Lifepath

HEALTHY AGEING FOR ALL

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What does LIFEPATH evidence say about when policy interventions should occur in the lifecourse?

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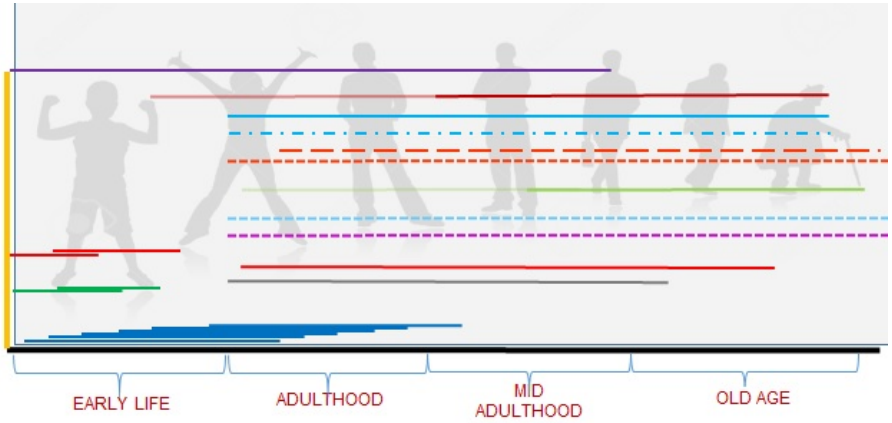
Timing is tricky

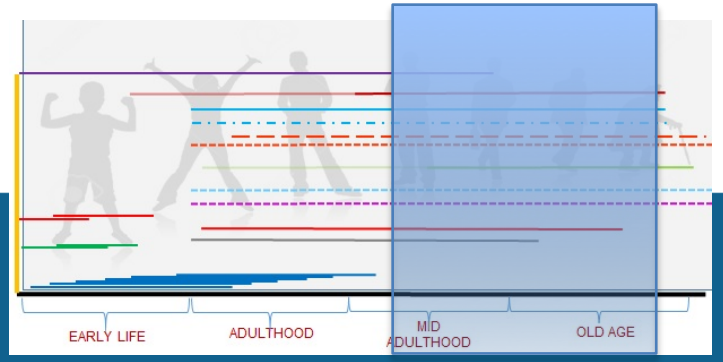
- One of the originalities of Lifepath was to take a **Lifecourse social-to-biological approach to Health Ageing**
- Timing of events, exposures and condition in terms of human developmental process as well as social roles and transitions is a key Lifecourse Principle (Elder 2003)
- Timing is especially difficult to ascertain in observational studies



Lifecourse & timing

Mid adulthood & older age summary

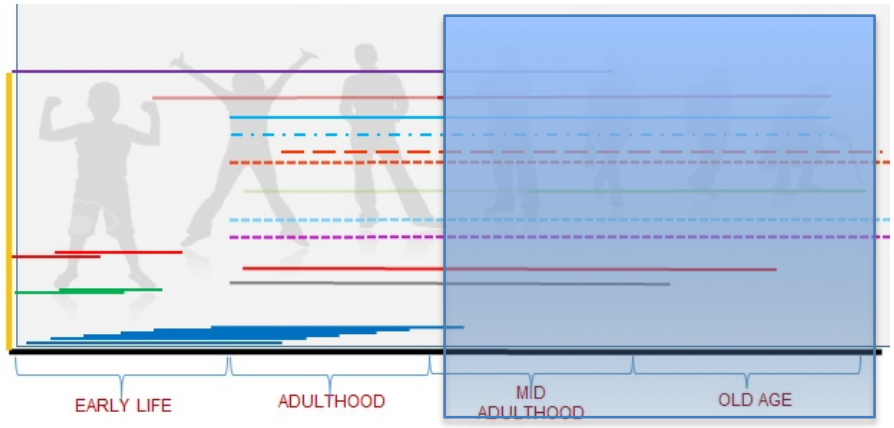
- Premature mortality disproportionately affects the socially disadvantaged (Stringhini et al)
- Socially differentiated physical functioning is observed (Stringhini et al)
- Socially differentiated inflammaging & physiological wear & tear has occurred (Castagné et al papers & Berger Castagné et al & Layte et al)
- Socially differentiated patterns of molecular biomarkers including epigenetic age acceleration (McCrory et al, Fiorito et al)
- That these outcomes are all partly mediated by smoking & BMI as well as other factors



