







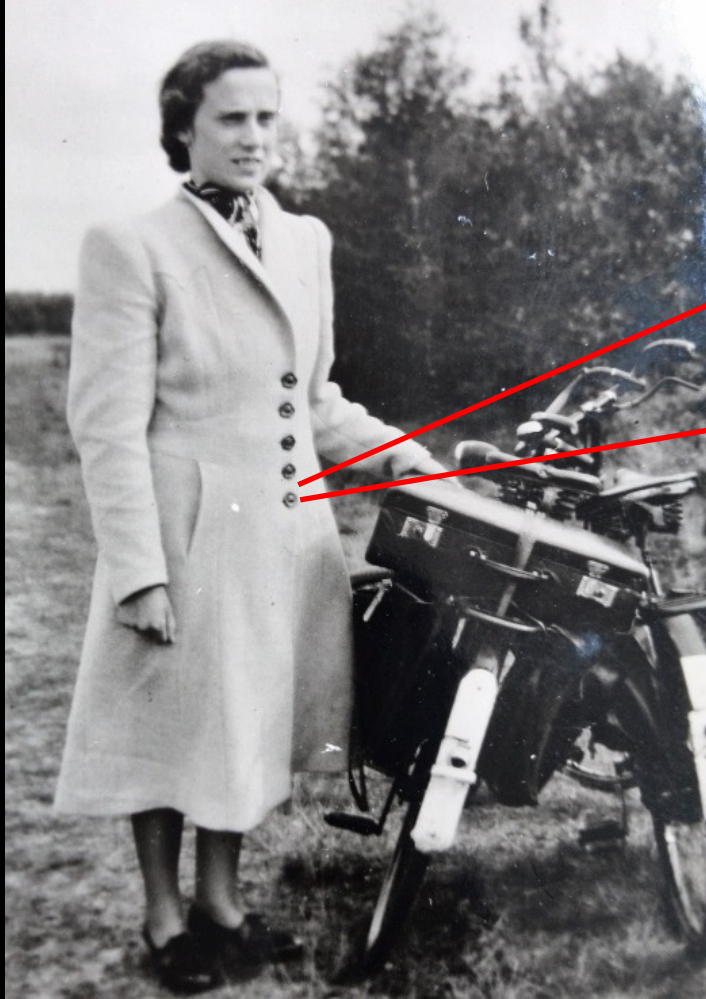


KJBS HD
San Diego



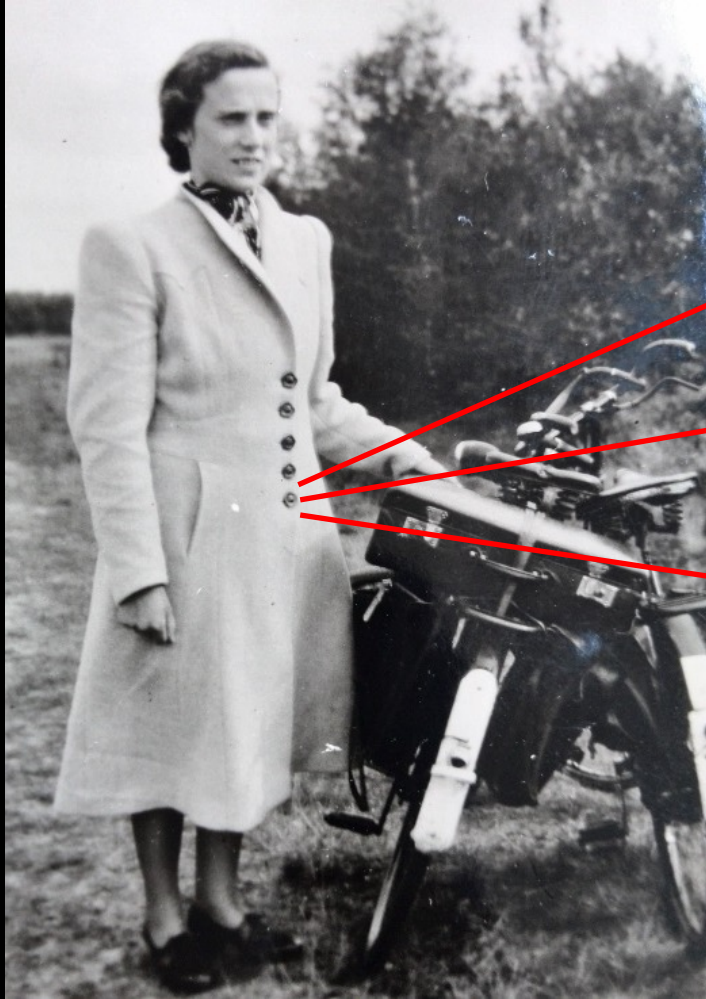


structuur



structuur

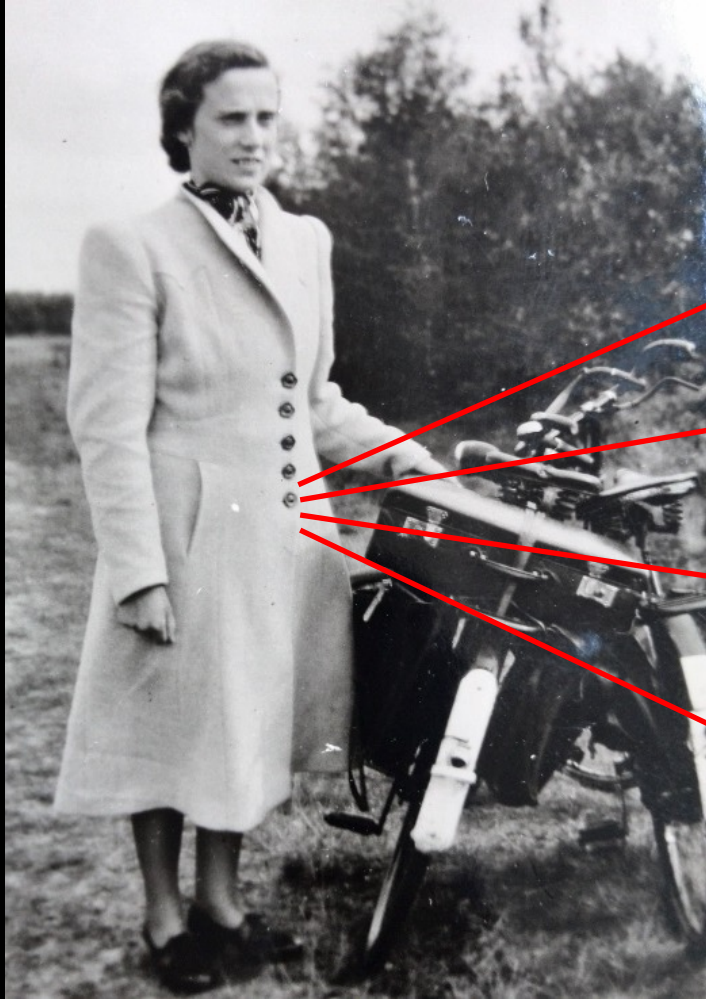
functie



structuur

functie

epigenoom



structuur

functie

epigenoom

kiem cellen

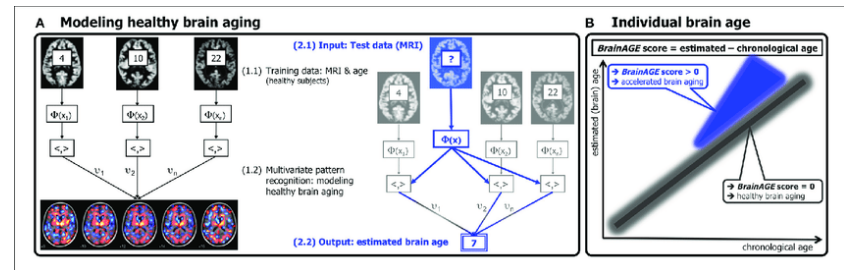
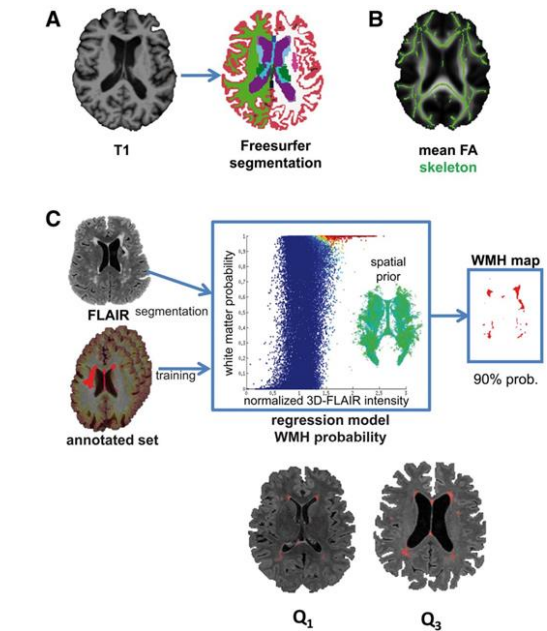
[illegible][illegible]

Datum: 8 Mei 1945
 Verblijf in de Kliniek. Wanneer vliezen gebroken (dag en uur): Nog niets gemerkt
 Urine: 9.15
 Algemeen meesand.
 Puls: 14
 Temp.: 37.4
 Urine: ---
 Bloeddruk: 130/85
 Co-Assistent: M. de B.
 k der baring

