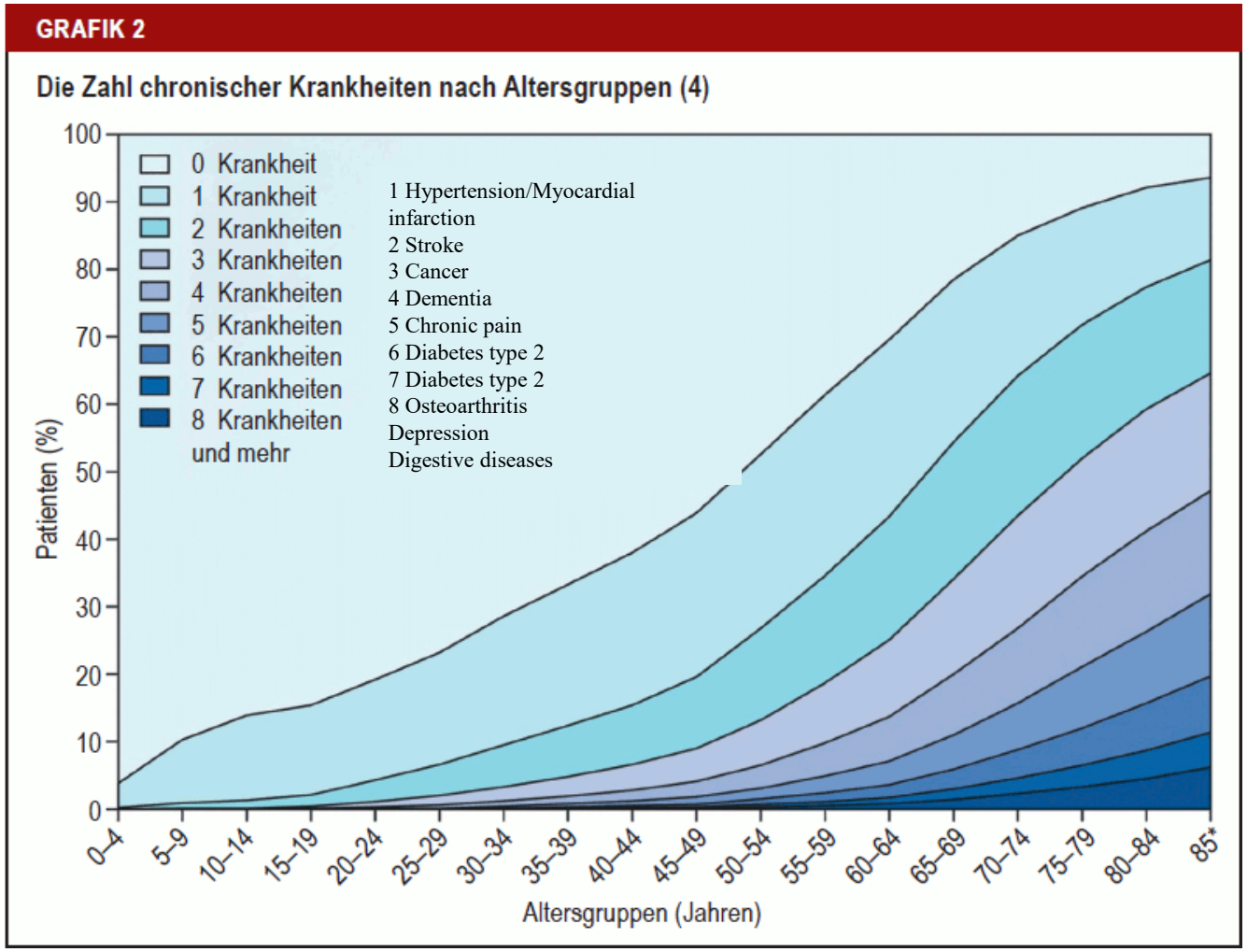
Können wir gesünder alt werden? Die Medizin zwischen „Longevity“ und „no glory in prevention“

Können wir gesünder alt werden? Medizin zwischen Longevity und „no glory in prevention“

Univ.- Prof. Dr. med.
Andreas Michalsen

Charité Berlin und
Immanuel Krankenhaus Berlin

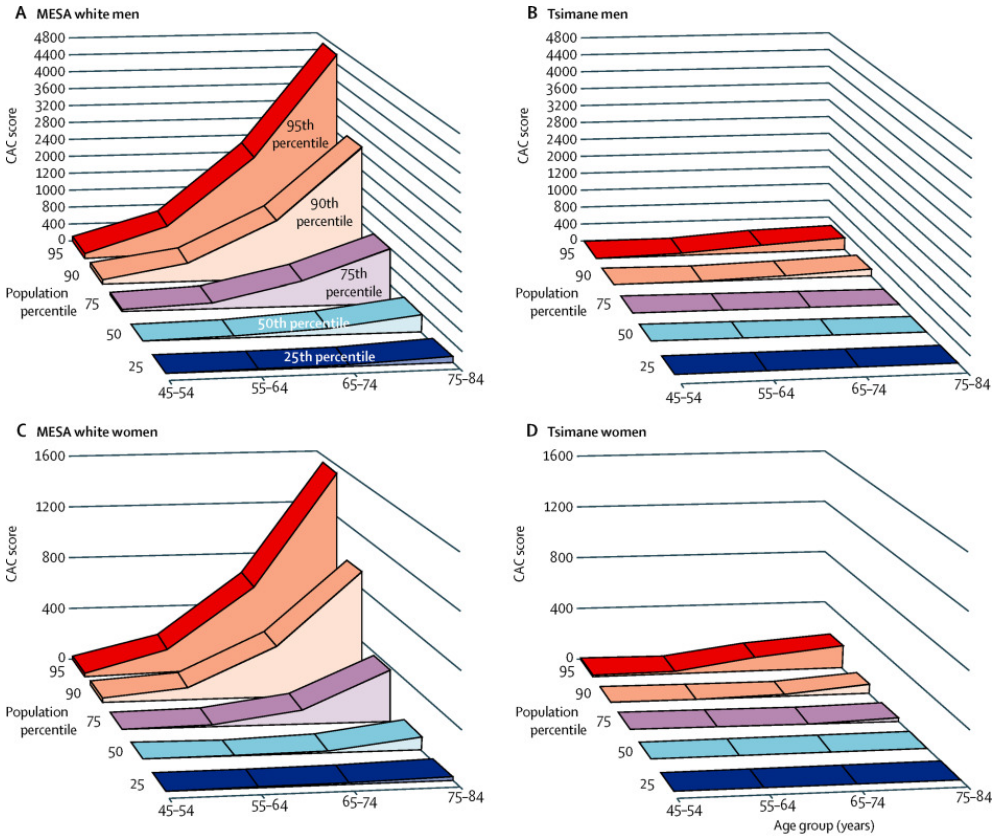
Weltweit nehmen chronische Erkrankungen zu, die altersassoziiert und lebensstilabhängig sind



- Bluthochdruck
- Herzinfarkt
- Schlaganfall
- Krebs
- Demenz
- Chronische Schmerzen
- Diabetes Typ 2
- Arthrose
- Depression

