

GROWUPGROWOLD

HUMAN DEVELOPMENT, BIRTH TO DEATH

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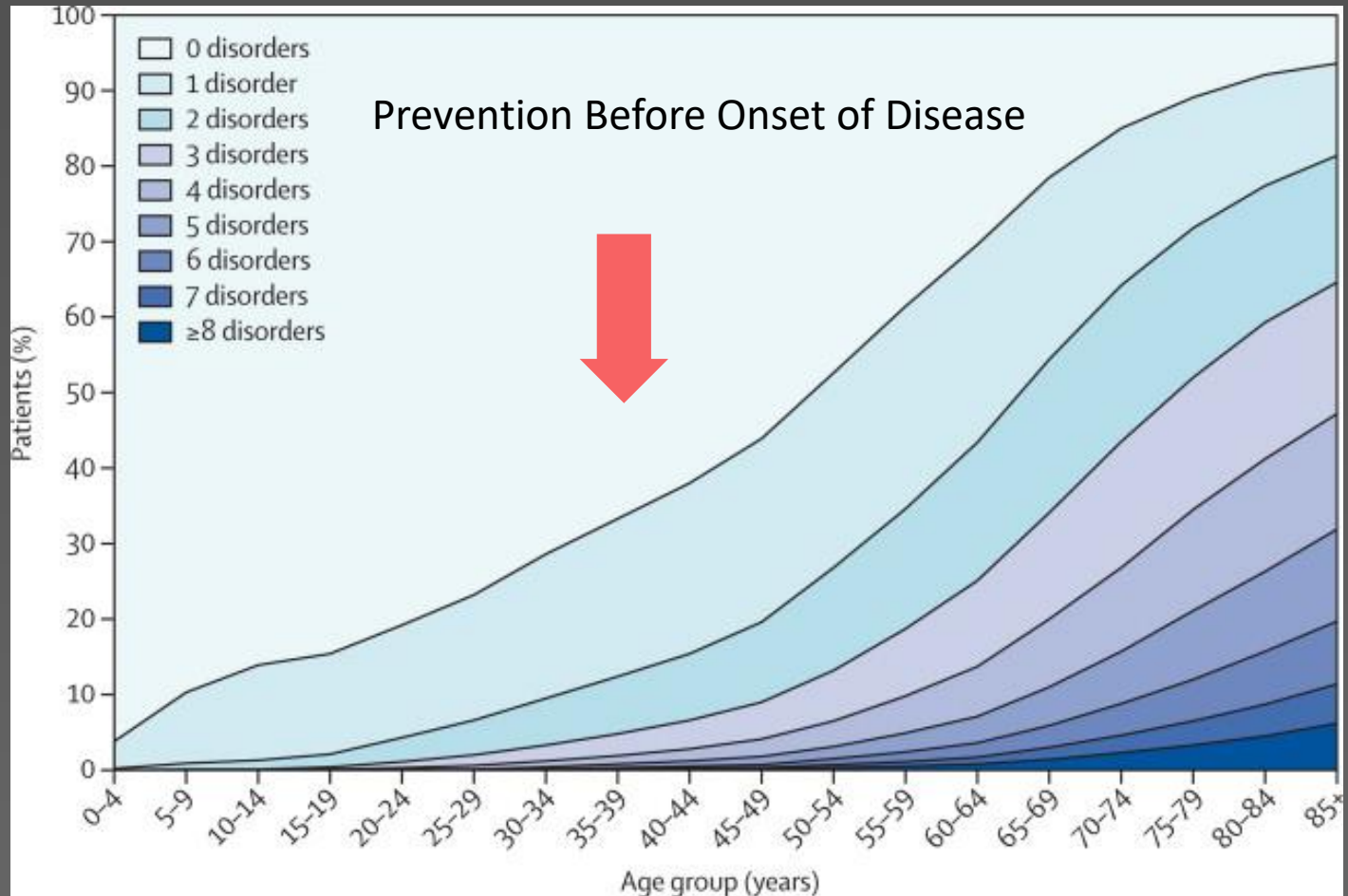
Moffitt & Caspi | Genes • Environment • Health • Behavior

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**Young adults with mental disorders tend
to age faster & develop dementia:
A life-course view of an
opportunity for prevention**

PREVENTION, BEFORE ONSET OF DISEASE



Mental health in the early life-course is a prevention opportunity for successful population aging

People with mental disorders will age younger, faster.

They have less ability to manage their health and finances to prepare for old age.

They will have more chronic physical diseases as they age.

They will use more health care for physical diseases and incur more health-care costs.

They are more likely to develop dementia, and will have earlier dementia onset.