[illegible]

REPORT
Prenatal famine exposure has sex-specific effects on brain size

Susanne R. de Rooij,¹ Matthan W. A. Caan,² Dick F. Swaab,³ Aart J. Nederveen,² Charles B. Majoie,² Matthias Schwab,⁴ Rebecca C. Painter⁵ and Tessa J. Roseboom^{1,5}



PNAS PNAS

Prenatal undernutrition and cognitive function in late adulthood

Susanne R. de Rooij^{1,5}, Hans Wouters², Julie E. Yonker³, Rebecca C. Painter⁴, and Tessa J. Roseboom^{1,5}

Departments of ¹Clinical Epidemiology Biostatistics and Bioinformatics, and ²Gynaecology, Academic Medical Center of the University of Amsterdam, 1100 DD, Amsterdam, The Netherlands; and ³Department of Psychology, Calvin College, Grand Rapids, MI 49546

Edited by R. Michael Roberts, University of Missouri-Columbia, Columbia, MO, and approved August 17, 2010 (received for review July 15, 2010)

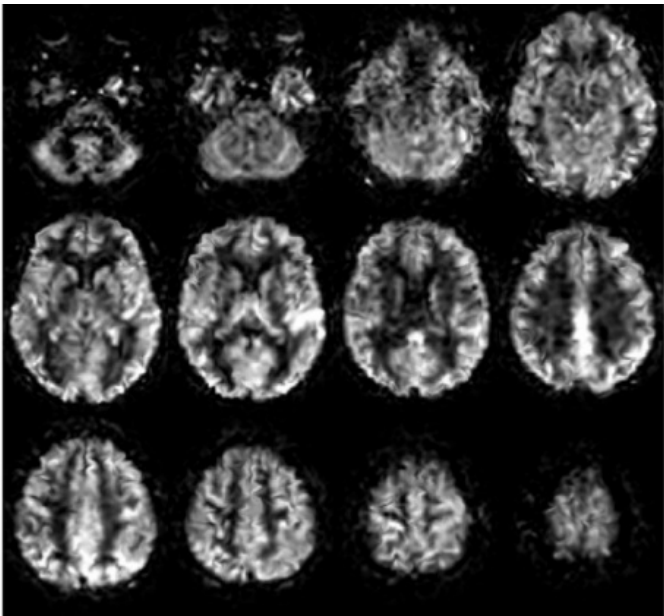
At the end of World War II, a severe 5-mo famine struck the cities in the western part of The Netherlands. At its peak, the rations dropped to as low as 400 calories per day. In 1972, cognitive performance in 19-y-old male conscripts was reported not to have been affected by exposure to the famine before birth. In the present study, we show that cognitive function in later life does seem affected by prenatal undernutrition. We found that at age 56 to 59, men and women exposed to famine during the early stage of gestation performed worse on a selective attention task, a cognitive ability that usually declines with increasing age. We hypothesize that this decline may be an early manifestation of an accelerated cognitive aging process.

developmental origins | fetal | nutrition | cognition | aging

inconsistency task). We compared these measures between those exposed and those unexposed to famine during gestation, based on the criteria we have used in all of our previous studies of the Dutch Famine Birth Cohort. Additionally, to compare the results from the present study with those of the 1972 study of Stein et al. (11), we applied the criteria of exposure to famine as used in their study.

Results
Of the 737 participants, 297 (40%) had been exposed to famine in utero (Table 1). People exposed to famine in mid or late gestation were lighter and had smaller head circumferences at birth than those unexposed to famine during gestation (all $P < 0.01$). People exposed to famine during early gestation had a somewhat longer gestational period ($P = 0.02$). Interestingly, those exposed to famine during any stage of gestation had significantly smaller

SEE COMMENTARY



	Labor market outcomes	
	Employment	Labor income
Pre-famine	.757	10.403
Trimester 3	.759	10.401
Trimester 2	.739 * **	10.396
Trimester 1	.729 * **	10.401
Post-famine	.761	10.406

De Rooij et al PNAS 2010
De Rooij et al Brain 2018
Franke et al Neuroimage 2018
De Rooij et al Neurobiology of Aging 2019
Scholte et al J Health Econ 2015



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vroeg

glucose tolerantie
ervaren gezondheid
hart-en vaatziekten
borstkanker
stress gevoeligheid
depressie
anti-sociale persoonlijkheid
schizofrenie
verslaving
voedselvoorkeur
cognitie
participatie arbeidsmarkt
sterfte



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midden

glucose tolerantie
longziekten
nierfunctie



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laat

glucose tolerantie

Proefschriften Ravelli (1999), Roseboom (2000), Painter (2006), de Rooij (2007), van Abeelen (2012), Veenendaal (2012) Scholte (2013)



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laat

glucose tolerantie	glucose tolerantie	glucose tolerantie
ervaren gezondheid	longziekten	
hart-en vaatziekten	nierfunctie	
borstkanker		
stress gevoeligheid		
depressie		
		ziekte

anti-sociale persoonlijkheid

schizofrenie

verslaving

voedselvoorkeur

cognitie

participatie arbeidsmarkt

sterfte



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ervaren gezondheid
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stress gevoeligheid
depressie



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glucose tolerantie
longziekten
nierfunctie



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anti-sociale persoonlijkheid
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verslaving
voedselvoorkeur

functie

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longziekten
nierfunctie



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glucose tolerantie

cognitie
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maatschappij



POLYNESIEN
IN DER STRASSE DER HAIE

PICASSO
WAS SEIN GENIE AUSMACHTE

NATIONAL GEOGRAPHIC

IM TV
**GENIUS:
PICASSO**
AB 26.04.18
AUF NATIONAL
GEOGRAPHIC



DAS TRAUMA VON GEWALT UND KRIEG

VERERBTES SCHICKSAL

Wie die Erlebnisse von Großeltern und Eltern
unsere Gene – und damit unser Leben – bestimmen

DEUTSCHLAND € 6,00 | ÖSTERREICH € 6,70 | SCHWEIZ CHF 9,90
BENELUX € 7,00 | ITALIEN, SPANIEN, PORTUGAL (CONT.) € 8,00 | GRIECHENLAND € 8,50



4 135069 006004 05



Famine, death, and madness: Schizophrenia in early adulthood after prenatal exposure to the Chinese Great Leap Forward Famine[☆]

Shige Song^{a,*}, Wei Wang^b, Peifeng Hu^c

^a Institute of Sociology, Chinese Academy of Social Sciences, Beijing, China

^b School of Public Health and Family Medicine, Capital Medical University, Beijing, China

^c UCLA School of Medicine, Los Angeles, USA

ARTICLE INFO

Article history:
Available online 14 February 2009

Keywords:
China
Famine
Differential mortality
Long-term survivor
Survival analysis
Schizophrenia
Selection effect
Life course

ABSTRACT

Using data from large scale, nationally representative sample surveys, we tested the hypothesis that prenatal exposure to famine increases schizophrenia risk at adulthood by studying the Great Leap Forward Famine in China (1959–1961). Our results show that, in the urban population, being conceived and born during the famine increased the risk of developing schizophrenia at early adulthood as compared to both the pre-famine and post-famine cohorts. In the rural population, however, the post-famine cohort had the highest risk of developing schizophrenia, and there was virtually no difference in schizophrenia risk between the pre-famine and the famine cohort. This finding contrasts sharply with previous studies on the Dutch Hunger Winter as well as with smaller scale local studies in China based on hospital records. We offer an explanation for the urban–rural difference in the schizophrenia–famine relationship based on population selection by differential excess mortality and provide supportive evidence through province- and cohort-level ecological analysis.

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Malnutrition and socioeconomic consequences of early-life exposure to the 1959–1961 Chinese Famine

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^a Department of Psychology, University of Minnesota, United States

^b Department of Psychology, Ohio State University, United States

ARTICLE INFO

2013
2014
2014
August 2014

Health

Regression estimator

ABSTRACT

This research investigates long-term consequences of early-life malnutrition effects of the 1959–1961 Chinese Famine. Taking into account temporal variations in famine severity, we construct a difference-in-differences estimator of effects of early-life exposure to famine on perceived health and socioeconomic outcomes in midlife. Using a sample of 1716 adults born in 1955–1966 in rural China from a representative survey—the 2005 Chinese General Social Survey—we find that early-life exposure to famine had adverse effects on mid-life health for males born into families where the parent was a Communist Party member and females regardless of parent's education. Being born during the famine had no effects on years of education or income. Quantile regressions suggest intense mortality selection among those who survived the famine.

Hypertension, Diabetes and Overweight in the Biafran Famine

Edmund Hammar^{1,2}, Peter Ueda^{1,2}, Charles Chima³, Anna K. Norman^{1,*}

¹ Department of Intervention and Technology, Karolinska Institute, Stockholm, Sweden, ² Department of Health, Behavior and Society, Johns Hopkins University, Baltimore, MD, USA, ³ Department of Health, Behavior and Society, University of Nigeria Teaching Hospital, Enugu, Nigeria

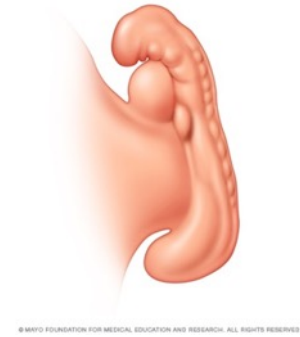
Sub-Saharan Africa is facing rapidly increasing prevalences of cardiovascular disease and ongoing undernutrition among pregnant women may have long-term effects on offspring health. Studies from high income countries linking undernutrition in later life. We undertook to study the risks for hypertension and diabetes in adults exposed to famine during the Nigerian Biafran Famine.

