

Education, health and mortality across the world: evidence from the ATHLOS project

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Ageing Trajectories of Health: Longitudinal Opportunities and Synergies ATHLOS

To achieve a better understanding of ageing by identifying trajectories of healthy ageing and relevant risk factors and determinants

Harmonised data from ageing cohort studies across the world
N=4 ,

Developed a common measure for healthy ageing
Examined trajectories of healthy ageing and relevance

ATHLOS Healthy Ageing Score

4 items on health and functional limitations

Education measure in ATHLOS

Harmonised education qualification available in cohort studies,
N= ,

ATHLOS education	Total	High income	Low and middle income	Eight longitudinal studies
Less than primary	%	%	%	9%
Primary	%	%	%	%
Secondary	4 %	%	%	%
Tertiary	%	%	%	%

Education and trajectories of healthy ageing

Eight cohort studies with at least three waves N= 4 , 4

Australian Longitudinal Study of Ageing ALSA

English Longitudinal Study of Ageing ELSA

Study on Cardiovascular Health, Nutrition and Frailty in Older Adults in Spain
ENRICA

Health and Retirement Study HRS

Japanese Study of Ageing and Retirement JSTAR

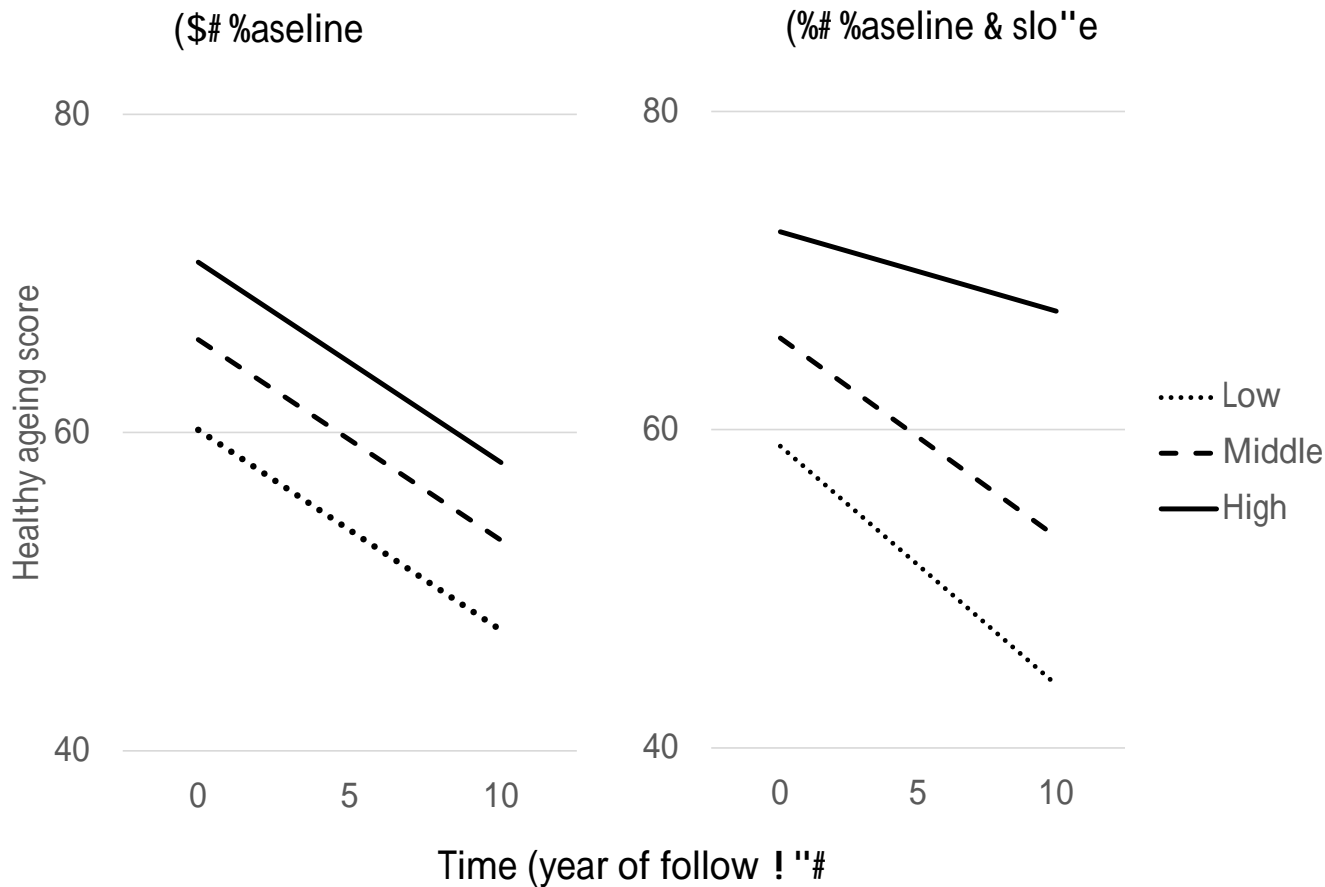
Korean Longitudinal Study of Ageing KLOSA

