

SUPPLEMENT TO “PARENTING WITH STYLE: ALTRUISM AND
PATERNALISM IN INTERGENERATIONAL PREFERENCE TRANSMISSION”
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APPENDIX B: PROPERTIES OF THE GENERAL MODEL OF PARENTING STYLES

IN THIS APPENDIX, we formalize properties of the general model discussed in Section 4 in the article, and provide a characterization of the first-order conditions for the differentiable case.

B.1. *Some General Properties*

In this section, we formalize the discussion in the last paragraph of Section 4.2.

We introduce two simplifying assumptions. The first is a simple tie-break rule for the choice of X .

ASSUMPTION 1: If the parent is indifferent between two or more choice sets, she chooses the largest possible one.

Given that the child always prefers a larger choice set, this amounts to respecting the preference of the child if the parent is indifferent.

The second assumption is that there exists a particular preference vector $a = \bar{a}$ such that for given c , the period utility is maximized in a cardinal sense. Moreover, this is the least costly choice of a' . We interpret \bar{a} as the children's *natural inclination*. Letting this inclination prevail is less costly for parents than molding their preferences.

ASSUMPTION 2: There exists a unique $\bar{a} \in A$ such that for all $a, a' \in A$, and for all feasible h , and s , and c :

$$\begin{aligned}U^o(c|\bar{a}) &\geq U^o(c|a), \\U^y(c|\bar{a}) &\geq U^y(c|a'), \\e(X, \bar{a}|h, s) &\leq e(X, a'|h, s).\end{aligned}$$

In a more general model, parents may wish to mold their children's preferences in order to increase their cardinal utility (e.g., by increasing their overall appreciation of life). In part, Assumption 2 can be regarded as a normalization of utility, in the sense that utility and effort cost are defined relative to a point where mutually beneficial investments in improving cardinal utility have already been carried out. The assumption is restrictive in

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the sense that the same bliss point \bar{a} is assumed to apply to utility in both young and old age and that young and old agree on this bliss point, which simplifies the analysis.

We can now state some general propositions.

PROPOSITION 6: *If $\lambda = 0$, then the parent is neither authoritarian nor authoritative.*

PROOF: Suppose, to derive a contradiction, that $a^* \neq \bar{a}$, that is, the parent is authoritative. Then optimality of the choice of a^* implies that the following inequality should hold:

$$\begin{aligned} & -e(X^*, a^*|h, s) + \delta E_{s'}[U^y(C^y(x(X^*, a^*), s')|a^*) \\ & \quad + \beta(U^o(C^o(H(x(X^*, a^*), s''))|a^*) - e(X'', a''|H(x(X^*, a^*), s'), s') + \delta w(X'', a''*))]] \\ & \geq -e(X^*, \bar{a}|h, s) + \delta E_{s'}[U^y(C^y(x(X^*, a^*), s')|\bar{a}) \\ & \quad + \beta(U^o(C^o(H(x(X^*, a^*), s''))|\bar{a}) - e(X'', a''|H(x(X^*, a^*), s'), s') + \delta w(X'', a''|\bar{a}))], \end{aligned}$$

where X'' and a'' denote the optimal choices in the next period, given that $a' = a^*$ and X^* are chosen today. Now notice that with $\lambda = 0$, we have $w(X'', a''|\bar{a}) = w(X'', a''^*)$, that is, the parent's preference parameter does not directly enter the utility derived from children. Canceling equal terms, we therefore have

$$\begin{aligned} & -e(X^*, a^*|h, s) + \delta E_{s'}[U^y(C^y(x(X^*, a^*), s')|a^*) + \beta U^o(C^o(H(x(X^*, a^*), s''))|a^*)] \\ & \geq -e(X^*, \bar{a}|h, s) + \delta E_{s'}[U^y(C^y(x(X^*, a^*), s')|\bar{a}) + \beta U^o(C^o(H(x(X^*, a^*), s''))|\bar{a})]. \end{aligned}$$

This inequality contradicts Assumption 2 which implies \bar{a} is the unique preference parameter that maximizes the expression on the right-hand side. We therefore have obtained a contradiction, and must conclude that $a^* = \bar{a}$, so that parents cannot behave authoritatively. A similar argument establishes that purely altruistic parents do not behave in an authoritarian fashion. *Q.E.D.*