- Physical-health difficulties



- Mental-health difficulties

VIEWPOINT

Psychiatry's Opportunity to Prevent the Rising Burden of Age-Related Disease

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Avshalom Caspi, PhD

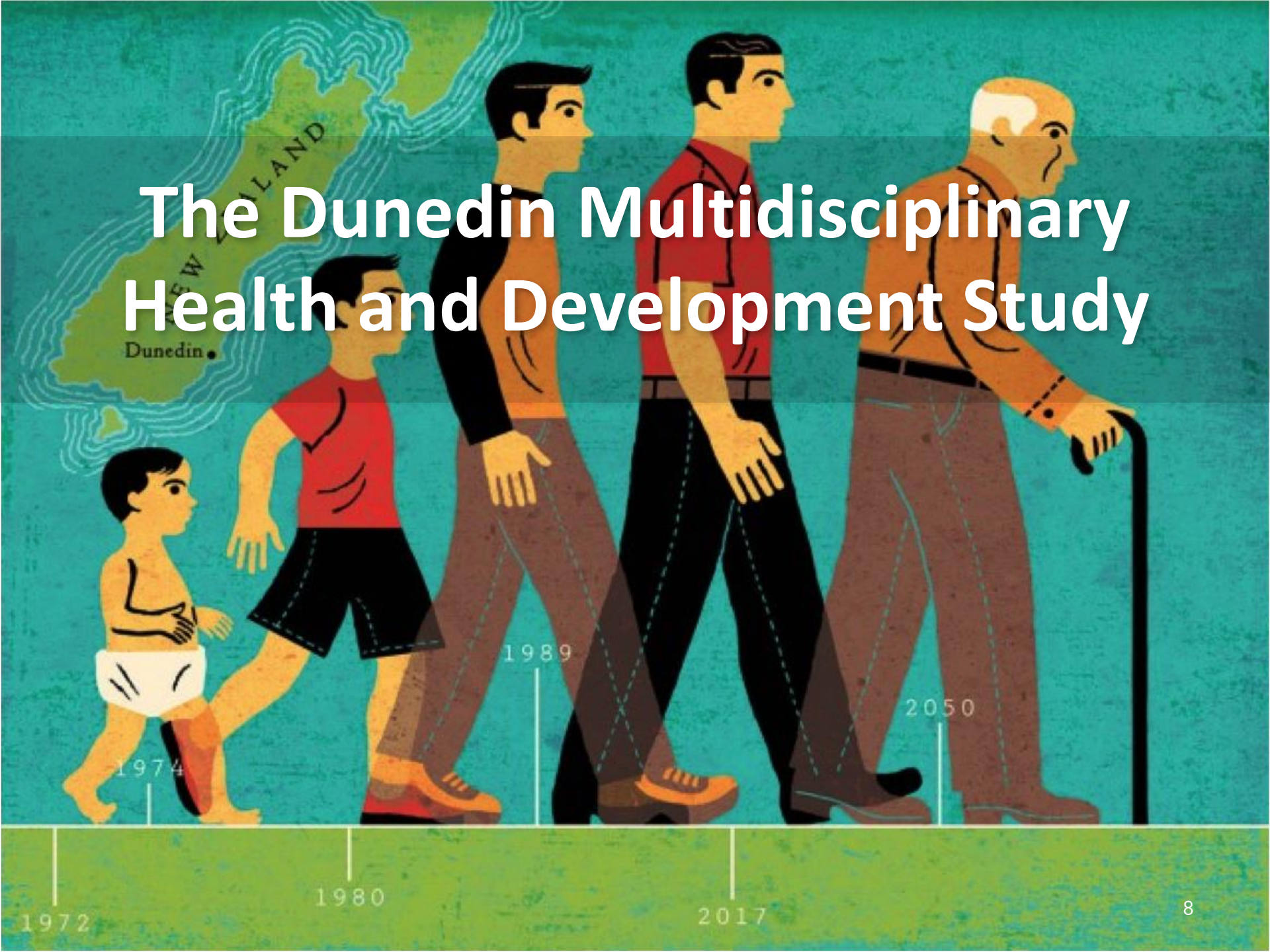
Department of Psychology and Neuroscience, the

Three demographic trends are colliding to form a perfect storm: the postretirement portion of the population is swelling, the human life span is lengthening, and the birth rate is dropping. The result is that the balance of young to old in the population is shifting, leaving fewer young workers to drive the economy and pay taxes to support aging citizens. These 3 trends mean more stress for the young and less support for the old, bringing 2 opportunities for the mental health field. First, an opportunity to prevent disability among young people, which would enhance their well-being and capacity to shoulder the burden of the dependent older population. Young people tend to be physically healthy but can experience behavioral problems, emotional problems, substance abuse, and cognitive impairments. These conditions respond to mental health treatments. Second, an opportunity to prevent ill health among older people, which would reduce the burden of age-related disability. Here, we argue that psychiatry is well situated to prevent disability among older people by doing something it does well: treat young people. Risk-prediction research shows that the same

course is summarized by one dimension, termed p .⁴ The p factor tops a hierarchy comprising the internalizing, externalizing, and psychotic experiences domains. Additionally, p predicts pace of aging (Figure, C). Carriers of a general liability to mental disorder show accelerated biological aging toward late-life disease and early mortality.

Disability and service use are concentrated in a small segment of the population characterized by mental disorder and its risk factors. National registers reveal that a small segment of the population accounts for the bulk of services used: social welfare payments; hospital-bed nights; prescription fills; criminal convictions; and injury-related insurance claims. In the Dunedin cohort, high-rate users in one service sector tended to be high-rate users in multiple sectors.⁷ Such individuals could be accurately identified by risk predictors they had as children, particularly elevated p ; 8 in 10 high-need/high-cost service users had psychiatric disorders by age 15 years. There is a population segment of people who share risk factors as children, have diagnosable mental disorders as young people, and show accelerated aging as

The Dunedin Multidisciplinary Health and Development Study



Dunedin Study Design

Age	Year	Number	Percent*
Birth	1972-73		
3	1975-76	1037	100%
5	1977-78	991	96
7	1979-80	954	92
9	1981-82	955	92
11	1983-84	925	90
13	1985-86	850	82
15	1987-88	976	95
18	1990-91	993	97
21	1993-94	992	97
26	1998-99	980	96
32	2004-05	972	96
38	2010-12	961	95
45	2017-2019	938	94%

* Percent assessed, of those who were alive at each age.

These Dunedin cohort members are 45 years old



Composites of
10 Dunedin
Study cohort
members,
all born 1972.



Each
composite is
created from
10 faces with
Psychomorph.

