Lecture 6.
Education and inequality
Éducation et inégalité

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2023-2024

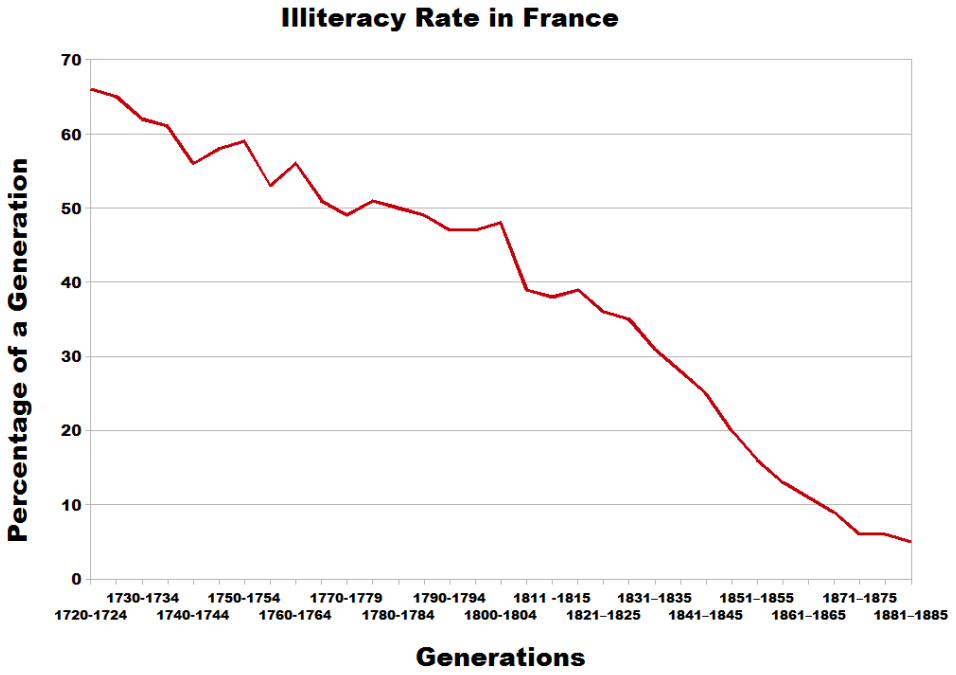
What is (formal) education?

- Extreme familiarity with education: You've been at school since you are 3…
- How and why it's different from "socialization"?
  - All society, even without formal education educate children
  - Family learning of skills: language/counting/professional skills
- Formal education: a special form of socialization
  - Codification of knowledge
  - Separation of spheres, places, etc. (Family / school)
  - Professionalization of educators

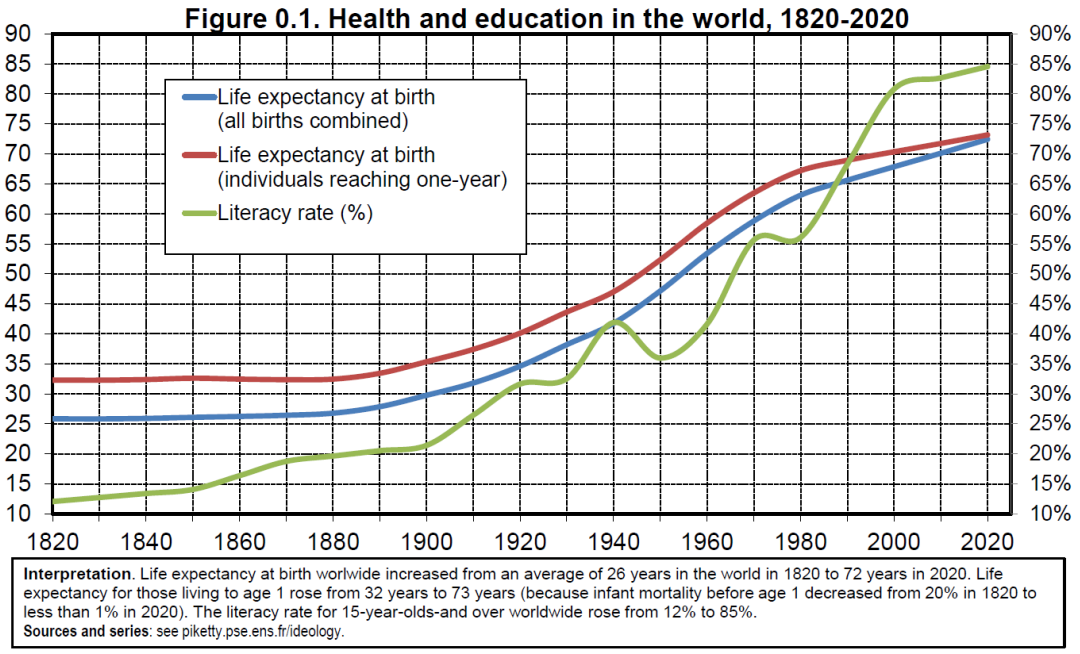
Education at the heart of the modern democratic world

- Rousseau, sovereignty on the *general will.*
  - Citizens must have some political skills for reading, writing, discussing laws
- French Revolution
  - Meritocratic equality: Equality of rights & of opportunity
  - Democratization of school as an ideal: *Écoles Centrales*
- Third Republic. (J. Ferry) : free, public, secular, compulsory school
- 19th/20th century. Development of formal education every where in the world
- Education and Democracy go hand in hand

Expansion of educational system



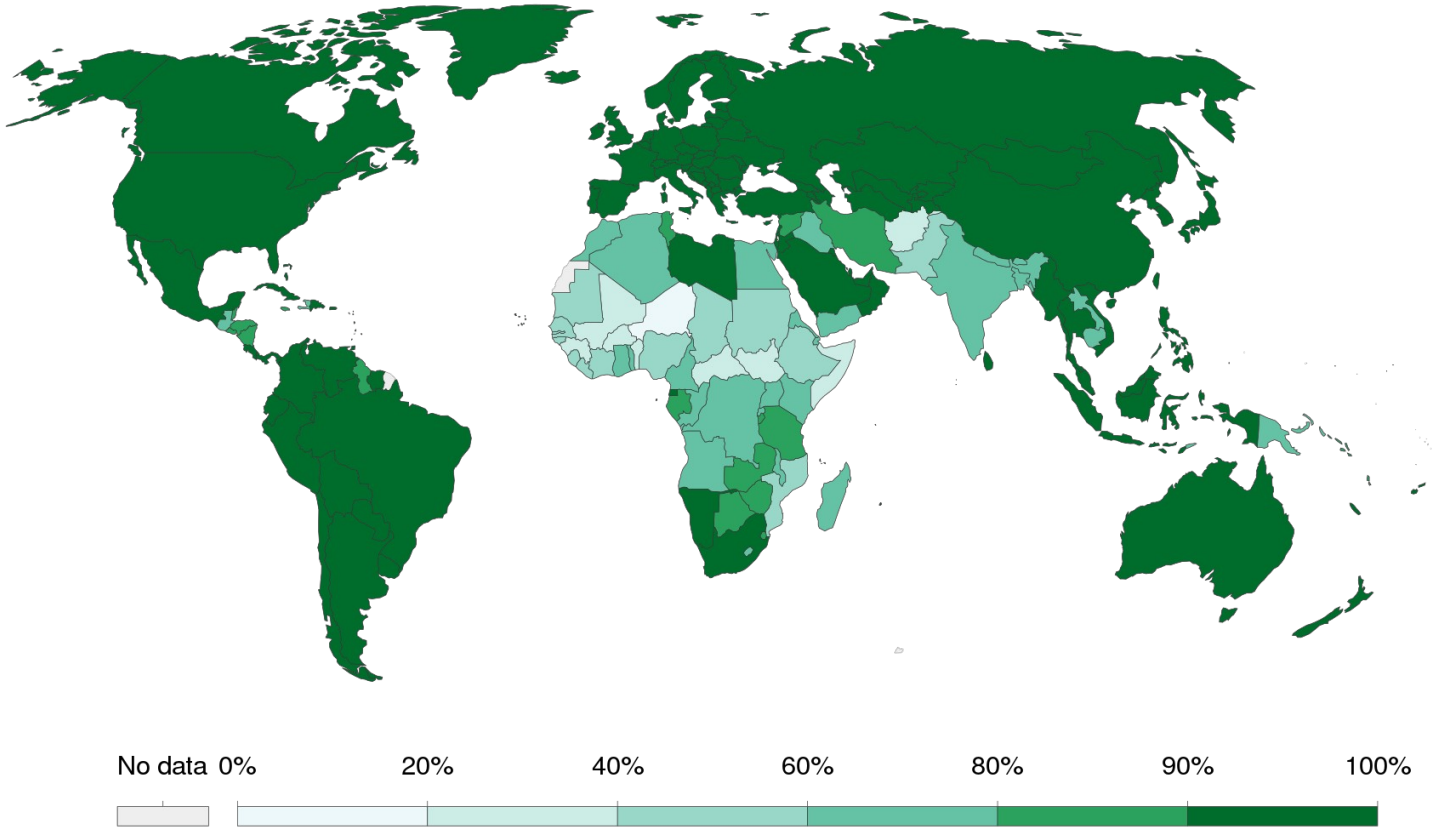
Wikipedia, *Illiteracy*



Piketty, 2019

Adult literacy rates, 2015 or most recent observation

Adult literacy rate is the percentage of people aged 15 and above who can both read and write with understanding a short simple statement about their everyday life. Definitions may differ in some countries. See source for more details.