PROPOSITION 7: *Suppose $\lambda \in (0, 1)$. If the parent is authoritarian and \tilde{X} is a feasible choice set such that $X^* \subset \tilde{X}$ and $e(X^*, a^*|h, s) > e(\tilde{X}, a'|h, s)$, then we have $(c^y, x, h'|X^*, a^*) \neq (c^y, x, h'|\tilde{X}, a^*)$. Likewise, if the parent is authoritative and $e(X^*, a^*|h, s) \geq e(X^*, \bar{a}|h, s)$, then it must be the case that $(c^y, x, h'|X^*, a^*) \neq (c^y, x, h'|X^*, \bar{a})$.*

PROOF: Note that

$$\begin{aligned} v^o(a, h, s) &= U^o(c^o|a) - e(X^*, a^*|h, s) + \delta v^y(X^*, a^*) \\ & \quad + \delta(1 - \lambda)E_{s'}[U^o(C^y(x(X^*, a^*), s')|a) - U^y(C^y(x(X^*, a^*), s')|a^*)]. \end{aligned} \tag{B.1}$$

Consider the first part of the proposition. Note that, since (X^*, a^*) is the optimal choice, then

$$\begin{aligned} & -e(X^*, a^*|h, s) + \delta v^y(X^*, a^*) \\ & \quad + \delta(1 - \lambda)E_{s'}[U^o(C^y(x(X^*, a^*), s')|a) - U^y(C^y(x(X^*, a^*), s')|a^*)] \\ & \geq -e(\tilde{X}, a^*|h, s) + \delta v^y(\tilde{X}, a^*) \\ & \quad + \delta(1 - \lambda)E_{s'}[U^o(C^y(x(\tilde{X}, a^*), s')|a) - U^y(C^y(x(\tilde{X}, a^*), s')|a^*)]. \end{aligned}$$

Suppose, to derive a contradiction, that $C^y(x(X^*, a^*), s') = C^y(x(\tilde{X}, a^*), s')$. Then, the expression above can be rewritten as

$$e(\tilde{X}, a^*|h, s) - e(X^*, a^*|h, s) + \delta(v^y(X^*, a^*) - v^y(\tilde{X}, a^*)) \geq 0.$$

However, this is impossible since (i) $e(X^*, a^*|h, s) > e(\tilde{X}, a^*|h, s)$ (by assumption), and because (ii) $v^y(X^*, a^*) \leq v^y(\tilde{X}, a^*)$ since we assume that $X^* \subset \tilde{X}$. A contradiction.

Consider the second part of the proposition. Note that, since a^* is the optimal choice, we have

$$\begin{aligned} & -e(X^*, a^*|h, s) + \delta E_{s'}[(1 - \lambda)U^y(C^y(x(X^*, a^*)|a^*) \\ & \quad + \lambda U^o(C^y(x(X^*, a^*))|a) + \beta v^o(a^*, H(x(X^*, a^*), s''))] \\ & \geq -e(X^*, \bar{a}|h, s) + \delta E_{s'}[(1 - \lambda)U^y(C^y(x(X^*, \bar{a})|\bar{a}) \\ & \quad + \lambda U^o(C^y(x(X^*, \bar{a}))|a) + \beta v^o(\bar{a}, H(x(X^*, \bar{a}), s''))]. \end{aligned}$$

Now, to derive a contradiction, let $C^y(x(X^*, a^*)) = C^y(x(X^*, \bar{a}))$ and $x(X^*, a^*) = x(X^*, \bar{a})$. The expression can then be rewritten as

$$\begin{aligned} & e(X^*, \bar{a}|h, s) - e(X^*, a^*|h, s) \\ & \quad + \delta(1 - \lambda)E_{s'}[U^y(C^y(x(X^*, a^*))|a^*) - U^y(C^y(x(X^*, \bar{a})|\bar{a})|\bar{a})] \\ & \quad + \lambda\beta E_{s'}[v^o(a^*, H(x(X^*, a^*), s'')) - v^o(\bar{a}, H(x(X^*, \bar{a}), s''))] \geq 0. \end{aligned}$$

However, given the condition stated in the proposition, the first term is non-positive, and \bar{a} is (by Assumption 2) the unique maximizer of U^y and U^o (which enters in v^o), so that the remaining expression is negative, giving a contradiction. *Q.E.D.*

PROPOSITION 8: *If the optimal X is a singleton, then the parent is not authoritative.*

