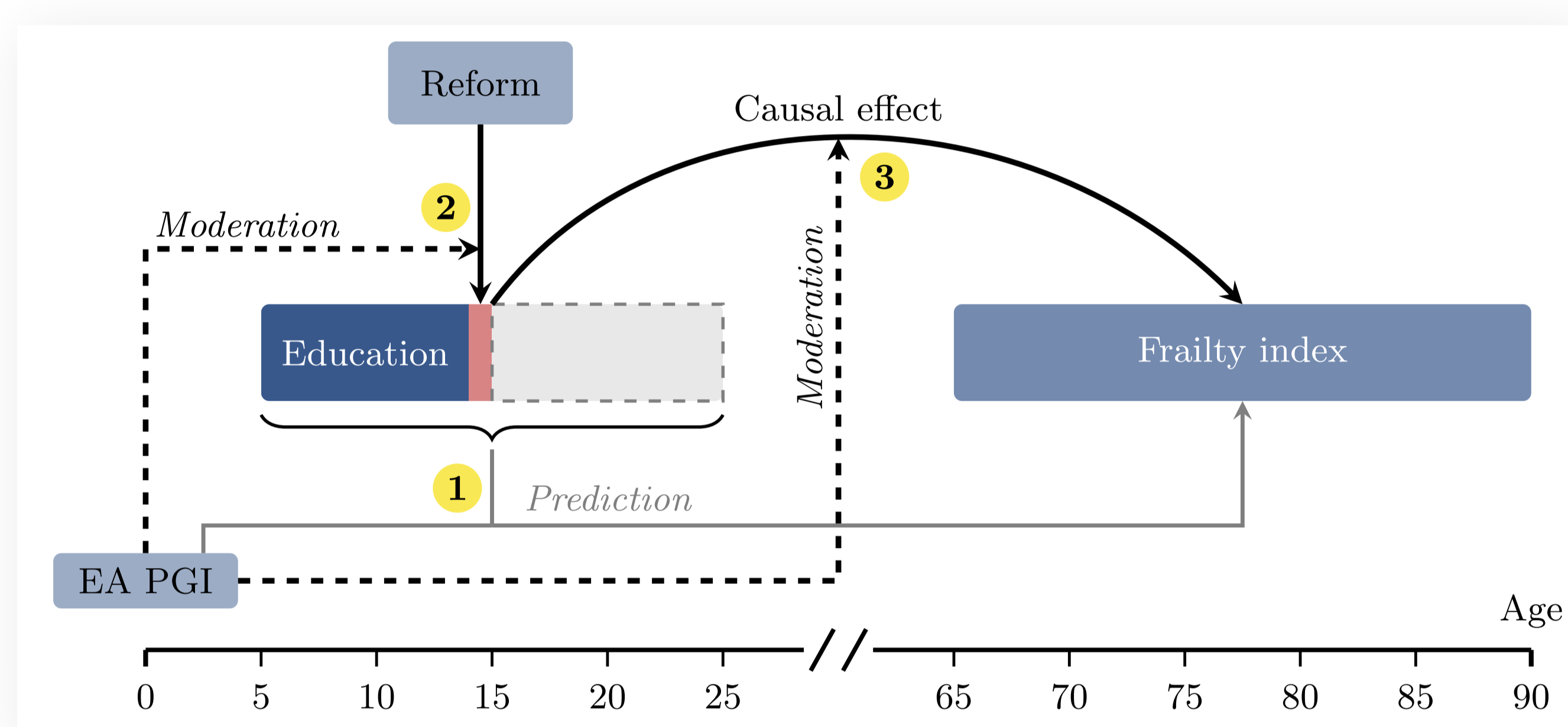


Schooling improves later-life health only for those genetically predisposed to it