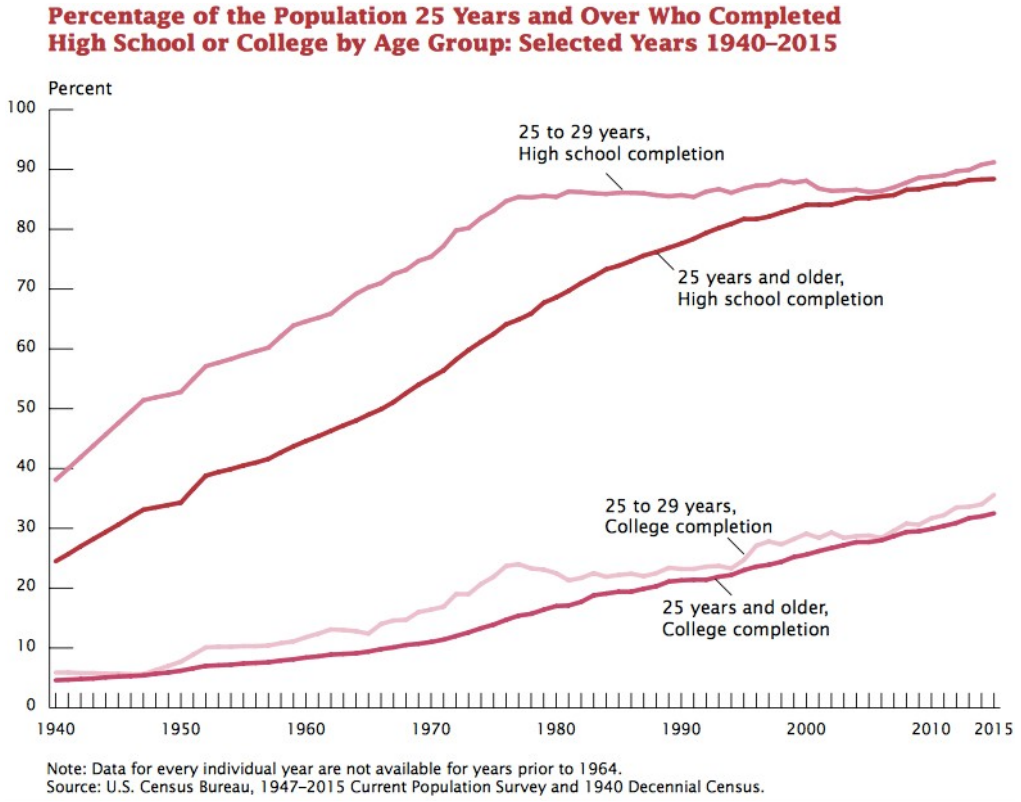


Pockets of illiteracy

- Sub-saharian Africa
- South Asia
- (Central America)

Source: Literacy rates - WDI, CIA World Factbook, & other sources

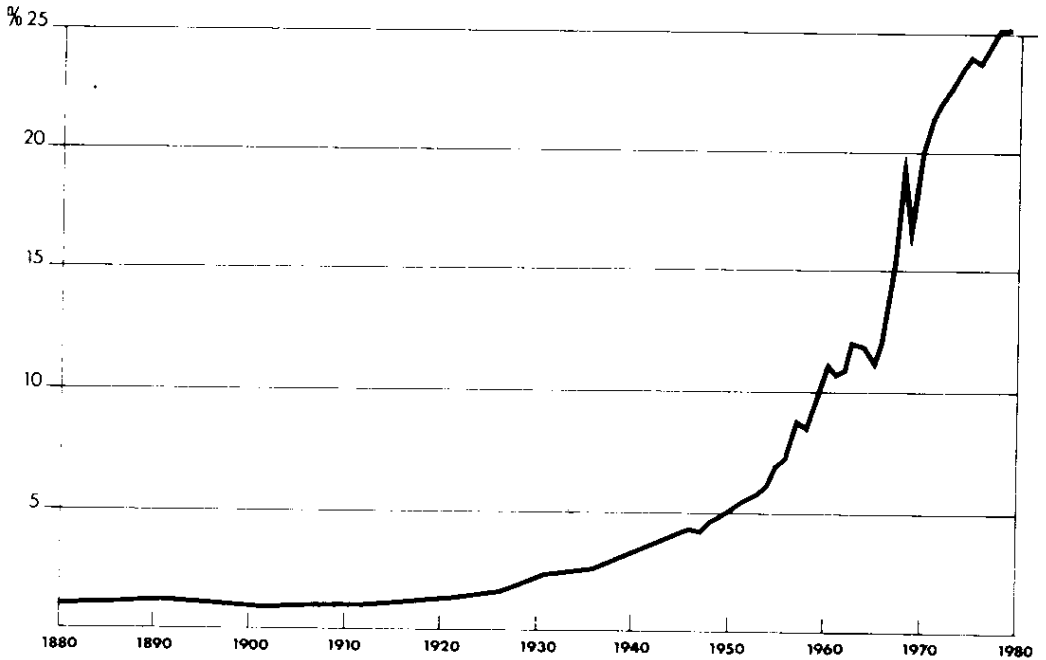
US advances



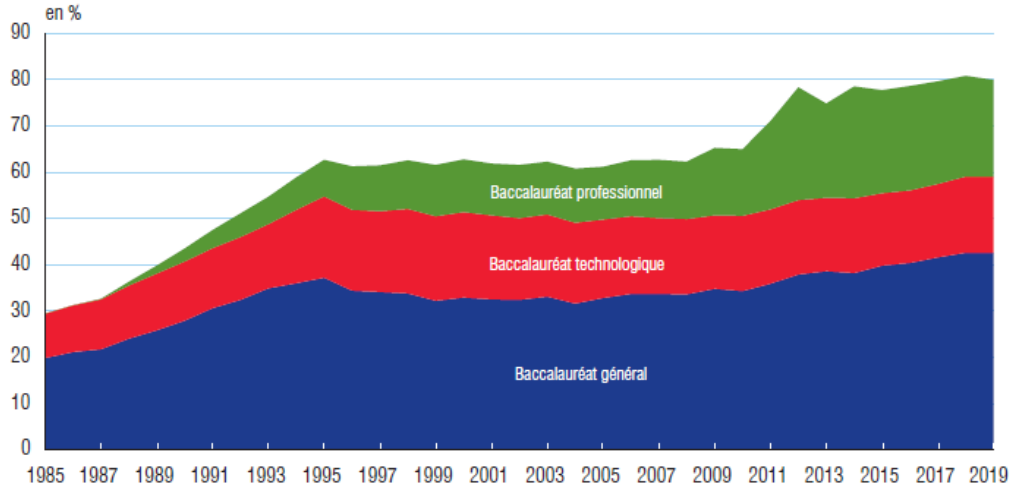
- 80% of population with high school completion reached in the 1970s
- The richest country ahead of others
- → "80% d'une classe d'âge au bac!"

GRAPHIQUE 4 - ÉVOLUTION DU POURCENTAGE D'UNE GÉNÉRATION OBTENANT LE BACCALAURÉAT

(voir notes au bas du tableau n° 3)



2. Proportion de bacheliers dans une génération



Note : les données 2018 et 2019 sont provisoires.
Champ : France métropolitaine jusqu'en 2000, France hors Mayotte à partir de 2001.
Sources : MENJS-Depp ; Insee ; ministère en charge de l'agriculture.