PROOF: The result follows immediately from Proposition 7. *Q.E.D.*

PROPOSITION 9: *If the optimal a' is such that $U^y(c|a') = U^o(c|a)$, then the parent is not authoritarian.*

PROOF: If $U^y(c|a^*) = U^o(c|a)$, then equation (B.1) above simplifies to

$$v^o(a, h, s) = U^o(c^o|a) - e(X^*, a^*|h, s) + \delta v^y(X^*, a^*).$$

Suppose, to derive a contradiction, that the parent is authoritarian, that is, there exists an $\tilde{X} \in \mathcal{X}$ such that $v^y(X^*, a^*) < v^y(\tilde{X}, a^*)$ and $e(X^*, a^*|h, s) \geq e(\tilde{X}, a^*|h, s)$. The optimality of X^*, a^* implies

$$-e(X^*, a^*|h, s) + \delta v^y(X^*, a^*) \geq -e(\tilde{X}, a^*|h, s) + \delta v^y(\tilde{X}, a^*).$$

Since $v^y(X^*, a^*) < v^y(\tilde{X}, a^*)$, we get that

$$e(X^*, a^*|h, s) < e(\tilde{X}, a^*|h, s).$$

However, this contradicts the condition $e(X^*, a^*|h, s) \geq e(\tilde{X}, a^*|h, s)$. *Q.E.D.*

B.2. The Differentiable Case

In this section, we provide characterization for the differentiable case. Suppose that U^o and U^y are continuous, twice differentiable, and concave in c . In addition, suppose that all choice and state variables are unidimensional, that is, $[c, h, x, a] \in (R^+)^4$. We introduce the following assumptions.

ASSUMPTION 3: The set $\mathcal{X}(h, s)$ can be expressed as $\mathcal{X}(h, s) = \{X(h, s, r) | r \in [0, 1]\}$, where for any r, \tilde{r} such that $\tilde{r} > r$, $X(h, s, r) \subset X(h, s, \tilde{r})$.

ASSUMPTION 4: The function e is separable, namely, $e(X(h, s, r), a' | h, s) = e^r(r | h, s) + e^A(a' | h, s)$, where e^r and e^A are twice differentiable convex functions of r and a' , respectively, with minima at \bar{r} and \bar{a} .

The decision problem of choosing a' and r can now be written as

$$\begin{aligned} v^o(a, h, s) = & \max_{a' \in A, r \in [0, 1]} \{U^o(C^o(h, s) | a) - e^r(r | h, s) - e^A(a' | h, s) \\ & + \delta E_{s'}[(1 - \lambda)U^y(C^y(x(r, a'), s') | a') + \lambda U^o(C^y(x(r, a'), s') | a) \\ & + \beta v^o(a', H(x(r, a'), s'), s')]\}, \end{aligned}$$

where

$$x(r, a') = \operatorname{argmax}_{x \in X(h, s, r)} \{E_{s'}[U^y(C^y(x, s') | a') + \beta v^o(a', H(x, s'), s')]\}.$$

If the child's choice of x is interior, the first-order condition for her problem yields

$$\begin{aligned} E_{s'}[U_{c^y}^y(C^y(x(r, a'), s') | a') C_x^y(x(r, a'), s')] \\ + \beta v_{h'}^o(a', H(x(r, a'), s'), s') H_x(x(r, a'), s')] = 0. \end{aligned}$$

Consider now the parent's choice of a' . If the optimal choice of a' is interior and the function $x(r, a')$ is differentiable at the optimum, the first-order condition yields

$$\begin{aligned} e_{a'}^A(a' | h, s) \\ = \delta E_{s'}[(1 - \lambda)(U_{c^y}^y(C^y(x(r, a'), s') | a') C_x^y(x(r, a'), s') x_{a'}(r, a') + U_{a'}^y(C^y(x(r, a'), s') | a')) \\ + \lambda(U_{c^y}^o(C^y(x(r, a'), s') | a) C_x^y(x(r, a'), s') x_{a'}(r, a'))] \\ + \delta \beta E_{s'}[v_{a'}^o(a', H(x(r, a'), s'), s') + v_{h'}^o(a', H(x(r, a'), s'), s') H_x(x(r, a'), s') x_{a'}(r, a')]. \end{aligned}$$