Mexican Health and Ageing Study MHAS

Survey of Health Ageing and Retirement in Europe SHARE

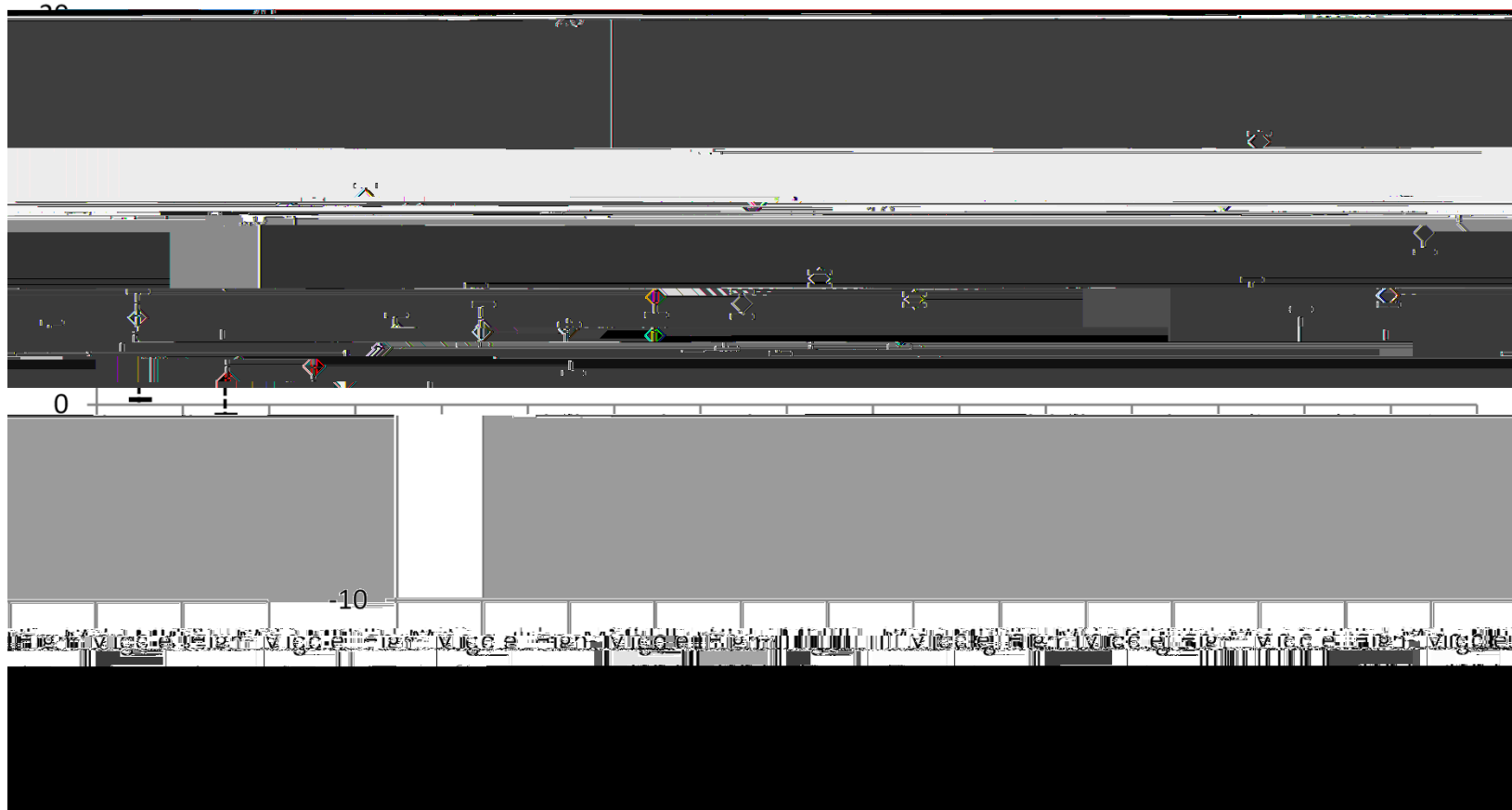
Education: low primary or less , middle secondar