In a cohort study performed in June 27–July 31, 2009 in Enugu, Nigeria, we studied the effects of exposure to famine during the years of famine (1968–1970), or after (1971–73) the years of famine were in effect on the prevalence of hypertension, as well as prevalence of hyperglycemia and anthropometrics, as well as prevalence of hypertension, diabetes (DM; p-glucose ≥ 11.1 mmol/L) in the three groups. Fetal–infant exposure to famine was associated with increased systolic (+5 mmHg; $p < 0.001$) BP, increased p-glucose (+0.001), increased risk of systolic hypertension (adjusted OR 2.0; 95% CI 1.03–3.93) as compared to people born after the famine. The findings suggest that the lack of birth weight data and the inability to separate effects of famine exposure from other factors may bias estimates of the effects of famine on health.

Prevention of undernutrition during pregnancy and childhood is a public health, education, and economic agenda.

Ueda P, Chima C, Edstedt Bonamy A-K, et al. (2010) Hypertension, Diabetes and Overweight in the Biafran Famine. *PloS ONE* 5(8): e11371. doi:10.1371/journal.pone.0013582

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Fundamentele belang van goed begin

Effecten zijn groot
Gevolgen wijd verbreid
Over generaties
Consistent tussen settings



Afhankelijk van timing

Organen die ontwikkelen



Onafhankelijk van grootte

Zelfs zonder effect op groei

Een goede start voor elk kind



Tessa Roseboom

DE EERSTE 1000 DAGEN



**Het fundamentele belang van een
goed begin vanuit biologisch, medisch
en maatschappelijk perspectief**

Menu

Appetizer

1000 dagen cocktail

Vooraf

‘Wist je dat’ parade op bedje van biologische feiten

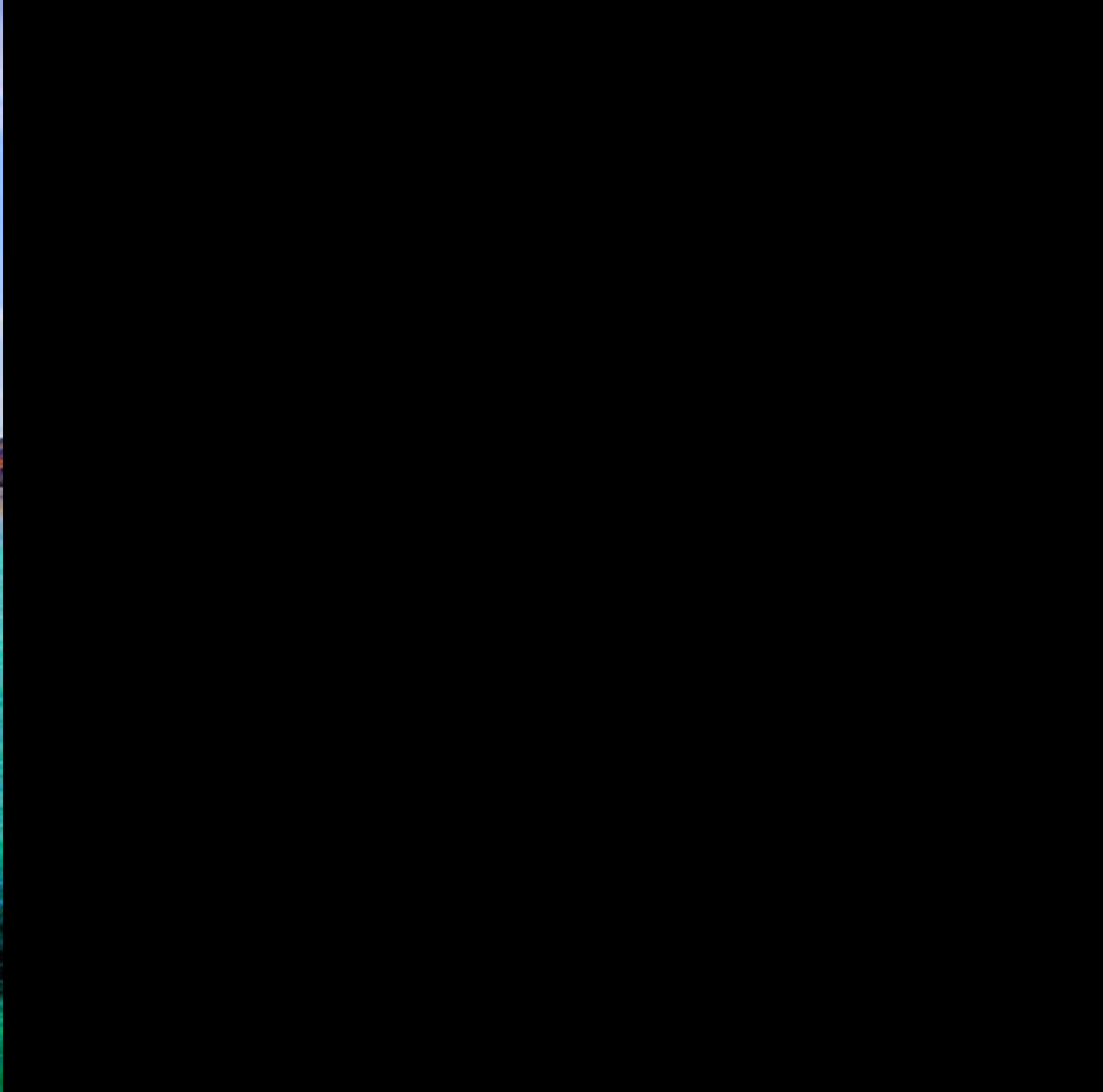
Hoofdgerecht

Spannende combinatie van wereldgerechten

Dessert

Verrassende kiemgroenten

Wat kan je doen in 1000 dagen?