Insee, *France Portrait social 2020*

The "Bac": From bourgeoisie's to people's degree

Maintenance of inequalities

	BEPC or less	CAP, BEP	Bac	Bac +2	Bac +3/4	Master	All	Share of higher education
Clerks, blue-collar / Employés, ouvriers	17.9	28.6	23	16	9.2	5.4	100	30.5
Managers and professionals /Cadres	5.4	10.3	18.9	23.2	19.1	23.2	100	65.4
No or little diploma (BEPC or less)	23.9	27	21.7	14.6	8.1	4.8	100	27.4
At least one parent with high school degree	8.2	21	25.9	22	12.9	10	100	44.9
At least one parent with university degree	3.8	5.4	12.7	20.3	23.7	34.1	100	78.1

Field: Metropolitan France, Adults 25 to 44

Source : Insee, enquête Formation et qualification professionnelle (FQP) 2014-2015.

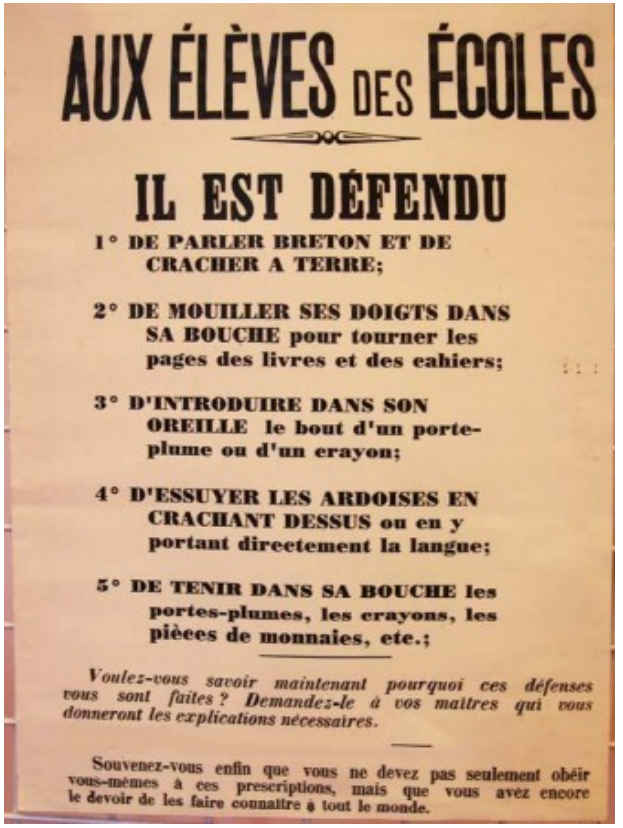
Insee, *France Portrait social 2020*

Outline

I. Roots of class inequality in education
    1. Consecration of legitimate culture
    2. Family early socialization
    3. Arbitrage between cost and profit of education
    4. Twins, genes and the return of biology
II. Other forms of inequality
    1. The gender paradox
    2. Maintenance of post-colonial inequality
    3. International perspective
III. Outcomes of education
    1. Human capital and wages
    2. Credentialism
IV. The production of education
    1. Transformation of pedagogy
    2. The agents of education: teachers and professors.

Education imposes a culture

- School is a vector of normalization of culture
  - Notably of language
  - Imposition of the standard language of the elites and of the center
- France: repression of dialects
  - Of religious foreign cultural and religion signs



AUX ÉLÈVES DES ÉCOLES

IL EST DÉFENDU

1° DE PARLER BRETON ET DE CRACHER A TERRE;

2° DE MOUILLER SES DOIGTS DANS SA BOUCHE pour tourner les pages des livres et des cahiers;

3° D'INTRODUIRE DANS SON OREILLE le bout d'un porte-plume ou d'un crayon;

4° D'ESSUYER LES ARDOISES EN CRACHANT DESSUS ou en y portant directement la langue;

5° DE TENIR DANS SA BOUCHE les portes-plumes, les crayons, les pièces de monnaies, etc.;

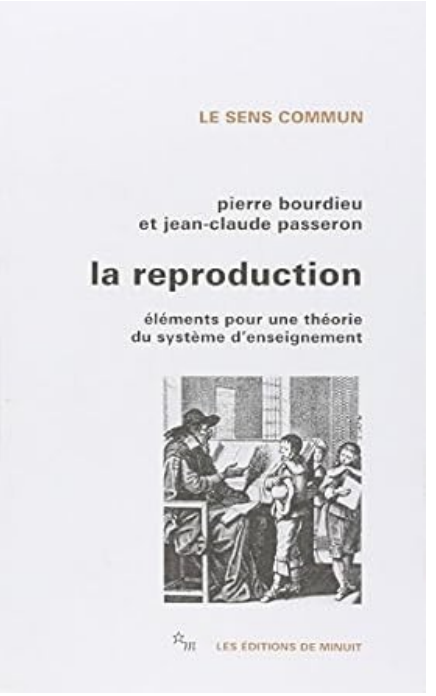
Voulez-vous savoir maintenant pourquoi ces défenses vous sont faites ? Demandez-le à vos maîtres qui vous donneront les explications nécessaires.

Souvenez-vous enfin que vous ne devez pas seulement obéir vous-mêmes à ces prescriptions, mais que vous avez encore le devoir de les faire connaître à tout le monde.

Poster in Brittany schools, 1900

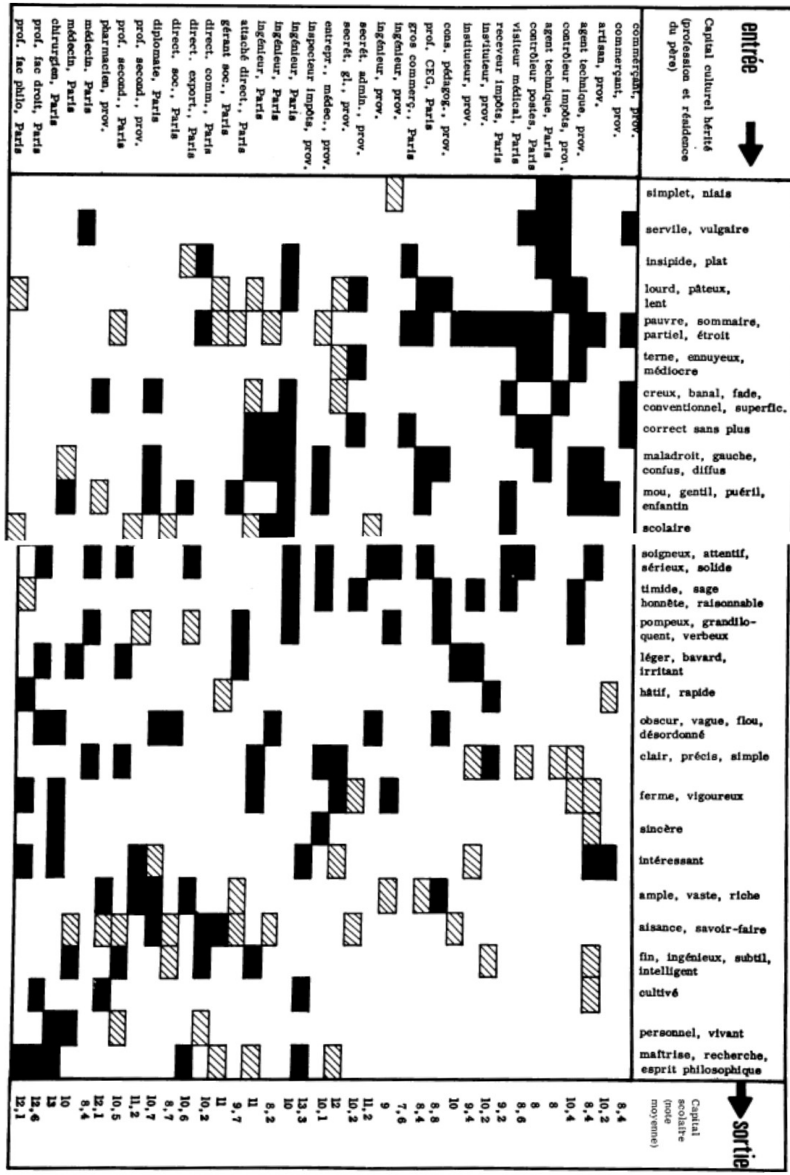
School culture is class biased

- Similarity of school culture and upper class culture (Bourdieu, Passeron, 1970)
- Imposition of a cultural arbitrary
  - Most visible: literature (and related arts: theater, opera, ballet, plastic arts, music)
  - Direct knowledge through family (books, cultural universe)
  - Similar structures of judgment: attachment to forms rather than content [style rather than character]
- Symbolic violence:
  - "All pedagogic action is, objectively, symbolic violence insofar as it is the imposition of a cultural arbitrary by an arbitrary power" (Bourdieu and Passeron, 1970)
    - *"Toute action pédagogique est objectivement une violence symbolique en tant qu'imposition, par un pouvoir arbitraire, d'un arbitraire culturel"* (Bourdieu and Passeron, 1970)
  - Is it violence? Merits and limits of a critical characterization.
    - Violence hurts/humiliates. But what about the enlightenment effect.