The 'effect' of education on trajectories of healthy ageing



Multilevel modelling
 Modelled by year of follow up; centred at age
 Adjusted for age, sex, cohort study
 The overall population and potential variation across studies

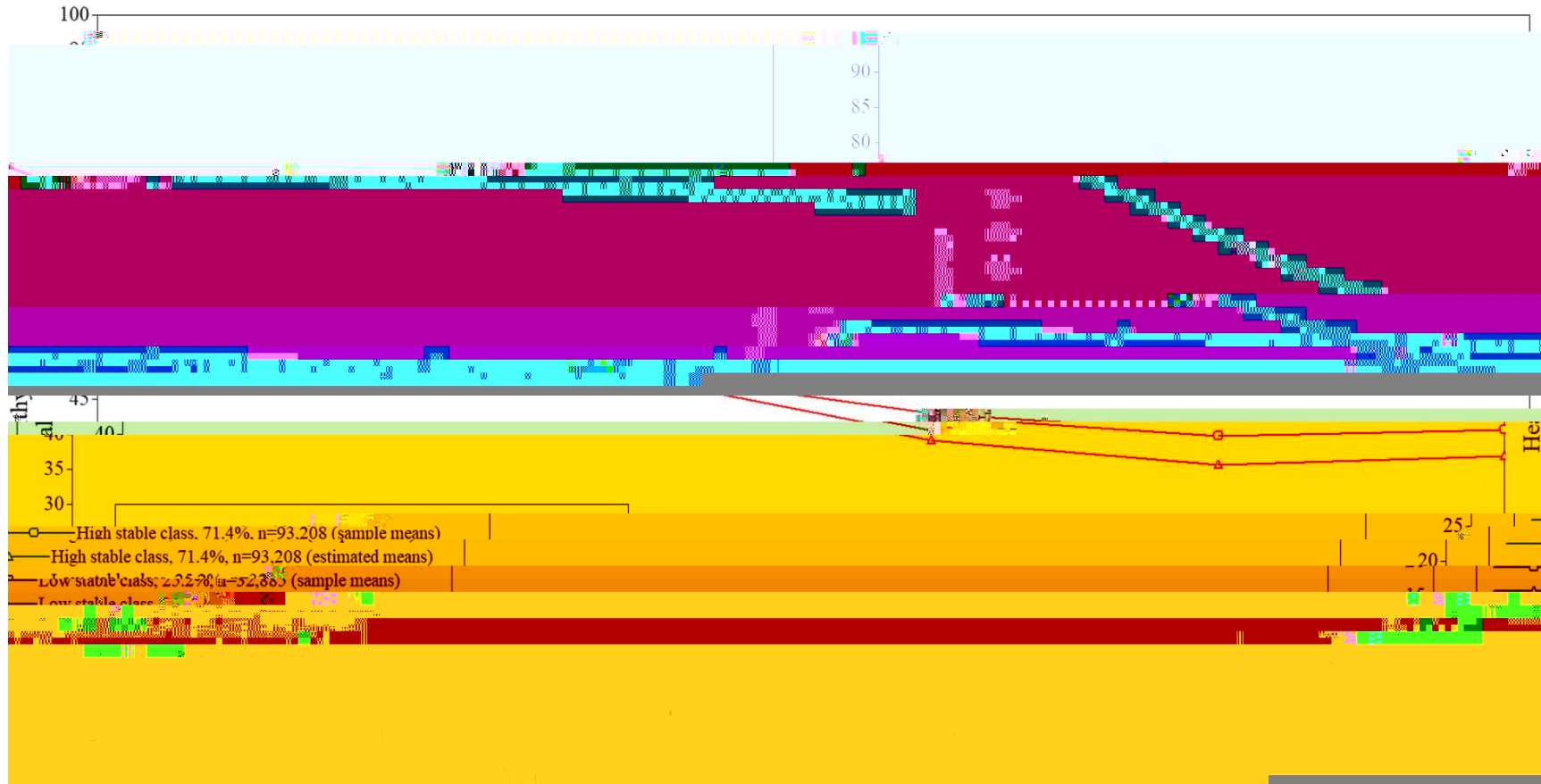
Differential impacts of education on baseline scores across cohorts: adjusted for age and sex



Reference: Wu YT, et al Education and wealth inequalities in healthy ageing in eight harmonised cohorts in the ATHLOS consortium: a population based study Lancet Public Health ; :e e 94