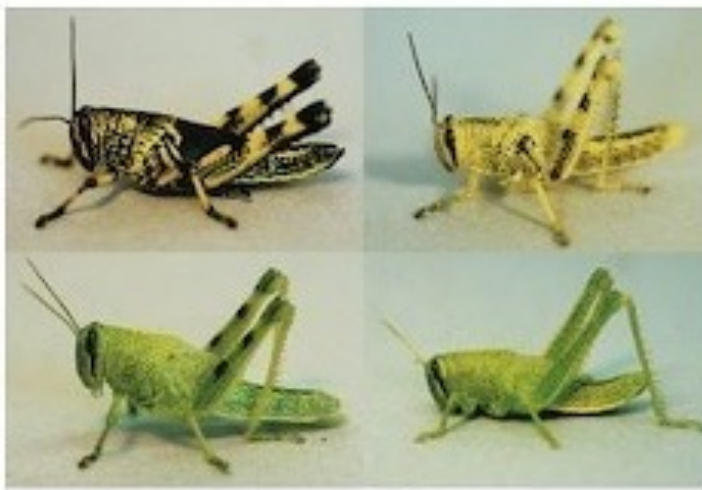




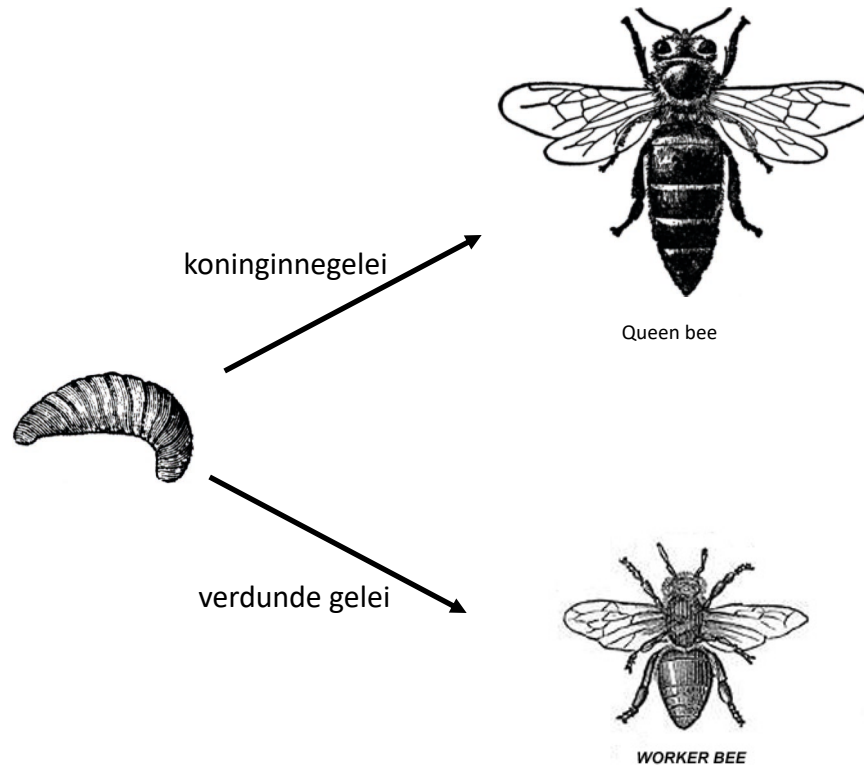
Menu

Vooraf

‘Wist je dat’ parade op bedje van biologische feiten







Levensduur jaren



Levensduur dagen/weken

Lyko et al PloS Biol 2010

Kuchorski et al Science 2008



koninginnegelei



verdunde gelei



Queen bee



WORKER BEE

Levensduur jaren



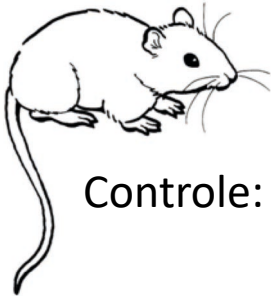
Levensduur dagen/weken

Lyko et al PloS Biol 2010

Kuchorski et al Science 2008



Voeding en levensduur



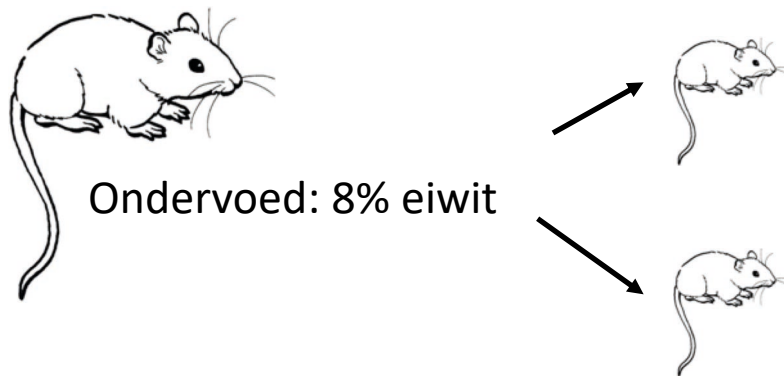
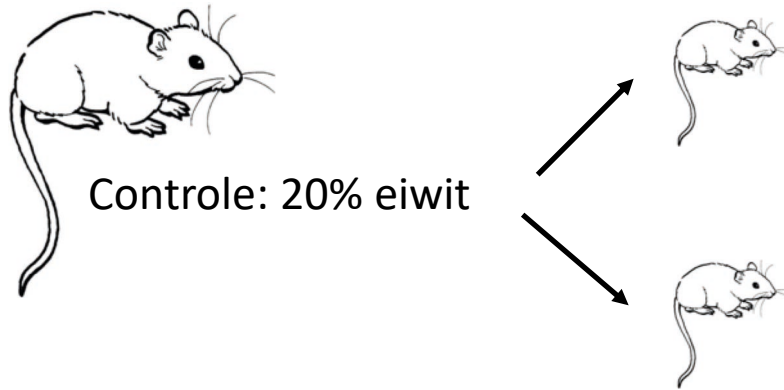
Controle: 20% eiwit