These cohort members are 45 years old too



Fastest-aging 10
Dunedin Study
Cohort women
and men

Elliott, Caspi... and Moffitt, *Nature Aging*, 2021

>.80 SD apart on lifetime mental-health history

Fastest-aging
20% of
Dunedin Study
cohort members



Slowest-aging
20% of
cohort members



DISORDERS ASSESSED IN THE DUNEDIN STUDY AT AGES 11, 13, 15, 18, 21, 26, 32, 38, AND 45:

Externalizing

- ADHD
- Conduct disorder
- Alcohol dependence
- Cannabis dependence
- Tobacco dependence
- Other Drugs

Internalizing

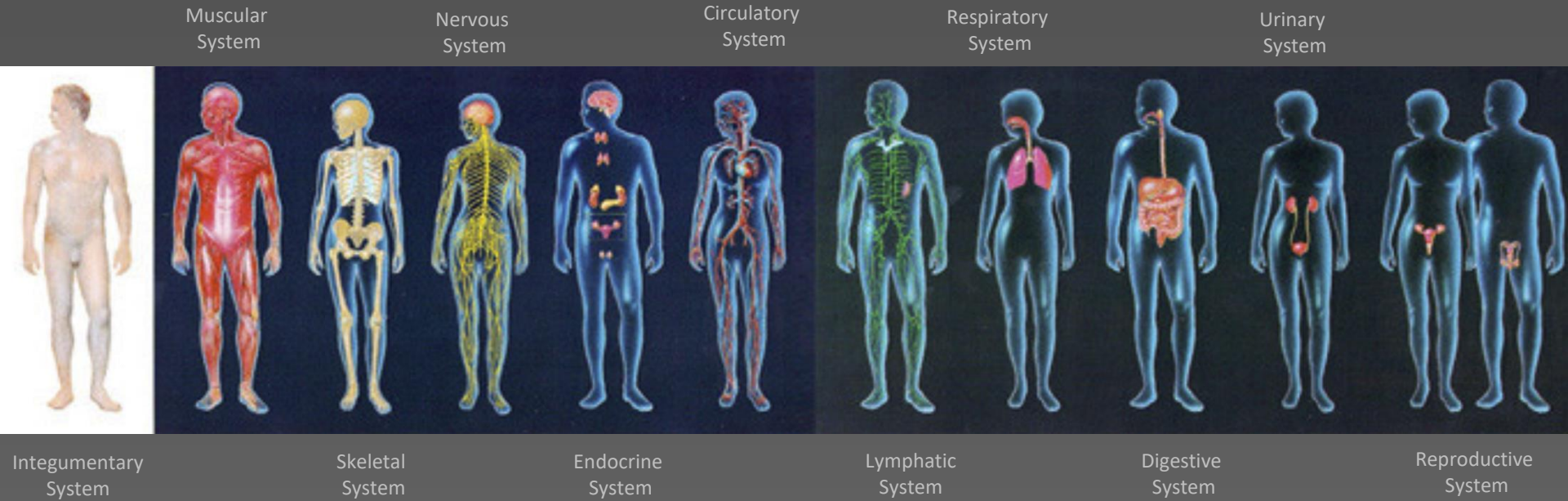
- Depression
- General Anxiety
- Phobias
- Panic
- PTSD
- Eating disorders

Thought Disorders

- Schizophrenia
- Mania
- OCD

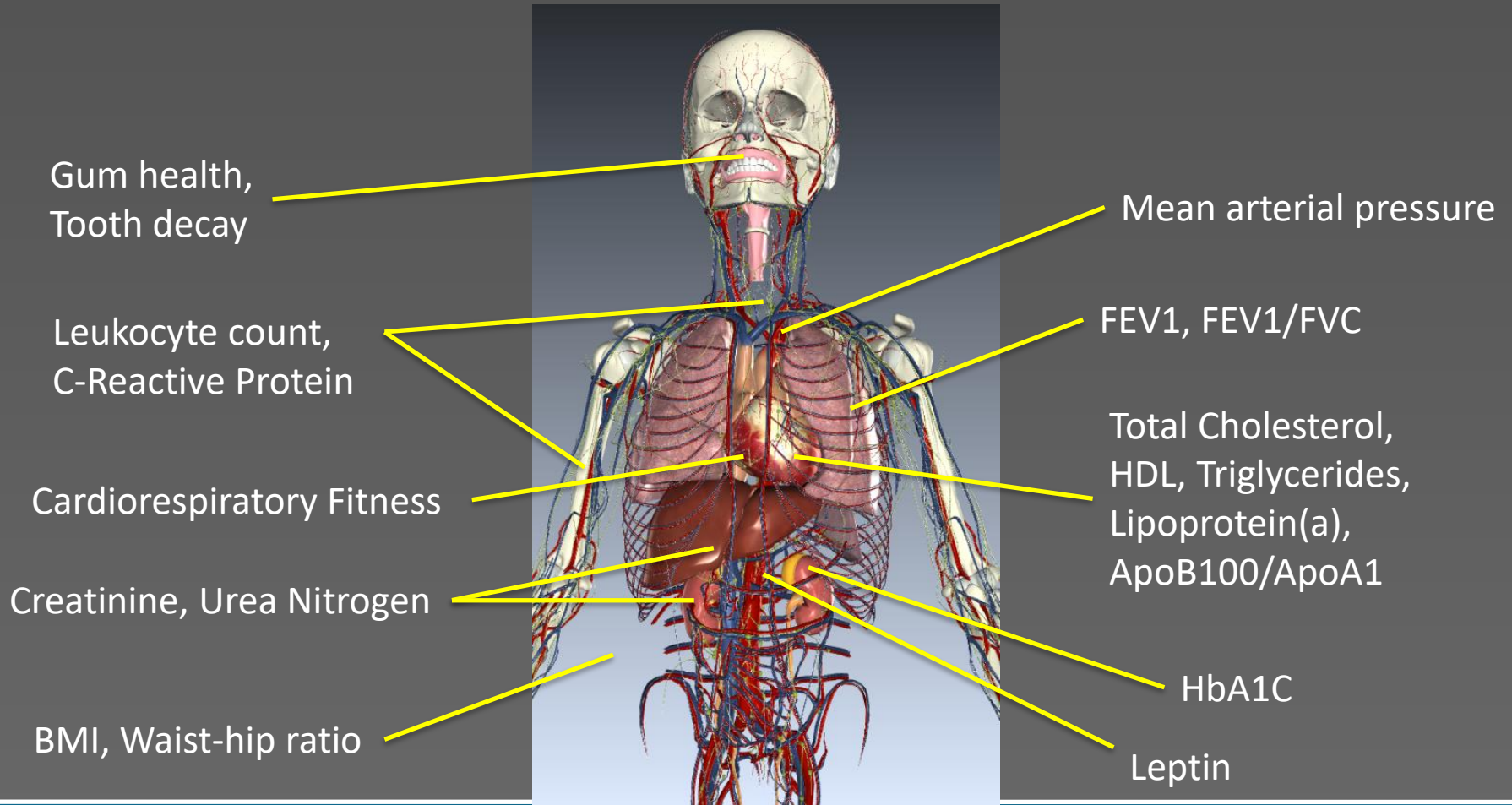
Age of onset, number of disorders, yrs duration