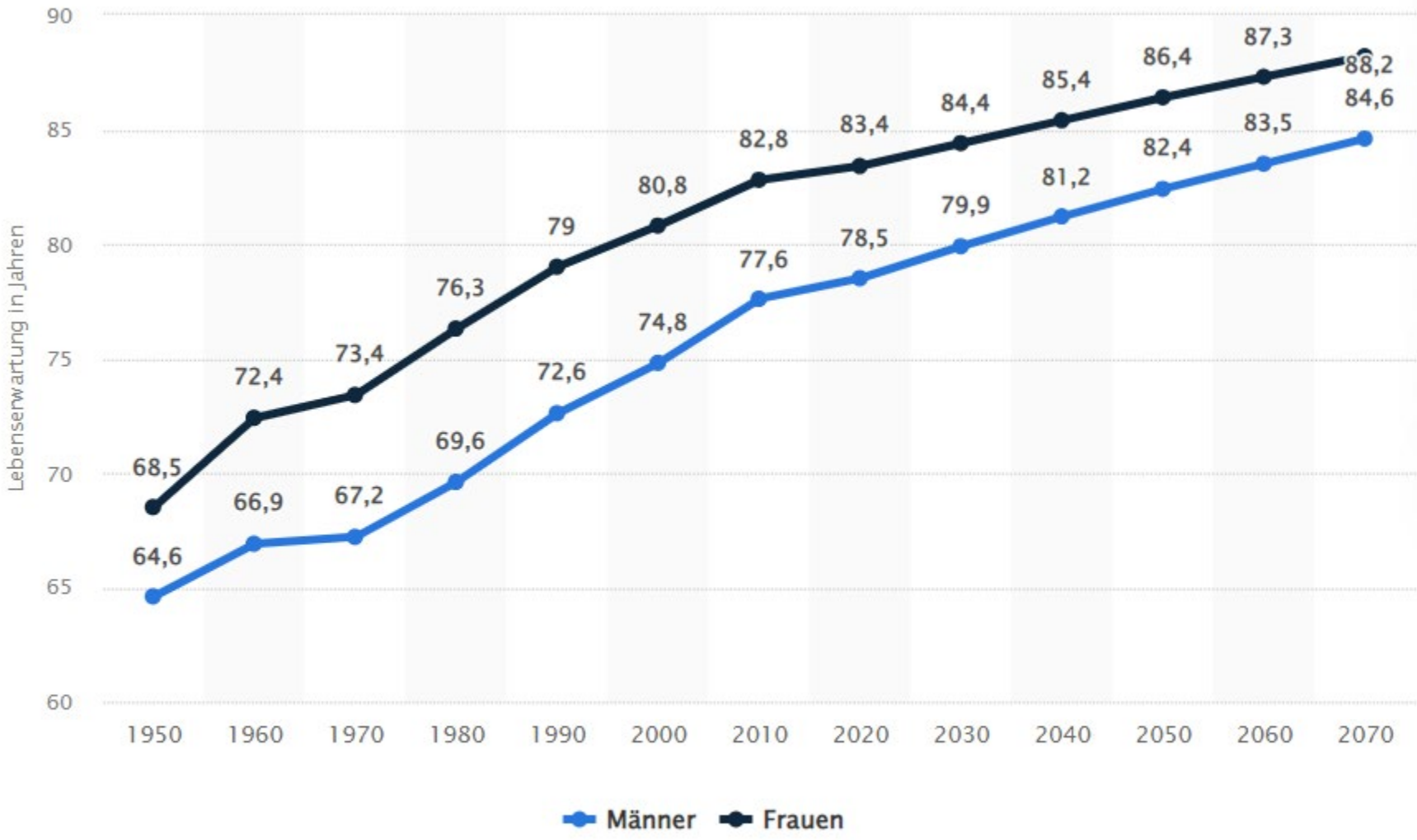

Hazda Tansania

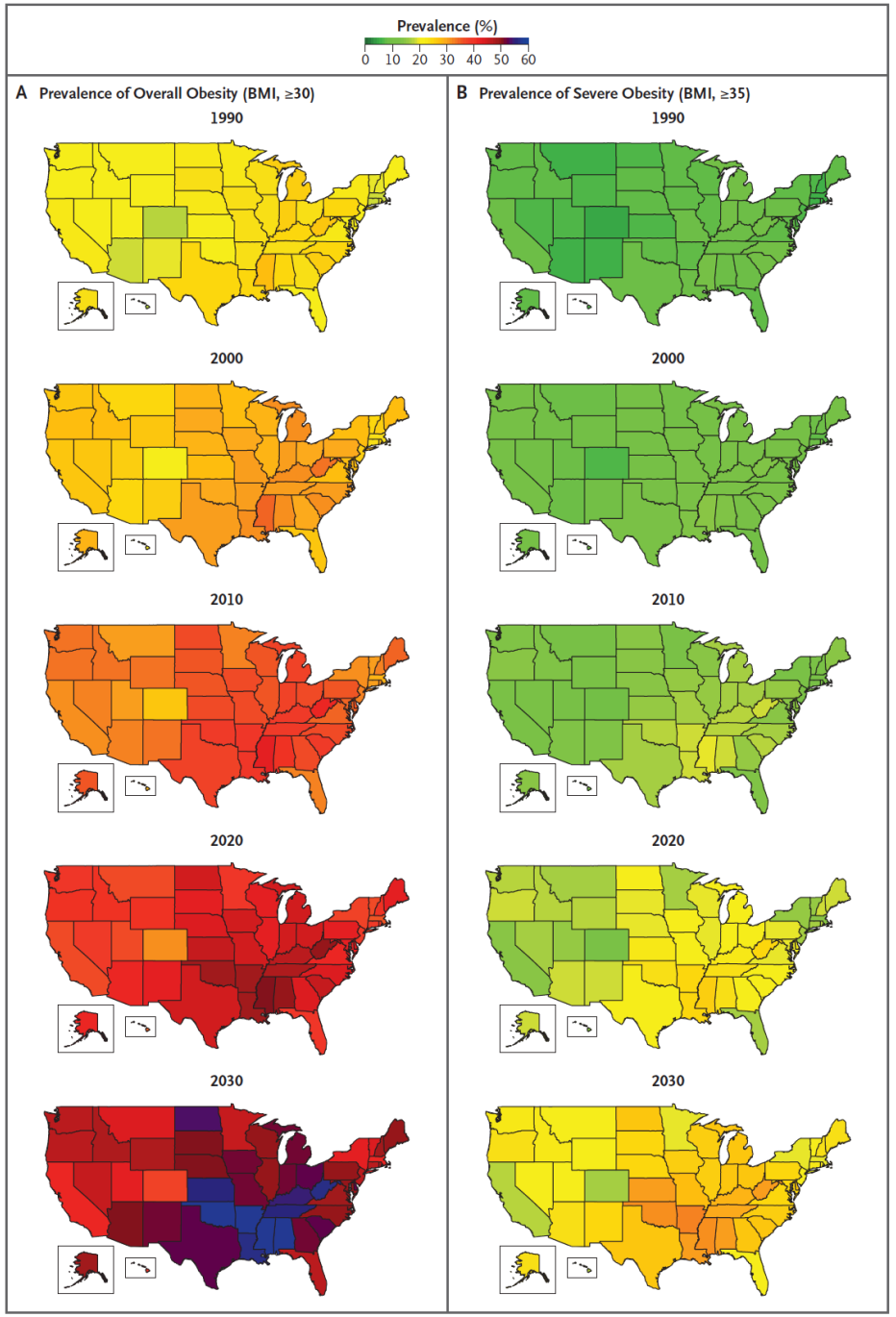
Tsimane – Amazonas



Lancet 2017

Entwicklung der Lebenserwartung in Deutschland ab 1950

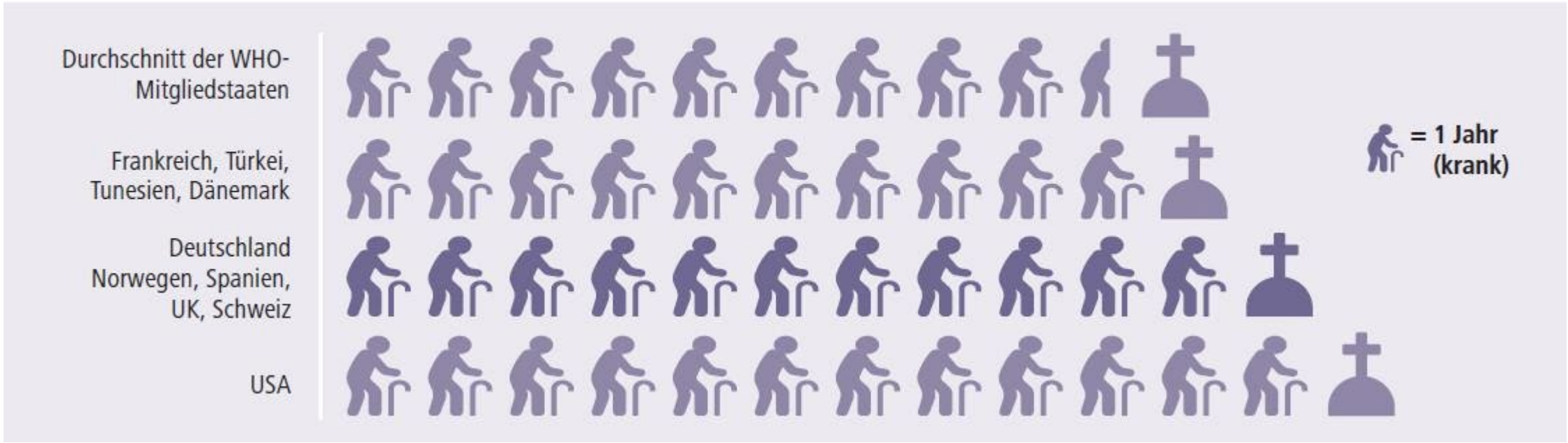




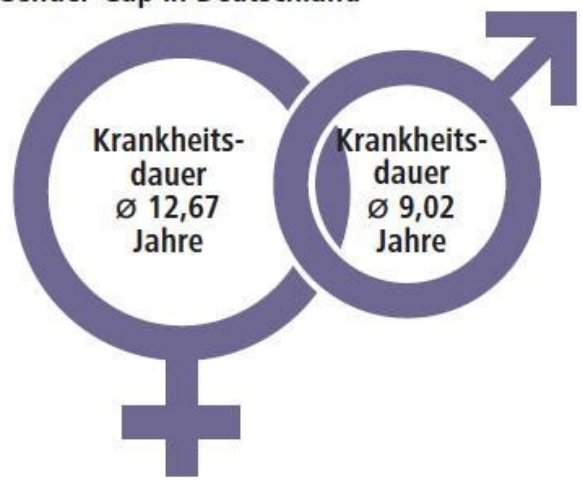
Ward ZJ et al: New Engl J Med 2019; 19 Dec

Foto: Feodora/stock.adobe.com

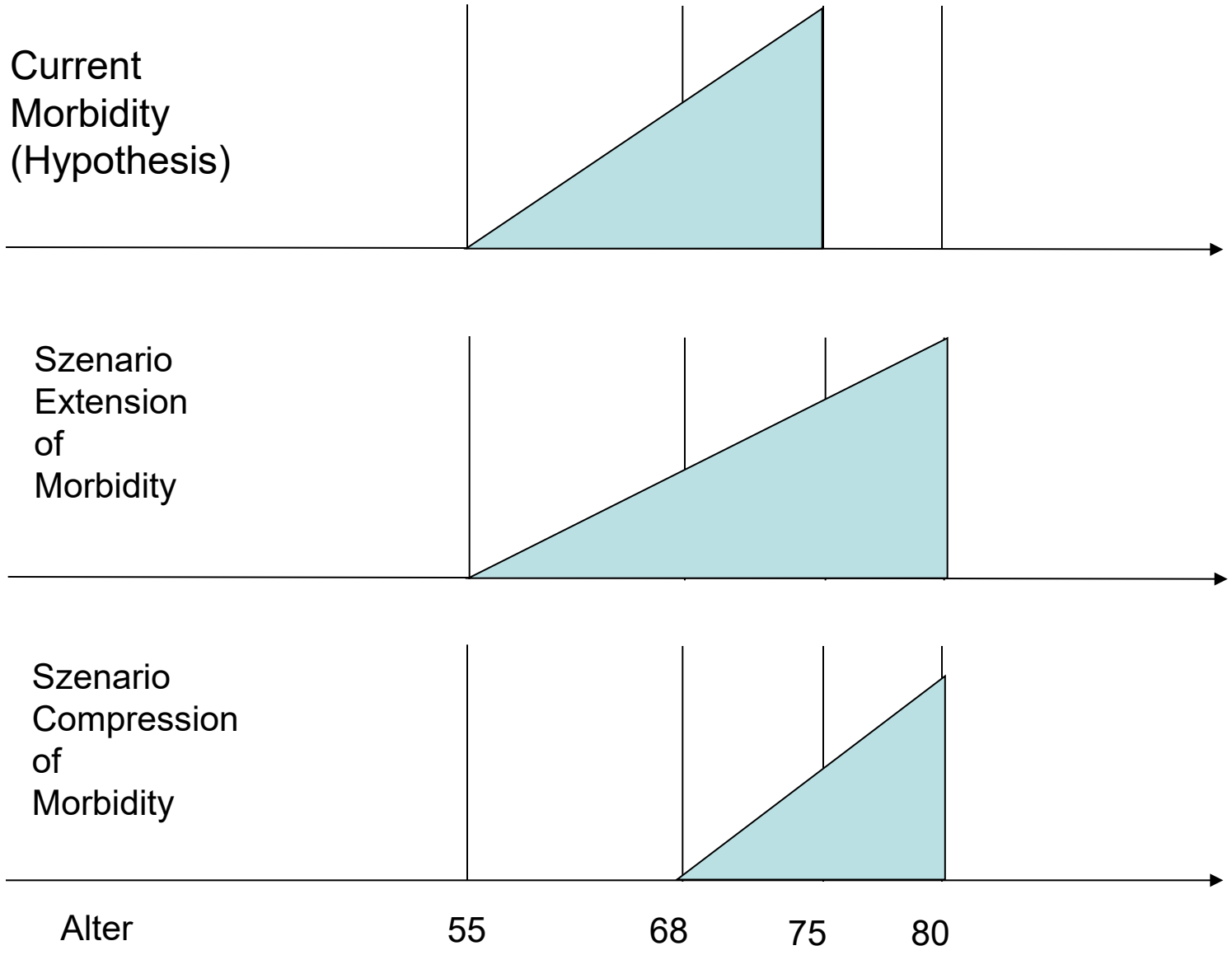
So viele Jahre verbringen Menschen in Krankheit bis zu ihrem Tod