Lifecourse & timing

Mid adulthood & older age: key messages

- At this age we are interested in a harm reduction approach, mitigating the risks of previous exposures upon the adults affected in terms of social exposures & behaviours
- But we also know these adults are likely to be parents, home makers & carers, therefore are part of the 'exposome' of other people, notably children & adolescents

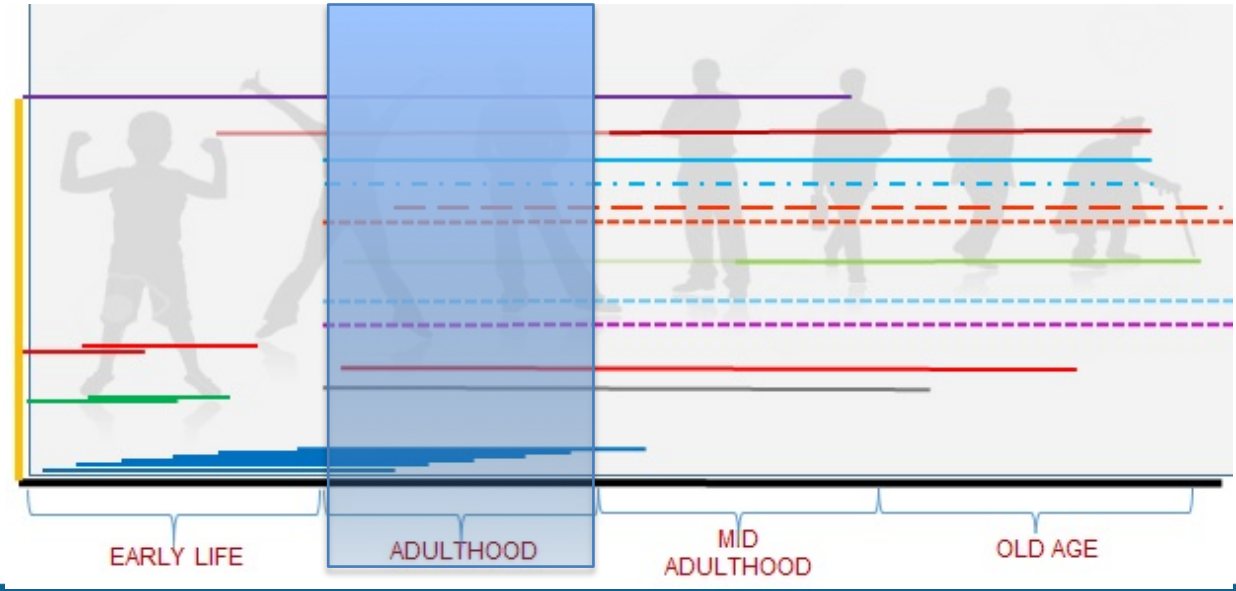


Lifecourse & timing

Early adulthood: summary

-A relatively neglected life phase