Ondervoed: 8% eiwit

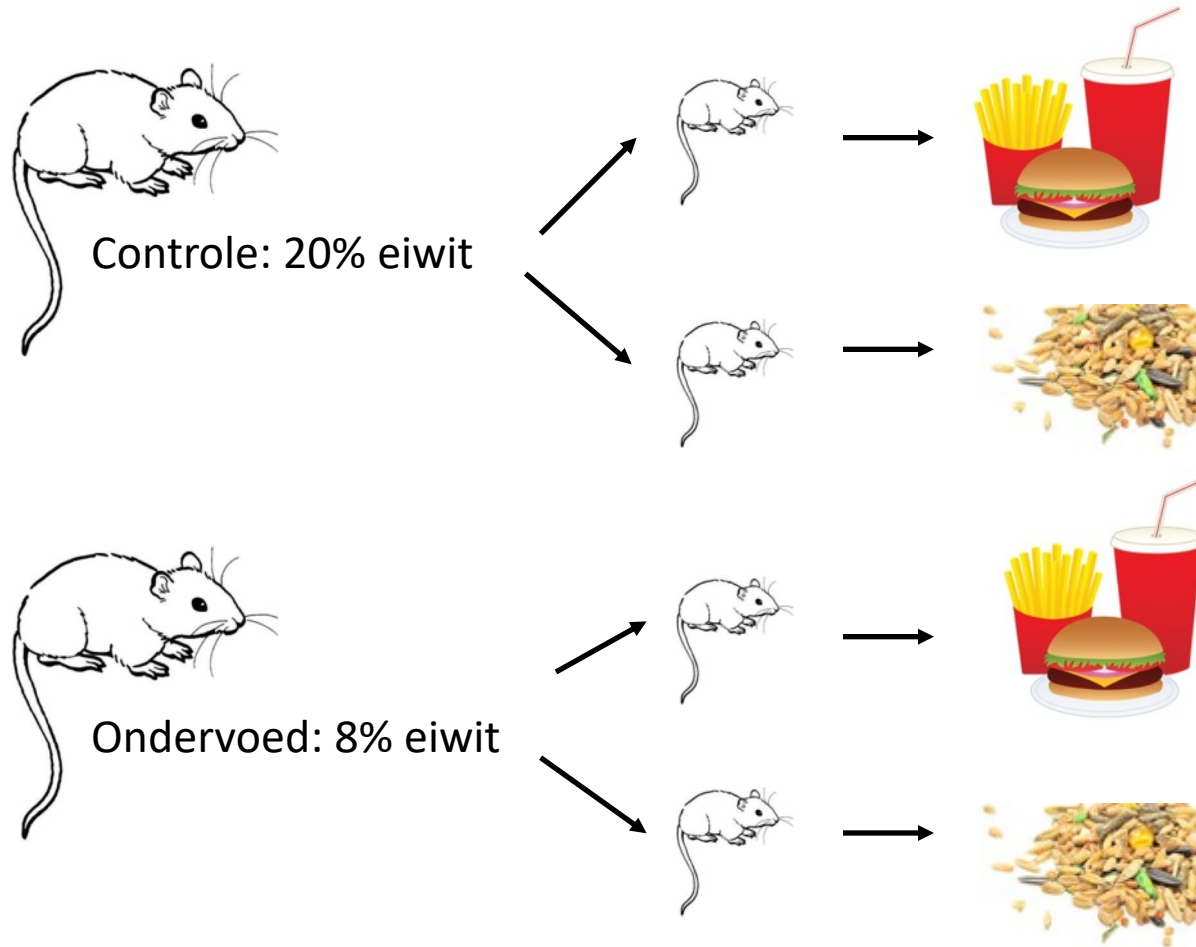


Voeding en levensduur



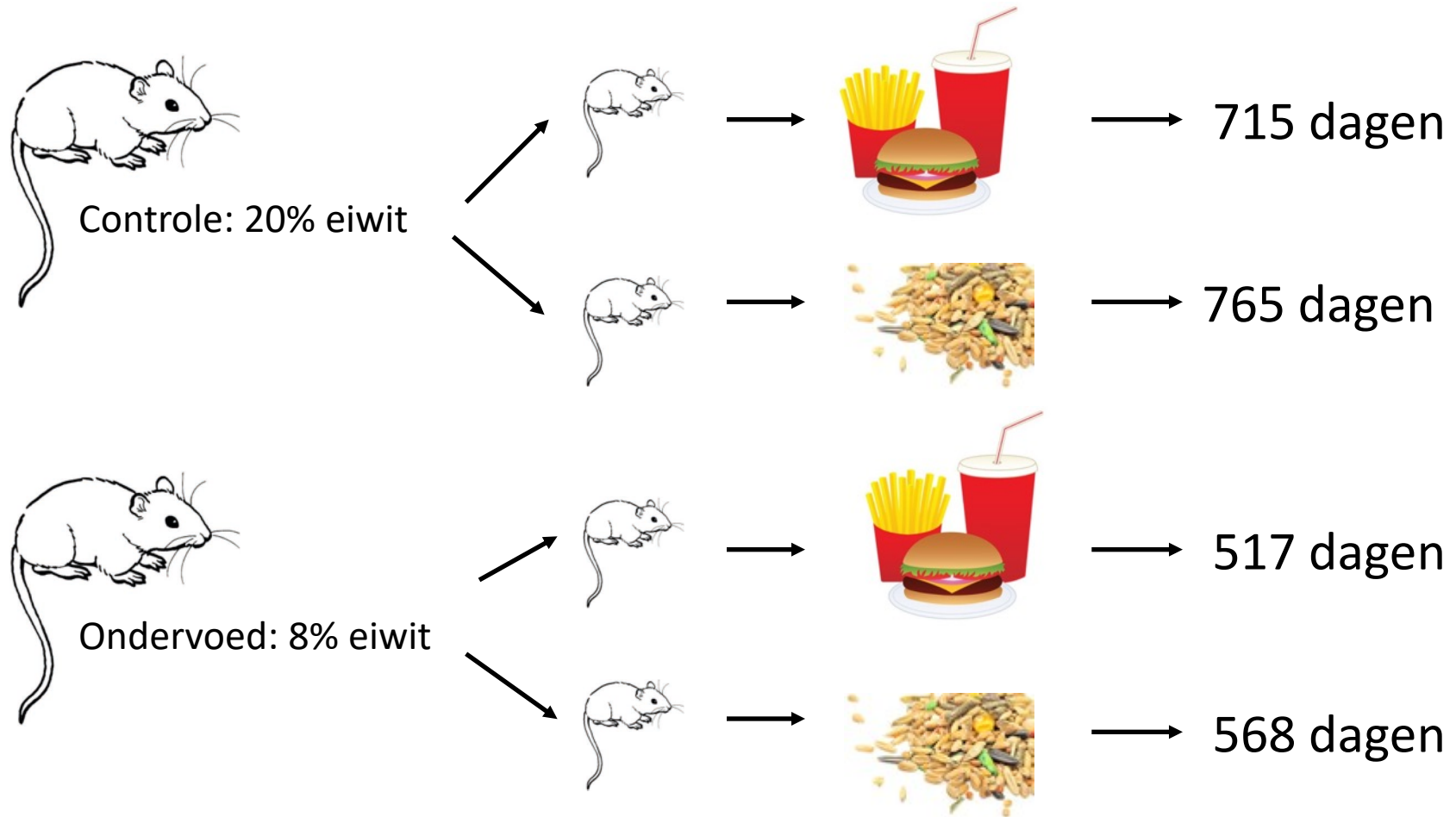


Voeding en levensduur





Voeding en levensduur





Bron: WHO



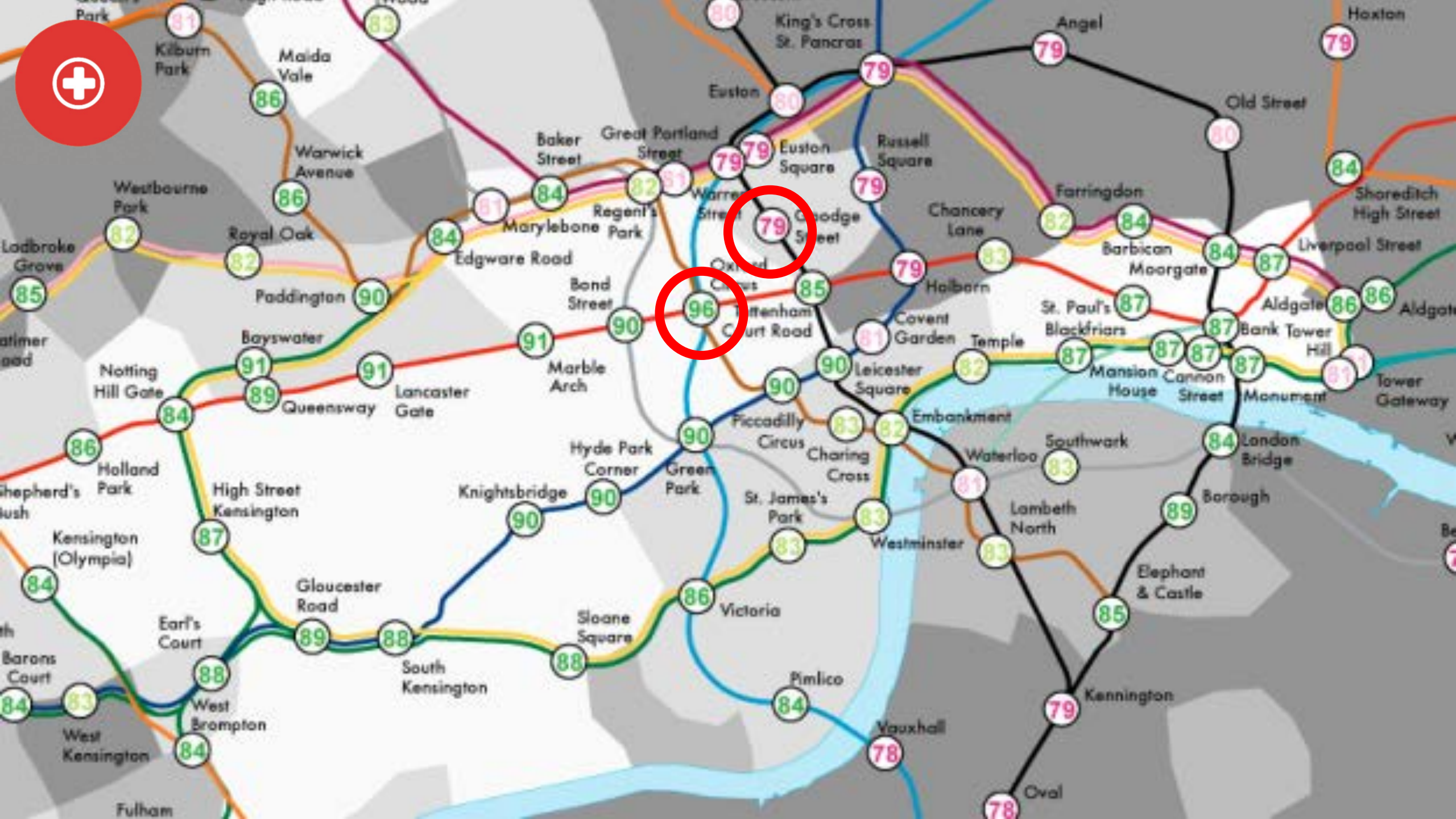
84 jaar



84 jaar



44 jaar





Centrum: 4,6
Zuidoost: 10,5





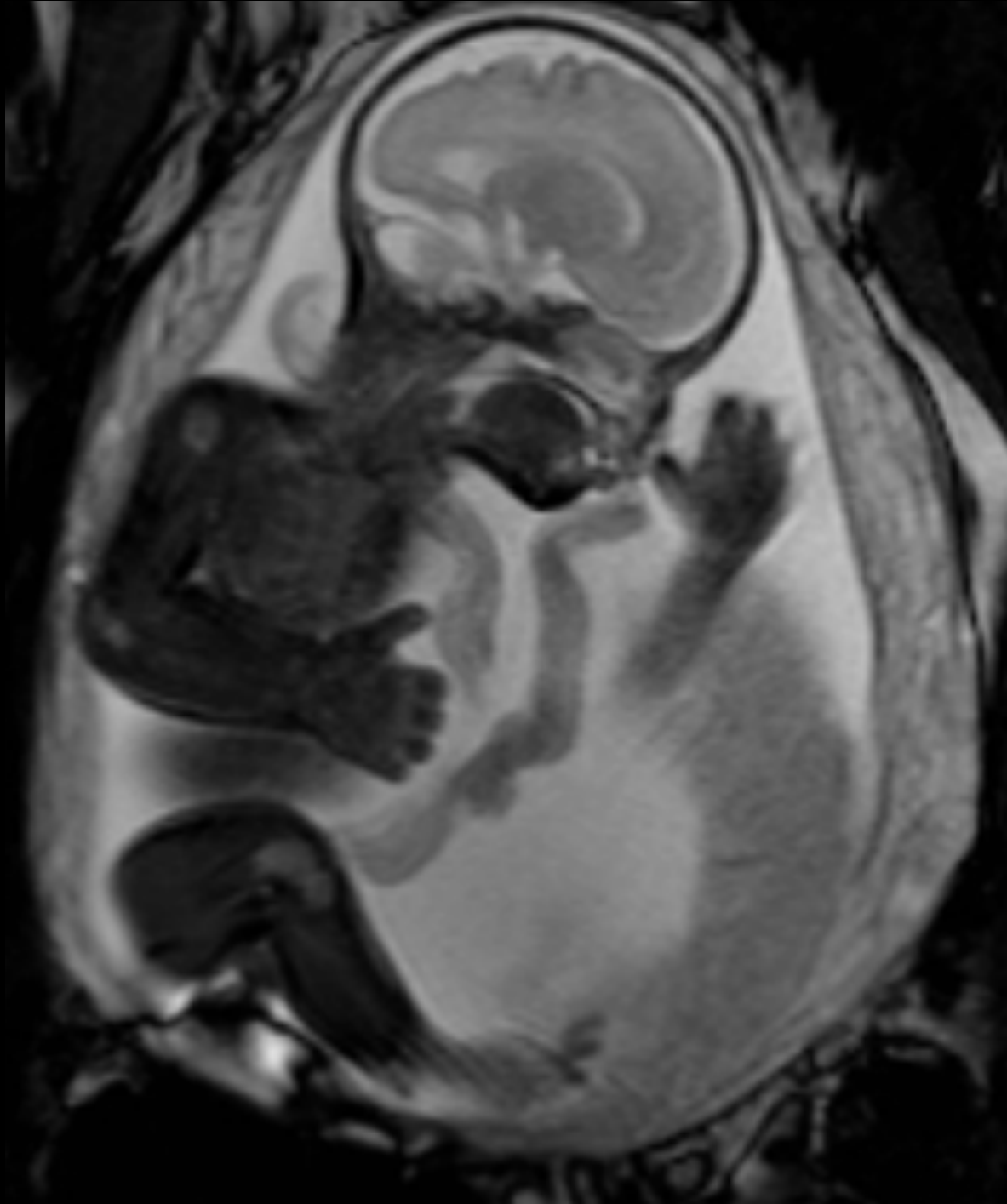