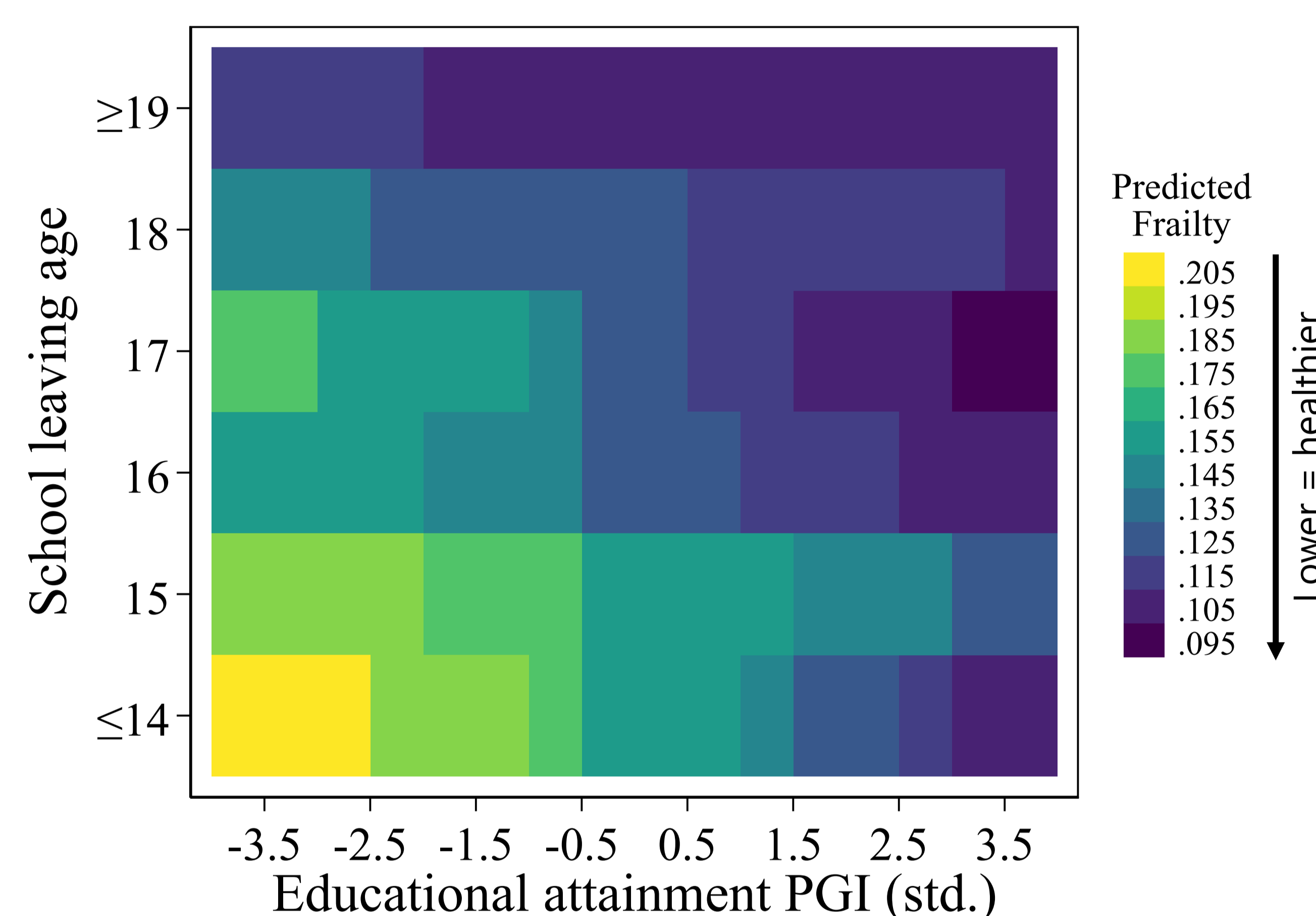
Who Benefits from More Schooling? Genetic Endowment and the Long-Run Health Returns to Compulsory Education

Background: Education is often viewed as an equalizer, yet increasing it may widen later-life inequalities if those already advantaged in early life are able to extract more from it.

