

# Impact of Childhood and Adult SEP on Aging Trajectories of Functional Capacity

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## BACKGROUND

- Cumulative stress is one of the mechanisms for accelerated deterioration of health in late adulthood.<sup>1</sup>

*Trajectories are shaped by accumulation of risk and resources*

- Dose-response pattern: the more frequent the stress across the lifespan, the graver the physiological consequences.<sup>2</sup>
- Research often limited by length of follow-up: less is known about cumulative effect of adversity and timing of impact.

1. Ferraro & Shippee (2009)  
2. Epel (2009), Epel et al. (2006), McCrory et al. (2015), Rasmussen et al. (2020)

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## RESEARCH QUESTIONS

What are the relative roles of early life adversity (childhood SEP) vs. later life adversity (adult SEP) in late life functioning?

At what point in the aging process does early vs. later life SEP have an impact?

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## SAMPLE

Swedish Adoption Twin Study of Aging (SATSA)<sup>3</sup>

- N = 740
- Age range at intake = 40-83
- Mean age at intake = 62.4 (SD = 8.2)
- Up to 8 waves of follow-up data (mean = 4 waves)
- Up to 27 years of follow-up (mean = 15 years)



3. Finkel & Pedersen (2004)

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## MEASURES: SOCIOECONOMIC POSITION

### Childhood SEP

- Did your family own a cottage or a boat?
- Highest education of parents
- Highest occupational level of parents
- Density of household (rooms/person)
- Family economic situation compared to others
- Family income met needs

### Adult SEP

- Rent subsidy
- Own your own dwelling
- How many cars
- Life/accident insurance
- Regularly save money
- List of 15 conveniences (TV, balcony, washer)

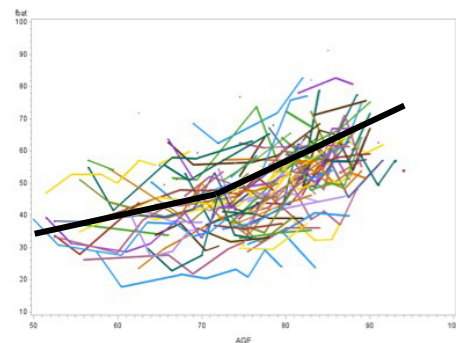
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## MEASURES: FUNCTIONAL AGING INDEX

Sum of four functional biomarkers of aging:

1. SENSORY = vision + hearing  
How is your eyesight? 1=excellent, 5 = poor  
How is your hearing? 1=excellent, 5 = poor
2. GAIT SPEED: time to walk 3 meters and return
3. GRIP STRENGTH: maximum of 3 trials per hand
4. LUNG: PEF= peak expiratory flow

*Higher scores = more difficulty*



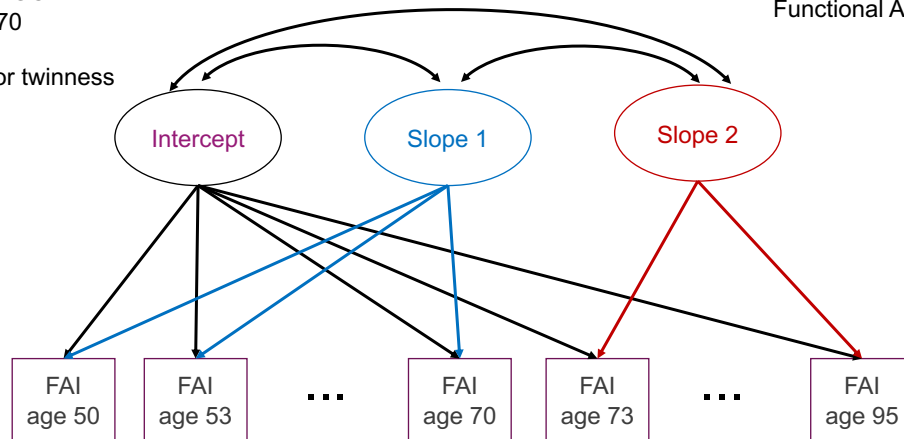
Finkel et al. (2019)

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# MODEL: LATENT GROWTH CURVE

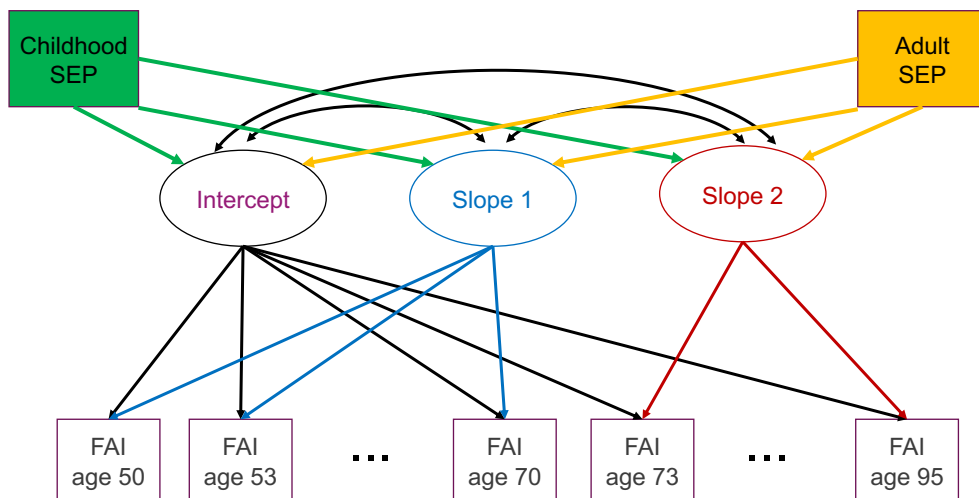
Age-based LGCM  
Intercept = 70  
Two slopes  
Corrected for twinness