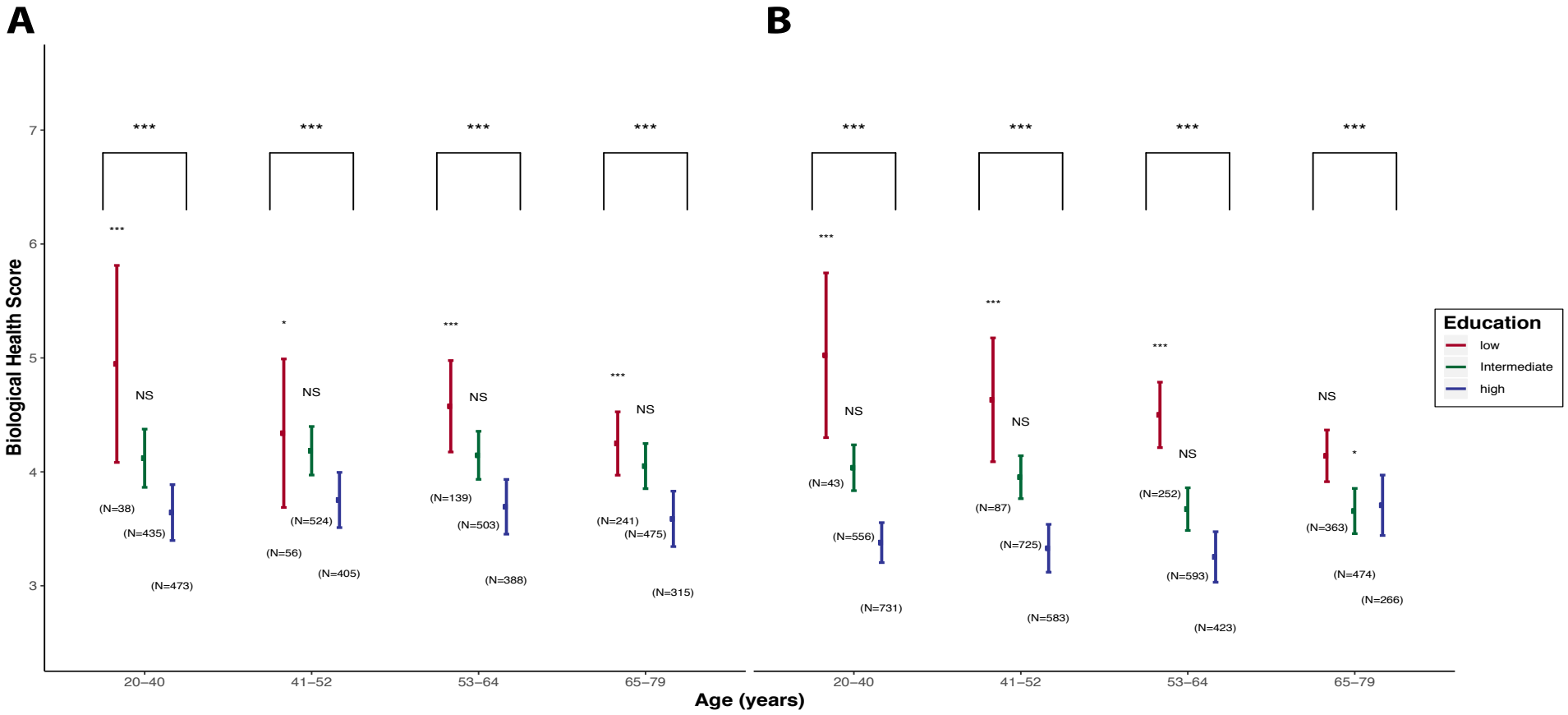
-A literature on « Emerging Adulthood » (Arnett 2000) identifies this phase as important notably for the formation of identity, behaviours, values & work trajectories



Lifecourse & timing

Early adulthood:

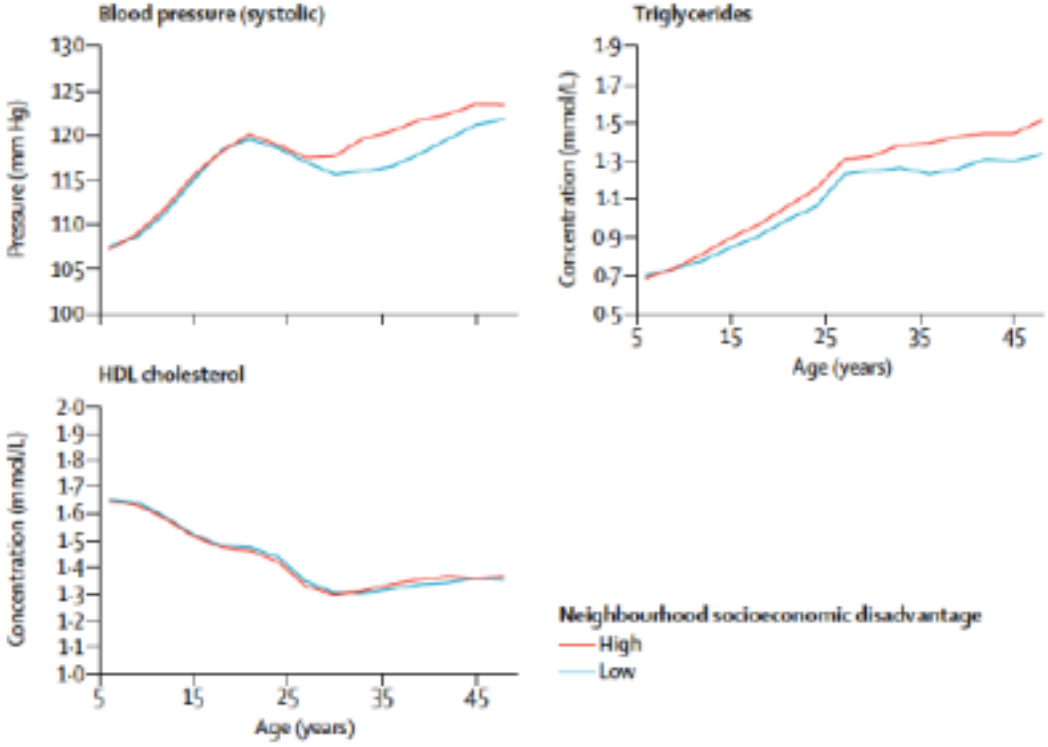
- Young adults with disadvantaged social characteristics already show a higher biological risk compared to their more advantaged counterparts (Karimi et al 2019 in press)– and that this is likely to track forwards



