment of reproductive capacity. It is accompanied by final maturation of multiple organ systems, major central nervous system changes and dramatic psychosocial change.<sup>2</sup> Human puberty is unique in the animal world. We are the only animals to have major brain development and a somatic growth spurt at the same time as

2010 Global Burden of Disease study, tobacco (the second ranked for global DALYs) and alcohol use (third ranked) are largely initiated in adolescence.<sup>4</sup> Since the 1960s, approximately 80% of smoking initiation has been consistently found to taken place in adolescence in high-income countries, and many resource-poor countries now share this pattern of initiation. A further 4 of the top 10 global risk factors in the 2010 Global Burden of Disease study are strongly determined in adolescence, that is, low fruit consumption (ranked 4), high body mass index (BMI; ranked 6), high fasting plasma glucose (ranked 7), and physical inactivity and low physical activity (ranked 10).<sup>4</sup>

## EVIDENCE THAT ADOLESCENCE MAY BE A CRITICAL PERIOD FOR LATER HEALTH AND DISEASE

The rapid development during adolescence points to the possibility that the adolescent period may be a critical or sensitive period for later health and disease. Some of the strongest evidence for this comes from studies of the timing of puberty. This is most apparent in evidence accumulated across the British birth cohort studies.





# Today's youth is tomorrow's workforce

# Ute Bültmann

# Generation

## @ Work

# Integrating a life course perspective

into the work and health field leads to a **new approach** conceptualizing questions for research and practice that:

- 1) account for prior non-work and health states and significant life transitions;
- 2) offer a new work and health nomenclature reflecting transitions, trajectories, and context and
- 3) place a focus on life course analyses (e.g. latent class growth analysis, multi state analysis, sequence analysis)



# “Healthy working lives”



*“If we succeed in adopting a **life course perspective** and translating our findings into relevant policy and practice measures, we together – researchers, health care professionals, employers and policy makers – can **make a difference.**”*

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