FAI  
Functional Aging Index



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# MODEL: LATENT GROWTH CURVE



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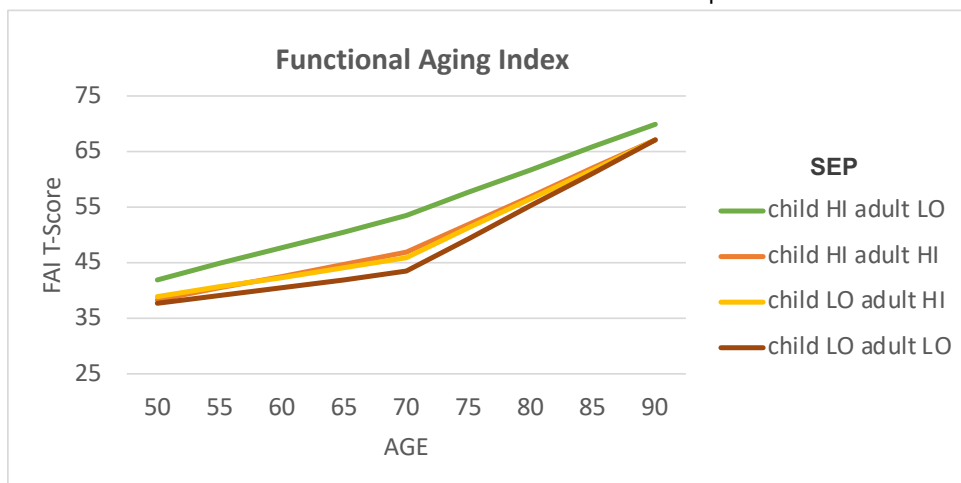
# RESULTS

Parameter	Estimate (SE)	Significance
<b>Intercept</b>	50.05 (.61)	
<i>childhood SEP</i>	-0.84 (.14)	$p < .0001$
adult SEP	0.03 (.16)	
childhood x adult SEP	0.03 (.04)	
<b>Slope 1</b>	4.23 (.51)	
childhood SEP	-0.10 (.11)	
<i>adult SEP</i>	0.33 (.14)	$p < .05$
childhood x adult SEP	-0.04 (.03)	
<b>Slope 2</b>	9.99 (.63)	
childhood SEP	0.09 (.15)	
adult SEP	-0.21 (.16)	
childhood x adult SEP	0.02 (.04)	

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# RESULTS

Intercept (at age 70) x child SEP  
Slope 1 x adult SEP



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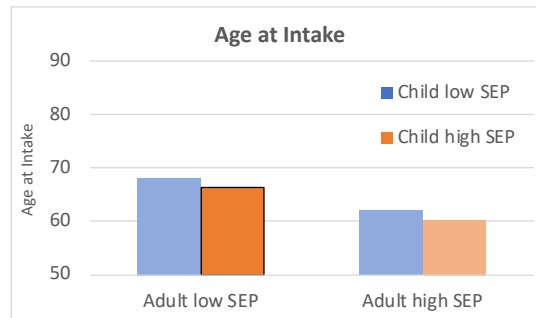
## RESULTS

Higher SEP in childhood and lower SEP in adulthood implies drop in SEP

➤ Who is this group?

Are there age differences? **No.**

Age at intake ranged from 40-83



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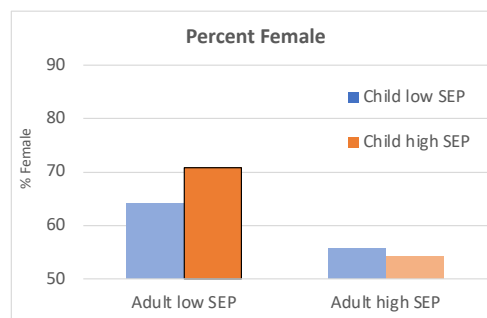
## RESULTS

Higher SEP in childhood and lower SEP in adulthood implies drop in SEP

➤ Who is this group?

Are there gender differences? **Yes.**

SEP has different associations with health for men and women



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## CONCLUSIONS

- Differences in timing of impact of childhood and adult SEP.
  - Individuals with higher childhood SEP and lower adult SEP aged faster.
  - More women than expected in higher childhood SEP and lower adult SEP group.
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- Long-term impact of childhood SEP
  - Direction of effect: perhaps poor health is contributing to drop in SEP
  - Possible gender interaction in timing of impact of SEP

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## ACKNOWLEDGMENTS

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