Gender-Gap in Deutschland



Gesundheitspanne und Lebensspanne
Kompression der Morbidität – oder: die Longevity Dividende



Nach Fries et al., Lancet 1989

Genetik: Weniger wichtig als angenommen

Estimates of the Heritability of Human Longevity Are Substantially Inflated due to Assortative Mating

J. Graham Ruby,*[,1] Kevin M. Wright,* Kristin A. Rand,[†] Amir Kermany,[†] Keith Noto,[†] Don Curtis,[‡] Neal Varner,[‡] Daniel Garrigan,[†] Dmitri Slinkov,[‡] Ilya Dorfman,[†] Julie M. Granka,[†] Jake Byrnes,[†] Natalie Myres,[‡] and Catherine Ball[†,1]

*Calico Life Sciences LLC, South San Francisco, California 94080, [†]Ancestry, San Francisco, California 94107, and [‡]Ancestry, Lehi, Utah 84043

ABSTRACT Human life span is a phenotype that integrates many aspects of health and environment into a single ultimate quantity: the elapsed time between birth and death. Though it is widely believed that long life runs in families for genetic reasons, estimates of life span "heritability" are consistently low (~15–30%). Here, we used pedigree data from *Ancestry* public trees, including hundreds of millions of historical persons, to estimate the heritability of human longevity. Although "nominal heritability" estimates based on correlations among genetic relatives agreed with prior literature, the majority of that correlation was also captured by correlations among nongenetic (in-law) relatives, suggestive of highly assortative mating around life span-influencing factors (genetic and/or environmental). We used structural equation modeling to account for assortative mating, and concluded that the true heritability of human longevity for birth cohorts across the 1800s and early 1900s was well below 10%, and that it has been generally over-estimated due to the effect of assortative mating.

Genetics 2018; 2010:1109-24

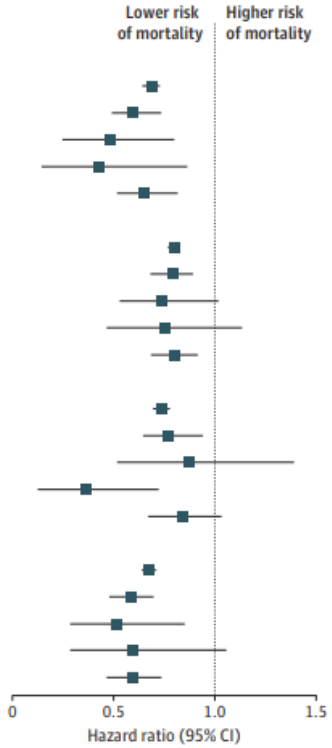
Entscheidend für Prävention und gesunde Langlebigkeit: Pflanzenbetonte und vollwertige Ernährung

Healthy Eating Scores/ Index:

Alternate Healthy Eating Index (AHEI)
Alternate Med Diet Score (AMED)
Healthy Eating Index (HEI)
Healthful Plant-based Diet HPBI)

Figure. Hazard Ratios of Death From Any Cause According to 4 Healthy Eating Scores Across Racial and Ethnic Groups in the Nurses' Health Study

Healthy eating score, race and ethnicity	Cases/ person-years	Hazard ratio (95% CI)	P for interaction
HEI-2015			
Non-Hispanic White	29 291/2 197 702	0.75 (0.72-0.78)	
Racial and ethnic minority group	1972/145 442	0.68 (0.60-0.79)	.21
Hispanic	217/18 981	0.55 (0.33-0.89)	.21
Non-Hispanic Black	346/25 515	0.59 (0.41-0.84)	.19
Other	1409/100 946	0.72 (0.62-0.85)	.65
AMED			
Non-Hispanic White	29 291/2 197 702	0.84 (0.82-0.86)	
Racial and ethnic minority group	1972/145 442	0.83 (0.75-0.91)	.75
Hispanic	217/18 981	0.80 (0.58-1.10)	.76
Non-Hispanic Black	346/25 515	0.79 (0.63-1.01)	.65
Other	1409/100 946	0.84 (0.75-0.93)	.95
HPDI			
Non-Hispanic White	29 291/2 197 702	0.79 (0.76-0.82)	
Racial and ethnic minority group	1972/145 442	0.82 (0.72-0.95)	.59
Hispanic	217/18 981	0.50 (0.32-0.78)	.046
Non-Hispanic Black	346/25 515	0.90 (0.62-1.30)	.49
Other	1409/100 946	0.87 (0.74-1.02)	.29
AHEI			
Non-Hispanic White	29 291/2 197 702	0.74 (0.72-0.77)	
Racial and ethnic minority group	1972/145 442	0.67 (0.59-0.76)	.12
Hispanic	217/18 981	0.68 (0.44-1.04)	.66
Non-Hispanic Black	346/25 515	0.62 (0.44-0.88)	.32
Other	1409/100 946	0.68 (0.58-0.79)	.22

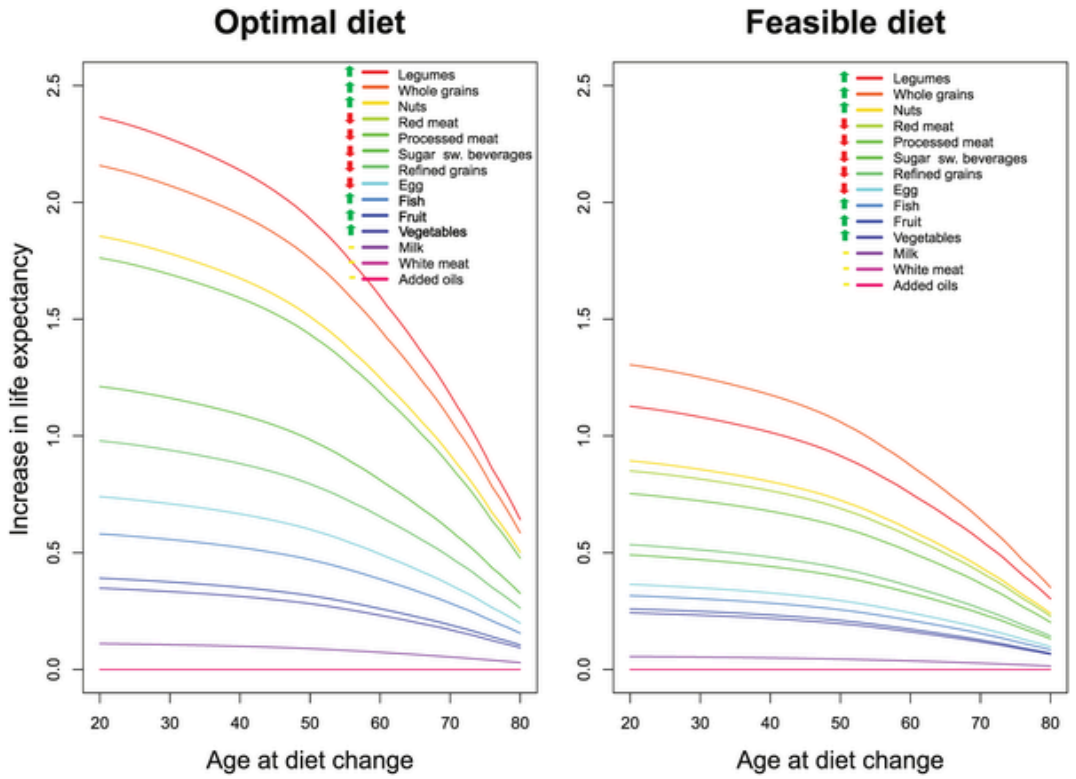


Multivariable analysis was adjusted for age, calendar year, marriage status (married; divorced, separated, or single; or widowed), living status (alone or not alone), family history of myocardial infarction (yes or no), family history of diabetes (yes or no), family history of cancer (yes or no), menopausal status (pre- or postmenopausal [never, past, or current menopausal hormone use]; Nurses' Health Study only), multivitamin use (yes or no), aspirin use (yes or no), total energy intake (quintile), smoking status (never, former, or current smoker [1-14, 15-24, or ≥25 cigarettes/d]), alcohol drinking (0, 0.1-4.9, 5.0-14.9, 15.0-19.9, 20.0-29.9, or ≥30 g/d), physical activity (quintile), history of hypertension (yes or no), history of hypercholesterolemia (yes or no), and body mass index (<21, 21-24.9, 25-29.9, 30-34.9, or ≥35 [calculated as weight in kilograms divided by height in meters squared]). AHEI indicates Alternate Healthy Eating Index; AMED, Alternate Mediterranean Diet; HEI-2015, Healthy Eating Index 2015; HPDI, Healthful Plant-based Diet Index.

