

The Economics of Parenting

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- ▶ "The Economics of Parenting"
(Doepke, Sorrenti, and Zilibotti)

- ▶ "Parenting with Style: Altruism and Paternalism in Intergenerational Preference Transmission"
(Doepke and Zilibotti, *Econometrica* 2017)

- ▶ "It Takes a Village: The Economics of Parenting with Neighborhood and Peer Effects"
(Doepke, Sorrenti, and Zilibotti)

Parenting Style in Developmental Psychology

- ▶ Three parenting styles (Baumrind 1967):
 - ▶ **Permissive parenting**
 - ▶ **Authoritative parenting**
 - ▶ **Authoritarian parenting**
- ▶ Also:
 - ▶ Neglecting parenting (Maccoby and Martin 1983)
- ▶ Focus on effects of parenting style on children
 - ▶ E.g., Aunola et al. 2000, Chan and Koo 2011, Darling and Steinberg 1993, Dornbush et al. 1987, Spera 2005, and Steinberg et al. 1991.

What We Do

- ▶ An economic theory of parenting style:
 - ▶ Parents have **altruistic** and **paternalistic** motives.
 - ▶ Can affect children through shaping their preferences (**persuasion**) and through restricting their choices (**coercion**).
- ▶ Equilibrium parenting style depends on economic environment.
- ▶ Application to patience and human capital investment.
- ▶ Argue that implications match evidence on variation in parenting style over time and across countries.

Empirical Literature (in Economics)

- ▶ Some preference characteristics/noncognitive skills are key for economic success:
 - ▶ Process of preference formation (Falk and Kosse 2016, Kosse et al. 2018, Falk and Hermle 2018)
 - ▶ Preferences are a form of human capital
- ▶ Patience and perseverance affect education, labor market outcomes, and marriage (Heckman et al. 2006, Segal 2013)
 - ▶ Also: Pregnancy, smoking, crime, etc.
- ▶ Family environment crucial for preference transmission and noncognitive skills (Dohmen et al. 2012, Cunha and Heckman 2007, Cunha, Heckman, and Schennach 2010)

Theoretical Literature (in Economics)

- ▶ Models of preference transmission:
 - ▶ Imperfect empathy (Bisin and Verdier 2001, Hauk and Saez Marti 2002, Saez Marti and Zenou 2012)
 - ▶ Role models (Bandura 1986, Saez Marti 2018)
 - ▶ Beckerian altruism (Becker and Mulligan 1997, Doepke and Zilibotti 2008)

- ▶ Optimality of restricting choice set:
 - ▶ Gul and Pesendorfer (2001)

- ▶ Models of parenting strategies:
 - ▶ Weinberg (2001)
 - ▶ Lizzeri and Siniscalchi (2008)
 - ▶ Cosconati (2009)

A Model of Human Capital and Preference Transmission

- ▶ A single parent and a single child.
- ▶ Each period (childhood and adulthood) comprises two subperiods.
- ▶ Parent maximizes:

$$V(S) = U_1(C_1, L_1|A) + U_2(C_2, L_2|A) + Z((1 - \gamma)v + \gamma\tilde{v}).$$

- ▶ C and L are the parent's consumption and leisure;
- ▶ A is a vector of preferences;
- ▶ Z is the weight parent attaches to child's welfare;
- ▶ S is a skill vector including cognitive and noncognitive skills.
 - ▶ For later reference, $S = \{H, A\}$

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- ▶ Parent derives utility from the child in two different ways.
 1. The child's actual lifetime utility v (*altruism*)
 2. A different function \tilde{v} based on her own preferences (*paternalism*).
- ▶ $\gamma \in [0, 1]$ is relative importance of paternalism vs. altruism.

Altruism vs. Paternalism

- ▶ The value function that the child seeks to maximize is:

$$v = u_1(c_1, l_1|a_1) + u_2(c_2, l_2|a_2) + zV'(S').$$

- ▶ z is the weight that the child attaches to future adult utility.
 - ▶ In a dynastic model, $V = V'$.
- ▶ The parent's paternalistic concern about the child is given by:

$$\tilde{v} = \tilde{u}_1(c_1, l_1|A) + \tilde{u}_2(c_2, l_2|A) + zV'(S'),$$

- ▶ Note that here parent conditions on own preferences A rather than on child's preferences $\{a_1, a_2\}$.