MANJUGANESH U/S SCAN
CENTRE, BANGALORE,

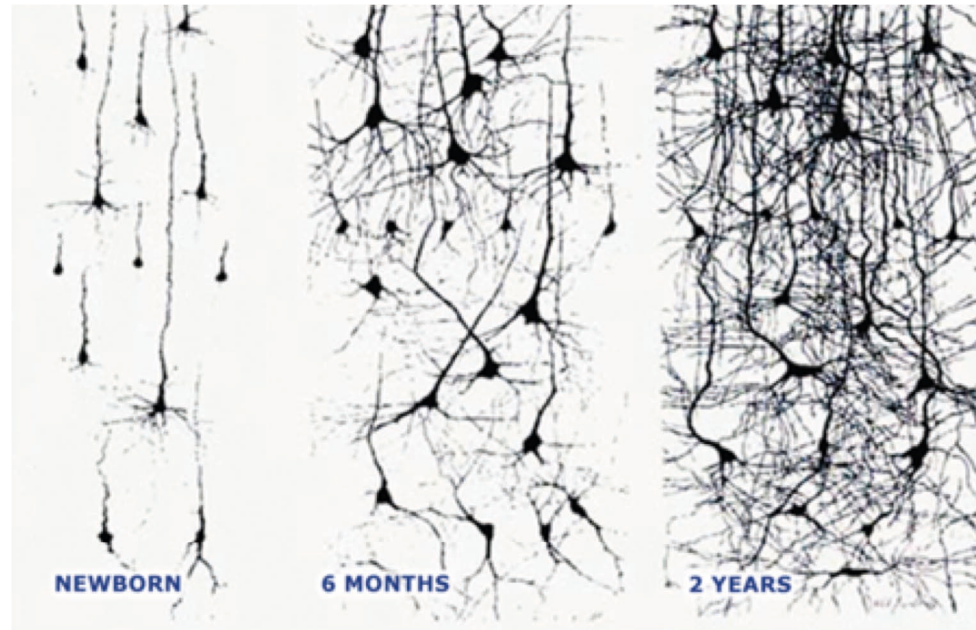
20-NOV-04
12:50:03
ALOKA
9119 3.75
DVA: 65%



R10 554 C4

5: 080





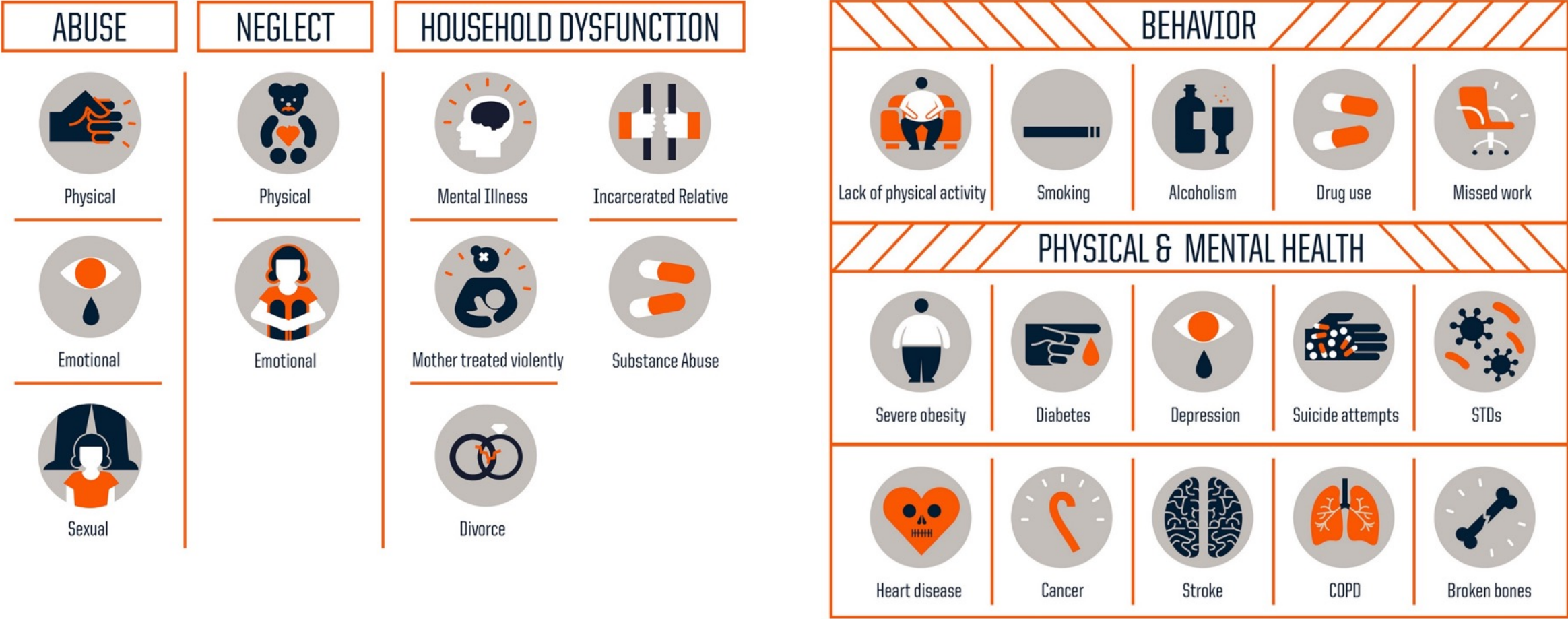
Een miljoen verbindingen per seconde





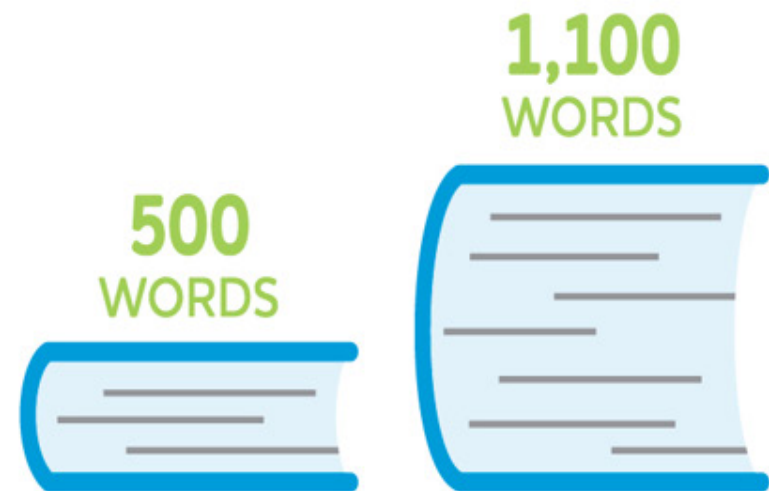
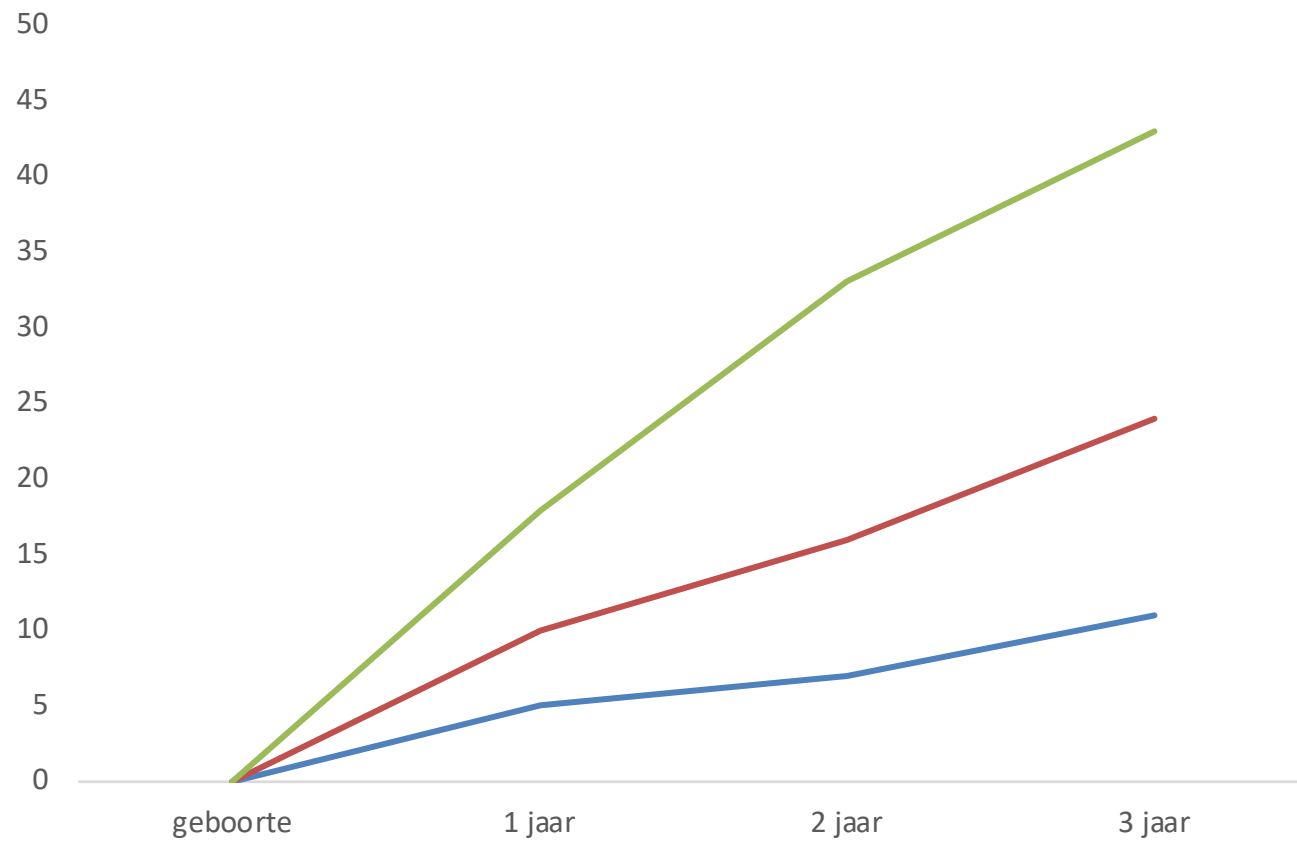