Gift Ideology. The paradox of school values

- School emphasizes hard work and learning
- But it does not value so much the *scolaire* "schoolwork"/academic
- High emphasis on "gifts"
  - And associated virtues: brilliant, smartness,
- Some distance to schoolwork is valued.
  - Makes gift, culture appear as more natural, embedded
- Bourdieu & Saint-Martin (1975): School verdicts ≈ social verdicts
  - *Simplet, niais, lourd pateux correct sans plus* vs *vivant, maîtrise, fin, ingénieux, subtil*



Why the Manager/Worker is much bigger in science track?

Année 2001	Filles				Garçons				Total
	Origine ouvrier, employé, petit indépendant		Origine cadre		Origine ouvrier, employé, petit indépendant		Origine cadre		
	à l'heure	en retard	à l'heure	en retard	à l'heure	en retard	à l'heure	en retard	
Littéraire	19 %	13 %	20 %	17 %	4 %	3 %	6 %	5 %	11 %
Économique et social	**24 %**	**15 %**	**25 %**	**22 %**	14 %	10 %	**17 %**	16 %	17 %
Scientifique	**28 %**	14 %	**46 %**	21 %	**47 %**	24 %	**66 %**	**36 %**	32 %
Technologie industrielle	0 %	1 %	0 %	1 %	**19 %**	**35 %**	6 %	**21 %**	11 %
Technologie de laboratoire	1 %	2 %	0 %	1 %	2 %	2 %	1 %	1 %	1 %
Technologie médico-sociale	8 %	15 %	3 %	9 %	0 %	1 %	0 %	0 %	6 %
Technologie tertiaire	19 %	**40 %**	5 %	**28 %**	13 %	**25 %**	4 %	19 %	22 %
Autres	0 %	0 %	1 %	1 %	0 %	0 %	1 %	1 %	1 %
Total	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %

(Académie de Lille, 2001)

Even math is a culture (François, 2018)

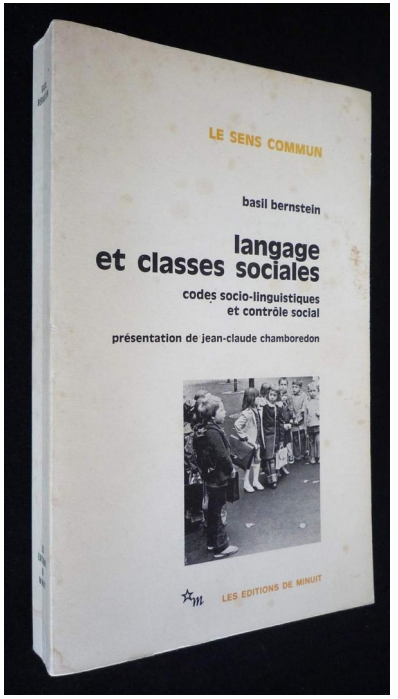
- Creativity
  - « Rappelons que l'oral permet d'apprécier la capacité du candidat à mettre en œuvre ce qu'il a appris (et, on l'espère, « digéré ») pour résoudre un problème nouveau, pas nécessairement voisin d'un exercice déjà connu. » (Rapport du concours MP 2014, Oral de mathématiques).
  - "En 2011, le jury se félicite ainsi d'avoir eu « le plaisir de voir un bon nombre d'excellents candidats capables de mener à bien des raisonnements délicats et de résoudre parfois de manière originale des exercices difficiles. » (Rapport du concours MP 2011, Oral de mathématiques).
- Aesthetics
  - « 12a. Assez nombreux ont été les candidats à traiter cette question, de façon plus ou moins élégante. » (Concours MP 2010, Épreuve 2 de mathématiques).
  - « Il est dommage qu'une majorité ait préféré appliquer un théorème de convergence dominée dans toute sa lourdeur (mais heureusement correct) alors que l'étude directe des sommes partielles se limitait à celle d'une série géométrique et une majoration du type : … » (Concours MP 2011, Épreuve B de mathématiques).

Other factors than proximity fine-arts culture

- Early childhood and development in cognitive capacities
- Family involvement and investment in education
  - Rational arbitrage between profit and returns
- Wealth and income
  - Development of private tutoring / private factors
- Peer environment
- Genetic factors

Sociolinguistic approach (Bernstein, 1971)

- The two language codes: elaborated and restricted
  - Restricted code → based on implicit shared assumptions. Very condensed
    - Ex. "Shut up!"
  - Elaborated code → no shared assumptions. Explanations
    - Ex. "My darling, could you please make less noise, because I can not focus on my book."
- Social affinities between use of either two codes
- Elaborated codes helps to develop capacities in line with school expectations

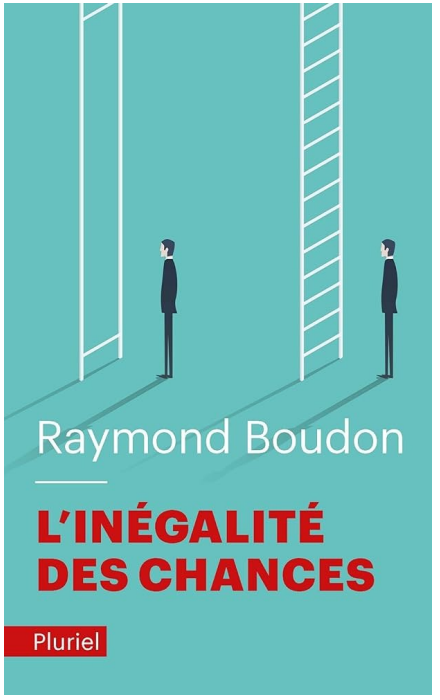


Family involvement and investment in education

- Multiple involvement of upper middle class families [mothers]
  - Proactive positive / attitudes towards school
  - Help & monitoring homework
  - Investment in educational games
  - Reading stories
  - Extra-scholar activities
    - Music; Danse; sports, etc.
- Popular classes
  - Less cultural/economic means for helping kids
  - Lack of skills for accompanying
  - De-synchronized time schedule
  - Family-School interactions potentially humiliating
  - Defensive mechanisms against symbolic violence

A rational arbitrage between costs and returns

- Boudon (1973): Individual actors make arbitrage between
  - Schooling returns
  - Schooling costs
- Popular classes: costs of schooling are higher, returns are lower &/or less secure
- Less investment in school
  - → No need to add complicate hypotheses on class culture and link with school culture
  - Limit: what's the origin of cost differentials? Couldn't it be cultural?