Lifecourse & timing

Early adulthood:

- The effects of early life social disadvantage on biology may amplify from early adulthood, for some biomarkers (Kivimaki et al 2018 Lancet PH)



gure 2: Risk factors of cardiometabolic health by age and cumulative neighbourhood socioeconomic isadvantage

ne cutoff for high neighbourhood socioeconomic disadvantage is >0·5 SD above the national mean and the utoff for low neighbourhood socioeconomic disadvantage is more than or equal to 0·5 SD below the national ean. Data for those with intermediate low and high neighbourhood socioeconomic disadvantage are given in

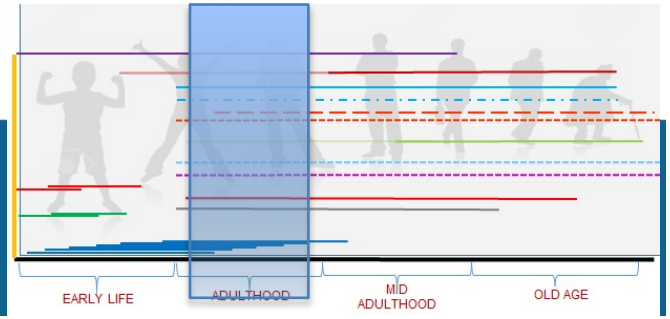
Lifecourse & timing

Early adulthood: …summary

- We know that this biological risk is exacerbated by health behaviours but not only
- If they also live in deprived neighbourhoods this is likely to affect their biological health (Ribiero et al)

Early adulthood: key messages

- Addressing social exposures & health behaviours early in adolescence adulthood can limit their long term effects & mitigate amplifications
- Late adolescence & early adulthood may be a neglected area of research regarding social-to-biological evidence



