

The Roots of Inequality: Early-life Adversities and Adult Health

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Life-course perspectives on early-life experiences and adult health

- **Critical period:** Exposure to toxic environments in childhood have lifelong effects on the structure and function of body systems.
- **Life course pathway:** Early-life circumstances influence subsequent socioeconomic, psychological, and lifestyle trajectories, which in turn determine adult health outcomes.



What are adverse childhood experiences?

Socioeconomic disadvantage

- Parents in low social class
- Economic hardship

Household dysfunction

- Parents divorced
- Parents with mental illness
- Parents with substance abuse/incarceration

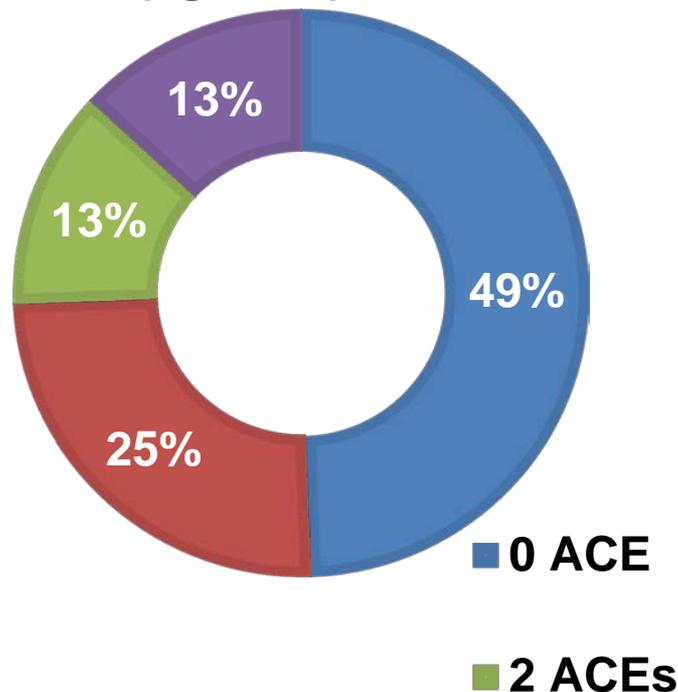
Maltreatment

- Neglect and un-nurturing parenting
- Emotional, physical, and sexual abuse

Adverse childhood experiences (ACEs) are common.

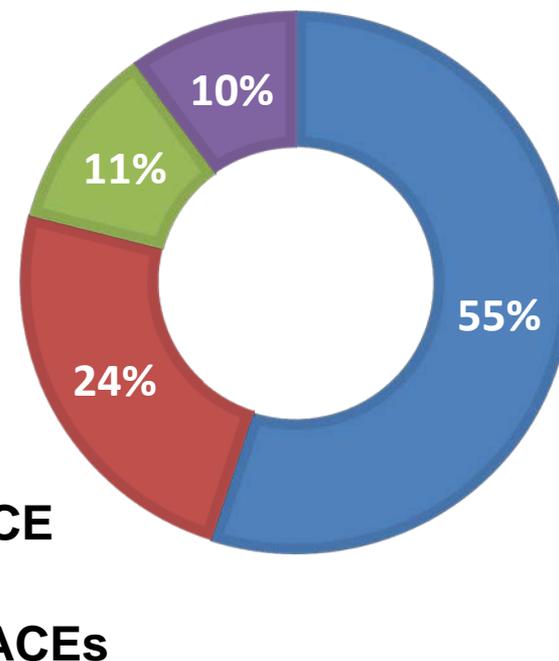
1995-1996

Adults (age 19+) in California



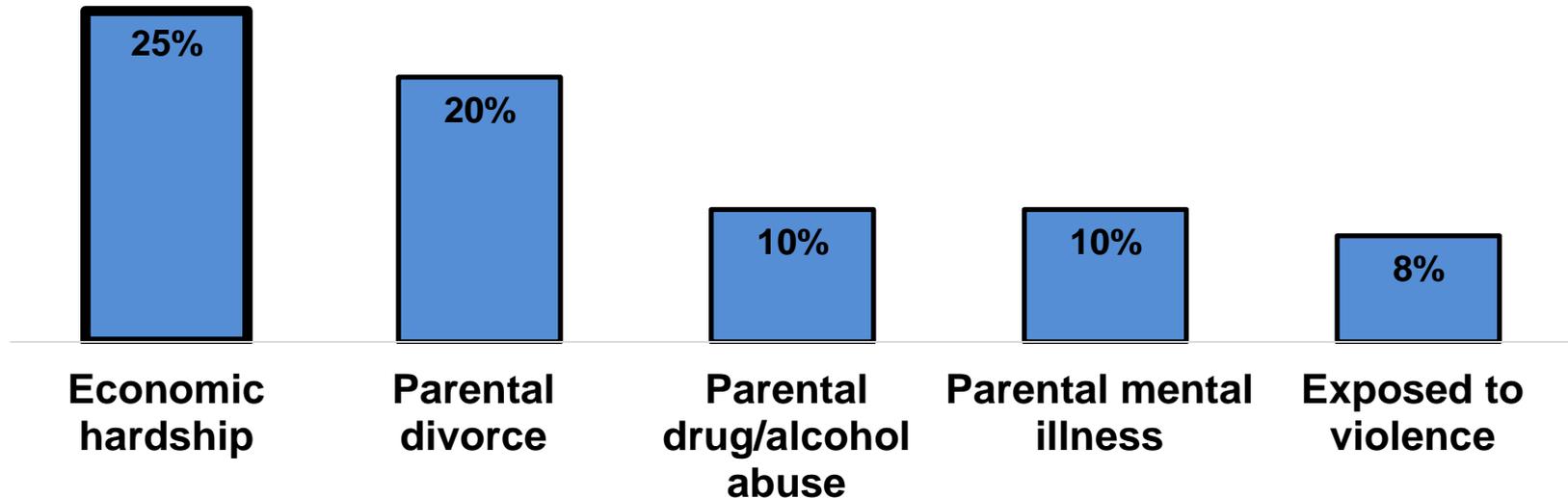
2011-2012

Children (age < 18) in the U.S.