ACE – 20 jaar verlies





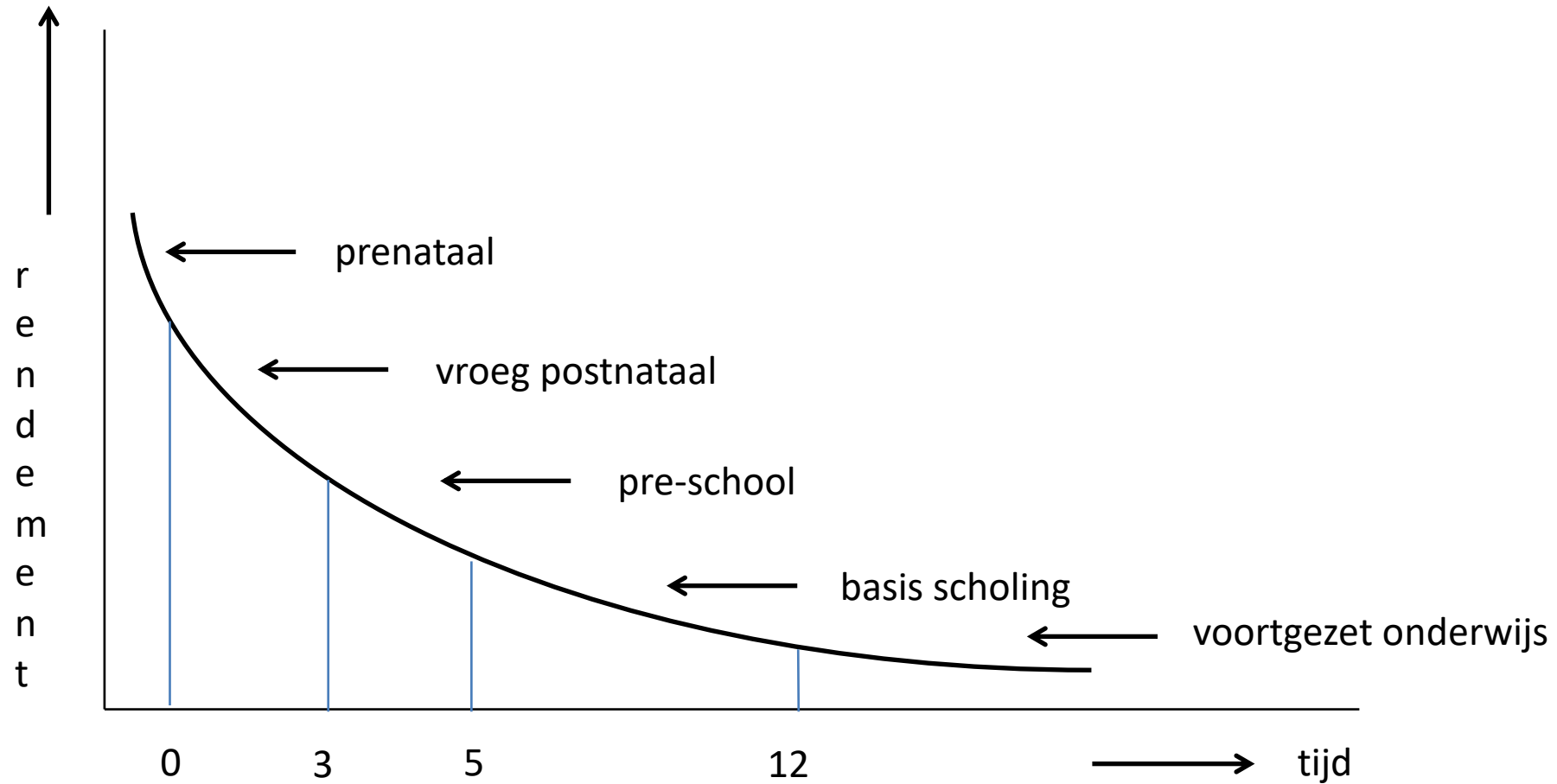
Miljoen woorden gehoord



Hart & Risely 1995



Hoe vroeger de investering hoe groter het rendement



Wist je dat...



Wist je dat...

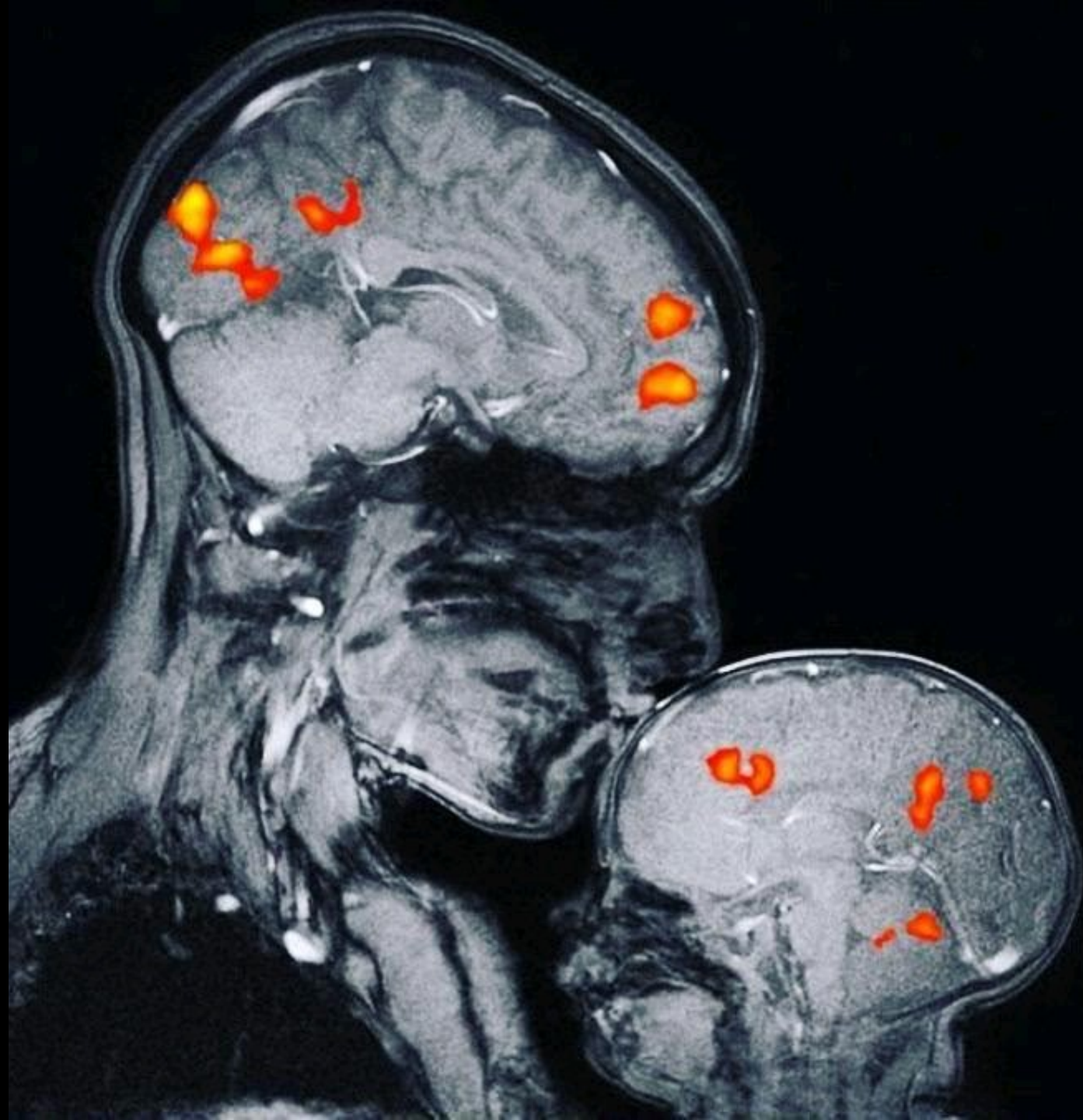


Wist je dat...



Wist je dat...





Menu

Hoofdgerecht

Spannende combinatie van wereldgerechten









De grootste belemmering voor de wereldeconomie is dat een kwart van de kinderen wereldwijd hun potentie niet kan ontwikkelen door ondervoeding in de eerste 1000 dagen van het leven, met als gevolg dat ongelijkheid en armoede in het brein ingebakken zijn. Investeren in een goede start is de beste investering die je als samenleving kunt doen.