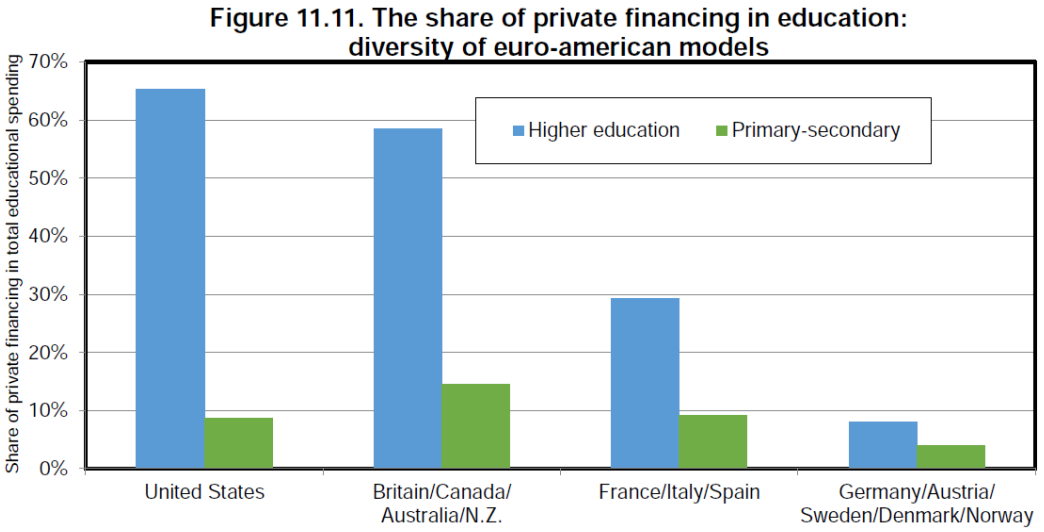
Peer and environmental influences

- Exposure to high achievers / low achievers
  - Influence work attitude
  - And work achievement
- Positive spill over of high achievers

- US College dorms. Random assignments (Sacerdote, 2011)
  - If roommate high achiever
  - Or does not party/drink alcohol
- France (Goux & Maurin, 2007)
  - Neighborhood with 10% more peers held back a grade → 3% more chance of having held back a grade

Economic capital: the neglected factor

- Cultural capital seen as best variable to predict school results
  - Notably mother's degree
- But more and more concern for economic capital
  - Size of the house (Goux & Maurin, 2005)
  - Role of private school
  - Private tutoring
- Economic anxiety of middle class for child cost
  - Decline in fertility



Piketty, 2019

The genetic challenge

- Two types of study: polygenic score & twin studies
- Twin studies:
  - compare the correlation of traits between monozigotic and heterozigotic twins
  - Decomposition of variance in three shares: genetic, common environment, unique environment
- Share of genetic influence is often high: >50%
  - (Possibly overrated)
- End of sociology of education?
  - No: study social & institutional factors of variation of the role of genes/ common environment (Baier et al., 2022)

Education

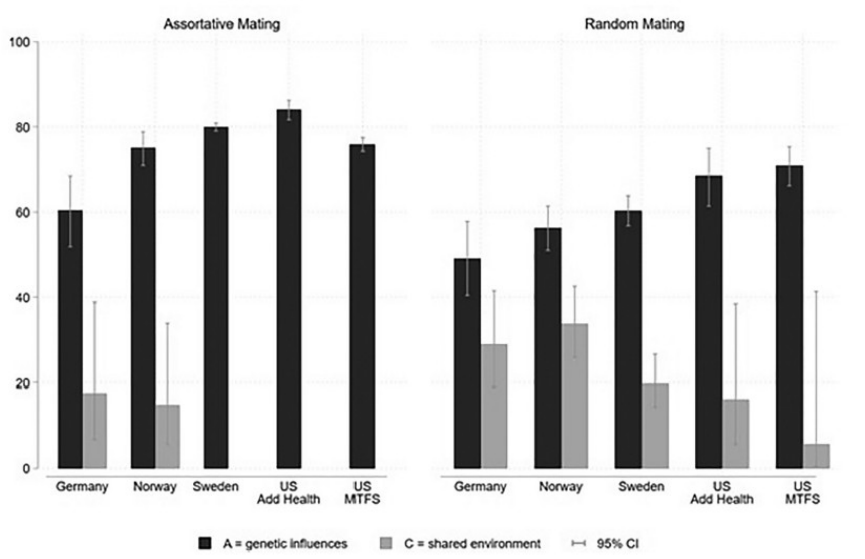
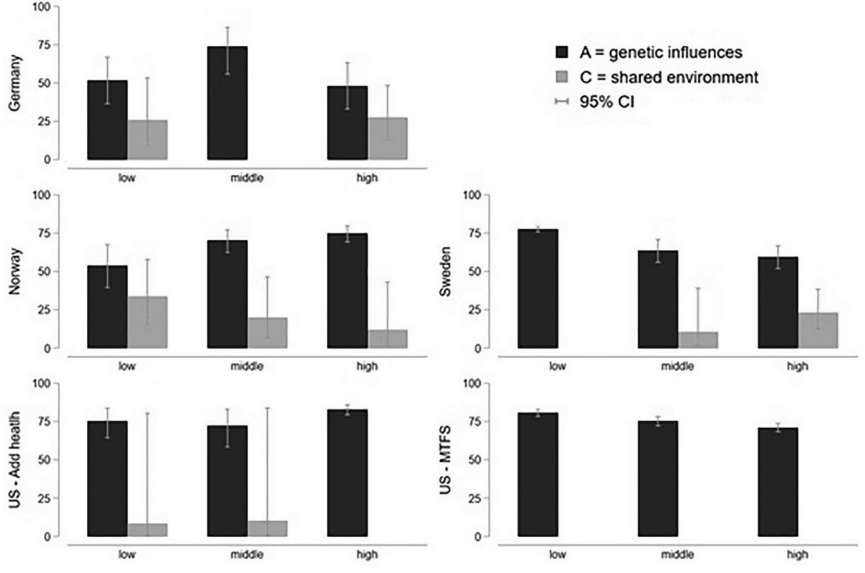


Figure 1. ACE results for twins' school grades—left panel: adjusted for assortative mating of parents; right panel: assuming random mating of parents.



The widening of the class gap during school

- The higher you climb the bigger the class gap
- The more selective, the bigger the class bap

François & Berkouk, 2018

	18-23 ans	Étudiants	Étudiants CPGE	Candidat à l'X	Admis à l'X
Agriculteurs, artisans, commerçants et chefs d'entreprise	13,1	9,8	10,6	10	11,7
Cadres et professions intellectuelles supérieures	17,5	30,3	49,5	71	81,3
Professions Intermédiaires	17,7	11,9	11,7	4	2,8
Employés	8,9	11,9	7,5	4	2,2
Ouvriers	29,2	10,7	6	2	1,1
Retraités et inactifs	6,8	11,8	7,4	1	1
Non renseigné	6,8	13,5	5,1	8	-
Ensemble	100,0	100,0	100,0	100	100

Evolution of class gap during 1950th

- Expansion of school during the 60s is also a democratization period
- But not for the most selective (& Malthusian) schools

Access to university	1960	1965	1975	1985	1990
Odds ratio Cadres/ popular classes	10	8	6	5	4

Access to X, ENA, ENS	1951-55	1966-70	1973-77	1981-85	1989-93
Odds ratio Cadres/ popular classes	37	30	28	34	28

Euriat, Thélot, 1995

Read an OLS regression

- 6th grade exam in France (Vallet & Caille, 1996)
- Impact of one variable net of others
- Comparison to a reference category
- Calculate your score!

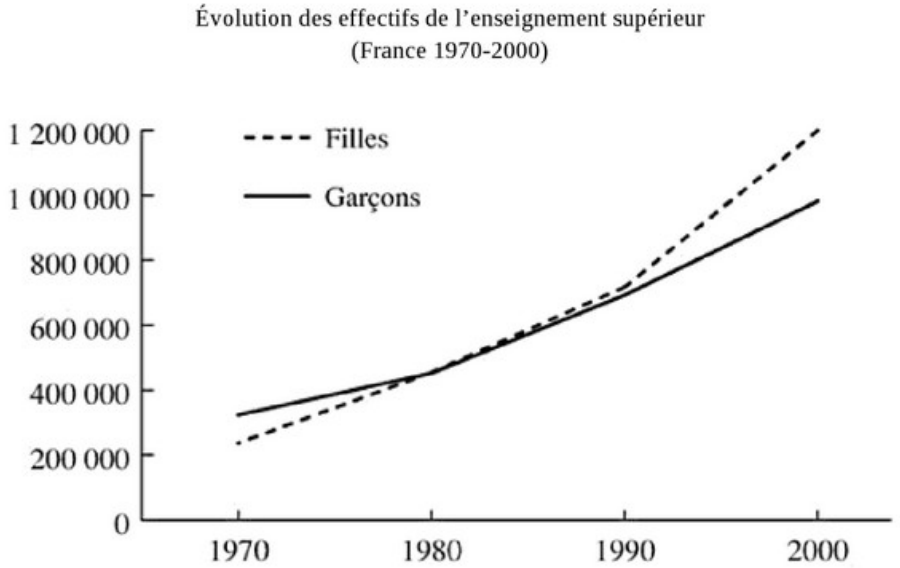
Educatio

(N=10 635)