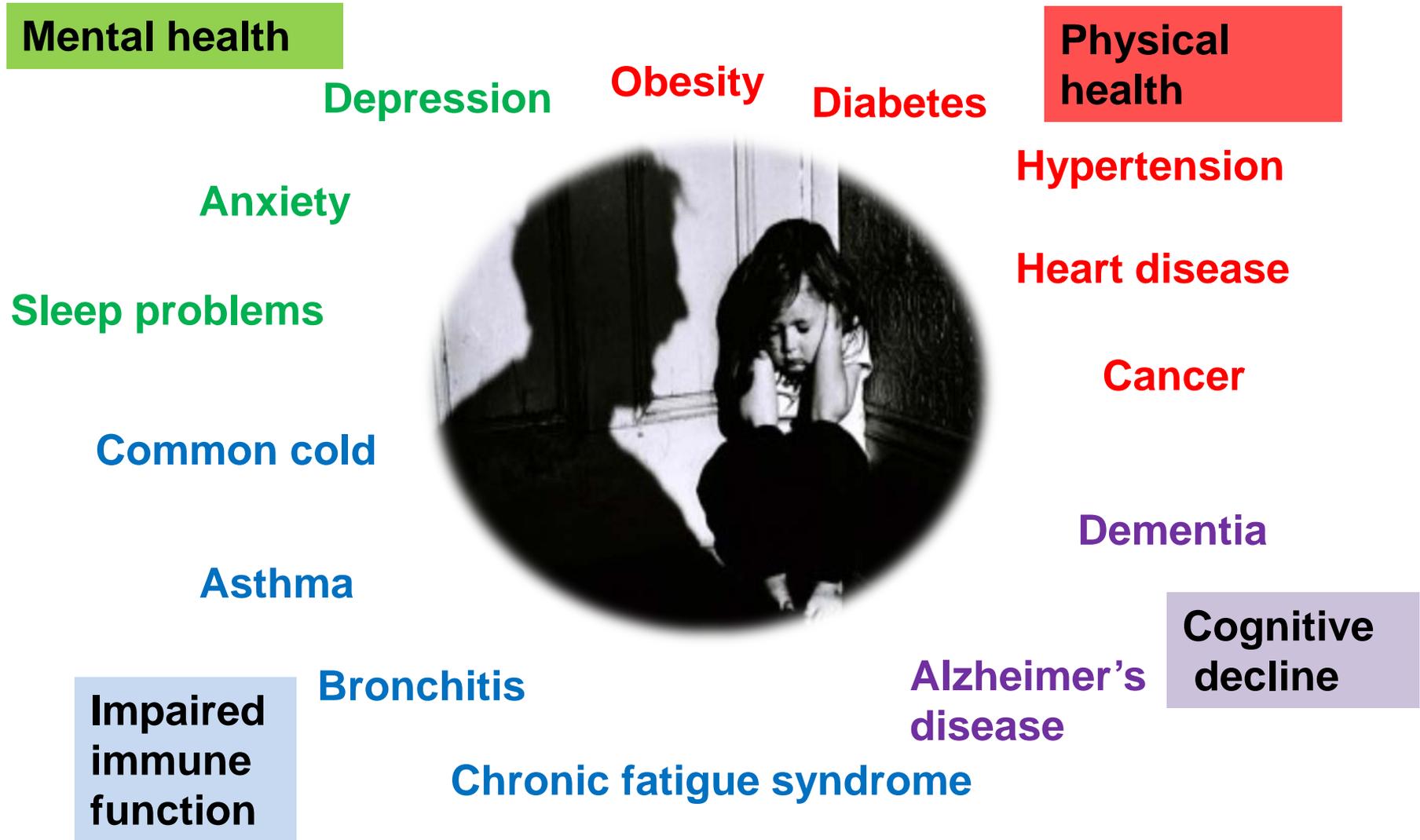
The findings are consistent across different populations and generations.

Most common adverse childhood experiences for children (birth-17 years old) in **Wisconsin**



- *Just under **half (46%)** of children in Wisconsin have experienced **at least one adversity**, and economic hardship is the most common.*

Adverse childhood experiences are related to numerous health outcomes over the life course.



Why **gender** matters

A key indicator of inequality and health disparity

- ✓ **Differential exposure** to early-life adversities
 - Sexual abuse (men < women)
- ✓ **Differential health effects** of early-life adversities
 - Childhood SES and adult obesity (men < women)
- ✓ **Gender-specific mechanisms**
 - Stress responses, resources to cope with stressors, and socialization differ by gender

Bird & Rieker (2008); Denton et al. (2004); Lee, Ryff, & Coe (2018)

Differential Exposure

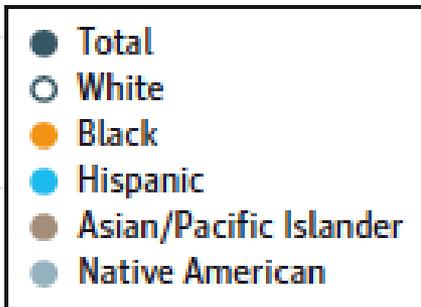
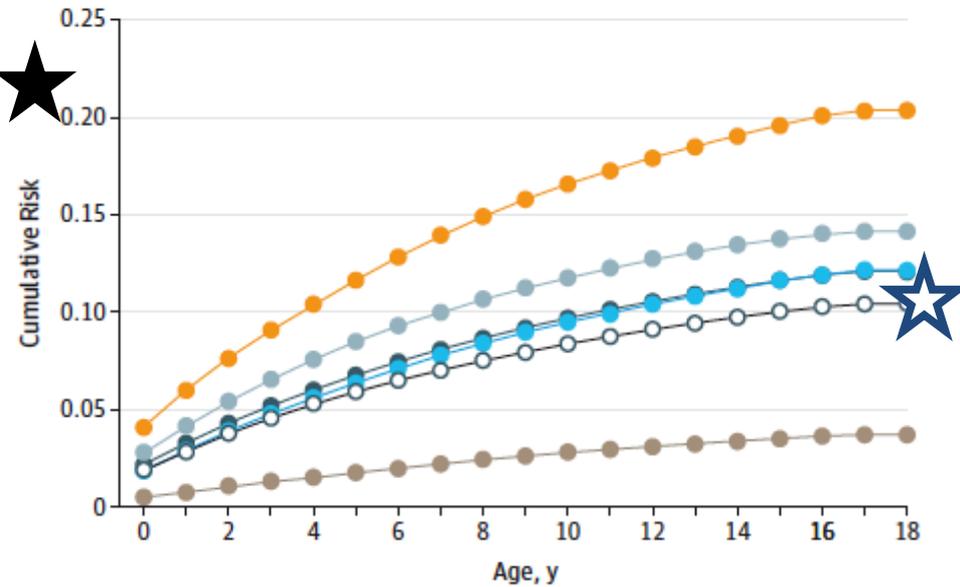
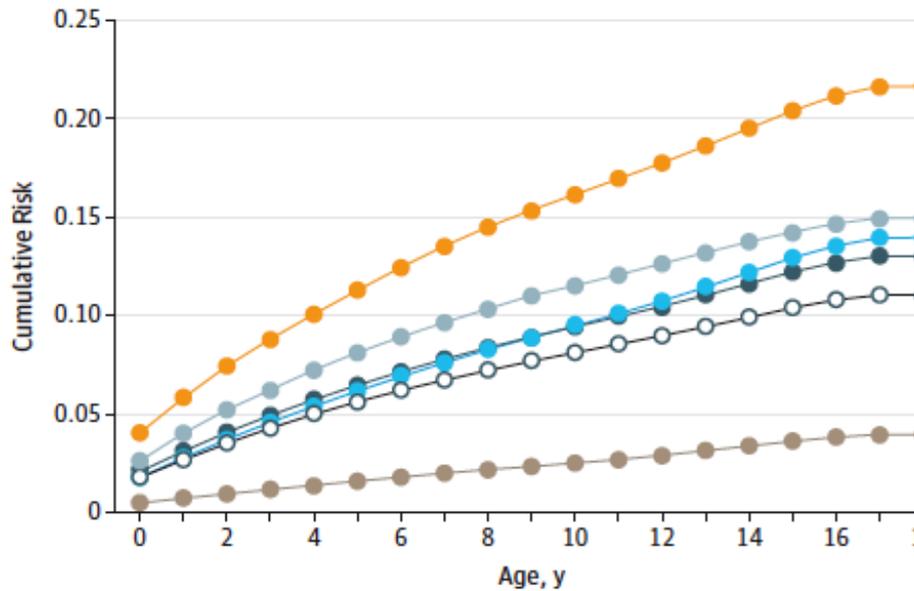
Social demographic characteristics (gender, race/ethnicity) are important determinants of early-life adversities.