Disagreement

- ▶ Key implication of paternalism:
parent may **disagree** with the child's actions.
- ▶ E.g., patience, risk aversion, work ethic, consumption of particular goods, civic sense, religion, etc.
- ▶ Specific example: difference in patience:

$$v = a_1 u(c_1, l_1) + a_2 \beta u(c_2, l_2) + \beta^2 V'(S'),$$

$$\tilde{v} = u(c_1, l_1) + \beta u(c_2, l_2) + \beta^2 V'(S'),$$

where $a_1 \geq 1$ and $a_2 \geq 1$ capture child's present bias.

Parent's and Child's Choices and Constraints

Parent:

- ▶ Parent chooses child-rearing investment vector $I_t = \{X_t, E_t\}$.
- ▶ Parent can influence the child's choice by restricting or expanding the **choice set** \mathcal{X}_t .
- ▶ The parent's choice is constrained by an intertemporal monetary budget constraint.

Child:

- ▶ Child chooses leisure l_t and her own investment in skills x_t .
- ▶ The child's choice is subject to a time/effort constraint and choice set imposed by parent.

Technology of Skill Accumulation

- ▶ The final set of constraints for both parent and child comes from the technology of skill accumulation.
- ▶ Let $s_t = \{h_t, a_t\}$ denote the skill vector of the child (cognitive and noncognitive skills).
- ▶ Let $S' = \{H', A'\}$ be the child's skill vector at the beginning of adulthood, which determines her continuation utility as an adult V' .
- ▶ In early and late childhood, respectively, we have

$$\begin{aligned}s_2 &= f_1(S, s_1, l_1, x_1, d_1) \\ S' &= f_2(S, s_2, l_2, x_2, d_2),\end{aligned}$$

where s_1 is the child innate ability (possibly, $s_1 = s_1(S)$ through genes).

Back to Parenting Styles

- ▶ A parent who restricts the choice of the child (small \mathcal{X}_t) is **authoritarian**.
- ▶ A parent who molds the preferences of the child is **authoritative**.
- ▶ Otherwise (e.g., if she spends effort to expand \mathcal{X}_t), parent is **permissive**.

Immediate Results

- ▶ Fully altruistic parents ($\gamma = 0$) are **permissive**.
- ▶ A parent is **authoritarian** only if restricting the choice set \mathcal{X}_t changes the child's behavior.
- ▶ A parent is **authoritative** only if molding preferences changes the child's behavior x_t .

Example: DZ2017 and DSZ2018

- ▶ A simplified illustrative version of the general model, close to Doepke and Zilibotti (Ectca 2017).
- ▶ Many (largely inessential) simplifications
 - ▶ Abstract from goods consumption and labor supply of parents.
 - ▶ Parent's period utility function is linear in leisure ($L_1 = 1 - X_1$).
 - ▶ No parenting effort in the second period.
 - ▶ Abstract from child's utility during the first period (in particular, no independent effort choice in early childhood).

DZ2017 and DSZ2018: Parent's Utility

- ▶ Parent's utility takes the form:

$$V(S) = -X_1 + Z((1 - \gamma)v + \gamma\tilde{v}).$$

- ▶ Child's utility of the form:

$$v = a_2 l_2 + \beta V'(S'),$$

$$\tilde{v} = l_2 + \beta V'(S'),$$

where $a_2 \geq 1$ is the child's present bias.

DZ2017 and DSZ2018: Cost of Different Parenting Styles

- ▶ For simplicity, discrete parenting cost (no ext. margin):

$$X_1 \in \{X_{PE}, X_{AR}, X_{AV}(S, d_1)\}.$$

- ▶ Two assumptions (only I. is important):

- I. X_{AV} is a decreasing function of S
and of the quality of the neighborhood.
 - ▶ Highly educated parents possess better soft skills to persuade their children.
 - ▶ Positive peer effects reinforce authoritative parenting.
- II. $X_{PE} < X_{AR}$
 - ▶ **Permissive** is *easier* than **Authoritarian**.