Two cases are possible here. First, if $x_{a'}(r, a') = 0$ at the optimal choice of a' , the parent sets

$$\begin{aligned} e_{a'}^A(a' | h, s) = \delta(1 - \lambda) E_{s'}[U_{a'}^y(C^y(x(r, a'), s') | a')] \\ + \delta \beta E_{s'}[v_{a'}^o(a', H(x(r, a'), s'), s')]. \end{aligned} \tag{B.2}$$

In this case, the optimal choice is to set $a' = \bar{a}$. To see why, note that Assumption 2 implies that (i) $e_{a'}^A(a' | h, s)$ is minimized at \bar{a} , and that (ii) $U^y(c^y | a')$ and $v^o(a', h'')$ are maximized at \bar{a} . The case of $x_{a'}(r, a') = 0$ covers the possibilities that $X(h, s, r)$ is a singleton and that the child's choice is at a corner.

The second case is when $x_{a'}(r, a') \neq 0$ at the optimal choice of a' . In this case, the first-order condition of the child holds with equality. Then, applying the envelope theorem yields

$$\begin{aligned} e_{a'}^A(a'|h, s) &= \delta E_{s'}[(1 - \lambda)U_{a'}^y(C^y(x(r, a'), s')|a') \\ &\quad + \lambda U_{c^y}^o(C^y(x(r, a'), s')|a)C_x^y(x(r, a'), s')x_{a'}(r, a')] \\ &\quad + \beta \delta E_{s'}[v_{a'}^o(a', H(x(r, a'), s'), s') \\ &\quad + \lambda v_{h'}^o(a', H(x(r, a'), s'), s')H_x(x(r, a'), s')x_{a'}(r, a')]. \end{aligned}$$

Consider now some special cases. First, if $\lambda = 0$ (pure altruism), then the solution is again given by equation (B.2), so that parents set $a' = \bar{a}$. If $\lambda = 1$ (pure paternalism), setting $a' = \bar{a}$ is generally not optimal as long as $x_{a'}(r, a') \neq 0$. Purely paternalistic parents are especially prone to distort their children's choice, because they disregard the utility cost that children suffer when preferences are molded away from the natural inclination.

Consider, next, the choice of r . There are two possible cases. First, suppose that the optimal r does not bind the child's choice. Namely, there exists an interval $[r', r'']$ with $r' < r < r''$ such that $x(r, a)$ takes on the same value for any $r \in [r', r'']$. In this case, the choice of x is independent of r in a neighborhood of the optimum, and the parent sets $r = \bar{r}$.¹ Second, suppose that r does constrain the child's choice, that is, there does not exist an interval around the optimal r where the child's choice is constant. In this case (generically), the parent sets $r \neq \bar{r}$. If, in addition, the policy function $x(r, a')$ is differentiable at the optimum, then a necessary condition for optimality is

$$\begin{aligned} e_r^r(r|h, s) &= \delta(1 - \lambda)E_{s'} \underbrace{\left[\begin{array}{l} U_{c^y}^y(C^y(x(r, a'), s')|a')C_x^y(x(r, a'), s') \\ + \beta v_{h'}^o(a', H(x(r, a'), s'), s')H_x(x(r, a'), s') \end{array} \right]}_{\leq 0} x_r(r, a') \\ &\quad + \delta \lambda E_{s'} \underbrace{\left[\begin{array}{l} U_{c^y}^o(C^y(x(r, a'), s')|a)C_x^y(x(r, a'), s') \\ + \beta v_{h'}^o(a', H(x(r, a'), s'), s')H_x(x(r, a'), s') \end{array} \right]}_{?} x_r(r, a'). \end{aligned}$$

The parent trades off the effort cost associated with choosing $r \neq \bar{r}$ with the benefits of expanding or restricting the choice set. Even though the lifetime utility of the child is decreasing in r , a paternalistic parent may still gain from restricting the child's choice set by increasing r . If $\lambda = 0$, the altruistic parent will never spend effort to restrict the choice set, as stated in Proposition 6 above, but may choose to expand the child's choice set to increase her utility. Conversely, if $\lambda = 1$, the parent may choose to expand or restrict the choice set so as to better align the child's choice with the parent's preferences. An authoritarian behavior requires (i) that the parent be paternalistic and (ii) that actively restricting the child's choice set increases the utility the parent derives from the child's choices.

APPENDIX C: ADDITIONAL FIGURES AND TABLES

This appendix contains additional figures and tables referred to in the article.