- Childhood abuse/neglect

Prevalence of confirmed maltreatment among American children 12.5% in 2011

Girls (13%)

Boys (12%)

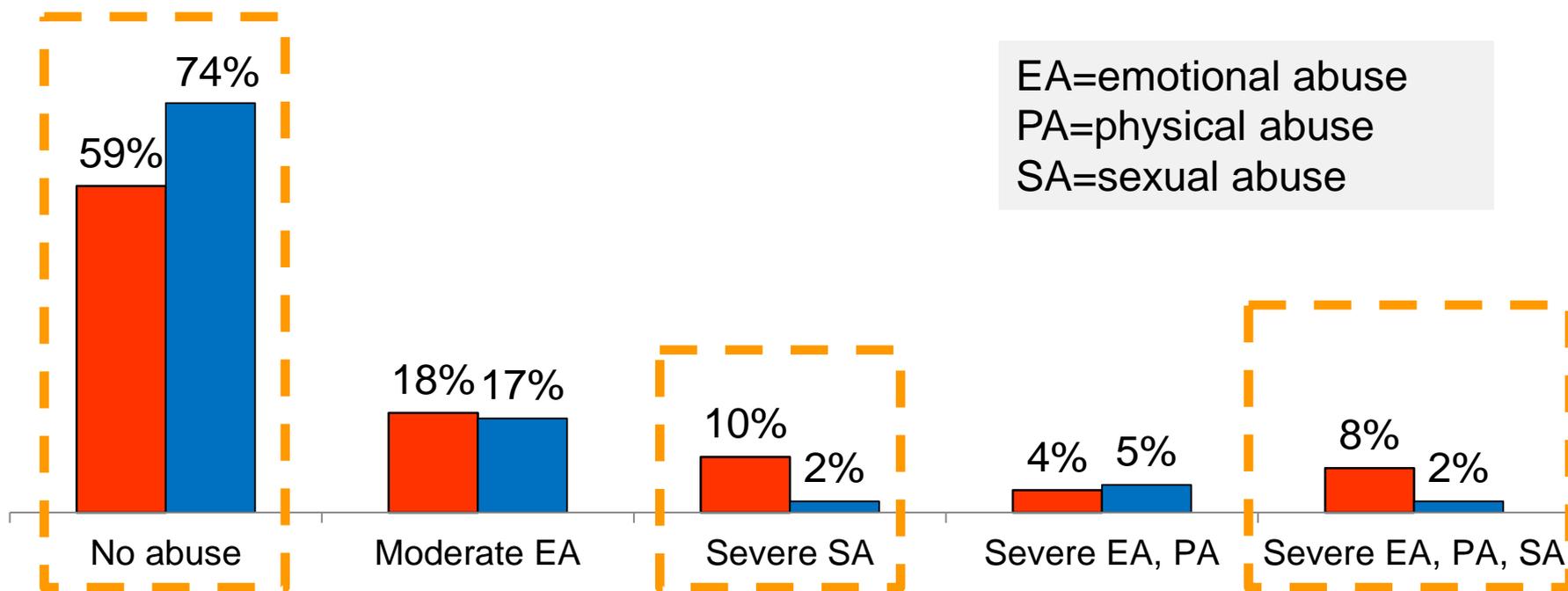


• *Girls have a slightly **higher** cumulative prevalence than boys (13% vs. 12%).*

★ ***Black girls (22%) vs*** ☆ ***White boys (10%)***

Women are more likely than men to be abused in childhood and to experience **more severe** forms of **childhood abuse**.

■ WOMEN ■ MEN



Data: Midlife in the U.S
Lee et al. (2018)

Differential Effects by Gender

The effects of early-life adversity on adult health differ by gender.

- Obesity
- Cardiovascular disease

Childhood socioeconomic status (SES) and adult obesity

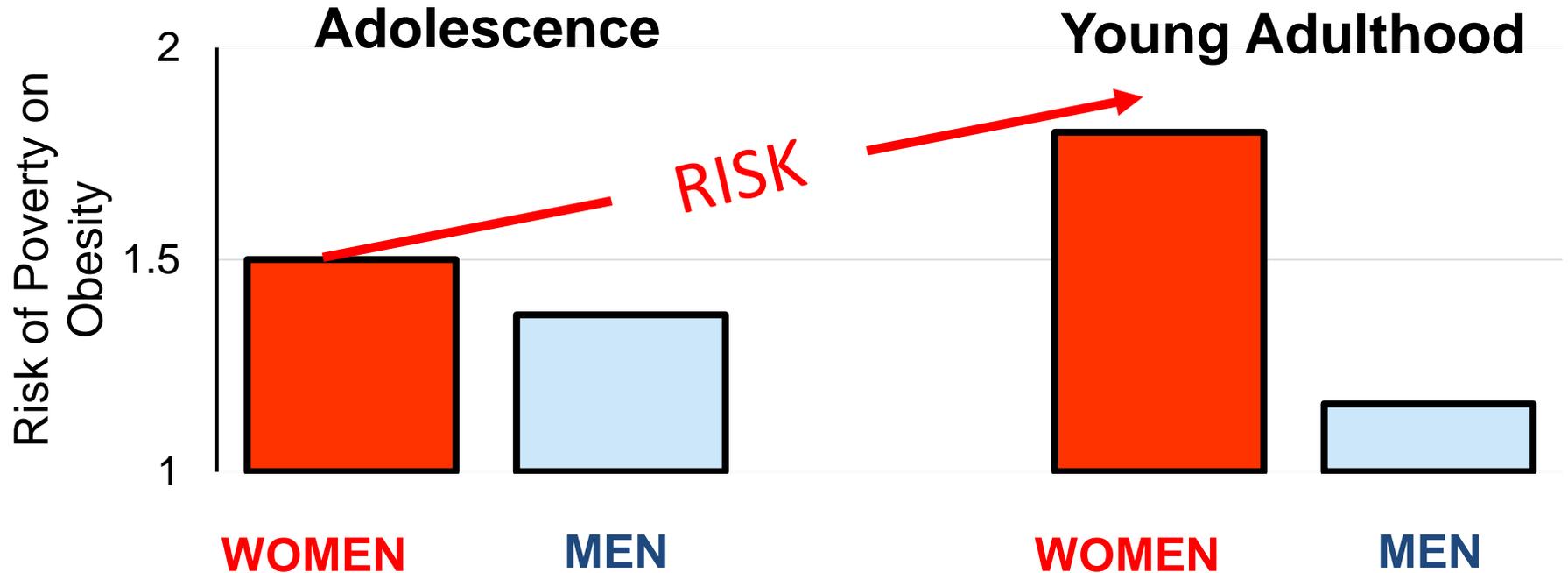


**Adult obesity
(Men < Women)**



- **Early-life SES** is a robust predictor of **adult obesity**, with a greater adverse impact on **women** than men.

Childhood poverty and body weight

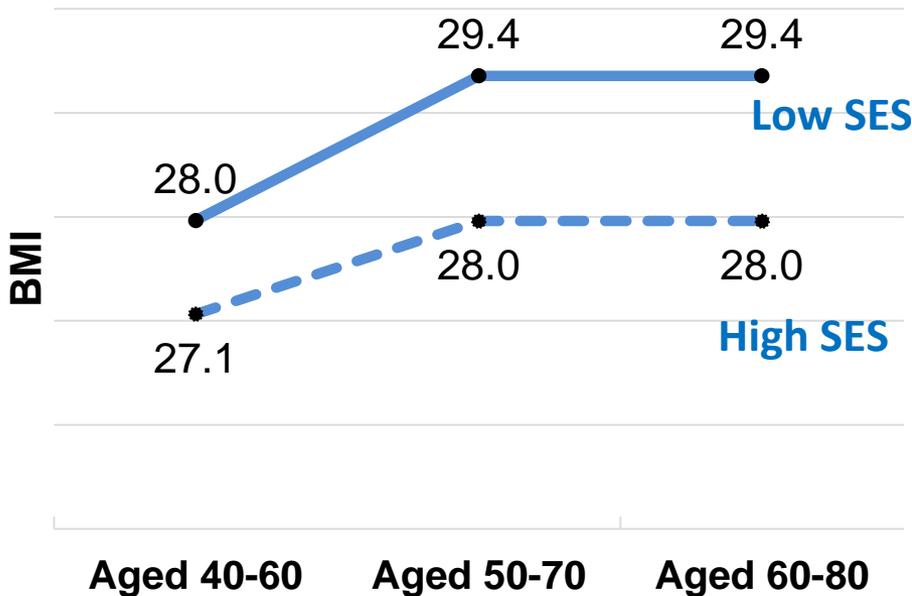


- ***Childhood poverty affects body weight more for women than men during young adulthood.***