Geroscience's Operational Definition of Aging

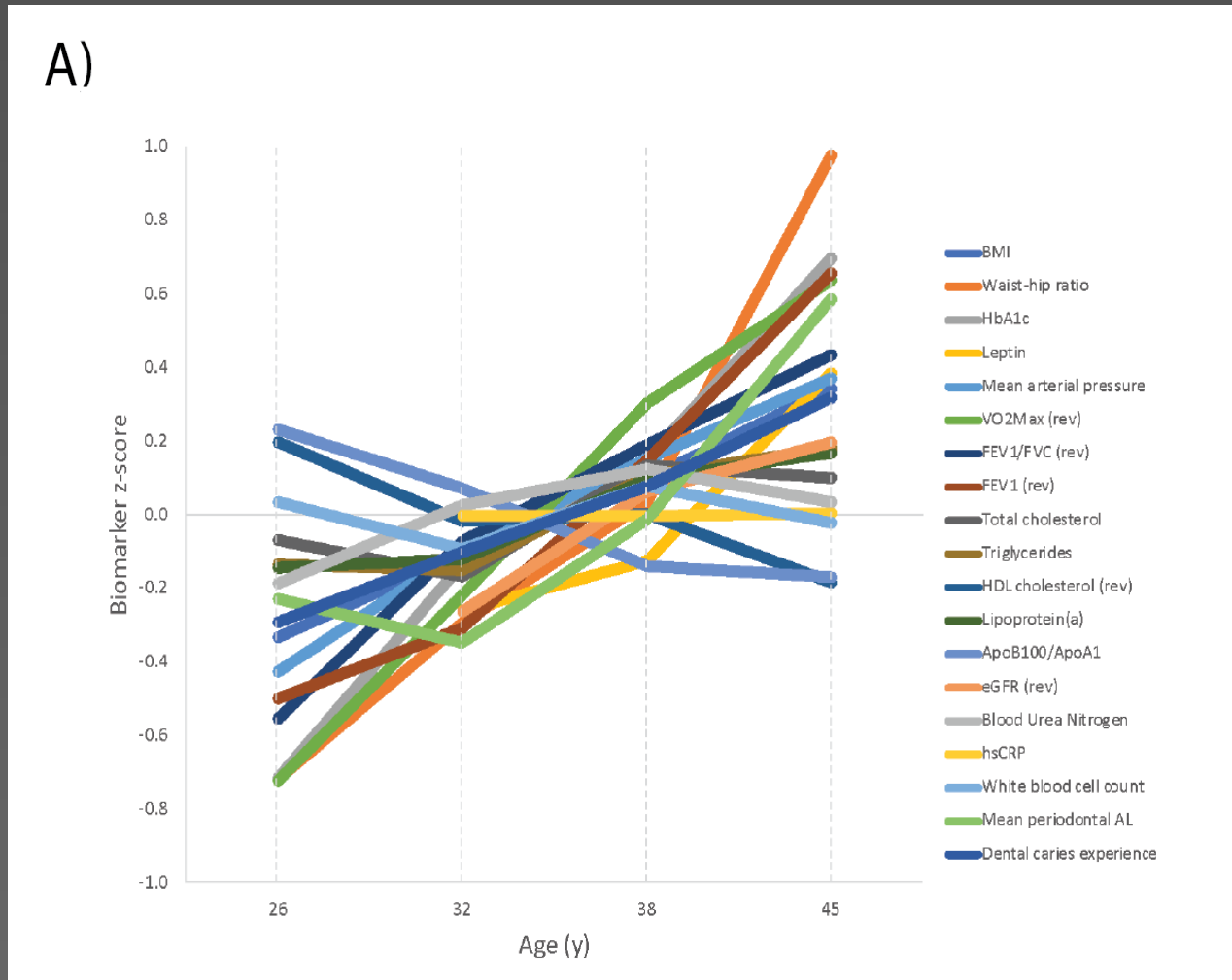


Gradual, progressive, coordinated deterioration
of physiological integrity across multiple bodily systems

19 biomarkers track coordinated physiological deterioration: age 26, 32, 38, 45 years



Biomarker Panel: Correlated Worsening in Physiological Integrity from Age 26 to 45