¹If, in addition, the parent chooses $a' = \bar{a}$, then she is a neglecting parent.

C.1. *World Value Survey Estimates: Complete Tables*

Tables IV and V reproduce the results of Tables I and II, respectively, while also displaying the estimates for the control variables.

TABLE IV
INEQUALITY AND PARENTING STYLES INCLUDING CONTROL VARIABLES^a

<i>Reference Category: Permissive</i>								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Authoritative								
Inequality	2.68*** (0.27)	2.39** (0.94)	2.65*** (0.32)	2.58** (1.05)	2.62*** (0.28)	2.42** (0.94)	1.77*** (0.26)	2.12** (0.76)
College	0.67*** (0.09)	0.62*** (0.06)	0.64*** (0.09)	0.61*** (0.07)	0.67*** (0.09)	0.62*** (0.06)	0.97 (0.07)	0.95 (0.06)
Comp. HS	0.73*** (0.05)	0.82*** (0.03)	0.73*** (0.06)	0.82*** (0.03)	0.74*** (0.06)	0.82*** (0.03)	1.10 (0.11)	1.00 (0.04)
Age	0.98*** (0.01)	0.98** (0.01)	1.01 (0.01)	1.01 (0.01)	0.98*** (0.01)	0.98*** (0.01)	1.00 (0.01)	1.00 (0.01)
Age sq.	1.00*** (0.00)	1.00*** (0.00)	1.00 (0.00)	1.00 (0.00)	1.00*** (0.00)	1.00*** (0.00)	1.00 (0.00)	1.00 (0.00)
Female	0.67*** (0.03)	0.64*** (0.03)	0.71*** (0.03)	0.67*** (0.04)	0.65*** (0.03)	0.63*** (0.03)	0.75*** (0.03)	0.74*** (0.04)
GDP	0.26*** (0.08)	0.30 (0.27)	0.24*** (0.08)	0.18* (0.18)	0.26*** (0.08)	0.29 (0.27)	0.36*** (0.11)	0.42 (0.34)
Religiosity					1.19*** (0.08)	1.10** (0.05)		
Authoritarian								
Inequality	2.30*** (0.34)	2.00** (0.68)	2.41*** (0.43)	1.95* (0.72)	2.04*** (0.27)	2.14** (0.73)	2.22*** (0.36)	2.29*** (0.73)
College	0.35*** (0.04)	0.33*** (0.04)	0.32*** (0.04)	0.31*** (0.04)	0.35*** (0.05)	0.33*** (0.04)	0.41*** (0.06)	0.41*** (0.05)
Comp. HS	0.54*** (0.07)	0.66*** (0.03)	0.51*** (0.07)	0.66*** (0.03)	0.55*** (0.07)	0.67*** (0.03)	0.67*** (0.08)	0.73*** (0.03)
Age	0.96*** (0.01)	0.96*** (0.01)	0.94*** (0.01)	0.94*** (0.01)	0.96*** (0.01)	0.96*** (0.01)	0.97*** (0.01)	0.97*** (0.01)
Age sq.	1.00*** (0.00)	1.00*** (0.00)	1.00*** (0.00)	1.00*** (0.00)	1.00*** (0.00)	1.00*** (0.00)	1.00*** (0.00)	1.00*** (0.00)
Female	0.77*** (0.03)	0.75*** (0.03)	0.79*** (0.03)	0.76*** (0.04)	0.73*** (0.03)	0.72*** (0.03)	0.75*** (0.02)	0.75*** (0.03)
GDP	0.35** (0.16)	0.44 (0.36)	0.39* (0.21)	0.49 (0.33)	0.40** (0.16)	0.43 (0.35)	0.34*** (0.12)	0.33* (0.19)
Religiosity					1.82*** (0.18)	1.58*** (0.12)		
CFE	NO	YES	NO	YES	NO	YES	NO	YES
N	45,482	45,482	31,331	31,331	44,505	44,505	47,488	47,488

^aDependent variable: parenting style (indicator). The reference category is permissive. All the models are multinomial logistic models and the displayed coefficients are RRRs. Columns (1) and (2) are based on the whole sample, columns (3) and (4) only consider parents, columns (5) and (6) include a control for religiosity, columns (7) and (8) consider an alternative classification of parenting style described in the text. All models include wave fixed effects and controls for gender, age, age squared, and log of GDP per capita (based on expenditure-side real GDP at chained PPPs, from Penn World Table 9.0). Inequality is defined as the ratio between the 90th and 10th percentile of gross earnings of full-time dependent employees. Standard errors (in parentheses) are clustered at the country level. *, **, *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.