modalité de référence	modalité active	FRANÇAIS coefficient	FRANÇAIS test	MATHS coefficient	MATHS test
constante		72,4		80,6	
pcs du chef de famille					
ouvrier qualifié	*agriculteur*	0,4	ns	1,7	p<.01
	artisan, commerçant	1,0	p<.05	1,0	p<.02
	cadre, chef d'entreprise	3,8	p<.001	1,7	p<.001
	profession intermédiaire	2,3	p<.001	1,2	p<.01
	employé	1,2	p<.01	0,5	ns
	ouvrier non qualifié	-0,6	ns	-0,3	ns
	inactif	-1,3	p<.10	-0,7	ns
diplôme du père					
cap, bep ou bepc	*sans diplôme*	-2,2	p<.001	-2,3	p<.001
	certificat d'études prim.	-0,8	p<.05	-0,6	p<.10
	baccalauréat ou plus	1,5	p<.001	1,4	p<.001
	inconnu	-0,5	ns	-1,3	p<.01
diplôme de la mère					
cap, bep ou bepc	*sans diplôme*	-2,7	p<.001	-1,2	p<.01
	certificat d'études prim.	-1,5	p<.001	-1,0	p<.01
	baccalauréat ou plus	3,0	p<.001	2,3	p<.001
	inconnu	-2,2	p<.001	-2,0	p<.001
activité de la mère					
mère inactive	*mère active*	0,2	ns	0,4	ns
sexe					
garçon	*fille*	3,1	p<.001	0,0	ns
taille de la famille					
deux enfants	*un enfant*	0,0	ns	-0,2	ns
	trois enfants	-0,7	p<.02	-0,7	p<.02
	quatre enfants	-1,2	p<.01	-0,9	p<.05
	cinq à sept enfants	-2,5	p<.001	-1,8	p<.001
	huit enfants et plus	-4,4	p<.001	-3,4	p<.001
rang dans la fratrie					
rang 1	*rang 2*	-1,3	p<.001	-0,7	p<.01
	rang 3	-1,6	p<.001	-0,9	p<.05
	rang 4 et plus	-0,8	ns	-1,3	p<.01
frère ou soeur au lycée ou dans l'enseignement supérieur					
non	*oui*	0,7	p<.05	1,1	p<.001
structure de la famille					
biparentale	*monoparentale*	0,0	ns	-0,6	ns
	autre situation	-1,1	ns	-1,7	p<.02
durée de fréquentation de l'école maternelle					
3 ans et plus	*2 ans*	-0,5	p<.10	-0,3	ns
	un an ou moins d'un an	-0,7	ns	-2,4	p<.001
	aucune ou inconnu	-3,0	p<.001	-2,3	p<.001
nombre de niveaux redoublés à l'école élémentaire					
aucun	*un*	-7,4	p<.001	-6,2	p<.001
	deux ou plus	-9,9	p<.001	-8,9	p<.001
proportion de variance expliquée (R^2) :		26,9 %		18,9 %	

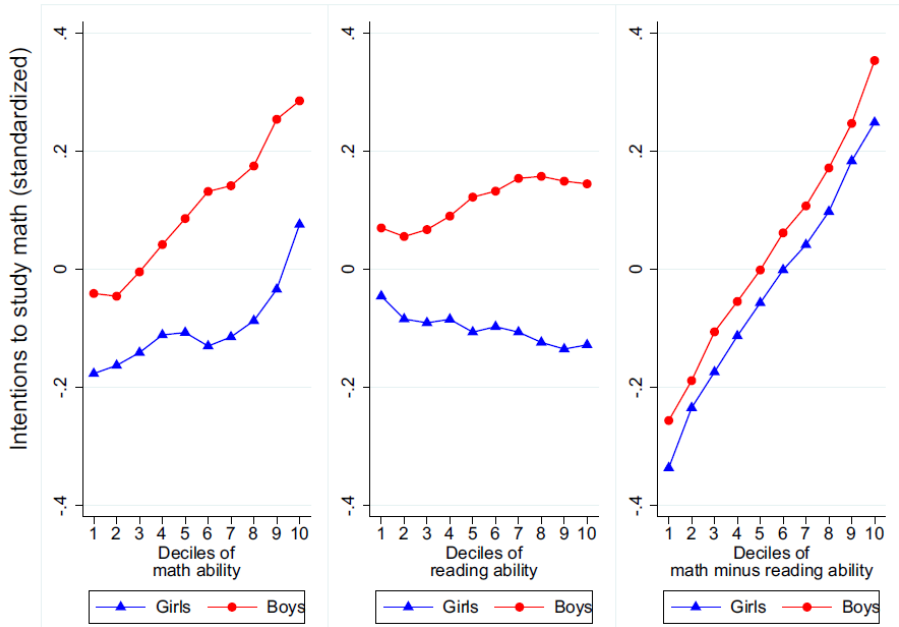
Allez les filles!
(Baudelot & Establet, 1992)

- Gender paradox
- A long history of male privilege in education
- Progressively education becomes more inclusive
  - University: Tipping point in France in 80s, nb. females > nb. males
- Girls perform better at school
- But paid less on labor market



Understanding this paradoxical gap

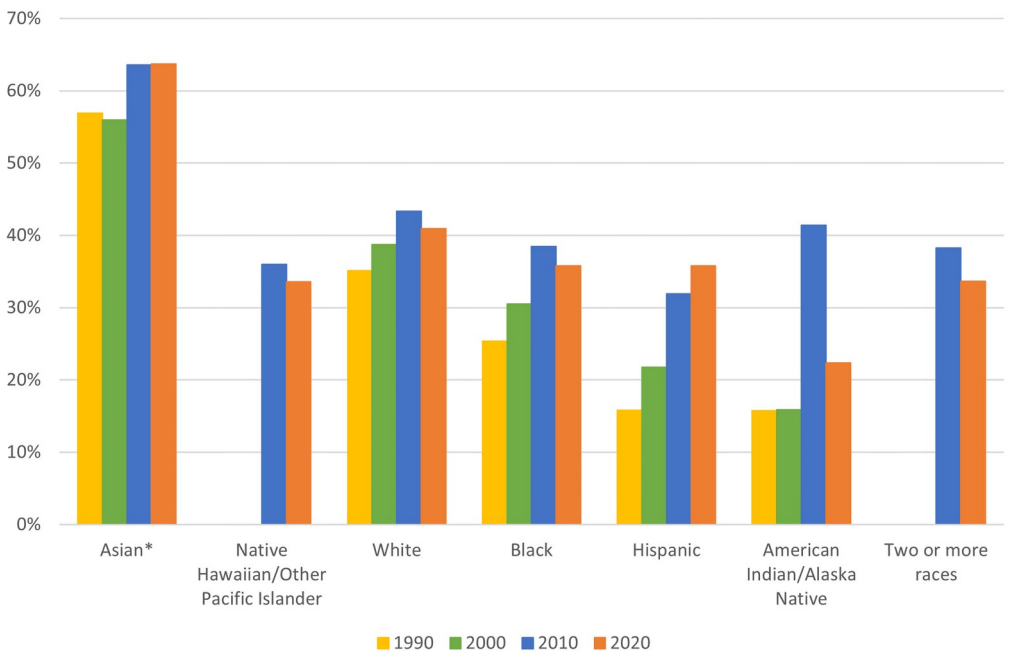
- Different attitudes towards school
  - Female role model of obedience ↔ school expectation
  - Male role model of oppositional masculinity especially in popular classes at odds with school expectations
- Difference in orientation
  - Female privilege humanity & "care" curricula, less selective tracks
    - Lack of female role models
  - Male more agentic, opt for science tracks, higher orientation in elite tracks
  - Female under represented in STEM
    - Maybe because they perform "too well" in humanities (Breda, Napp, 2019)



Breda, Napp, 2019

Migrant and ethnoracial origins in the US

- In the US, blacks disadvantaged at school
  - Cumulative disadvantage mechanisms
  - Difference between US black community & Migrant from Africa
- Asian have higher achievements
  - Over-selection of Asian migrants (Lee & Zhou, 2015)