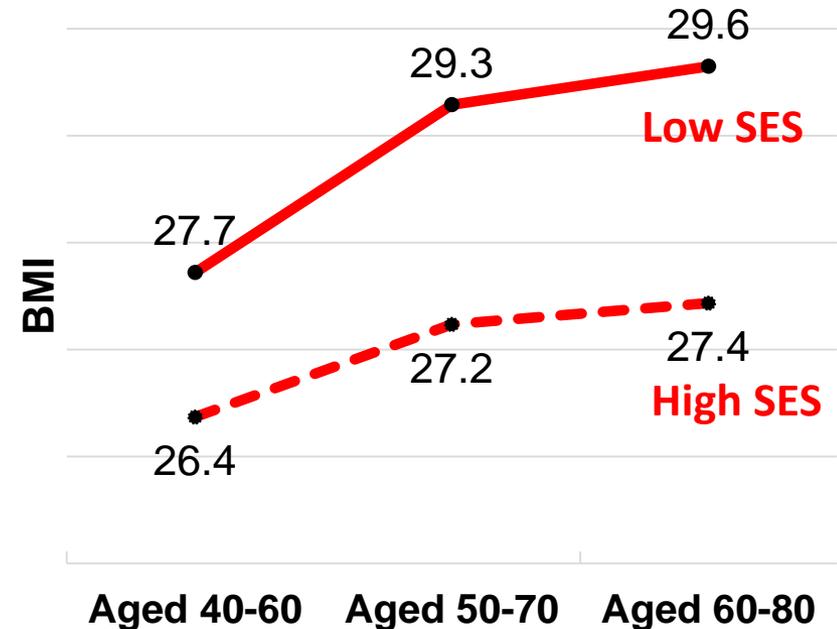
Data: National Longitudinal Study of Adolescent Health
Lee et al. (2013)

Effects of childhood SES on body weight increase from midlife to old age particularly for women.

MEN



WOMEN



At aged 60-80

- *For men with 5 ft 9 in, the BMI difference (1.4)= 10 pounds*
- *For women with 5 ft 3 in, the BMI difference (2.2)=15 pounds.*

Early-life SES

Cardiovascular disease (CVD)