People who have a history of mental disorders are aging faster in midlife

Clinical tests of aging

Biological pace of aging

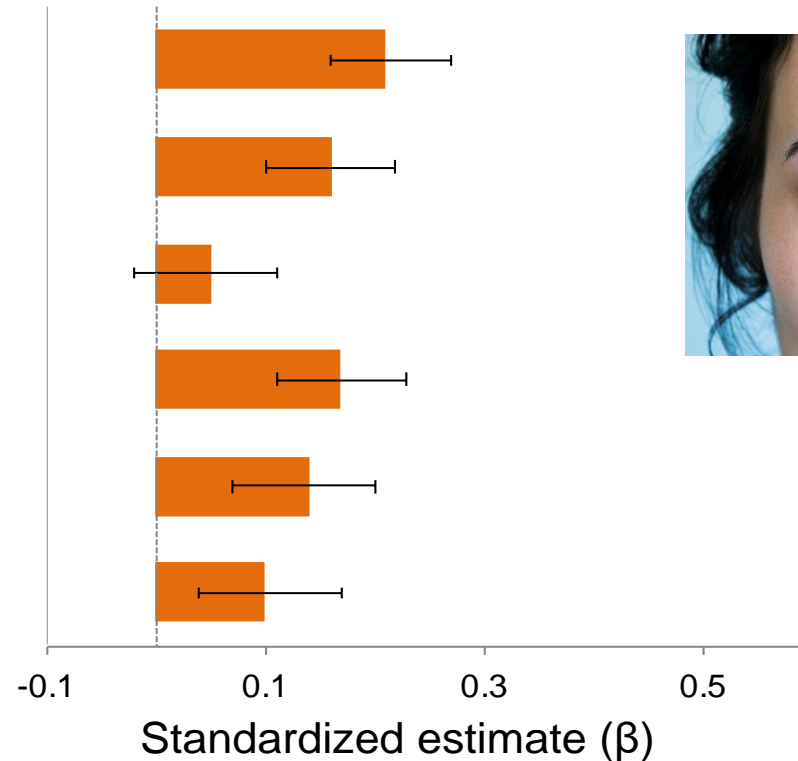
Hearing problems

Vision problems

Balance problems

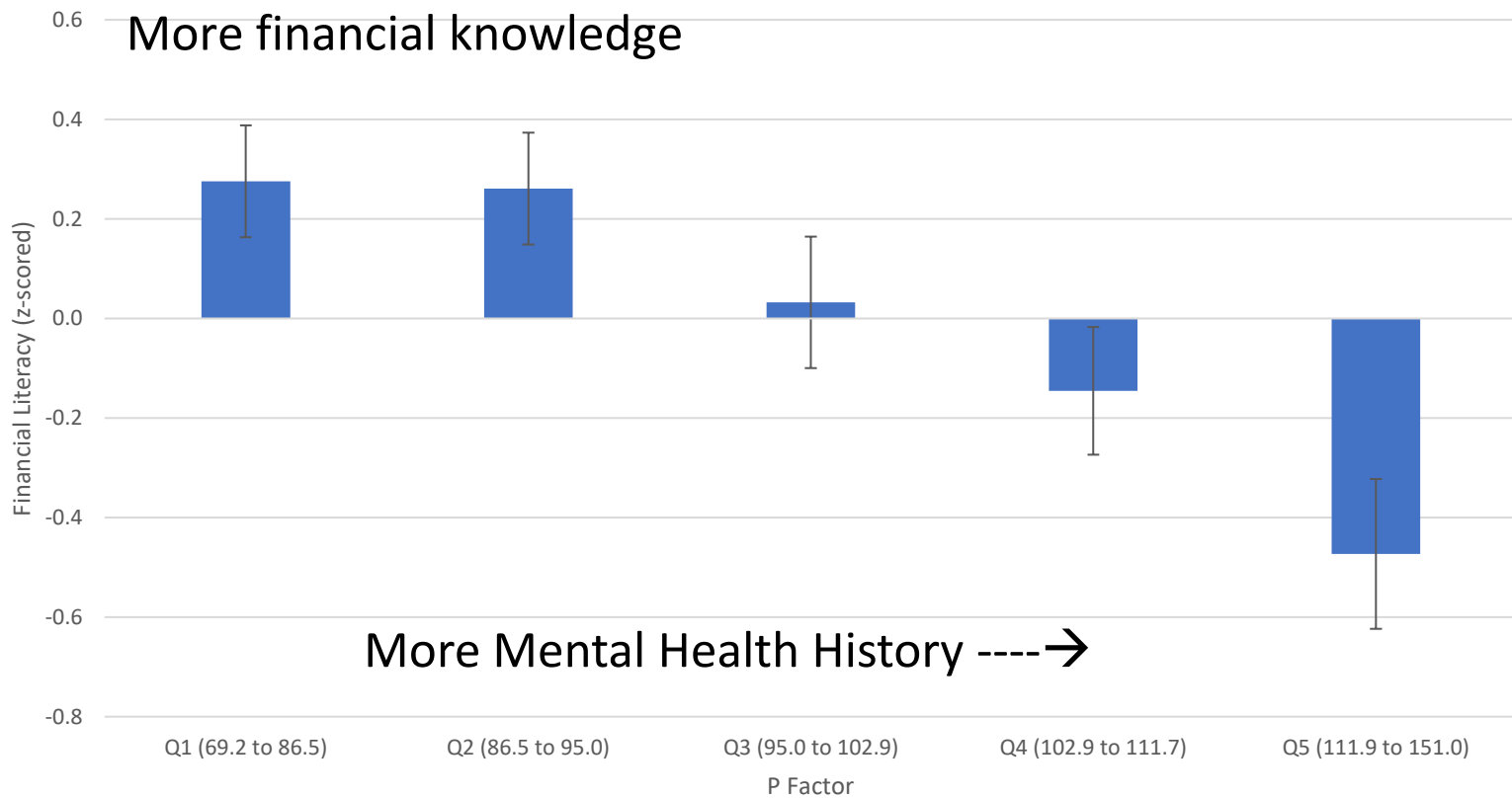
Motor problems

Cognitive problems



N= 1,037

Financial knowledge: Dunedin cohort members with the greatest mental disorder history understood the least



Measuring practical financial knowledge

Open-ended questions (inter-rater reliability = .95)

What is the advantage to starting retirement savings when a person is young?