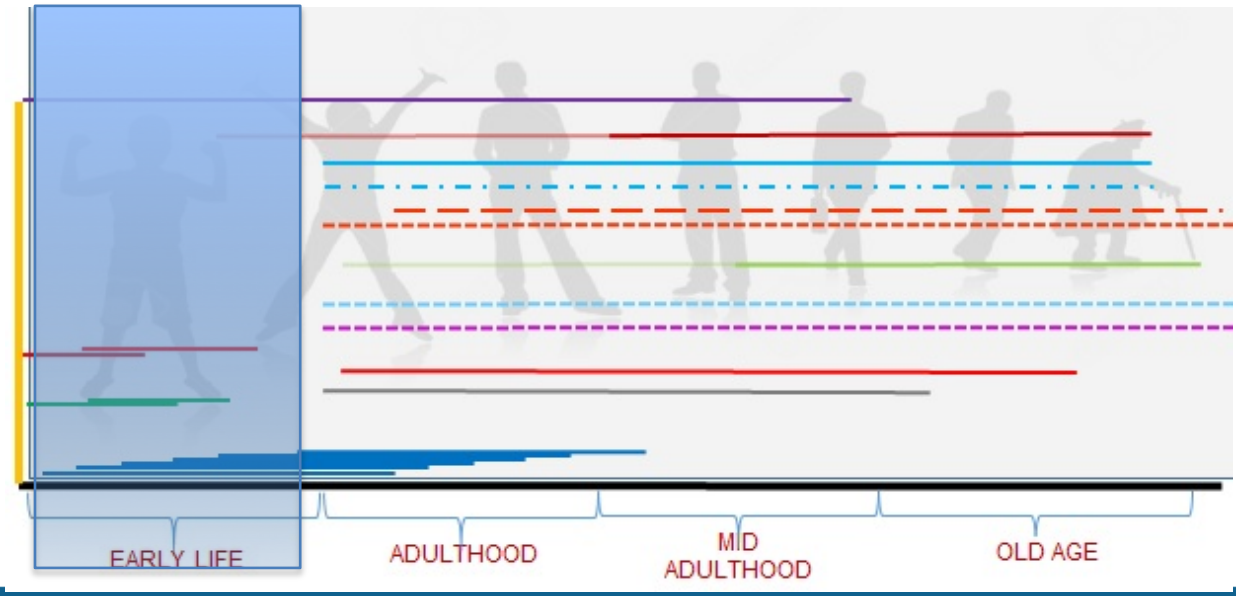
Lifecourse & timing

Childhood: issues

-Biological data are not easy to come by

-What are the most appropriate biomarkers for earlier life stages?