DZ2017 and DSZ2018: Early Childhood

- ▶ Skill accumulation in **early childhood** is given by:

$$h_2 = f_{h,1}(S, s_1, d_1),$$

$$a_2 = f_{a,1}(S, X_1, s_1, d_1),$$

- ▶ Note that (for simplicity) we assume that the child's cognitive skills in adolescence h_2 evolve passively.
- ▶ The only choice variable is X_1
 - ▶ The example isolates the effect of parenting style in early childhood, when preferences are malleable.

DZ2017 and DSZ2018: Late Childhood

- ▶ In **late childhood**, the ball is in the youngster's court.
- ▶ The child makes investment $x_{h,2}$ that forms her adult skills:

$$H' = f_{h,2}(S, h_2, x_{h,2}, d_2),$$

$$A' = a_2.$$

1. Note that $x_{h,2}$ is endogenous and hinges on a_2 and h_2 .
2. Preferences are malleable in early childhood, but resilient in late childhood.

DZ2017 and DSZ2018: Occupational Choice

- ▶ A menu of different occupations:
 1. **Career** professions (e.g., **lawyers, academics, engineers, managers**): on average better paid but require more (educational) investment in childhood.
 2. **Creative** professions: hinge on occupation-specific talent (e.g., **artists**) more than on **costly** effort (may require devotion but painting is more fun than learning first-year macro).
 3. **Family** professions: hinge on skills acquired within the family (e.g., **farmers, family business**).
- ▶ Disagreement:

children lean towards **creative** professions, while parents would prefer them to choose **career** (or **family**) professions.

DZ2017 and DSZ2018: Parenting Style and Occupational Choice

- ▶ We assume occupation-specific talent is unknown to parents and children when parents decide their parenting style.
- ▶ Upside:
 - ▶ **Permissive** parenting: independent children more likely to discover their inclination and choose suitable profession.
 - ▶ **Intensive** parenting: hard-working "responsible" children more likely to be school achievers and do well professionally.
- ▶ Downside:
 - ▶ **Permissive** parenting: some overly relaxed children turning into **mediocre low-paid artists**.
 - ▶ **Intensive** parenting **stifles talented artist** to turn them into mid-level managers.

DZ2017 and DSZ2018: Inequality and Parenting Style

- ▶ Inequality shapes incentives for parenting choices.
- ▶ When return to human capital is low (e.g., artists and doctors earn about the same), disagreement is mute.
 - ▶ ... namely, more **permissive** parents;
 - ▶ only few **high- γ** parents will be intensive.
- ▶ When return to human capital is high, parent-child disagreement is stronger.
 - ▶ ... then, more **intensive (especially, authoritative)** parent.
 - ▶ only few **low- γ** parents will be permissive.

DZ2017 and DSZ2018: Effect of Environment on Parenting Style

Parenting Style	High Ineq.	Low Ineq.	Incumbency
Permissive	--	++	-
Authoritarian	+	-	++
Authoritative	++	-	-

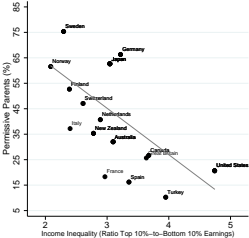
Table: Effect of Inequality and Incumbency Premium

Application to Parenting Across Countries

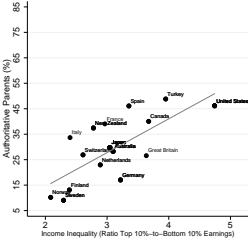
- ▶ Intensive parenting styles (**authoritarian** and **authoritative**) are associated with high stakes
- ▶ World Value Survey question:
"Here is a list of qualities that children can be encouraged to learn at home. Which, if any, do you consider to be especially important?"
- ▶ Examine correlation of answers with inequality, especially
 - ▶ imagination
 - ▶ independence
 - ▶ hard work
 - ▶ obedience