Shan Z ez al: JAMA Intern Med 2023; 183:142-153

Gesunde Lebensverlängerung durch optimale Ernährung

Fadnes LT et al. PLOS Medicine 2022:19:e1003889

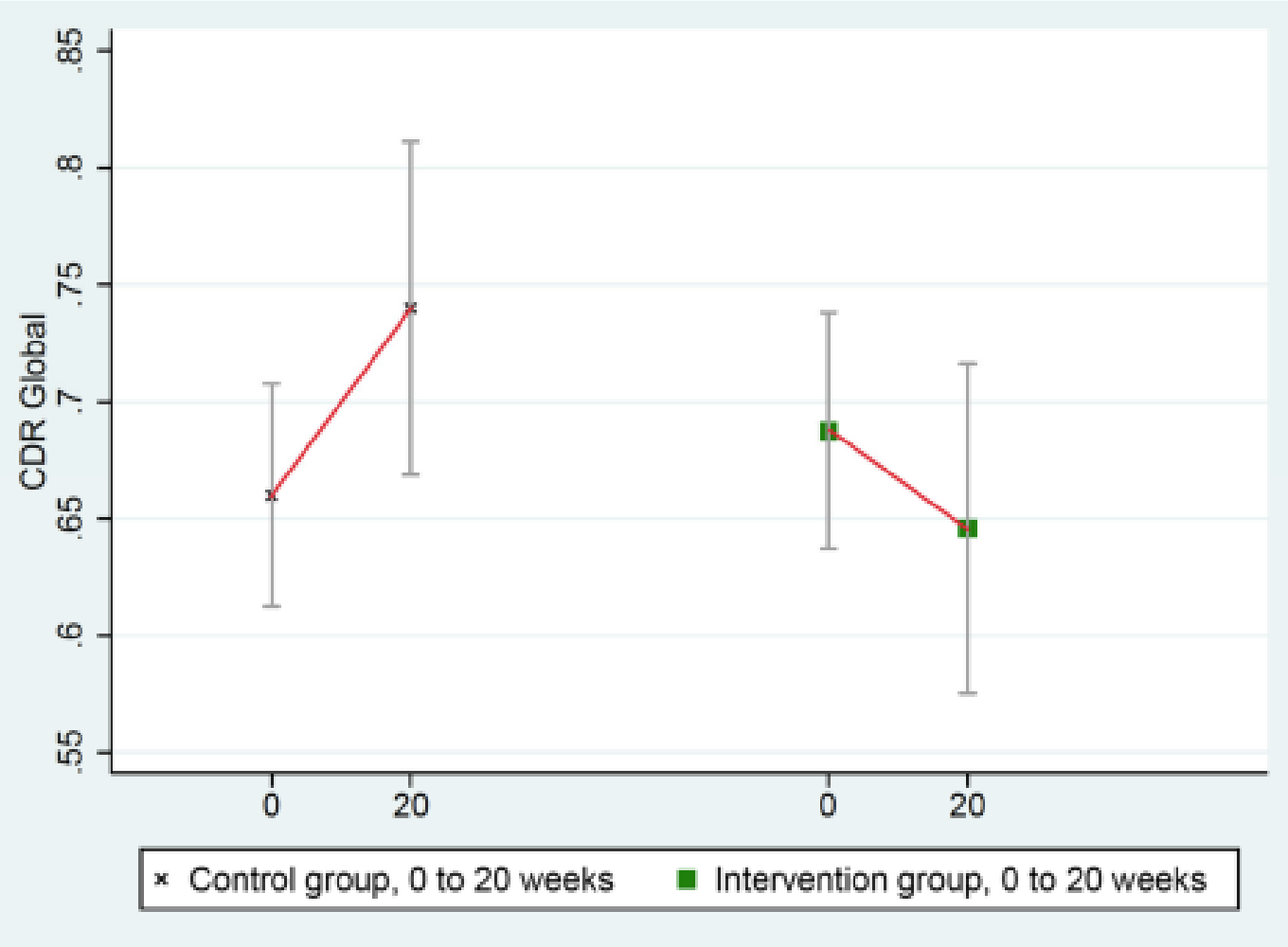


Änderung von „Western Diet“ zu optimaler Ernährung mit 20. Lj.:
11 gesunde Jahre mehr Leben bei Frauen, 13 Jahre bei Männern

Ab 60. Lebensjahr: 8 und 6 Jahre

Pflanzenbasierte Nahrung und Lebensstilmodifikation bei beginnender Demenz – ein randomisierte Studie

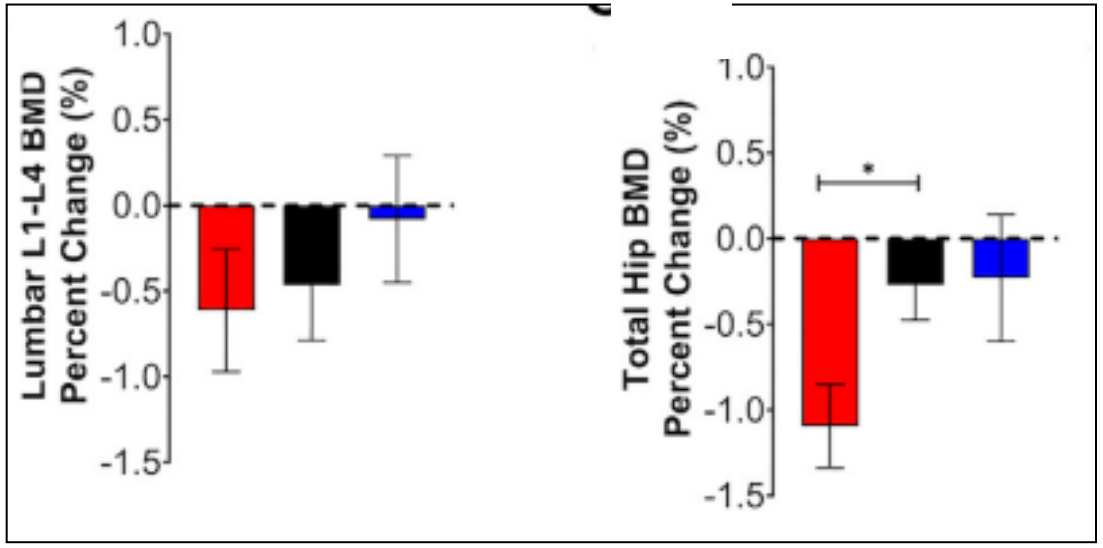
D. Ornish et al: Alzheimers Research and Therapy 2024; 16:122



Pflaumen schützen vor Osteoporose

Prunes preserve hip bone mineral density in a 12-month randomized controlled trial in postmenopausal women: the Prune Study

Mary Jane De Souza,[1] Nicole CA Strock,[1] Nancy I Williams,[1] Hang Lee,[2] Kristen J Koltun,[1,3] Connie Rogers,[4] Mario G Ferruzzi,[5] Cindy H Nakatsu,[6] and Connie Weaver[7]



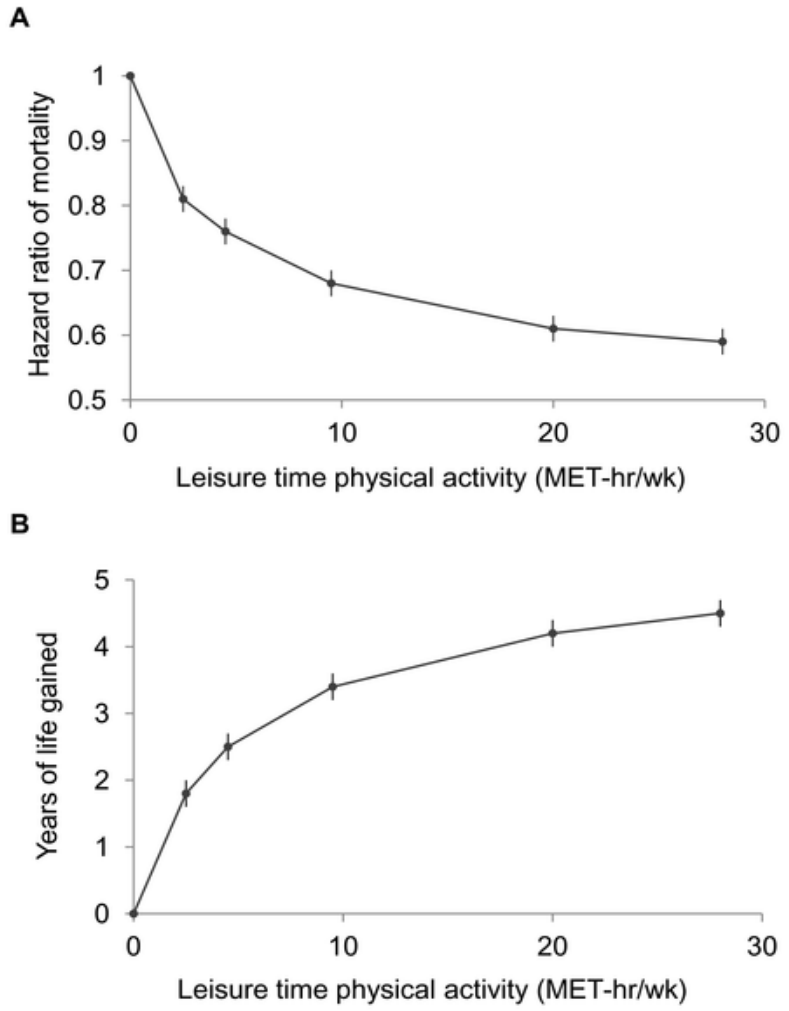
Gesunde Ernährung lebenslang wichtig
Besonders in der Gemeinschaftsverpflegung

- Vollwertig
- Pflanzenbetont, mindestens ¾ der Ernährung = pflanzlich
- Viele sekundäre Pflanzenstoffe aus buntem Gemüse, Obst, Beeren, Gewürzen
- Wenig Hochverarbeitetes
- Zucker ↓ ↓ ↓
- Salz ↓ ↓ ↓
- Frisch gekocht ggü Convenience gesünder Regional
- Seisonal, regional : reicher an Mikronährstoffen