Why do some people spread out investments and savings in different types of schemes?

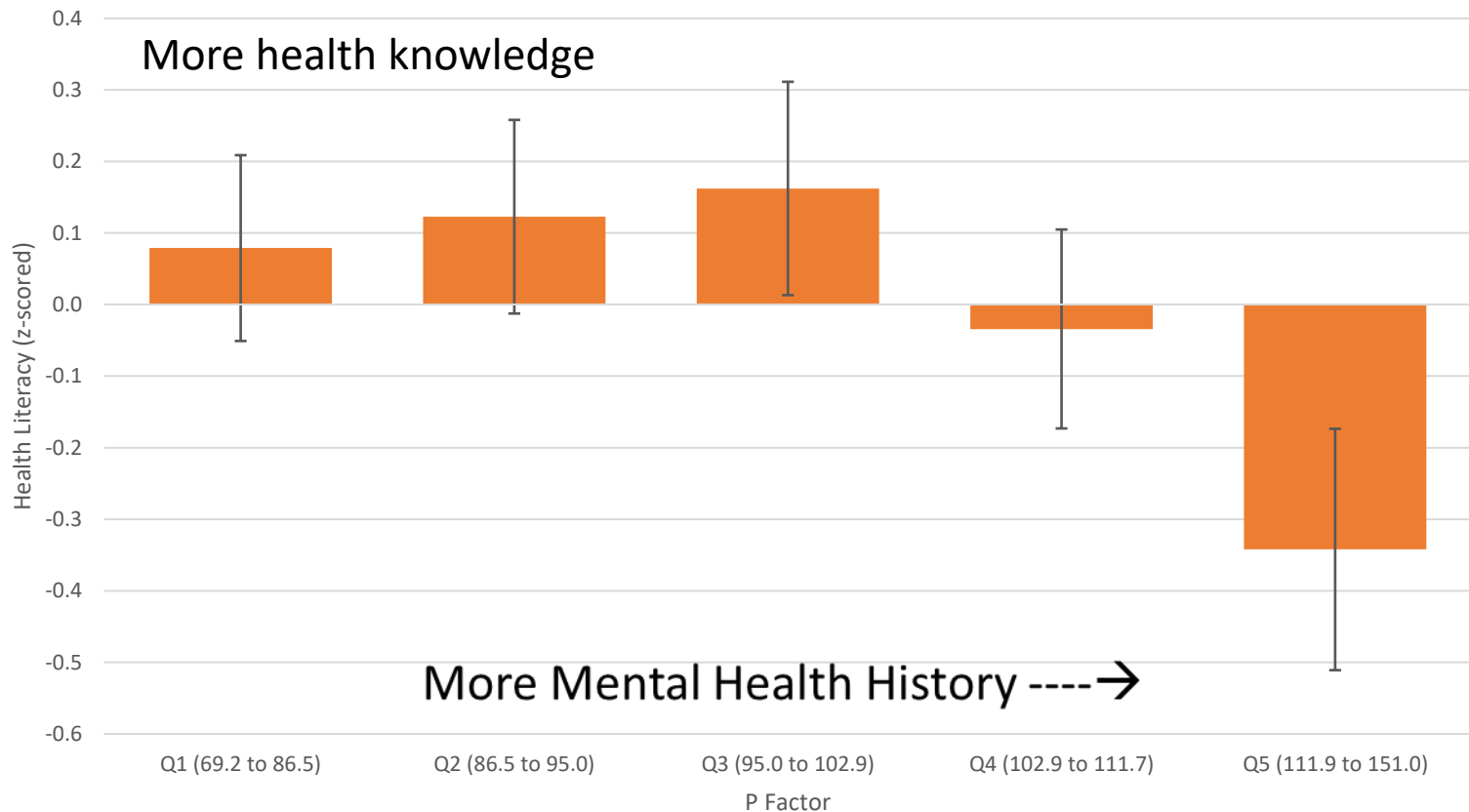
How does the inflation rate affect the money you keep in a savings account?

Why do some people take fewer financial risks as they get older?



Richmond-Rakerd, Caspi, Moffitt *PNAS* 2021

Basic health knowledge: Dunedin cohort members with the greatest mental disorder history knew the least





**New Zealand's
Whole population
administrative
registers**

STUDY POPULATION FROM NZ-IDI REGISTERS

- Born: 1928-78
- N = 2,349,897
- Observed medical records: 1988-2018, 30 years,
- encounters are dated, include billing info
- Age period covered 10 to 90 years