Inequality and Parenting Styles

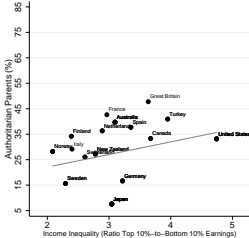
Permissive



Authoritative



Authoritarian

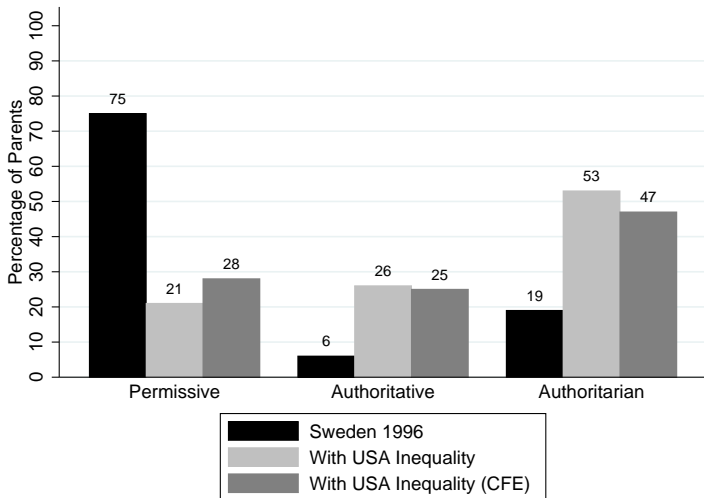


Micro-Level Regressions with Country Fixed Effects

Dependent Variable: **Intensive** Parenting Style LOGIT Regressions (odds ratios)

	(1)	(2)	(3)	(4)	(5)	(6)
	Logit	Logit	Logit	Logit	Logit	Logit
	Intensive	Intensive	Intensive	Intensive	Intensive	Intensive
Inequality	2.38*** (0.44)	2.50*** (0.29)	2.12** (0.72)	1.74*** (0.37)	1.74*** (0.28)	27.22** (35.21)
Tax progr.				0.20** (0.13)	0.24** (0.17)	5.35 (5.88)
Social exp.				0.70 (0.29)	0.58 (0.25)	0.21** (0.14)
Controls	No	Yes	Yes	No	Yes	Yes
Country FE	No	No	Yes	No	No	Yes
Observations	45,482	45,482	45,482	32,196	32,196	32,196

Micro-Level Evidence on Role of Inequality: US vs. Sweden



DSZ (in progr.): Residential Choice and Parenting Traps

- ▶ So far, family location (d_1, d_2) was exogenous.
- ▶ In work in progress we consider the effect of endogenous residential segregation onto parenting styles.
- ▶ Focus on peer externalities and interaction between neighborhood segregation, choice of parenting styles, and intergenerational mobility.
- ▶ Possible emergence of (poverty) parenting traps.

Endogenous Residential Segregation

- ▶ Assume ex-ante identical neighborhoods, fixed housing stock.
- ▶ Peer effects:
neighborhood quality determined by the average skills S of the adult residents (a proxy for quality of public schools, etc.).
- ▶ Because they care for their children, all parents like to live in high- S neighborhoods.
- ▶ This drives up housing rental price.
- ▶ Residential segregation by income.

Effect of Inequality on Residential Segregation

- ▶ Parents have a i.i.d. preference shock for neighborhoods.
 - ▶ E.g., like for the neighborhood in which they grew up.
- ▶ In a world of perfect equality, no socio-economic segregation (choice of neighborhood entirely driven by iid shocks).
- ▶ In a world of high inequality (e.g., high return to education), high socio-economic segregation.
- ▶ Low-income people cannot afford to live in high- S neighborhoods and reside in low- S neighborhoods.

Parenting as a Multiplier

- ▶ Endogenous choice of parenting style act as a multiplier.
- ▶ Suppose there is strategic complementarity in the choice of neighborhood and parenting style.
- ▶ **Authoritative** parenting more effective if family lives in a neighborhood with good schools, positive peer values, etc.
- ▶ In low-quality neighborhoods, less incentive to invest in **authoritative** parenting.
 - ▶ parents resort to being **authoritarian** or **permissive** (even neglecting out of discouragement).

Parenting Traps

- ▶ A self-reinforcing mechanism:
 - ▶ Rich/highly educated parents segregate in high-income neighborhood;
 - ▶ Kids benefits from positive peer and local community effects;
 - ▶ **Authoritative** parents push them to succeed.
- ▶ Families with lower socio-economic status lag behind.
- ▶ Parenting and residential segregation reinforce each other generation after generation.
 - ▶ A parenting trap!