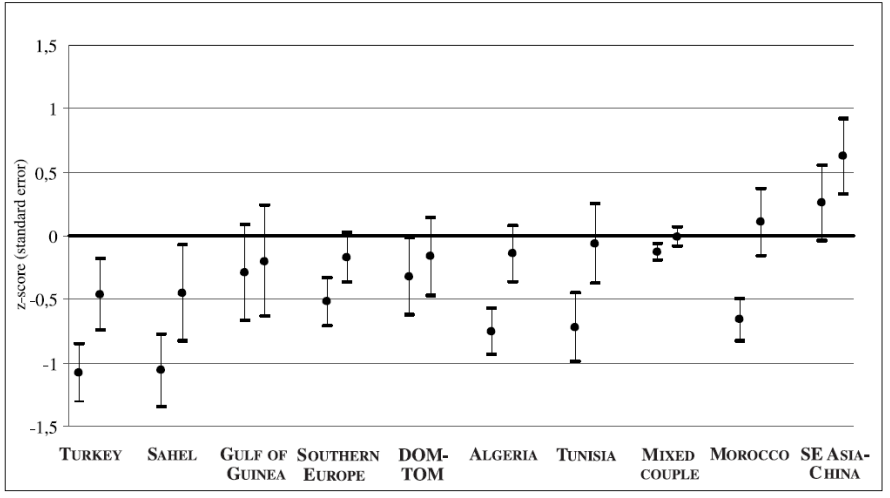


Treasury.gov: College Enrollment by Race and Ethnicity

Migrant origin and achievement gap in France

- Apparent gap
  - Disappears once controlling for social background (Vallet 1996).
- More recent study (Ichou, 2013)
  - Depends the migrant group
  - For most groups disappears after taking into account socioeconomic background
  - Asian advantage
  - Turkey and Sahel disadvantage

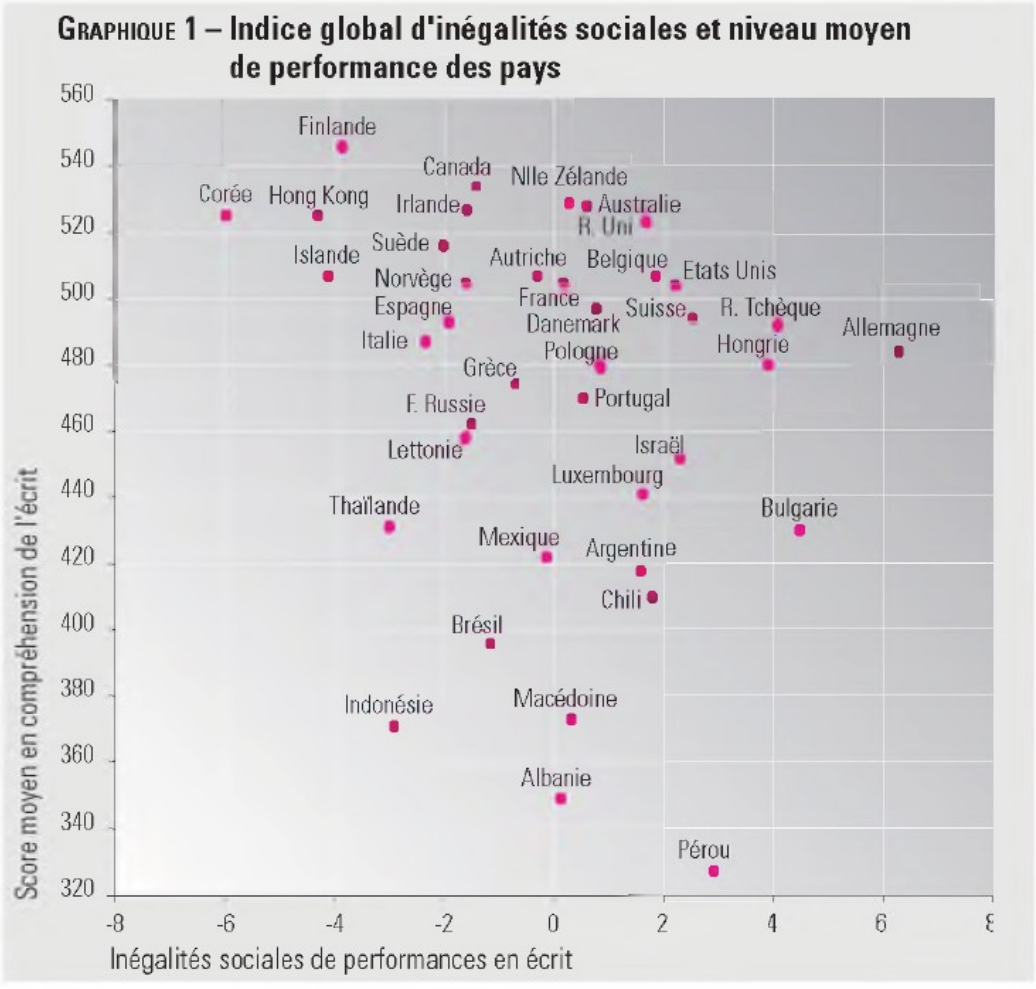
FIGURE 2. *"Raw" and "net" differences at* **sixième** *(age 11) between groups of children of immigrants and children of natives (reference group)*



Interpretation: In *sixième*, the children of immigrants from Turkey have a lower average score than children of natives of about 1.1 standard deviations (left point). After controlling for the effects of the social and family factors of students, this relative disadvantage is about 0.5 standard deviations (right point).

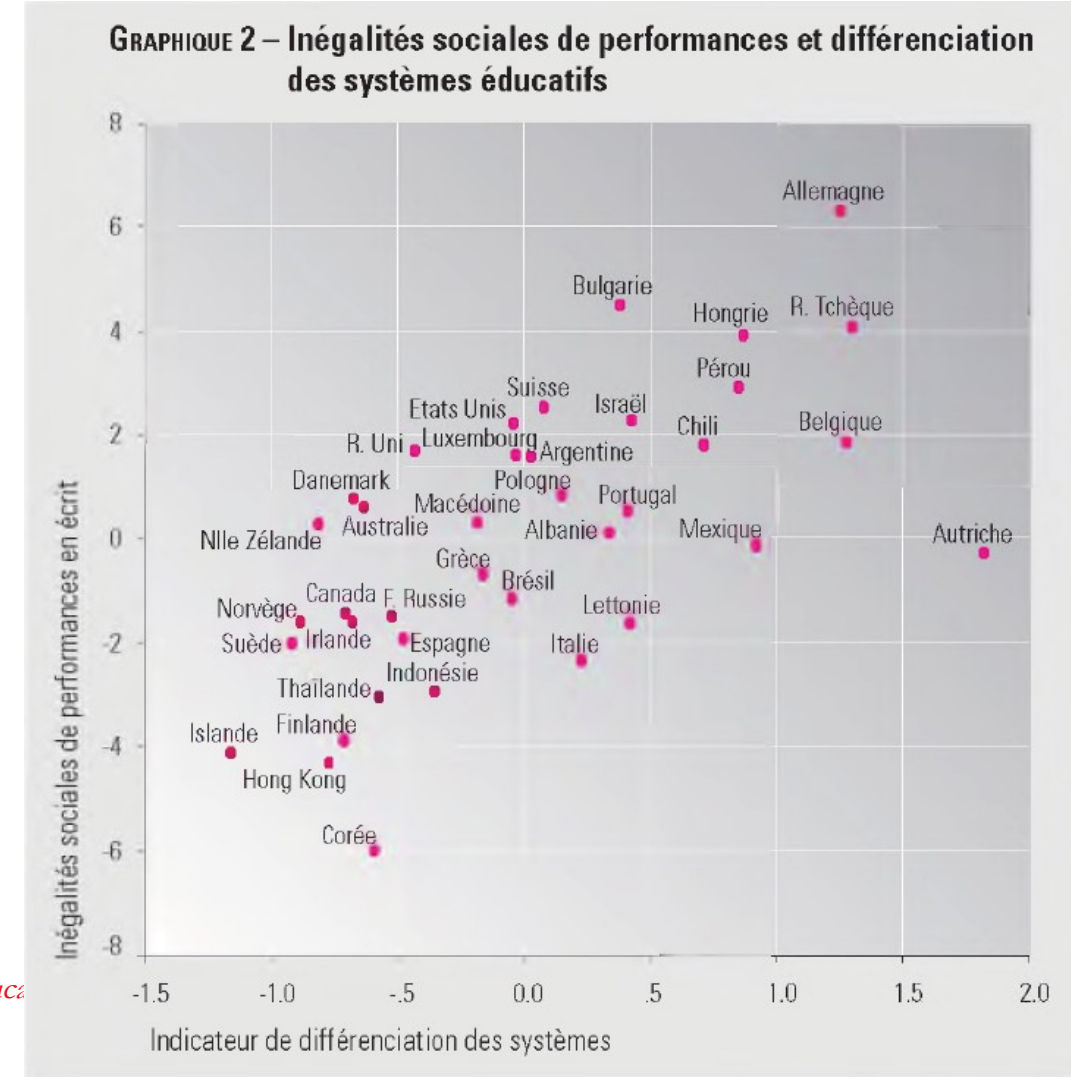
Educational inequality in international perspective