Study design



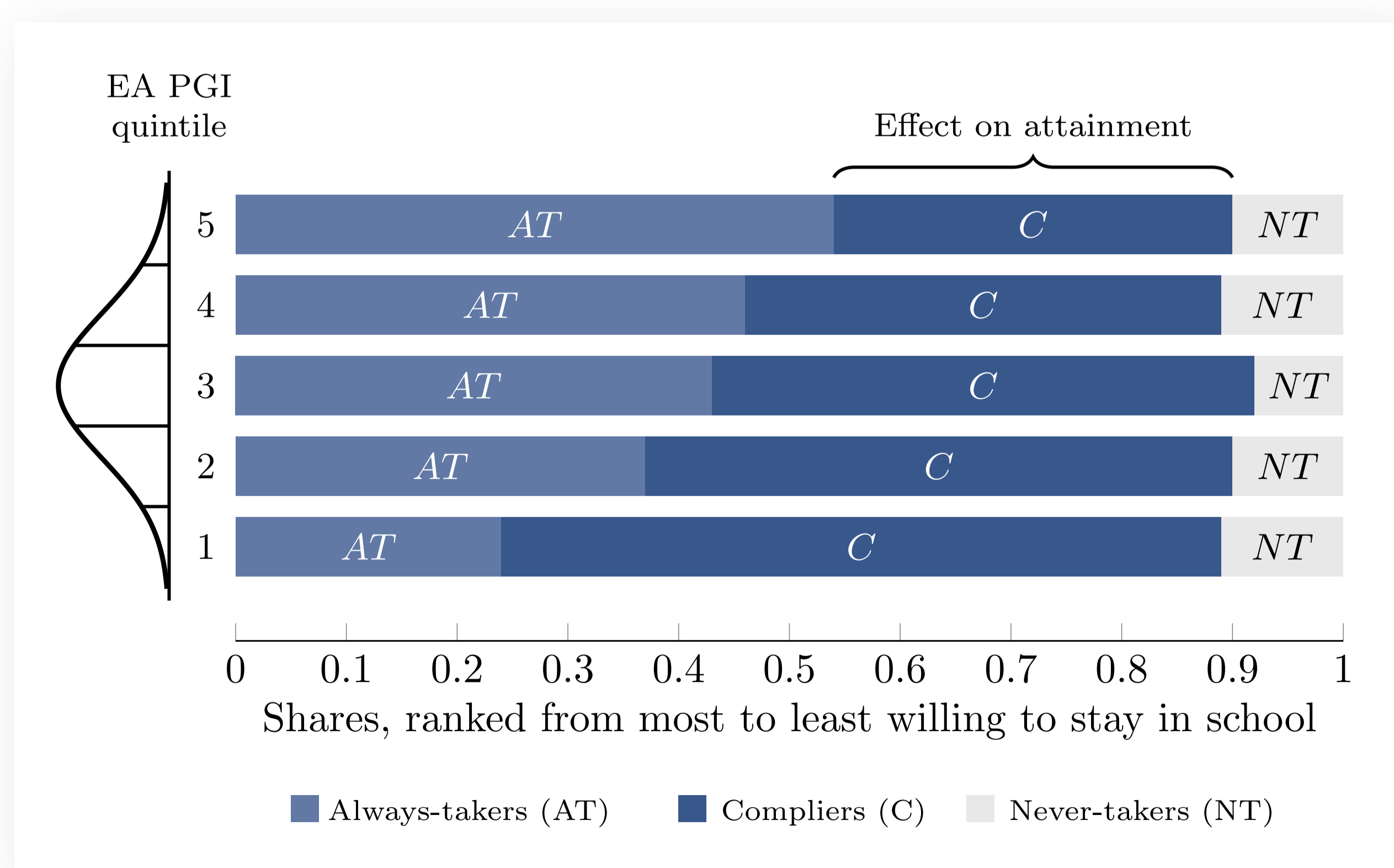
1 Old-age frailty differences by schooling emerge mainly at low genetic propensity for education



3 But the additional education only decreased old-age frailty for those with higher EA PGI

- 📍 **England**
- 📊 **English Longitudinal Study of Ageing** – adults 65+, 10 waves
- 🎓 **1947 reform** – school leaving age raised to 15
- 🏥 **Frailty index** – share of health deficits present
- 📈 **Fuzzy regression discontinuity** – reform shifts ed. attainment, this variation identifies causal effect of schooling on frailty

2 A compulsory schooling reform increased attainment of those with low EA PGI the most



	Second-stage IV estimates			
	Frailty index			
	Main effect		$G \times E$ interaction	
	Coefficient	SE	Coefficient	SE
<i>Schooling E_i</i>				
Still in school at age 15	-0.032**	(0.016)	-0.004	(0.018)
<i>Educational attainment PGI G_i</i>				
1st quintile			reference	
2nd quintile			0.009	(0.015)
3rd quintile			0.008	(0.017)
4th quintile			-0.004	(0.016)
5th quintile			0.028	(0.023)
<i>Interaction $E_i \times G_i$</i>				
1st quintile			reference	
2nd quintile			-0.036**	(0.019)
3rd quintile			-0.027	(0.022)
4th quintile			-0.027	(0.020)
5th quintile			-0.072***	(0.027)
Controls		Age, gender, parents' education	Age, gender, PCs, parents' education	
Observations		11,529	11,529	
Mean frailty (SD)			0.156 (0.11)	



Johannes Hollenbach

RWI – Leibniz Institute for Economic Research & Paderborn University