TABLE V
TAX PROGRESSIVITY, SAFETY NETS, INEQUALITY, AND PARENTING STYLES^a

	<i>Reference Category: Permissive</i>					
	Authoritative			Authoritarian		
	(1)	(2)	(3)	(4)	(5)	(6)
Tax Progressivity	0.07*** (0.07)		0.25** (0.16)	0.13** (0.12)		0.24 (0.22)
Social Expenditure		0.25*** (0.10)	0.54 (0.22)		0.35*** (0.12)	0.62 (0.29)
Inequality			1.89*** (0.32)			1.59** (0.30)
College	0.52*** (0.06)	0.56*** (0.05)	0.56*** (0.05)	0.28*** (0.04)	0.29*** (0.04)	0.30*** (0.04)
Compl. HS	0.64*** (0.08)	0.61*** (0.07)	0.68*** (0.06)	0.49*** (0.08)	0.46*** (0.08)	0.53*** (0.07)
Age	0.98*** (0.01)	0.98*** (0.01)	0.98*** (0.01)	0.96*** (0.01)	0.96*** (0.01)	0.95*** (0.01)
Age sq.	1.00*** (0.00)	1.00*** (0.00)	1.00*** (0.00)	1.00*** (0.00)	1.00*** (0.00)	1.00*** (0.00)
Female	0.69*** (0.04)	0.70*** (0.04)	0.63*** (0.03)	0.79*** (0.03)	0.80*** (0.03)	0.74*** (0.03)
GDP	0.58 (0.32)	0.52 (0.29)	0.46* (0.21)	0.55 (0.26)	0.50 (0.24)	0.56 (0.29)
<i>N</i>	41,079	54,365	32,196	41,079	54,365	32,196

^aDependent variable: parenting style (indicator). The reference category is permissive. All models are multinomial logistic models and the displayed coefficients are RRRs. All models include wave fixed effects and controls for gender, age, age squared, and GDP per capita (log). Tax progressivity is from [Andrew Young School of Policy Studies \(2010\)](#). Safety nets are expressed as the aggregate social expenditure in percentage of GDP. Inequality is defined as the ratio between the 90th and 10th percentile of gross earnings of full-time dependent employees. GDP is the Expenditure-side real GDP at chained PPPs (Source: Penn World Table 9.0). Standard errors (in parentheses) are clustered at the country level. *, **, *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.

C.2. Authoritarian Parenting and Economic Development

Figure 8 displays the cross-country correlation between authoritarian parenting (data from the WVS, as defined in the text) and (i) the employment share of agriculture; (ii) the enrollment rate in tertiary education.

C.3. Parenting Values in the General Social Survey

The General Social Survey (GSS) in the United States includes a set of questions that are comparable to the parenting questions in the WVS. Specifically, respondents are asked the following question: “If you had to choose, which thing on this list would you pick as the most important for a child to learn to prepare him or her for life?” The respondents are also asked for their second, third, and fourth priority on the list. The possible answers include “to obey,” “to be popular and well liked,” “to think for oneself,” “to work hard,” and “to help others.” In line with our classification of the parenting questions in the WVS, we can identify the quality “to obey” with an authoritarian parenting style, and “to work hard” with an authoritative parenting style.