Policies that Matter for Parenting

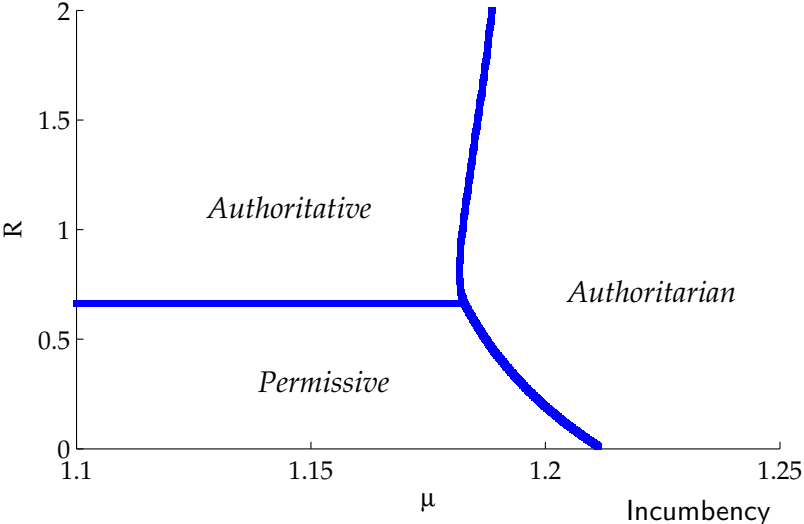
- ▶ Redistribution.
- ▶ Early childhood intervention.
- ▶ Design of the education system:
 - ▶ Tracking
 - ▶ High-stakes exams
 - ▶ Differentiation of university system
 - ▶ Vertical versus horizontal teaching

Summary

- ▶ Economic approach successful at explaining broad trends in parenting in the data.
- ▶ Recent rise in parenting gaps within societies put equality of opportunity of risk and may lead to persistence of poverty.
- ▶ Can use economics of parenting to understand which policy options are most promising to counteract these trends.