Krankmachender Überfluss und bequemes modernes Leben

Bildquelle: Prof Blüher, Leipzig

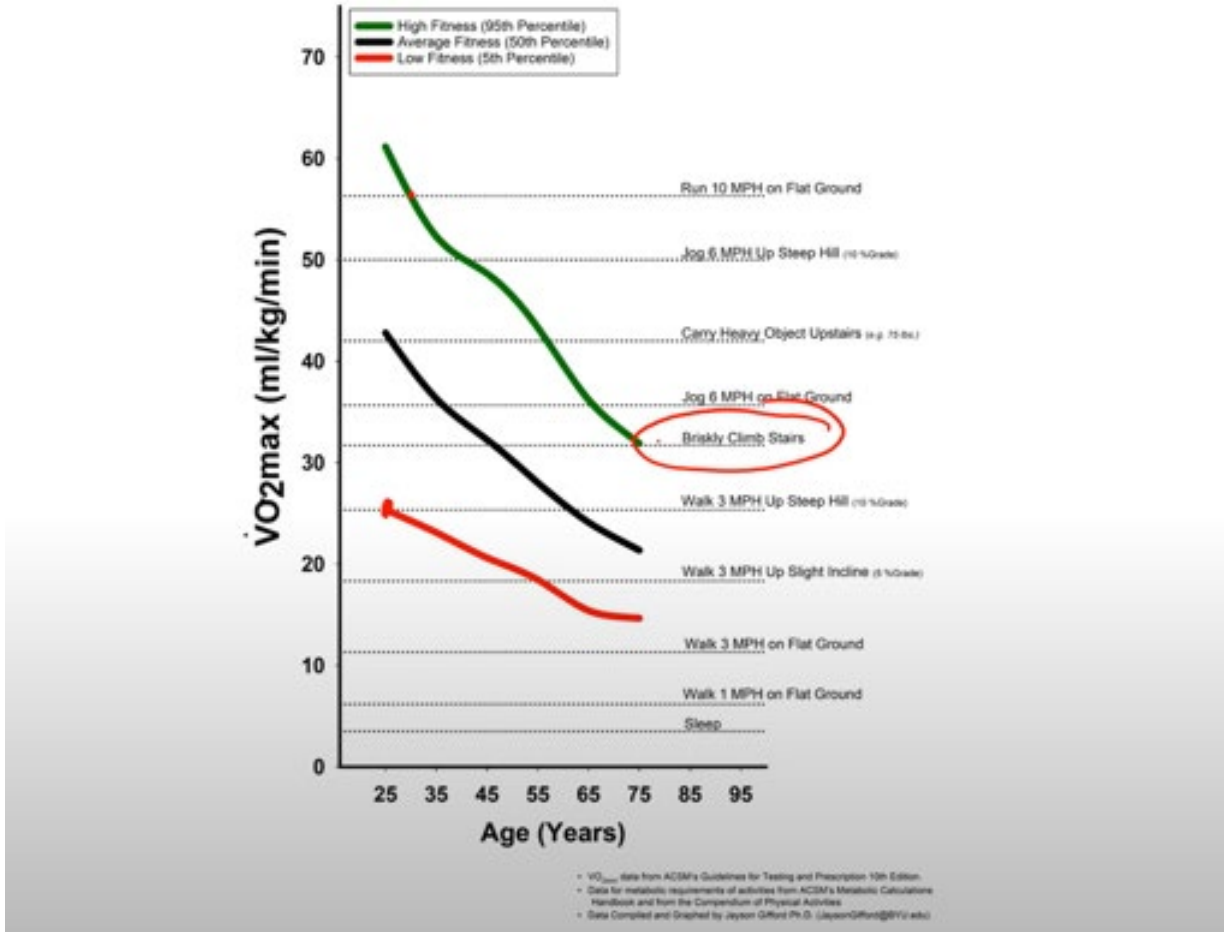
Elixier Bewegung



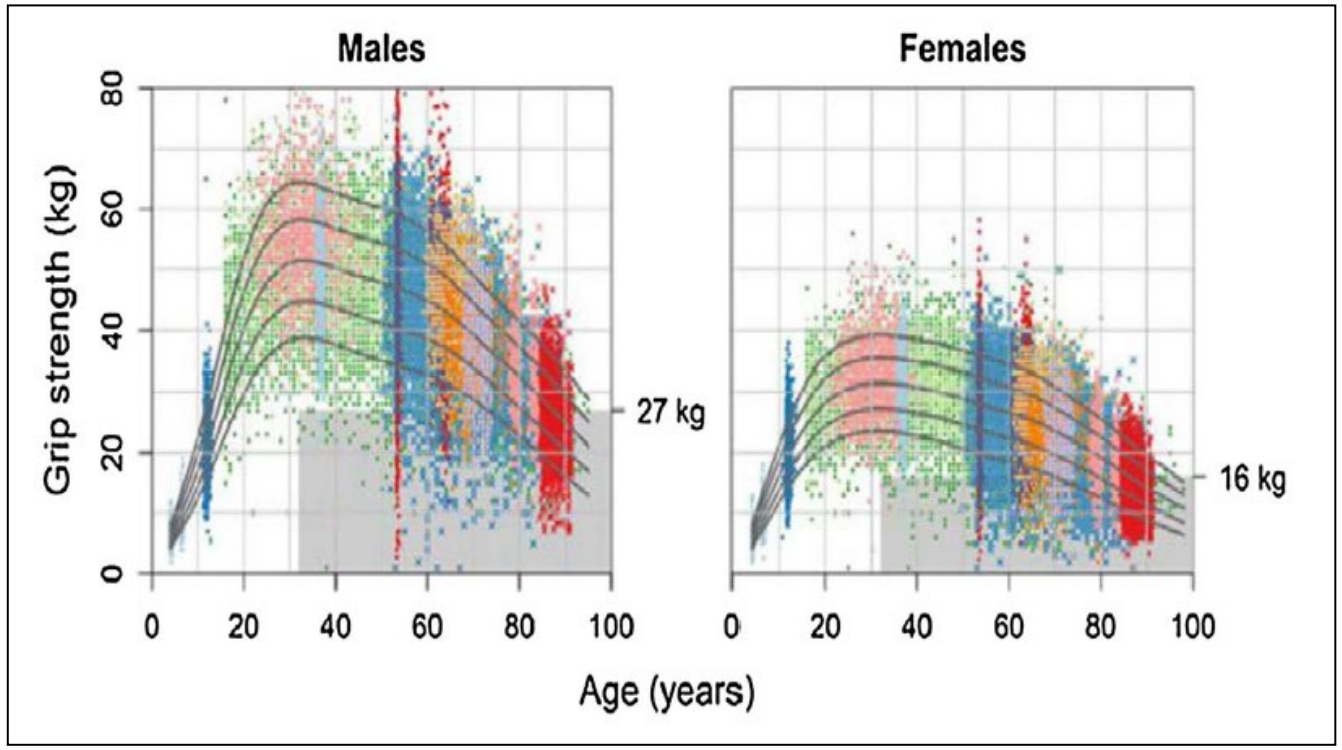
3 Met: leichte Bewegung 1h
6 Met: Sport 1h

Moore SC, Patel AV, Matthews CE, Berrington de Gonzalez A, et al. (2012) Leisure Time Physical Activity of Moderate to Vigorous Intensity and Mortality: A Large Pooled Cohort Analysis. PLoS Med 9(11): e1001335. doi:10.1371/journal.pmed.1001335
http://www.plosmedicine.org/article/info:doi/10.1371/journal.pmed.1001335

Was passiert mit usnerer aeroben Leistungsfähigkeit wenn wir älter werden ?



Stark bleiben



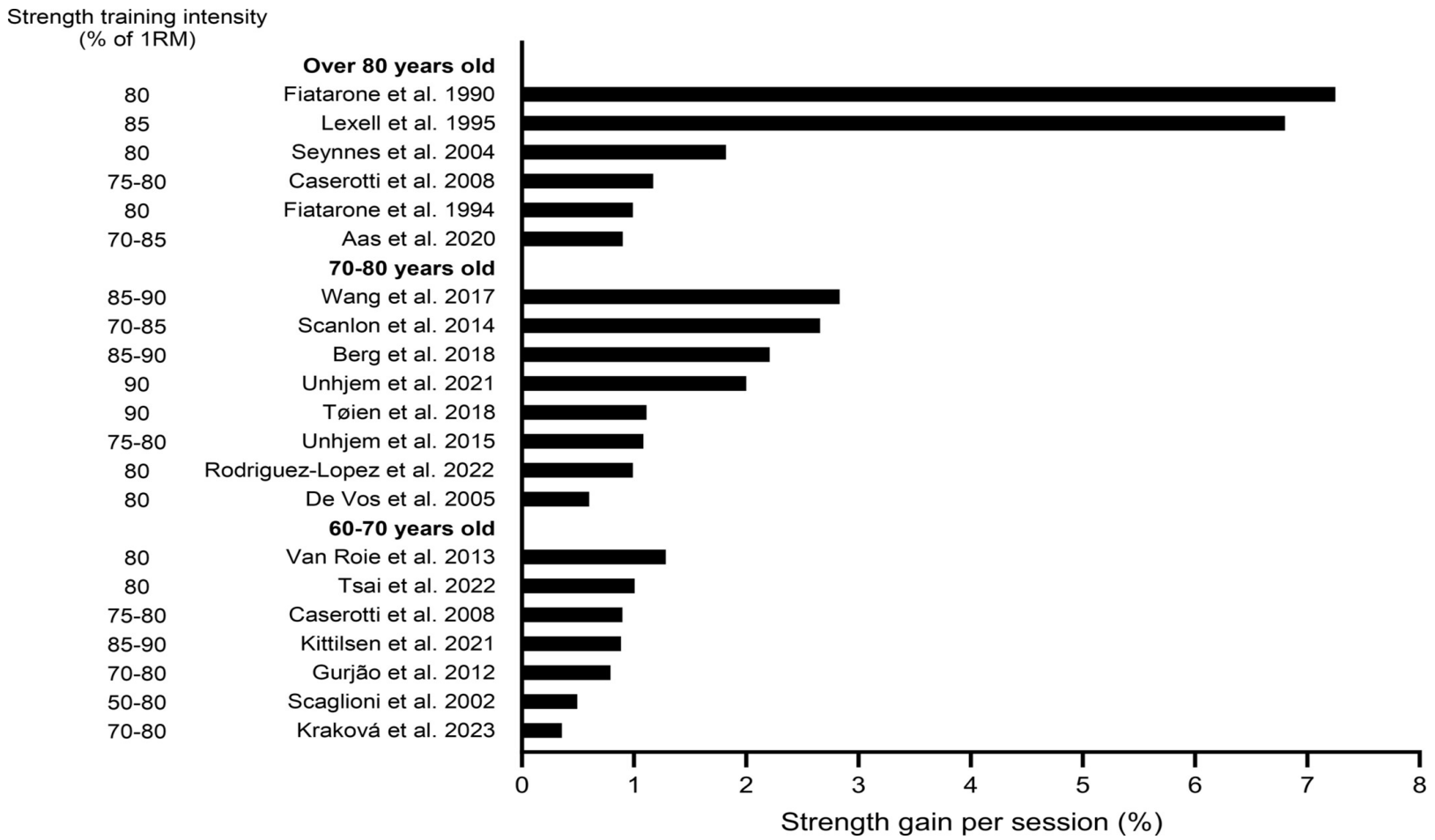
J. Sarcopenia 2022

Schweres Gewichtstraining bei Älteren: Wirksam mit jeder Übungsserie

Heavy Strength Training in Older Adults: Implications for Health, Disease and Physical Performance