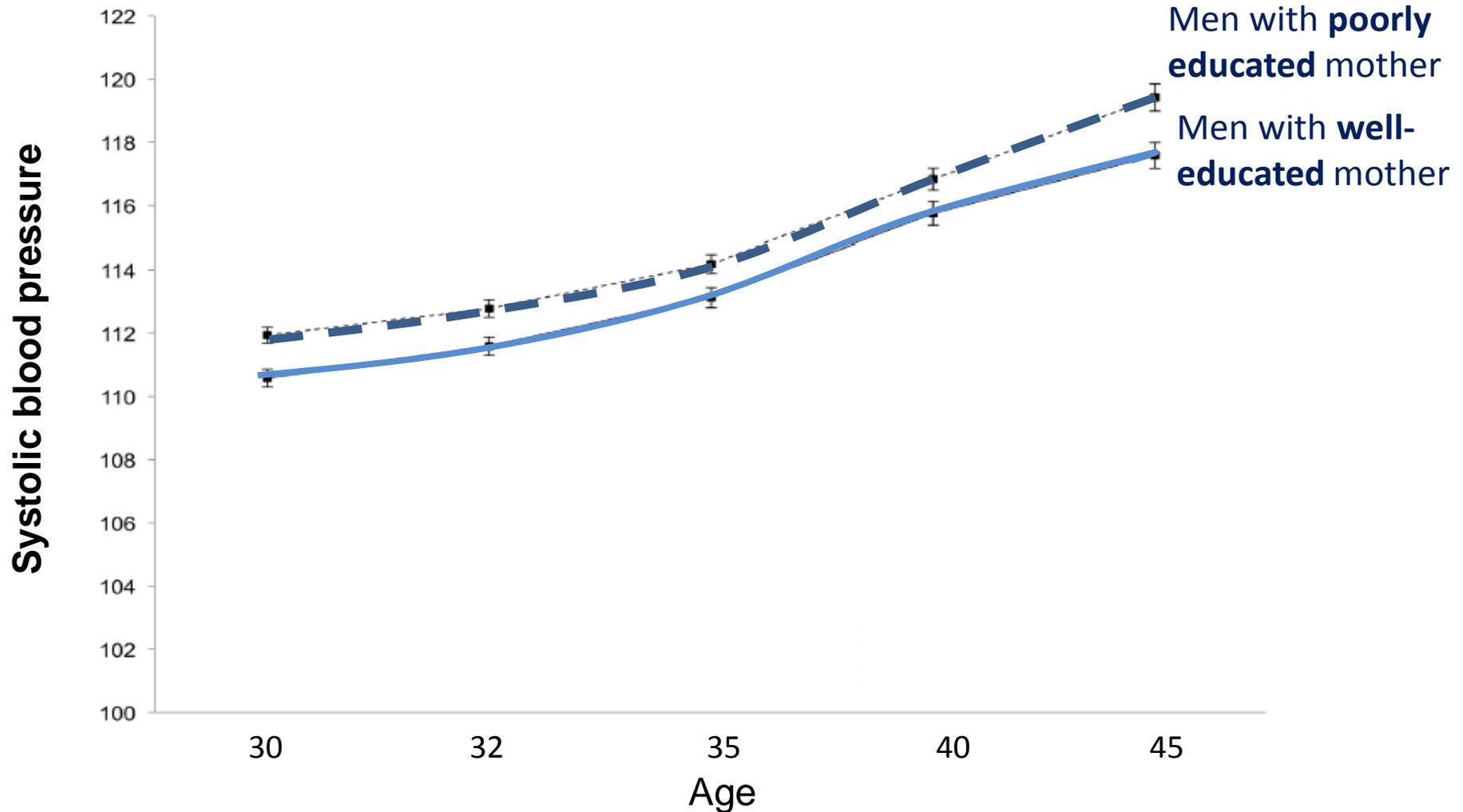


Women > Men



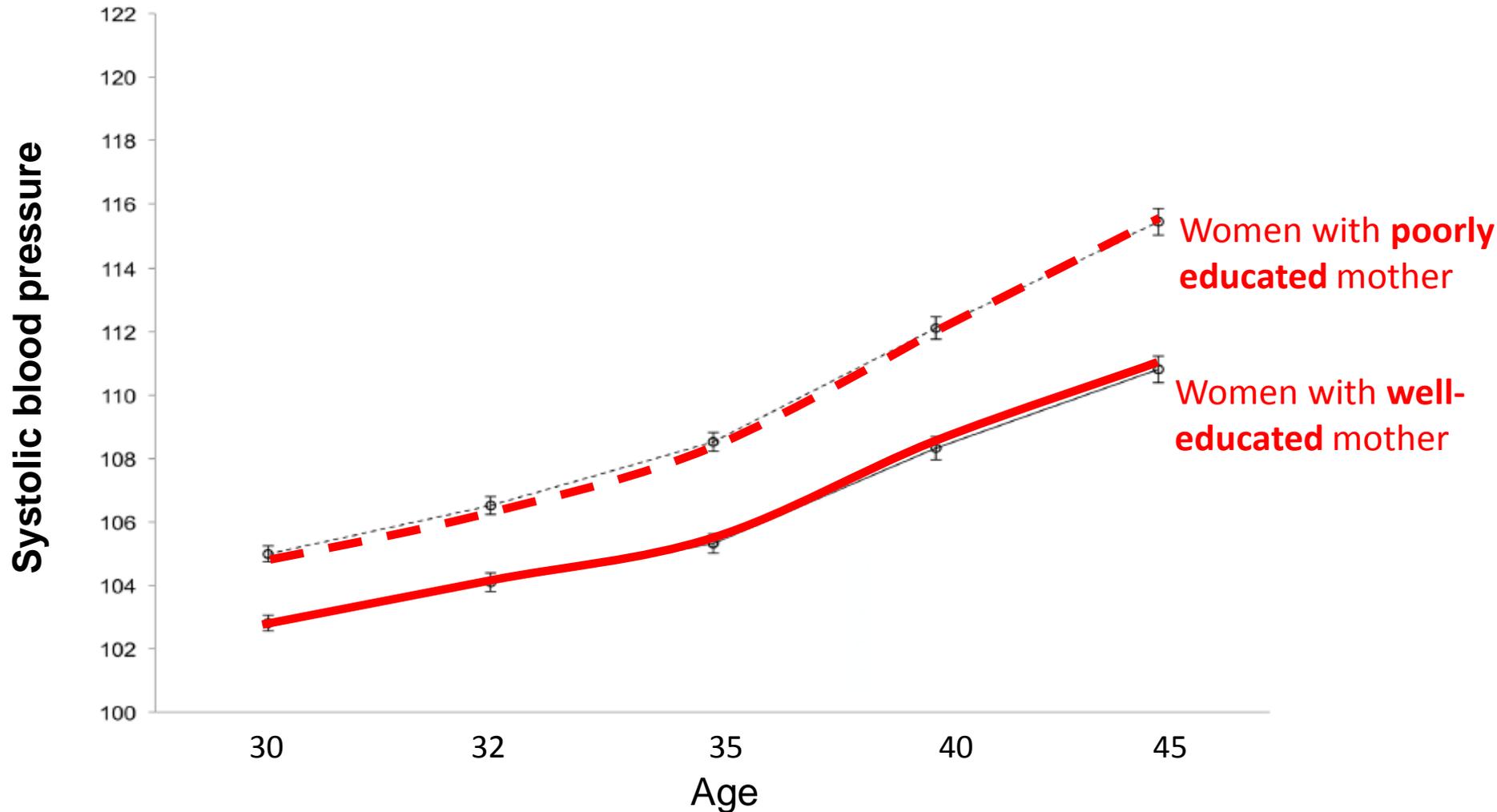
- *Early-life SES is a robust predictor of adult CVD, with a greater adverse impact on women than men.*

Mother's education and blood pressure in young and middle adulthood for men



Data: the CARDIA Study
Janicki-Deverts et al. (2012)

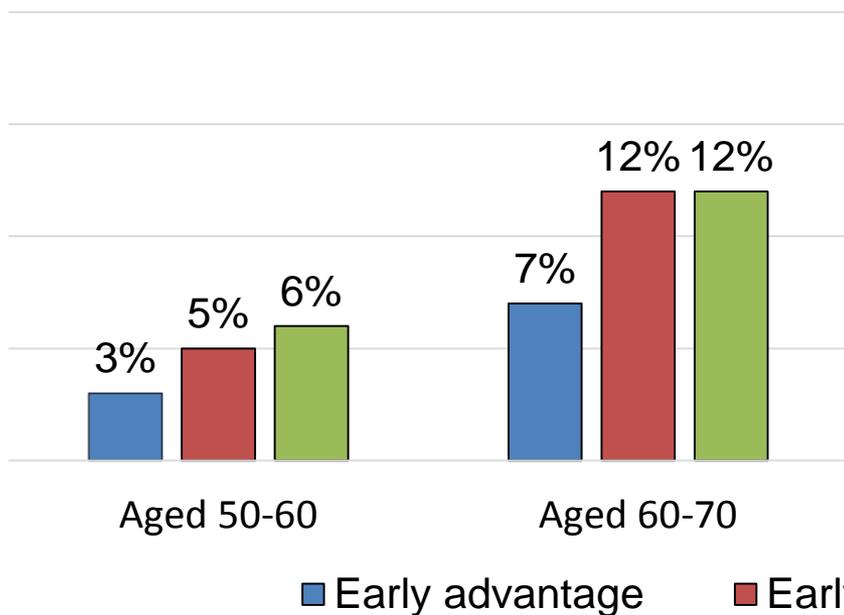
Mother's education and blood pressure in young and middle adulthood for **women**



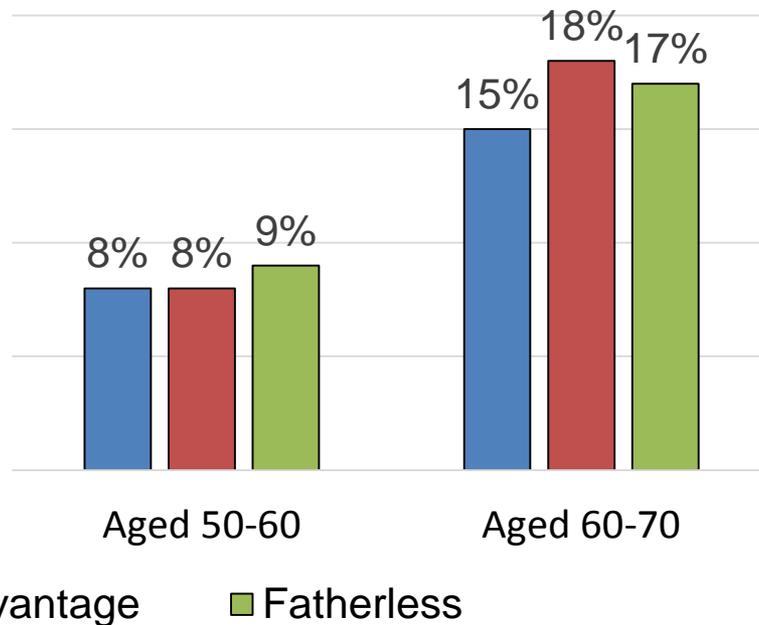
Data: the CARDIA Study
Janicki-Deverts et al. (2012)

Childhood disadvantage and prevalence of heart attack in midlife

WOMEN



MEN



- ***Compared to women from advantaged families, women from disadvantaged or fatherless families are more like to have a heart attack in midlife.***

Underlying mechanisms

1. Adult socioeconomic status (SES)

Cumulative disadvantage

- *Relative to non-disadvantaged children, **disadvantaged children** will be **less successful** in school and, as adults, in the labor market, which in turn **affects health outcomes***

Childhood poverty, educational achievement, and employment in adulthood

	Never Poor	Temporarily poor	Persistently poor
High school diploma by age 20	93%	83%	64%
Completed college by age 25	37%	16%	3%
Consistently employed ages 25-30	70%	64%	35%

- ***Childhood poverty determines educational and occupational achievements in adulthood.***

Data: Panel Study of Income Dynamics (1968-2009)
Ratcliffe (2015)

Reinforcing associations between socioeconomic status (SES) and BMI over the life course



Chains of Risk

- ***Women who grew up in low SES families are more likely than men to weigh more in adolescence, which in turn is linked with reduced academic achievement in high school as well as low SES in midlife.***
- ***Low SES in midlife further increases the risk of obesity in midlife.***

Data: Wisconsin Longitudinal Study
Pudrovska et al. (2014)