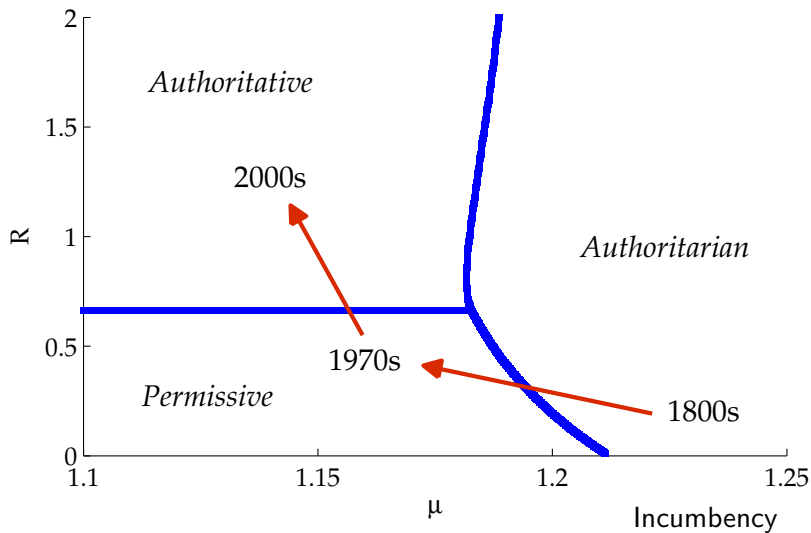
Equilibrium Parenting Style

Return to Education



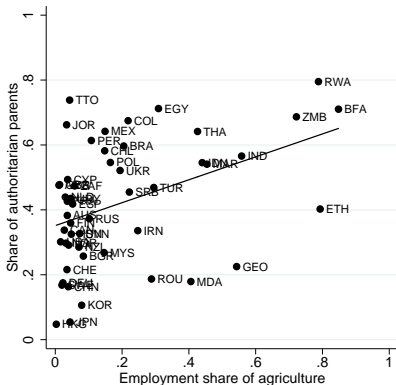
History of Parenting in the Model

Return to Education

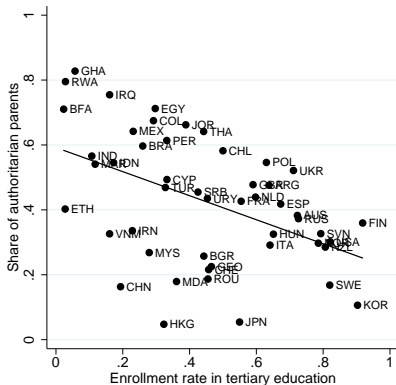


Cross-Country Variation in Authoritarian Parenting

by Share of Agriculture



by Enrollment Rate in Tertiary Education

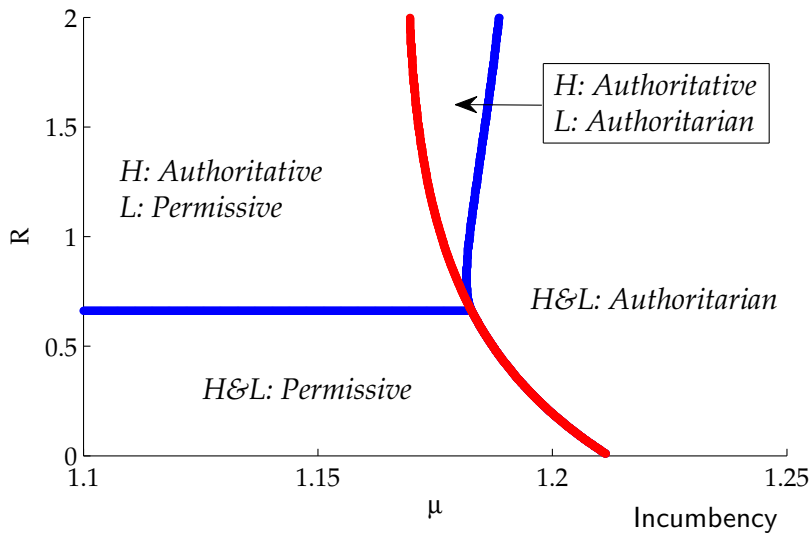


Socio-Economic Differences in Parenting Style

- ▶ Parents' income and education also matter
 - ▶ Highly educated parents more prone to be **authoritative**.
 - ▶ Less educated parents more **authoritarian**.
- ▶ Why?
 - ▶ Weinberg (2001):
poor parents cannot use the carrot and resort to the **stick**.
 - ▶ Extracurricular activities are expensive.
 - ▶ Doepke and Zilibotti (2017):
authoritative parenting hinges on soft skills.
 - ▶ Good schools and peer complement
parents' effort to shape children's values.
- ▶ Parenting gaps are larger in unequal societies.

Socio-Economic Differences in Parenting Style

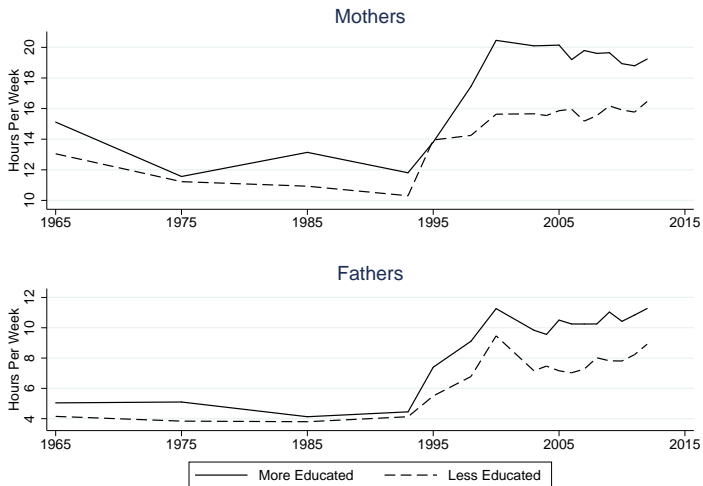
Return to Education



Parenting Gaps and Parenting Traps

- ▶ Theory predicts:
 - ▶ Educated parents more likely to be **authoritative**,
 - ▶ Less-educated more likely to be **authoritarian** (or neglecting).
- ▶ These parenting styles are associated with outcomes in school (grades, test scores) and, strongly so, with upward mobility.
 - ▶ Evidence from NLSY, BHPS, PISA in our forthcoming book.
- ▶ Theory also predicts that rising inequality may increase parenting gaps across socio-economic groups, and hence contribute to future inequality.

Socio-Economic Differences in Parenting



Socio-Economic Differences in Parenting