Tiril Tøien[1] | Ole Kristian Berg[1] | Roberto Modena[1,2] | Mathias Forsberg Brobakken[1,3] | Eivind Wang[1,3]

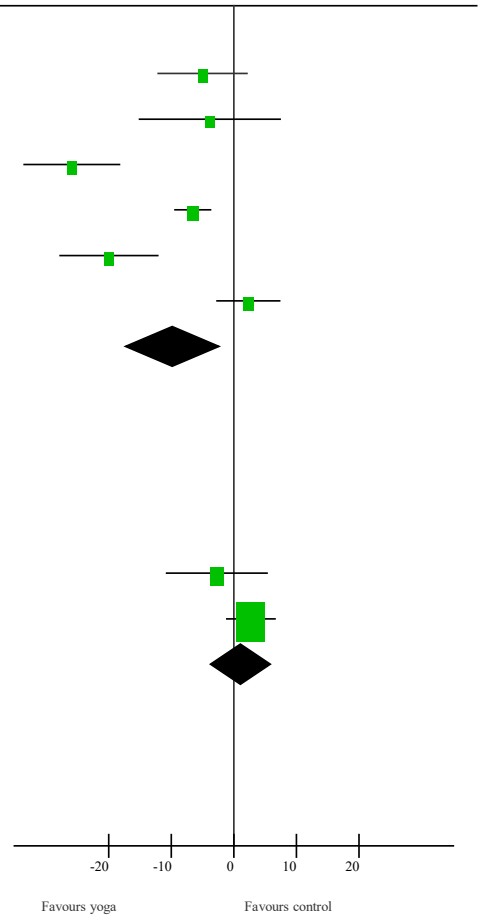
[1]Department of Health and Social Sciences, Molde University College, Molde, Norway | [2]Sport Mountain and Health Research Center (CeRiSM), University of Verona, Verona, Italy | [3]Department of Psychosis and Rehabilitation Psychiatry Clinic, St. Olavs University Hospital, Trondheim, Norway



J cachexia sarcopenia muscle, Volume: 16, Issue: 2, First published: 16 April 2025, DOI: (10.1002/jcsm.13804)

Yoga und Blutdrucksenkung: Metaanalyse

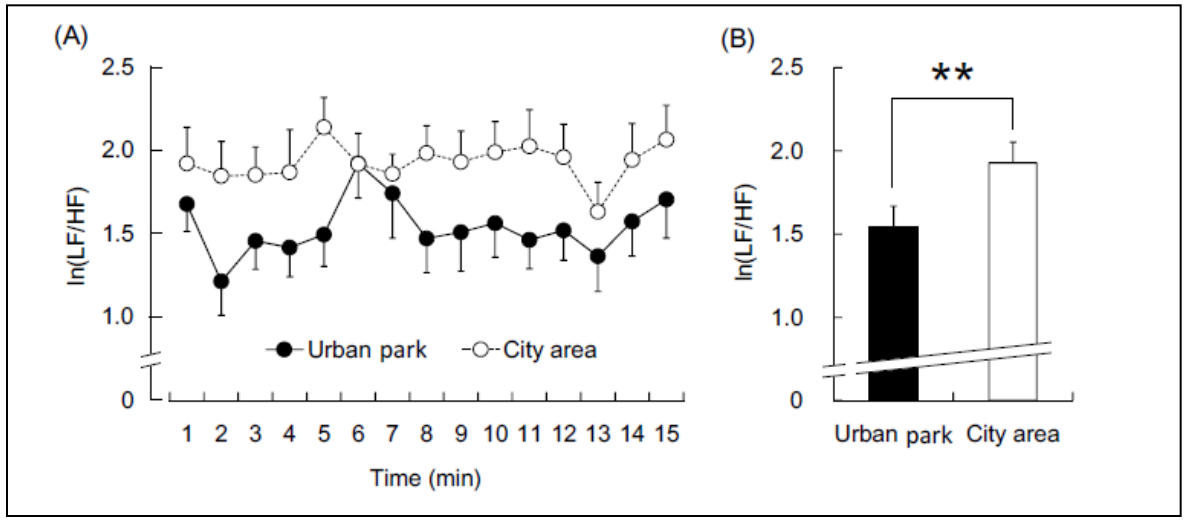
	Yoga			Control				Mean Difference	Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	IV, Random, 95% CI
Yoga vs. usual care									
Cohen 2011	126	15.30	26	131	11.14	31	16.7%	-5.00 [-12.07, 2.07]	
Latha 1991	148.32	10.14	7	152.16	11.20	7	13.7%	-3.84 [-15.03, 7.35]	
McCaffrey 2005	136.04	10.34	27	161.89	17.28	27	16.3%	-25.85 [-33.45, -18.25]	
Mourya 2009	139.44	5.25	40	146	5.25	20	19.0%	-6.56 [-9.38, -3.74]	
Murugesan 2000	123.09	10.14	11	143.01	11.93	22	16.2%	-19.92 [-27.71, -12.13]	
Saptharishi 2009	126	9.30	30	123.7	10.40	30	18.0%	2.30 [-2.69, 7.29]	
Subtotal (95% CI)			**141**			**137**	**100.0%**	**-9.65 [-17.23, -2.06]**	
Heterogeneity: Chi² = 48.21, df = 5 (P < 0.00001); I² = 90%									
Test for overall effect: Z = 2.49 (P = 0.01)									
Yoga vs. exercise									
Hagins 2014	130.68	14.99	36	133.36	18.29	32	27.8%	-2.68 [-10.69, 5.33]	
Saptharishi 2009	126	9.3	30	123.3	5.2	28	72.2%	2.70 [-1.15, 6.55]	
Subtotal (95% CI)			**66**			**60**	**100.0%**	**1.20 [-3.52, 5.93]**	
Heterogeneity: Chi² = 1.41, df = 1 (P = 0.24); I² = 29%									
Test for overall effect: Z = 0.50 (P = 0.62)									
Test for subgroup differences: Chi² = 5.66, df = 1 (P = 0.02), I² = 82.3%									



Cramer, Lauche R, Michalsen A et al.
Am J Hypertens, 2014.

In der Natur erhält uns gesund - Shinrin Yoku

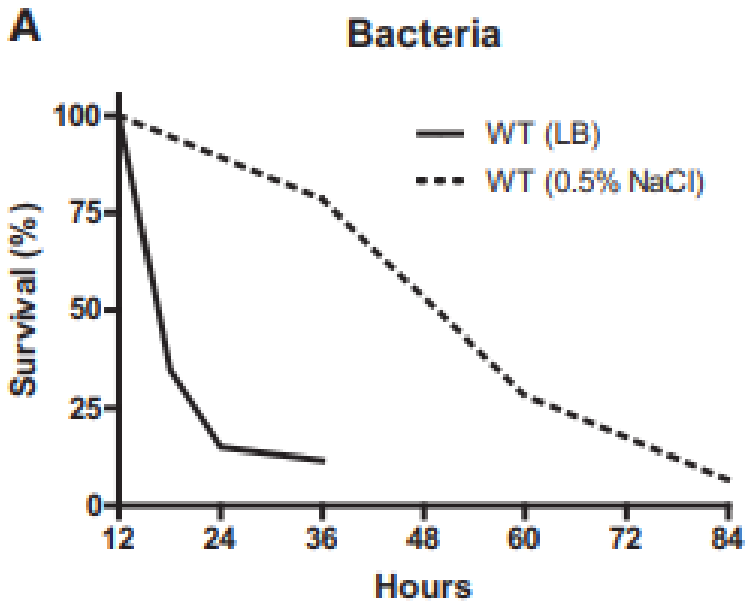
15 min Spaziergehen im Wald vs Stadt verbessert Stimmung, Depressivität, Ängste und erhöht Vitalität

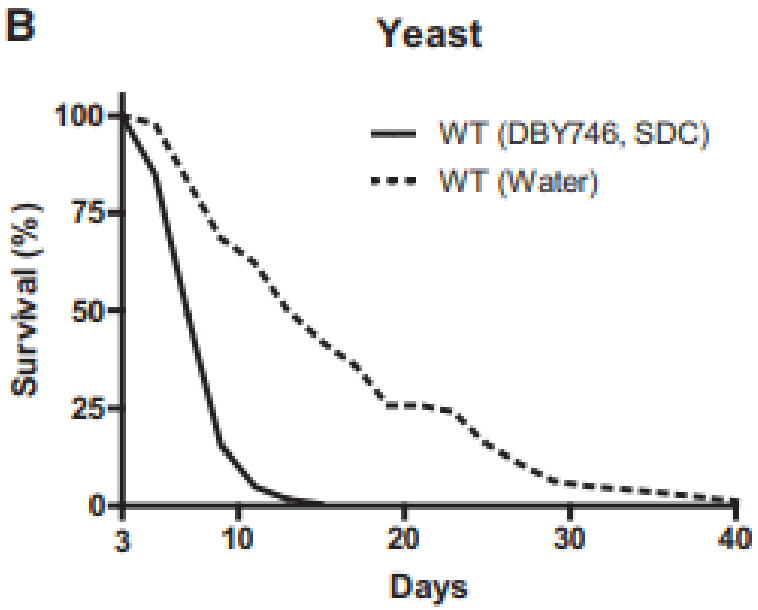


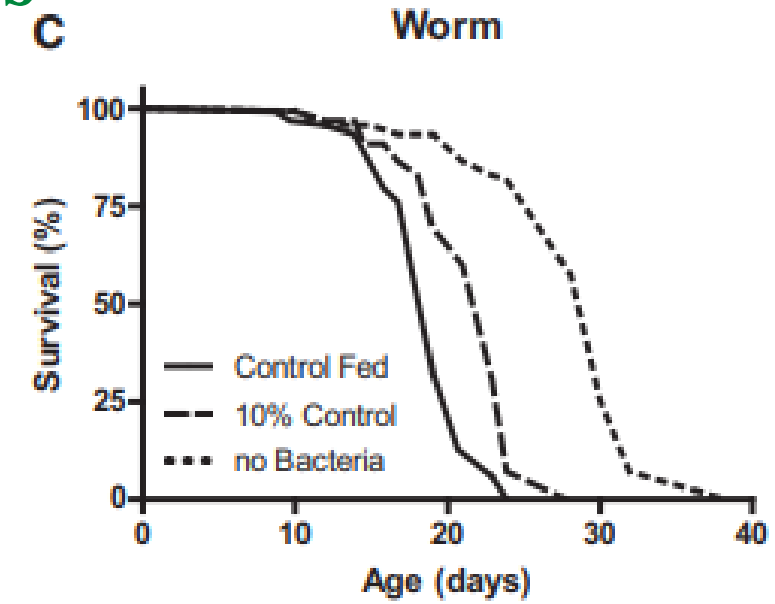
Song et al: Int J Environ Res Public Health 2015