-Adaptive biological response to the social environment

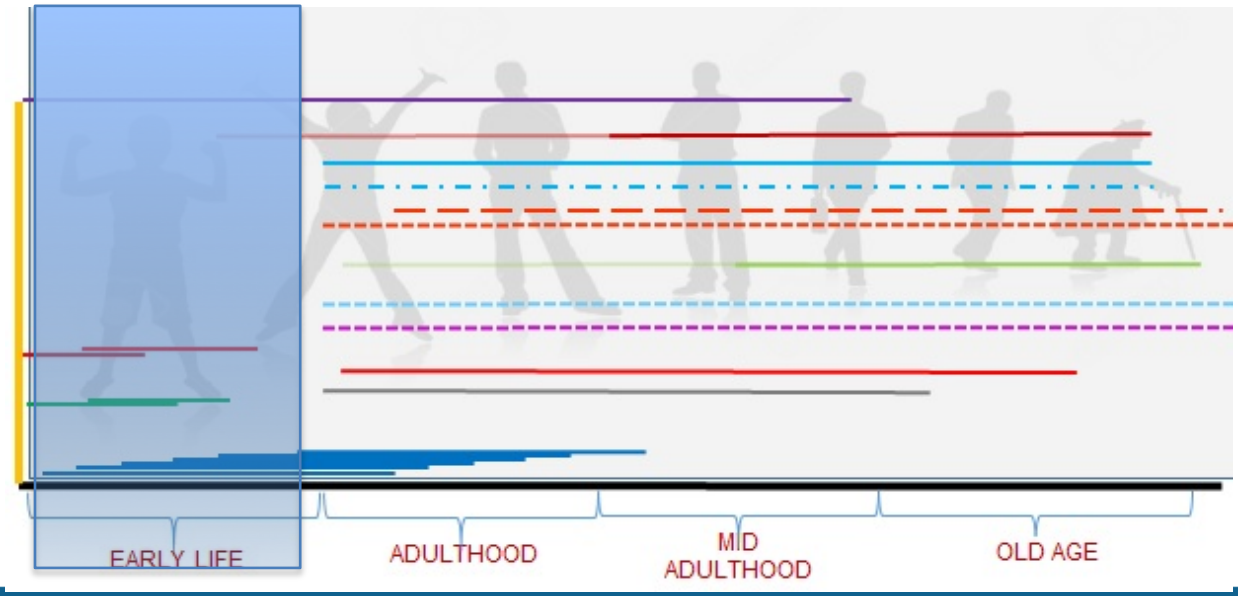


Lifecourse & timing

Childhood: summary

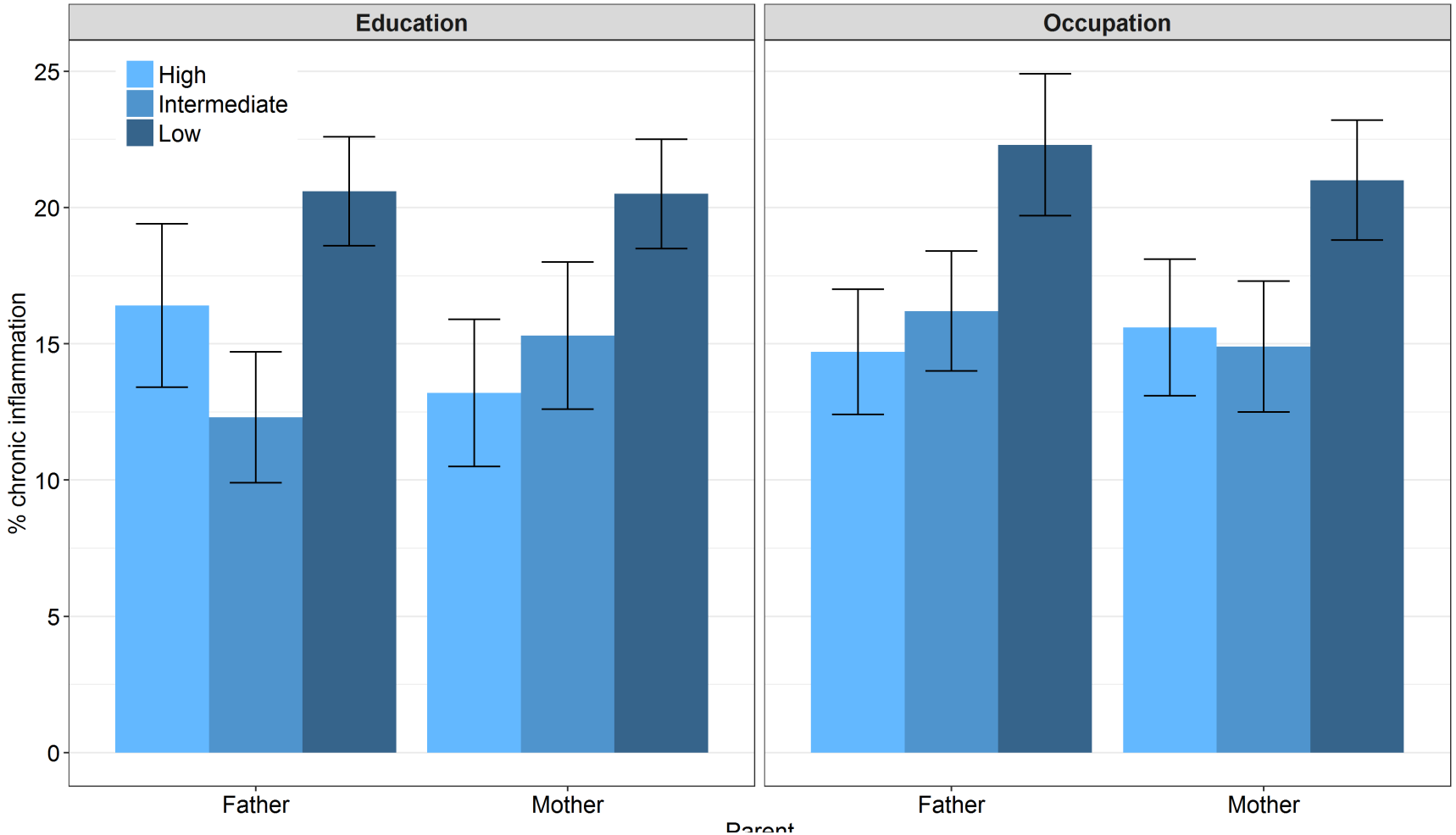
Socioeconomic disadvantage from birth leads to a higher BMI, and obesity (McCrory et al)

Socioeconomic disadvantage in early life is associated with epigenetic age acceleration by the age of 10y (Fraga et al)



Lifecourse & timing

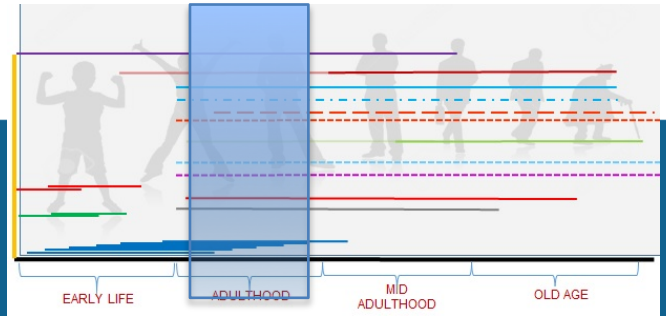
- Parental SEP & chronic inflammation (CRP in highest quartile at two time points age 13 & 17 y) in EPITEEN by Fraga et al (submitted)