World Bank President Jim Yong Kim



Een op de vier kinderen heeft een valse start

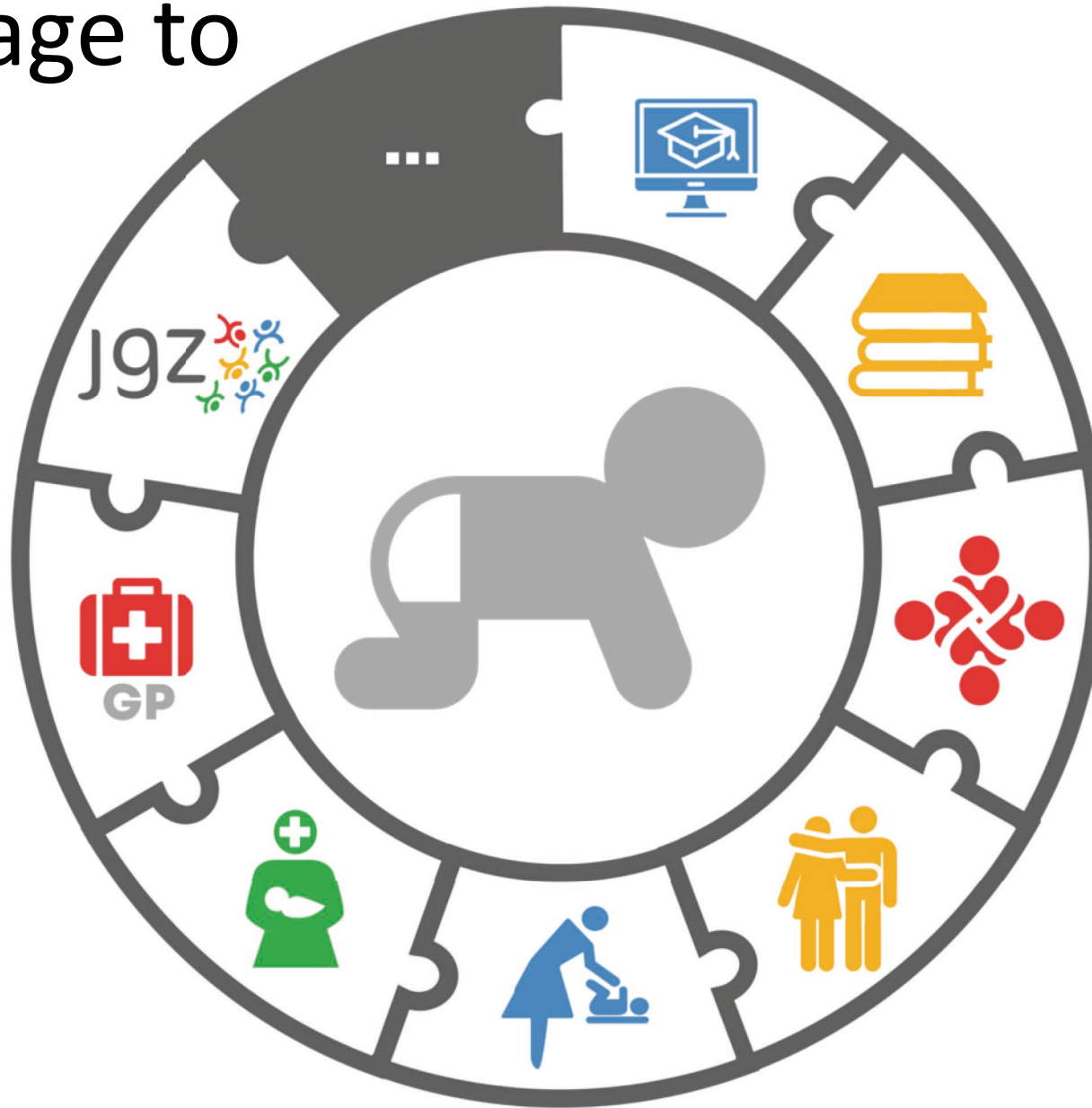


- Dit leidt tot:
 - ziekte
 - minder cognitieve functie
 - werkloosheid
 - armoede
 - verlies van menselijk kapitaal



De beste start
voor elk kind

It takes a village to raise a child









3 GOOD HEALTH AND WELL-BEING



4 QUALITY EDUCATION



8 DECENT WORK AND ECONOMIC GROWTH



10 REDUCED INEQUALITIES







3 GOOD HEALTH AND WELL-BEING

A white icon of a heartbeat line with a heart symbol at the end, set against a green background.

4 QUALITY EDUCATION

A white icon of an open book and a pencil, set against a dark red background.

8 DECENT WORK AND ECONOMIC GROWTH

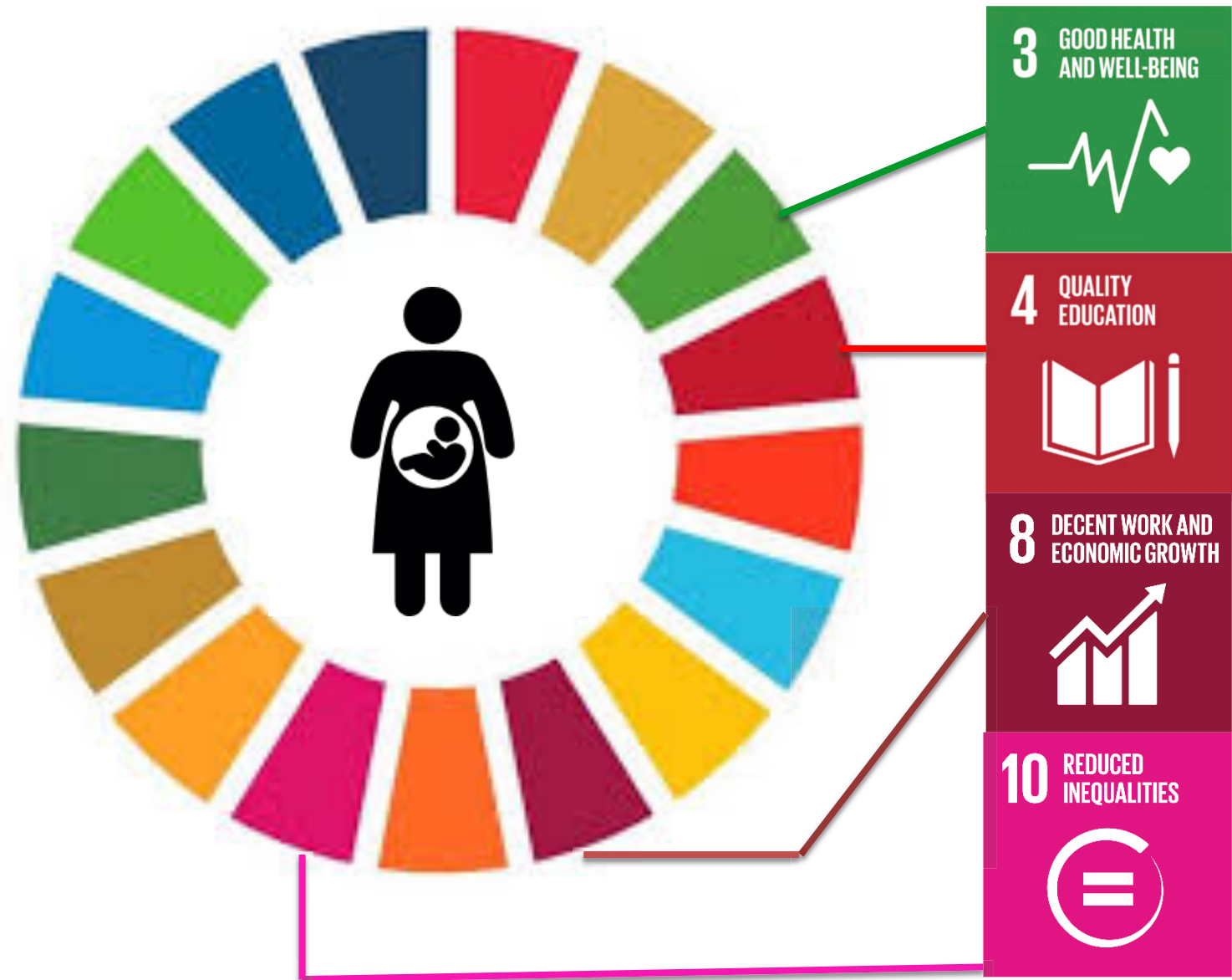
A white icon of a bar chart with an upward-pointing arrow, set against a dark red background.

10 REDUCED INEQUALITIES

A white icon of an equals sign inside a circle, set against a pink background.



Violence
Health
Stress
Money
Education
Poverty
Food



Menu

Dessert

Verrassende kiemgroenten





“To me, the poor are like Bonsai trees. When you plant the best seed of the tallest tree in a six-inch deep flower pot, you get a perfect replica of the tallest tree, but it is only inches tall. There is nothing wrong with the seed you planted; only the soil-base you provided was inadequate.

Poor people are bonsai people. There is nothing wrong with their seeds. Only society never gave them a base to grow on.”

Wat kan jij doen?







Elk kind heeft recht op een goede start
Investeren in de eerste 1000 dagen is bouwen aan het fundament
van een gezondere toekomst

It is easier to build strong children than to repair broken men
Frederic Douglas



hack de valse
start



A newborn baby with dark hair is lying on its back, held gently by two adults. The baby's eyes are closed, and it has a peaceful expression. The adults' hands are visible, supporting the baby from underneath. The background is a soft, out-of-focus green, suggesting an outdoor setting. A semi-transparent text box is overlaid on the lower part of the image.

Wat we doen is complex, waarom we het doen niet