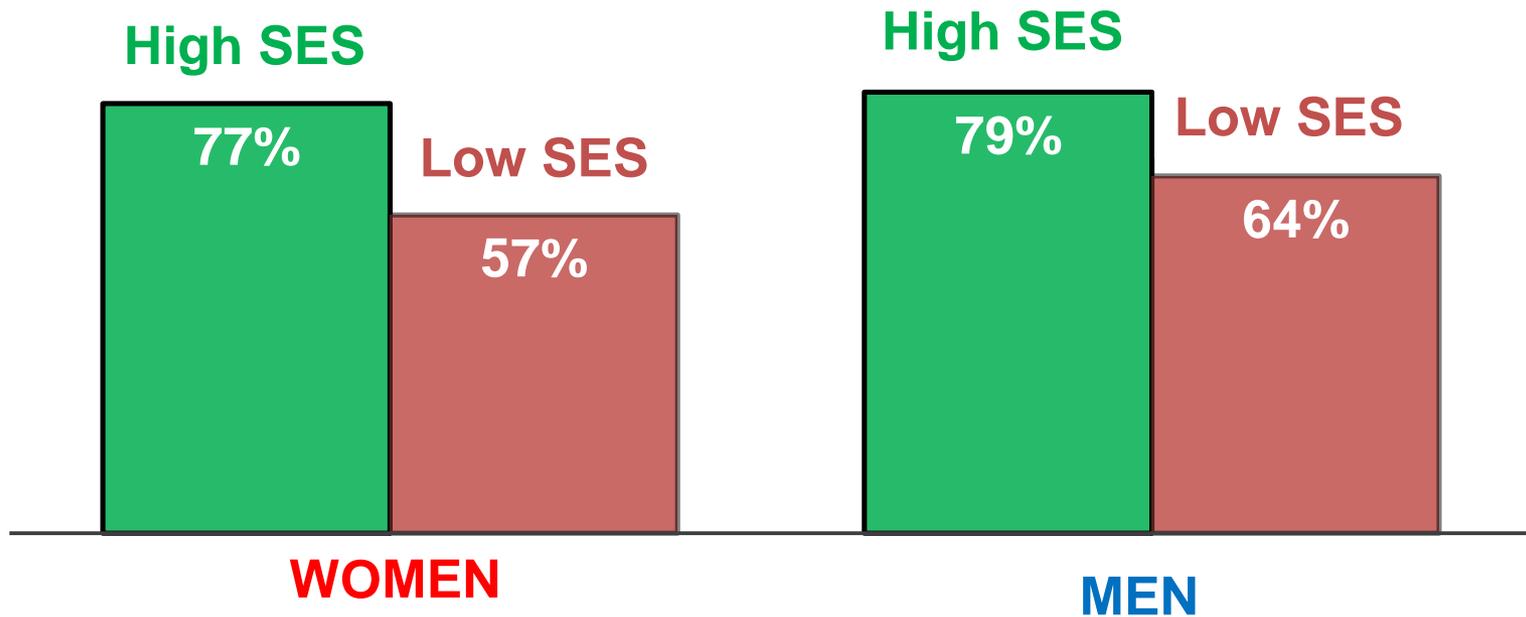
Underlying Mechanisms

2. Lifestyle related behaviors

Theories of health lifestyles

- *The decisions people make with respect to **health-related behaviors** are largely a matter of individual choices **shaped by social environments** (e.g., childhood SES).*
 - Physical activity

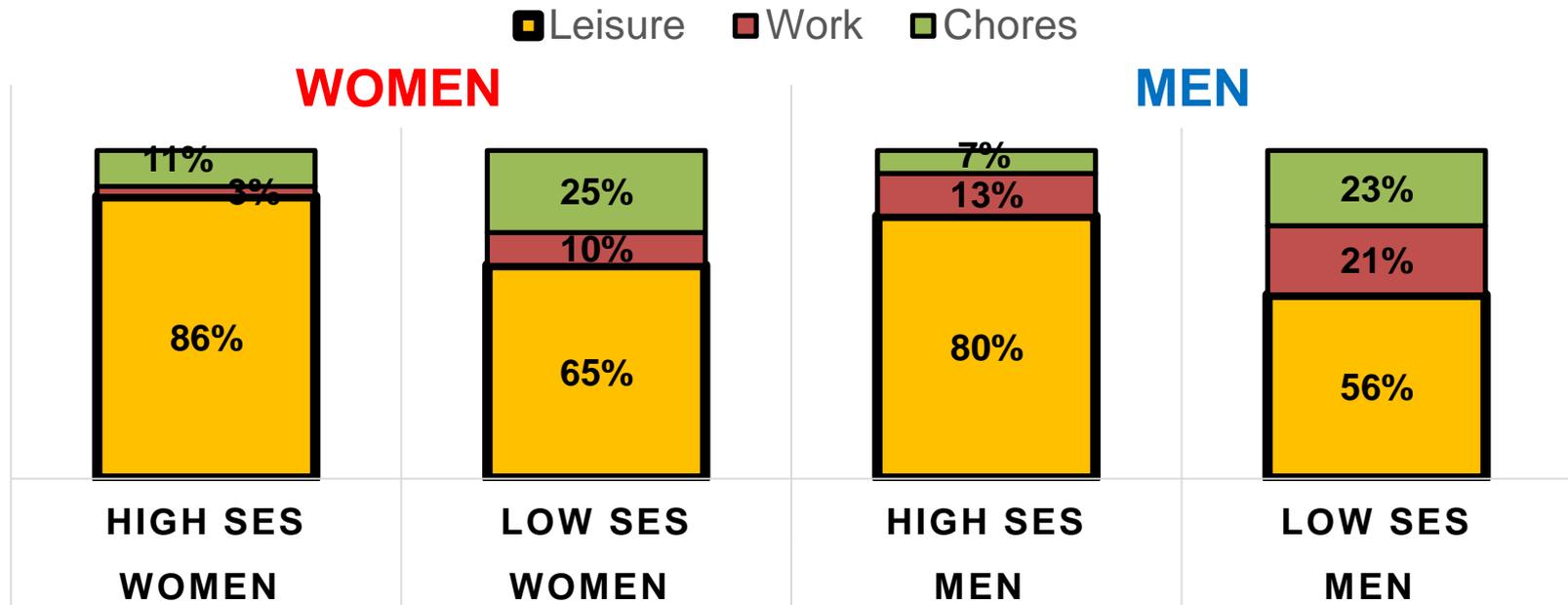
Childhood SES and physical activity in midlife



- ***Adults from low SES families are less likely to engage in moderate or vigorous exercise in midlife.***

Data: Midlife in the US; Lee et al., (2018)

Childhood SES and types of physical activity in midlife



- *People from low SES families are more likely to participate in physical activity related to work or chores, but less likely to participate in **leisure-time physical activity**.*
- *Women from low SES families were exceedingly **less likely** to complete **high amounts** of physical activity through **leisure**.*