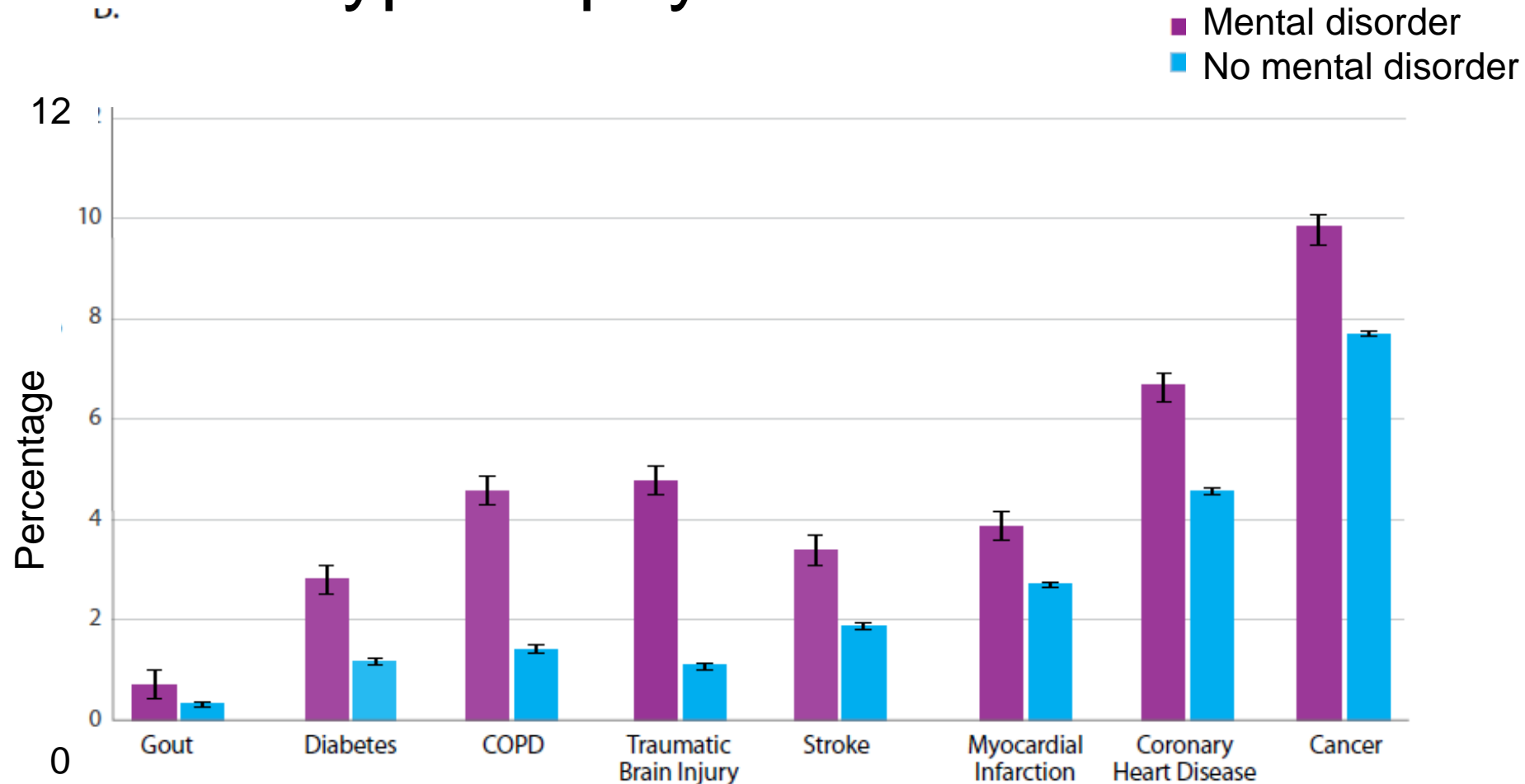
Richmond-Rakerd, Caspi...Moffitt, *JAMA Network Open*, 2020

Mental disorders in the NZ medical record

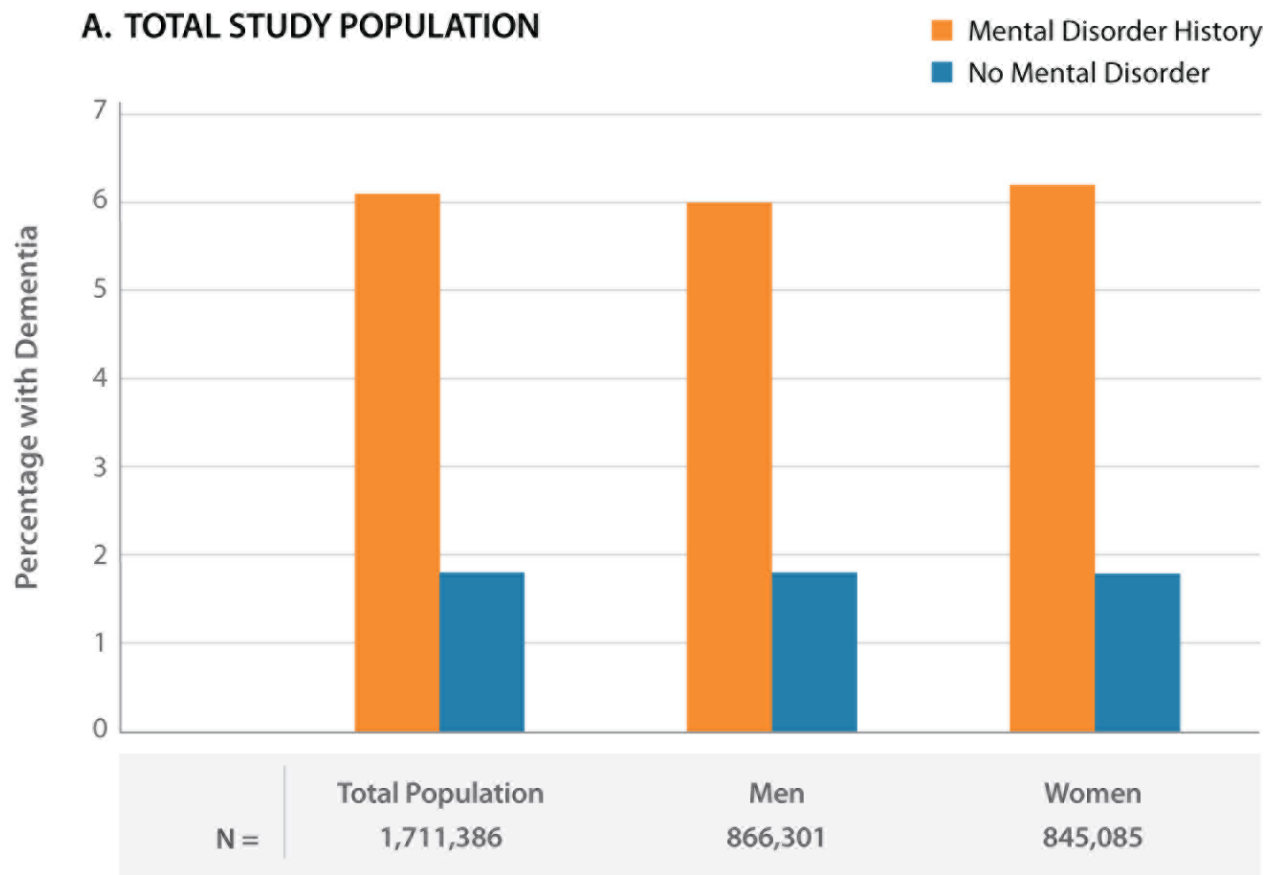
Index disorder: First
mental-health admission
during the 30-yr period