- Global opposition in performance (Duru-Bellat, Mons, Suchaut, 2004)
  - High income countries
    - Canada
  - Low income countries
    - Peru
- Some countries have high performance and low inequality
  - Finland, South Korea, Hong-Kong, Iceland
- Other countries like Germany have high inequalities



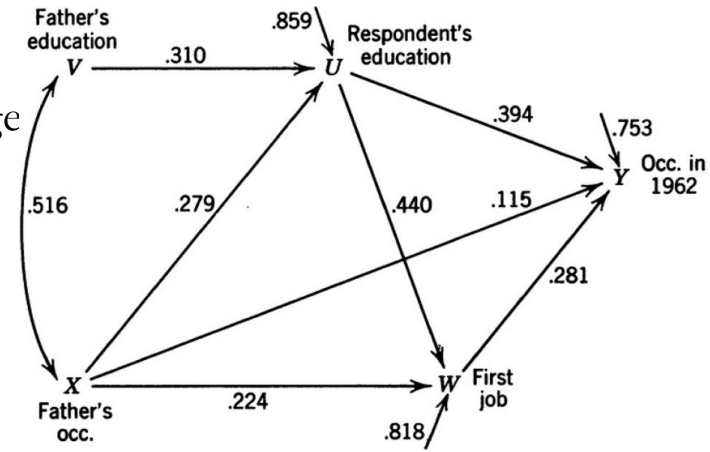
Institution matters

- Inequality depend on early sorting
- Germany
  - Strong differentiation at the end of primary school
  - Hauptschule / Realschule Gymnasium /



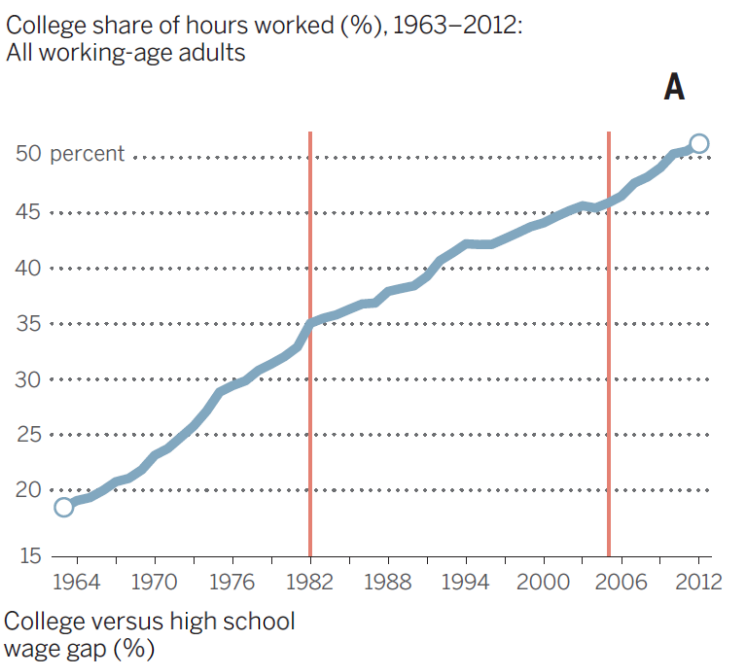
Human capital approach

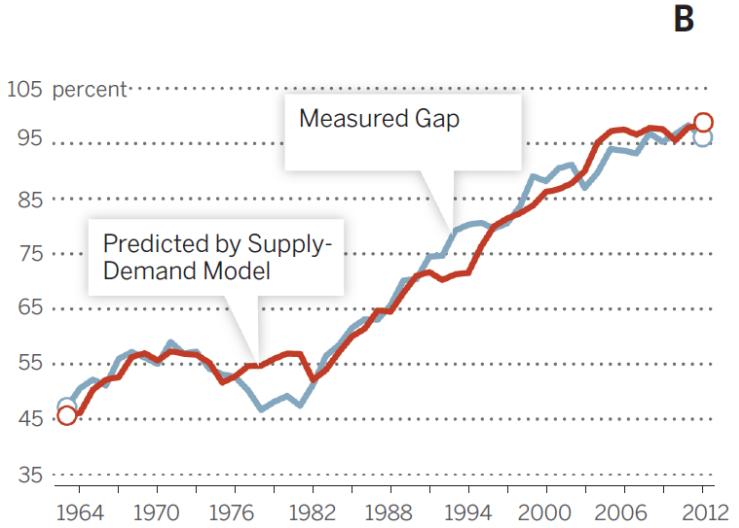
- OED model: Origin – Education – Destination (Blau & Duncan, 1967)
  - Education is a key driver of social mobility (cf. figure)
- Becker, 1964
  - Education enables to be more productive and access to higher wage
  - Education is a capital/investment which generates profit
  - Investment in education arbitrage cost/return
  - Two types of capital
    - General
    - Specific (firm/related)
- Mincer equation
  - Econometric specification: log(wage)= a.years_education + u
    - Generally education explains 20-30% of wage variance



Skill-biased technological progress

- Increase in the population of skilled workers (Autor, 2014)
- Should decrease wage gaps ?
- No depends on the race between technology and education (Goldin & Katz, 2008)
- Demand in skilled work increased faster than supply in skilled work
  - → increase in skilled workers wage
  - → increase in wage inequality
- Limits
  - Explanation based on competitive labor market framework
  - Increase in inequality mostly at the very top (top 1%). Difference in education between top 1% & F90-99 very limited





Signal and credentialism

- Signal theory (Spence, 1973)
  - Economic theory. Education signal and validate underlying productivity (but does not change it).
- Sociological version: credentialism (Collins, 1979)
  - One gives credit to degrees.
  - Diploma serves as a way of excluding. Production of social closure
  - Depends on the proportion of degree
    - Inflation of degree. Increase in standards

State (Education) nobility

- Elite Titles (Ivy league, Oxbridge ; French Grandes écoles (X, ENA, ENS, Sciences Po) creates a new aristocracy (Bourdieu, 1989)
- Not just a matter of underlying productivity. Prestige. Legitimacy. Imputation of smartness
- "Cream of the Crop" (Ho, 2006)
- From degree title to sens of entitlement [*sens de son bon droit*]

Studying education is just statistical study of achievements

- Also understanding school life
- Let's see elite high schools in the US: (Kahn, 2010)
  - https://www.youtube.com/watch?v=6ehzUdL8hCw

The production of education

- The society of teachers
  - As any social universe: strong hierarchy
  - Of disciplines
- Long term history of hierarchy in France (Durkheim, 1938)
  - Formal disciplines over practical/empirical disciplines
    - Grammar and Scholastic (Middle Age)
    - Rhetorics (Humanist Age)
    - And after the 1950s: Mathematics
- Higher education strong social gradient
  - Law/Economics
    - Vs
  - Sociology
- Hierarchy of education does not correspond completely to professor social backgrounds
  - Literature professors: more female/upper(-middle) class backgrounds
  - Science/Mathematics more upward mobility

Teacher experience. 4 Interviews. (Bourdieu, 1993)

- Fanny 1 & 2
  - Middle school teacher. Working class background
    - Interview 1. Work condition
    - Interview 2. Family balance
- Hélène
  - Professional high school. Teacher in secretary
    - Relation with pupils
- Corrine
  - Primary school teacher. Parents in agriculture.
    - Relation with children/family. Trying to escape teacher situation through a psychology cursus.

Three experiences

- Upwardly mobile trajectories
- From enchantment to disillusion
- Sources of suffering
  - Pupils hostility → contrast with their own relation to school
  - Administration/state deinvestment
  - Managing contradiction of upward mobility
    - Parents / Husbands / Siblings

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