Underlying mechanisms

3. Life-course transitions

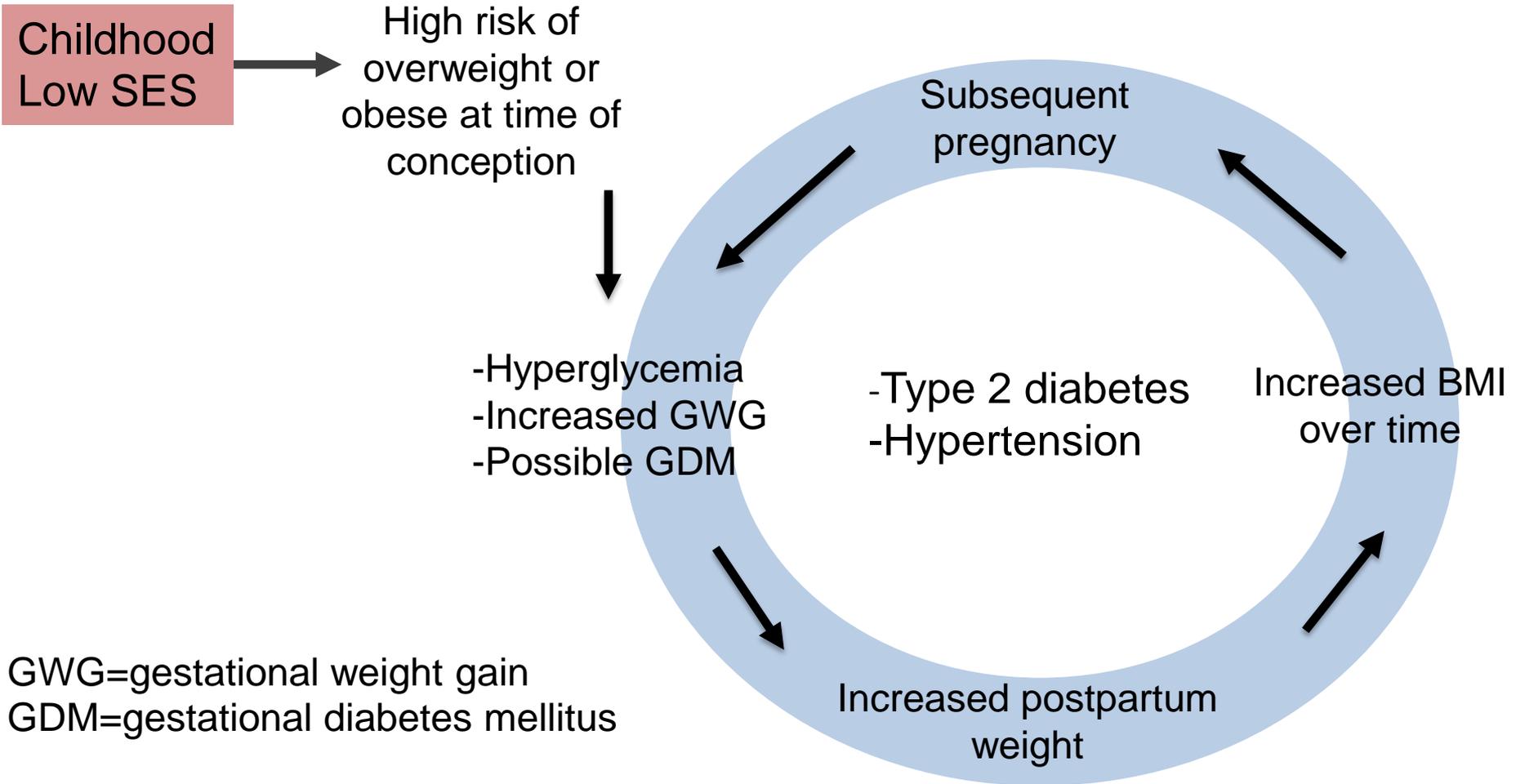
- **Major life events and adult health**, such as graduating from college, getting married, or becoming a parent
- **The transition to parenthood** is a life event that links the association between early-life SES and adult health

Childhood SES disadvantage and the risk of having a first child at different timings

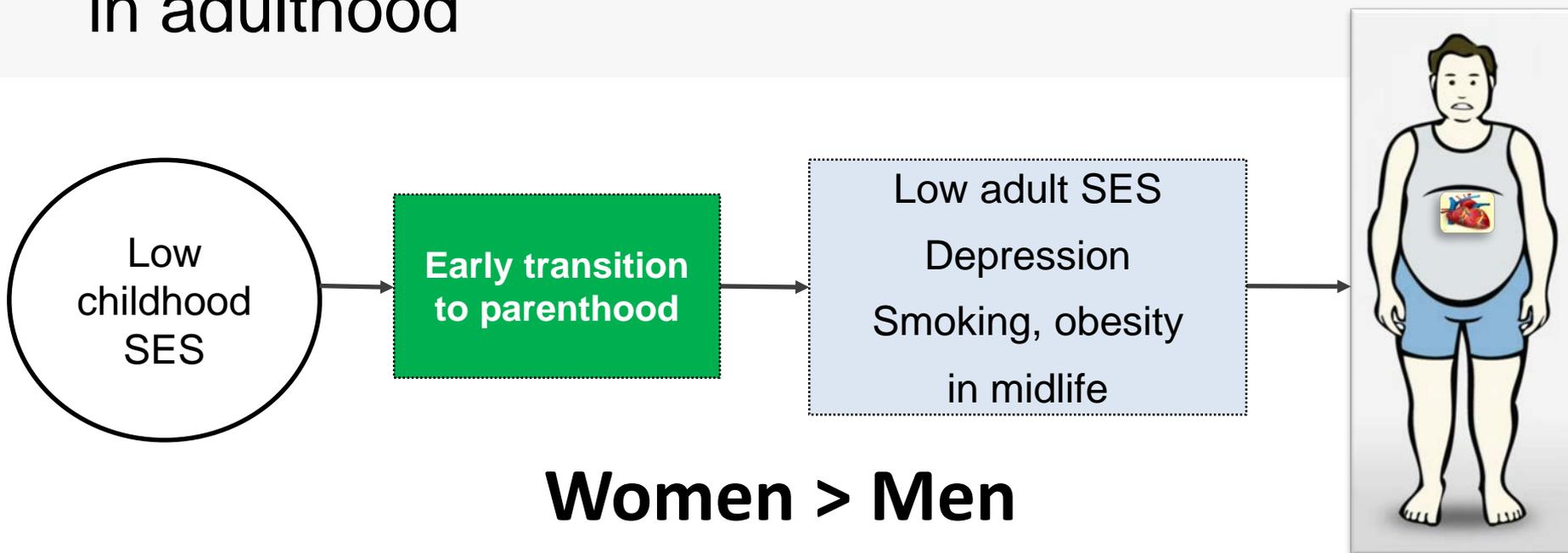
As childhood disadvantage increases.....	Ages 24+	Ages 20-23 (early young adulthood)	Under age 20 (teenager)
WOMEN	1.00 (reference)	1.48 ↑	1.95 ↑
MEN	1.00 (reference)	1.52 ↑	1.68 ↑

- *Both men and women from **low SES families** were more likely to have their **first child** as **teenagers** or in **early young adulthood**.*

Low childhood SES can adversely affect cardiometabolic health for women via reproductive events.



Pathways linking early transition to heart health in adulthood



Women > Men

- *Having a **first child at younger ages** is linked with **lower adult SES**, more **distress**, and **poor health behaviors in midlife**.*
- *These factors partially account for the association between **early parenthood** and the **onset of heart problems**.*