Three types of healthy ageing: 3-class growth mixture model

High stable green, 4% , low stable blue, % and fast decline red, 4%



Education and types of healthy ageing trajectories adjusted for age and sex

Education level	High stable			Low stable			Fast decline		
	OR	95% CI		OR	95% CI		OR	95% CI	
Middle vs low	ref						9		
High vs low	ref			4			4		9

Low education: primary or less; Middle: secondary; High: tertiary

Education and mortality

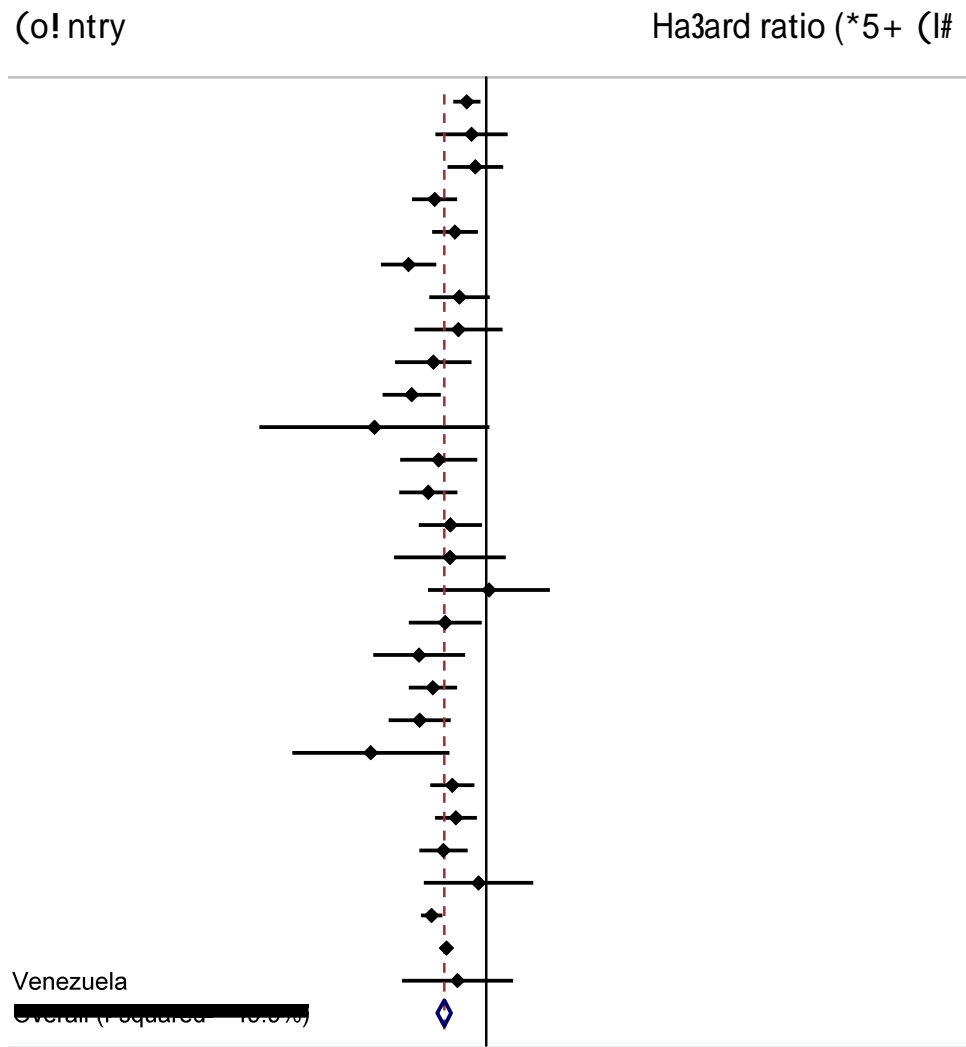
cohort studies N= 9, 44 in countries

Education: secondary education or more vs primary education or less

Cox regression model by countries meta analysis
Adjusted for age and sex

Pooled estimate

Heterogeneity $I^2 = 49.9\%$



Summary

Education was positively associated with healthy ageing but the effect was mainly found in the baseline

Higher education was associated with reduced risk of mortality in later life

The effect sizes varied across cohort studies countries

A lifecourse approach: cumulative disadvantage due to low education

Acknowledgement

All investigators and researchers

References

Moreno Agostino D, Daskalopoulou C, Wu YT, Koukounari A, Haro JM, Tyrovolas S, Panagiotakos DB, Prince M, Prina AM. The impact of physical activity on healthy ageing trajectories: evidence from eight cohort studies. *Int J Behav Nutr Phys Act* ; :9
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