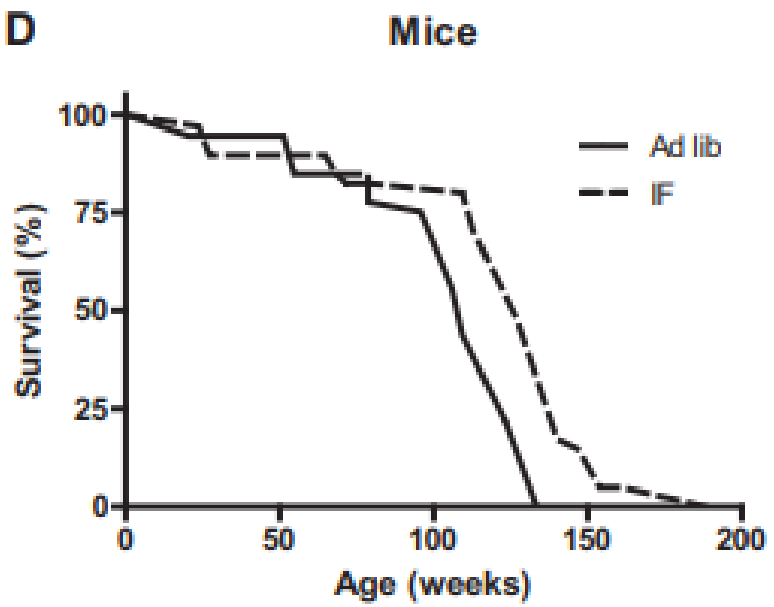
Fasten

Verlängert gesundes Leben bei allen Spezies







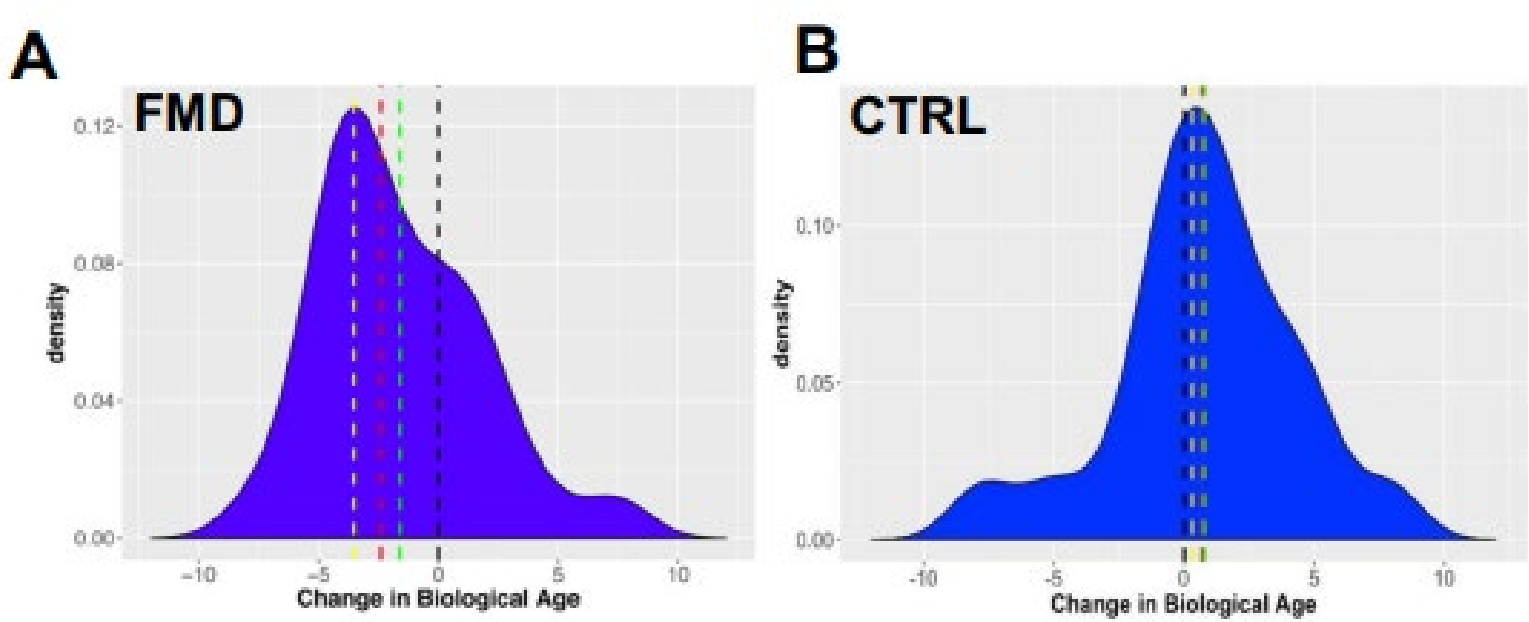


nature communications

Article

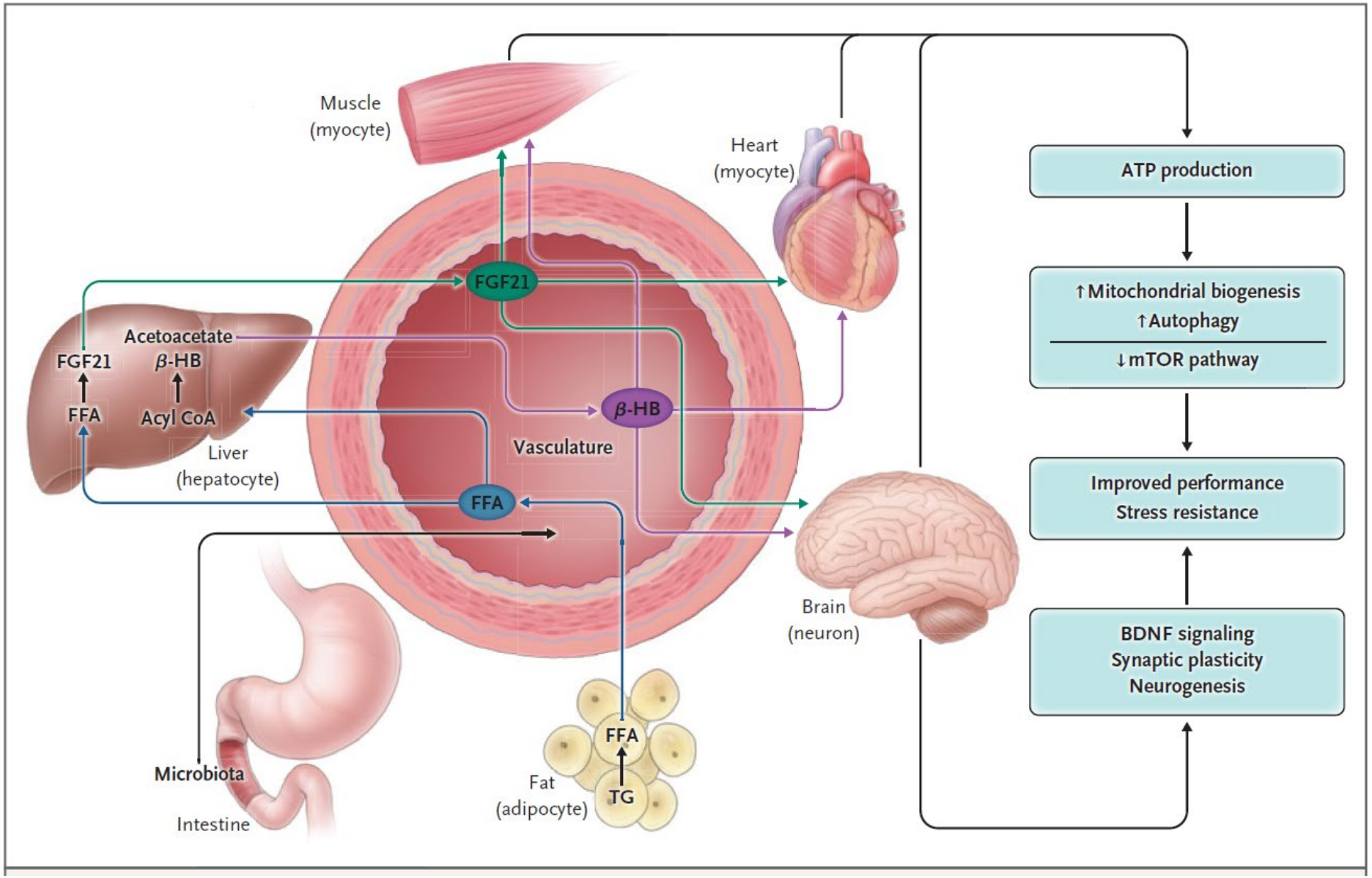
https://doi.org/10.1038/s41467-024-45260-9

Fasting-mimicking diet causes hepatic and blood markers changes indicating reduced biological age and disease risk



Brandhorst S et al. Nature Comm 2024

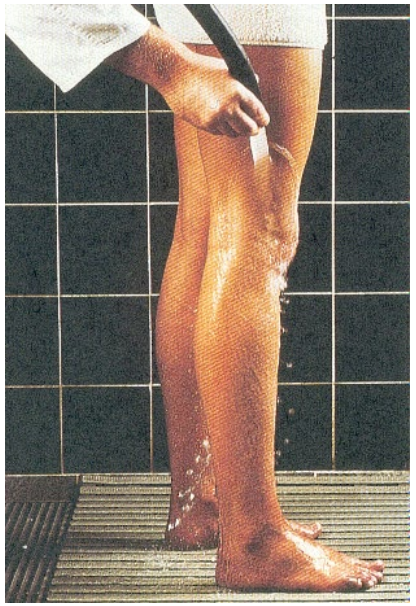
Schutzmechanismen des Fastens



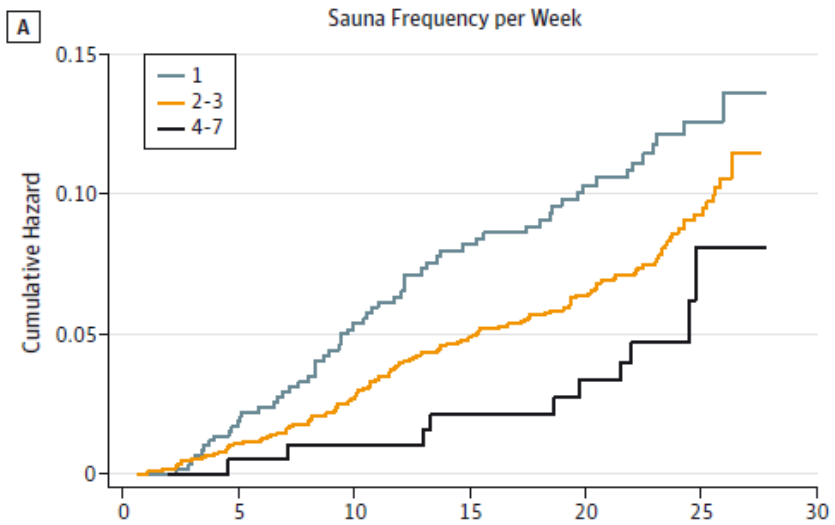
De Cabo R und Mattson M, New Engl J Med. 2019; 381:2541-2551