Policies and Interventions

Macro- and micro-level approaches

Macro level

- Social and public policies

Micro level

- Family- and individual-level interventions

Social policies for childhood adversities



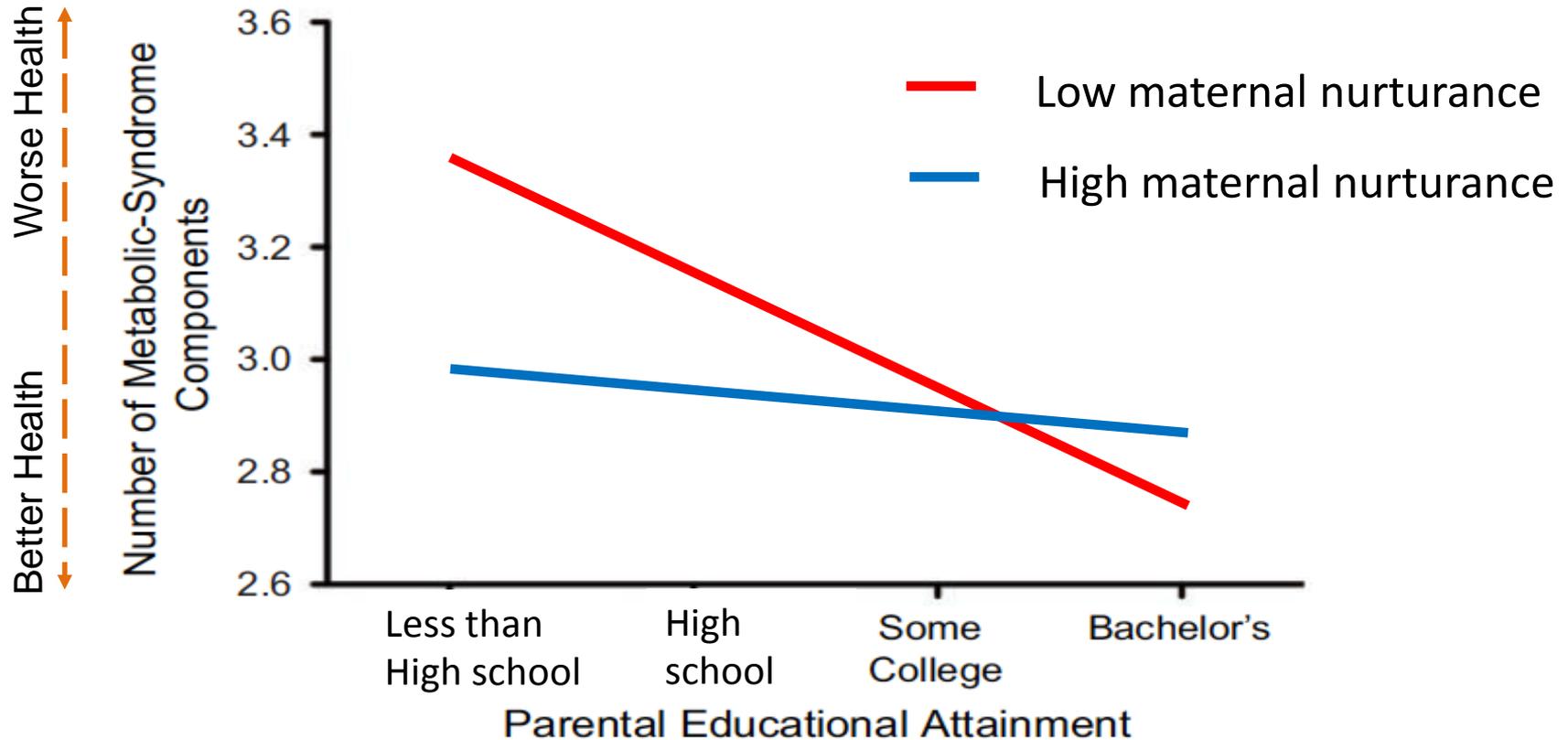
- Public awareness of life-long health consequences
- Prevent exposure to traumatic/chronic stress in early life
- Reduce income disparities across social classes
- Provide public health infrastructure
 - Better welfare systems for disadvantaged children

Family- and individual-level interventions



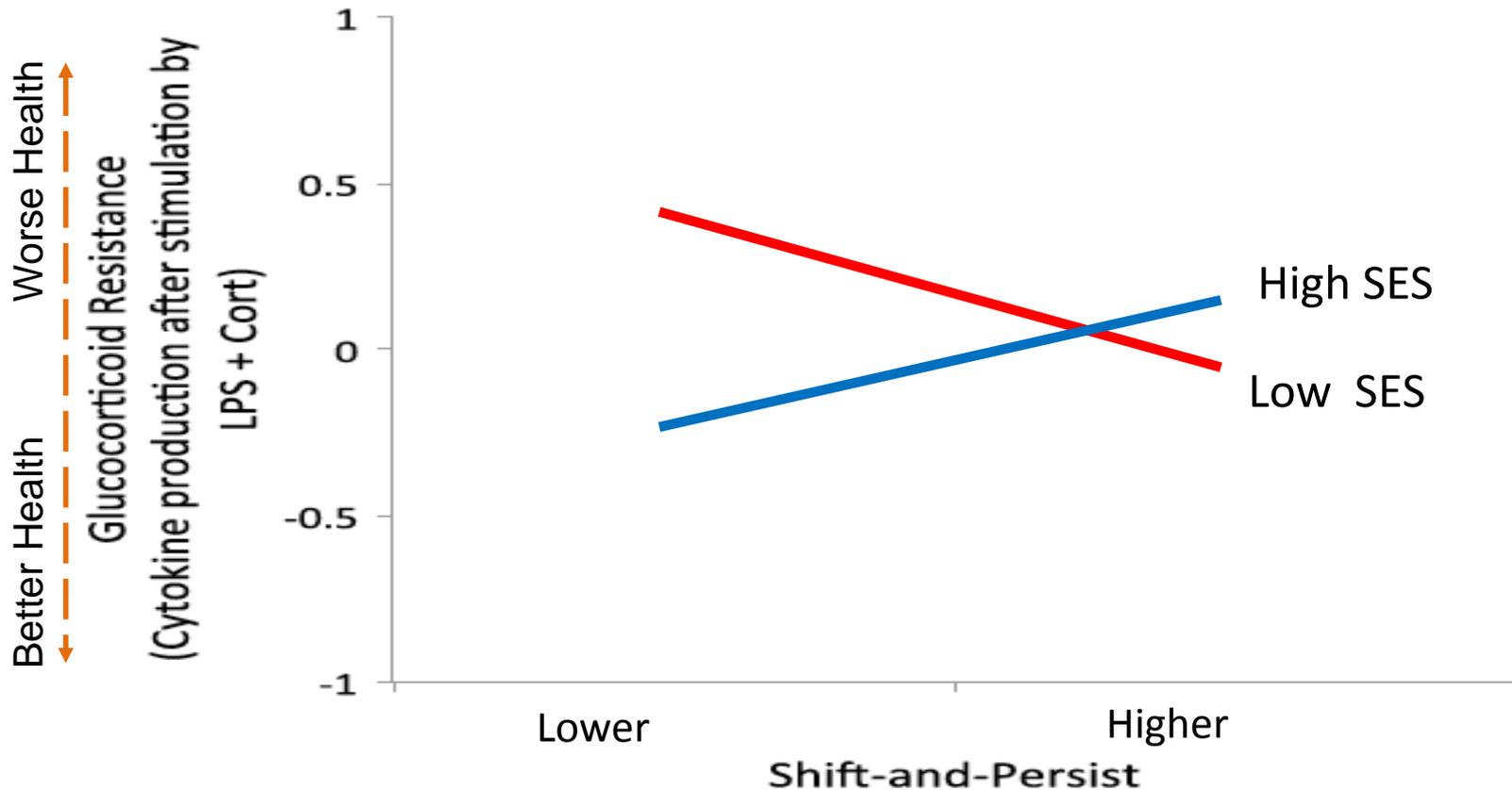
- Family-level interventions
 - **Warm parenting** (e.g., affection and healthy attachment)
- Individual level: shift-and-persist strategies
 - **Shift**: reframing the meaning of a stressor to be less threatening, seeing the good that can come from difficult life situations
 - **Persist**: developing purpose in life and hope despite adversity

Buffering effect of warm parenting



- *High levels of **maternal nurturance** offset the **biological burden (metabolic syndrome)** from having poorly educated parents.*

Shift-and-persist strategies



- ***Shift-and-persist strategies have the potential to regulate immune function among individuals from low SES.***

Conclusions

1. Early-life adversity is a **public health concern**.
2. **Women** may be **more vulnerable** to cardiometabolic health problems than men when they experienced childhood adversity.
3. Early-life adversity is linked with poor health in later life *via* negative **economic, behavioral, psychosocial, and life-transition pathways**.
4. **Social policies** and **individual-level interventions**, taken together, may help reduce the adverse impacts of early-life adversity.

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