Substance use disorders
Psychotic disorders
Mood disorders
Neurotic disorders
Physiological-disturbance disorders
Personality disorders
Developmental disorders
Behavioral disorders
Unspecified disorders
Self-harm

Individuals diagnosed with a mental disorder developed excess of every different type of physical disease

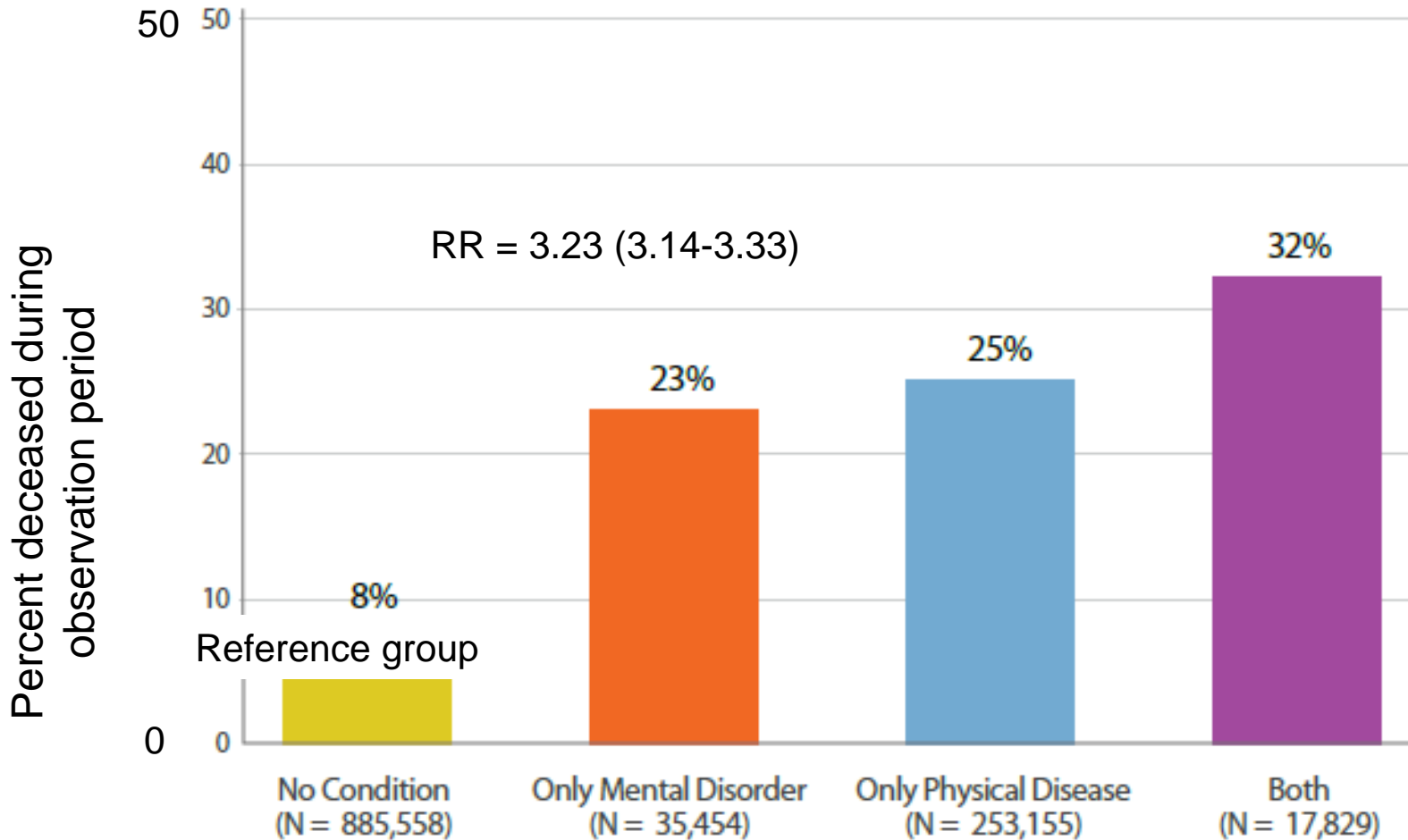


Prevalence of Alzheimers dementia is 4 times higher in people who had mental disorder in the past 30 years (1.7 million NZ citizens)



Richmond-Rakerd, Moffitt et al. 2022, *JAMA-Psychiatry*

Mental disorders forecast premature death: mortality in the NZ population



精神醫學大樓

DEPARTMENT OF PSYCHIATRY



懷德廳

MORGUE

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