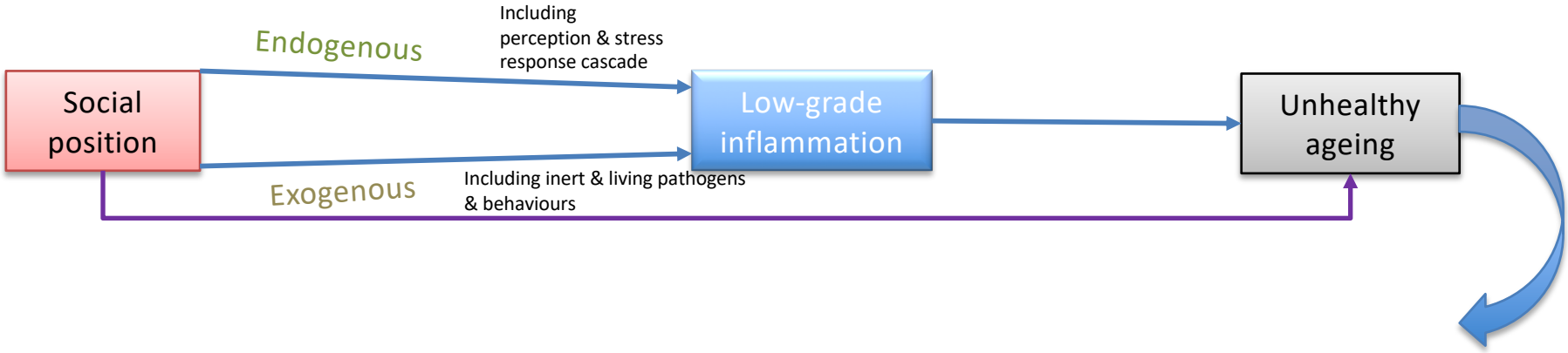
Lifecourse & timing

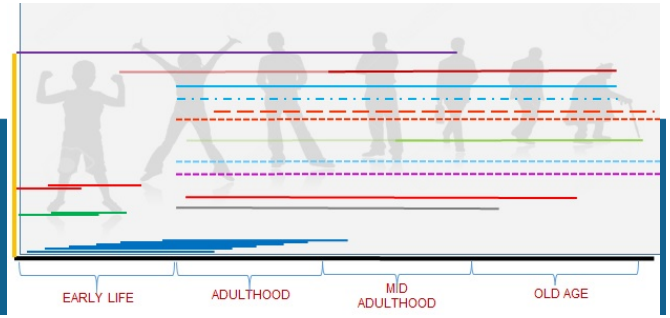
Childhood: key messages

- The biological consequences of social disadvantage begin early, well before the individuals have fully taken up individual health behaviours
- Children share a household with adults who already have significant risks (see 1.).
- These outcomes all point towards the major problem of the obesogenic & pro inflammatory environment in early life & the need for its primary prevention
- That environment is characterised by stress-inducing social conditions involving endogenous mechanisms as well as material deprivation including poor nutrition involving exogenous mechanisms



Main result in terms of Embodiment: inflammation





What evidence from Lifepath can and cannot say

-Lifepath analyses CAN contribute to a body of knowledge & evidence that may influence policy, notably about biological consequences of social environment.

-Lifepath CANNOT contribute to knowledge about specific interventions, since, overall, this was not what we studied

The relationship between evidence & policy seems a convoluted process

-Research is needed (and exists) where policy-hypotheses are explicitly tested in different contexts

-There is plenty of evidence on social determinants of health, but specific evidence about interventions is very difficult to evaluate…

-Effects of tested interventions over the Lifecourse are difficult to evaluate & to scale-up to population-level

Overall messages

Policy-translatable messages?

-**Harm reduction approach** regarding social determinants and health behaviours regarding adults

-Exposure effects of adults on other household members

-**Emerging adulthood** (18-25) as a neglected life stage for research & policy, many hypthotheses about life transitions, entry into precarious job market (gig economy), identity formation etc.

-Evidence suggests that **adaptive biological processes are socially patterned** by adolescence and start almost immediately in childhood

-Biomarkers in children & adolescents across contexts are lacking

Thank you