Kneipp Hydro-Therapie
Kälte und Wärme als Prävention

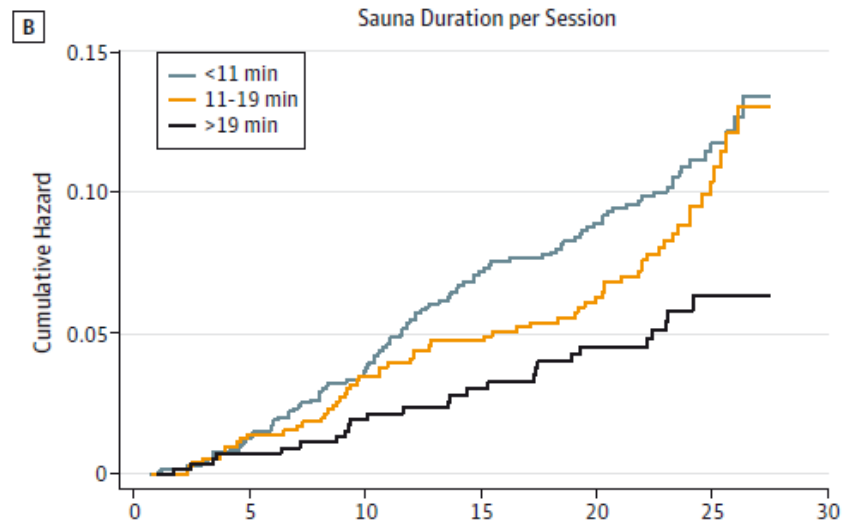
Pfarrer Sebastian Kneipp



Sauna –
Prävention Herzinfarkt und Schalganfall



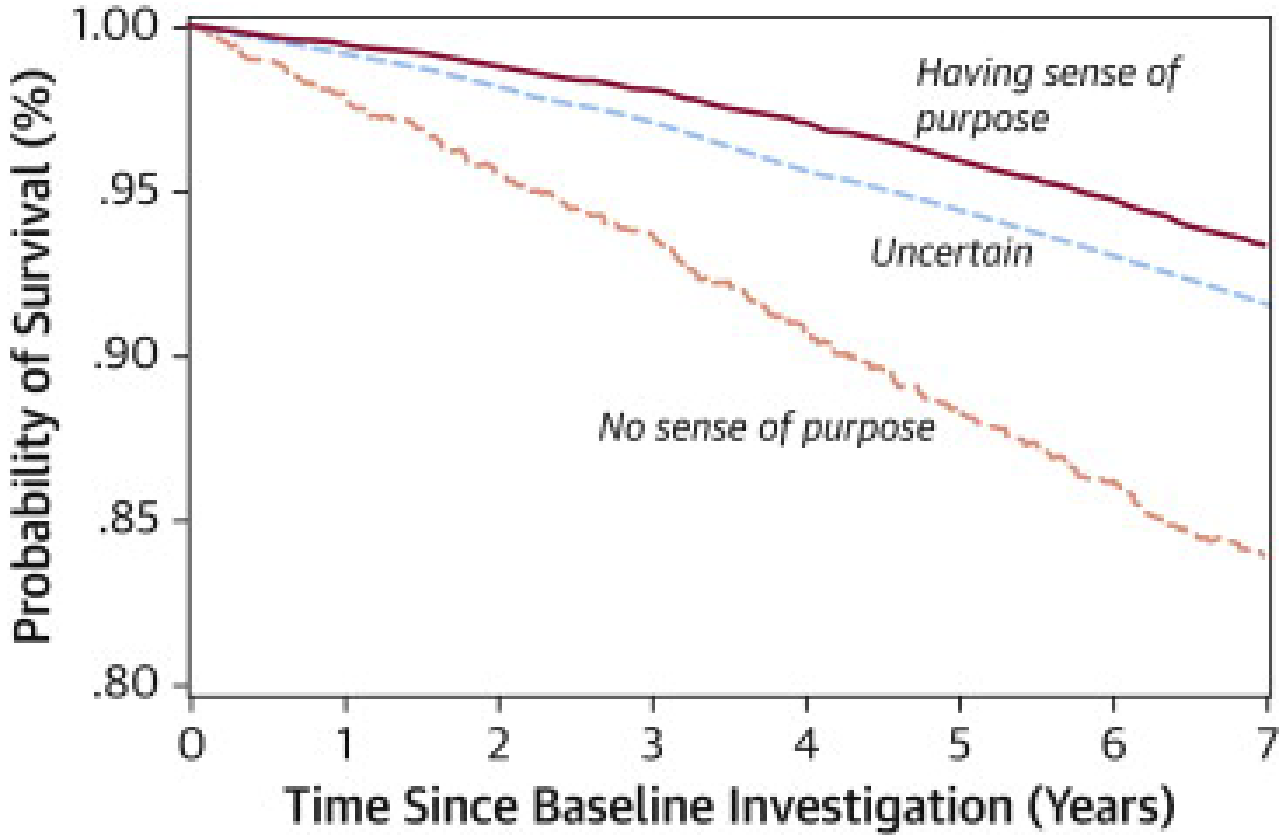
Frequency per week						
1	601	575	521	462	389	160
2-3	1513	1468	1379	1268	1140	466
4-7	201	200	189	176	163	51



Duration per session						
<11 min	1065	1029	946	861	761	312
11-19 min	722	701	661	615	555	220
>19 min	528	515	484	432	379	148

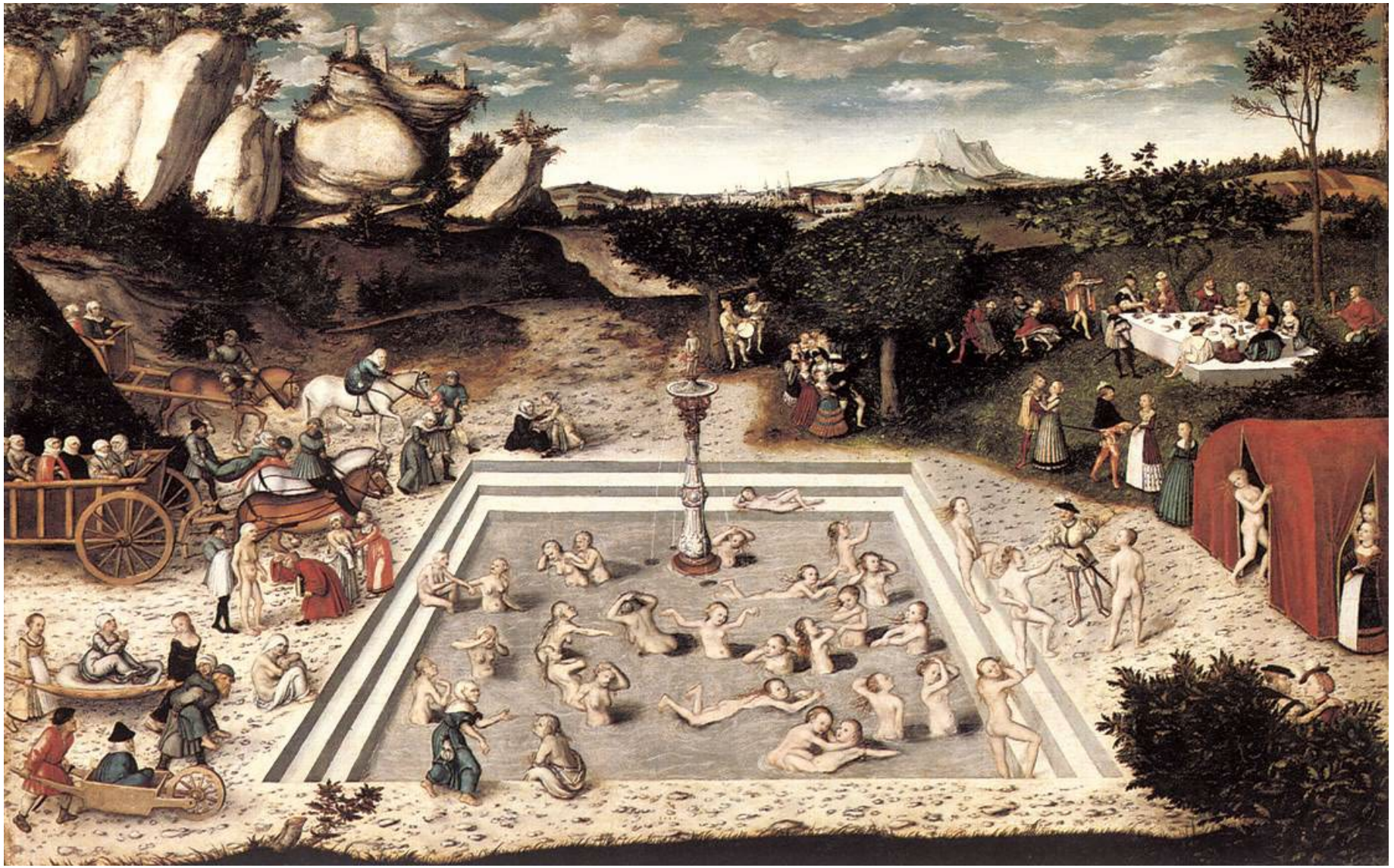
A, Frequency of sauna bathing per week ($P = .045$); B, duration of sauna bathing session ($P = .009$).

Einen Sinn im Leben haben und Qualität sozialer Kontakte



Journal of the American College of Cardiology, Volume 64, Issue 1, 2014, 100 - 110

A. Rozanski: Behavioral Cardiology : Current Advances and Future Directions



Lucas Cranach, *The fountain of youth,* 1546