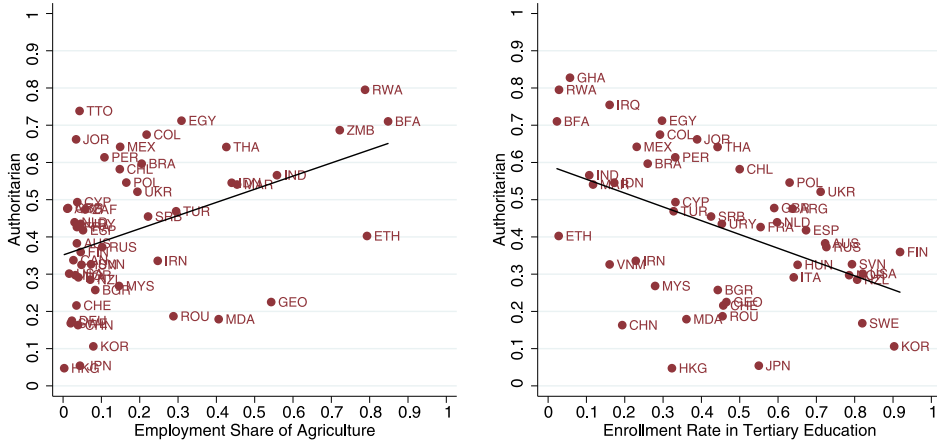


FIGURE 8.—Share of authoritarian parents, employment share of agriculture, and enrollment rate in tertiary education. The left panel shows the correlation between the fraction of authoritarian parents in Wave 5 of the WVS and the employment in agriculture in 2005 expressed as percentage of total employment. The right panel shows the correlation between the fraction of authoritarian parents in Wave 5 and the gross enrollment ratio in tertiary education in 2005. The data about employment in agriculture and tertiary education are from the World Bank (World Development Indicators).

Figure 9 and Figure 10 display the fraction of respondents listing “to obey” and “to work hard” among the top two desired child qualities. The data cover the period 1986 to 2014 and are broken down by the education of the respondent. The results are consistent with the trends documented in the main text. Obedience is valued more highly by respondents with less education, and across education group this value is met with declining approval over time, corresponding to a decline in authoritarian parenting. At the same

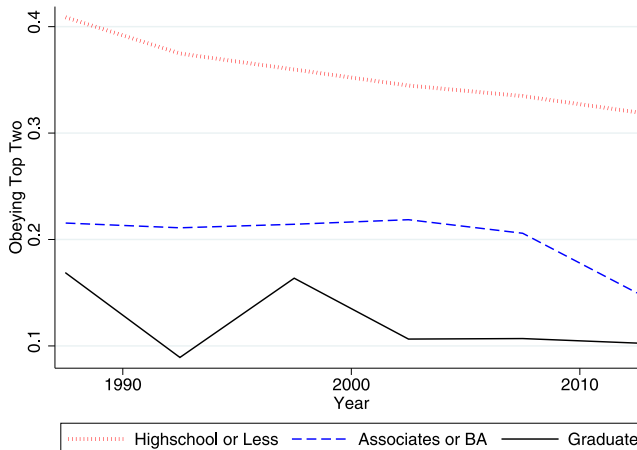


FIGURE 9.—U.S. parents listing “to obey” among top two desirable child qualities, by education (percent of adult population). Data from General Social Survey (GSS, 1986–2014). The figure displays the fraction of adults who list “to obey” among the top two values that are important for children to learn, from a list that includes “to obey,” “to be popular and well liked,” “to think for oneself,” “to work hard,” and “to help others.” Answers are averaged over five-year intervals.

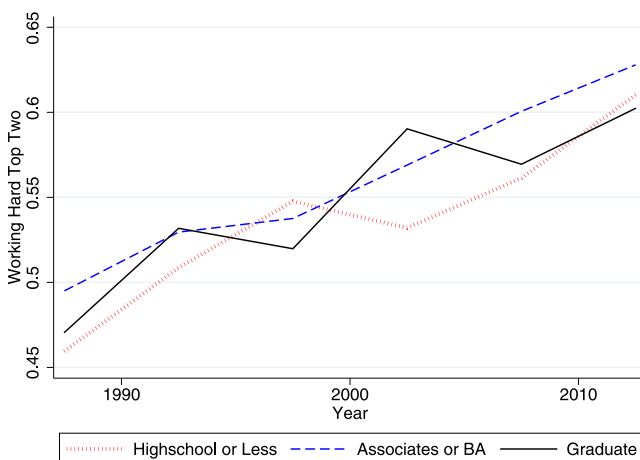


FIGURE 10.—U.S. parents listing “to work hard” among top two desirable child qualities, by education (percent of adult population). Data from General Social Survey (GSS, 1986–2014). The figure displays the fraction of adults who list “to work hard” among the top two values that are important for children to learn, from a list that includes “to obey,” “to be popular and well liked,” “to think for oneself,” “to work hard,” and “to help others.” Answers are averaged over five-year intervals.

time, there is a strong upward trend (in all education groups) in the emphasis on “hard work,” consistent with a rise in authoritative or “helicopter” parenting.

C.4. *Class Differences in Parenting Style in the NLSY*

The NLSY 1997 data discussed in Section 3.4 can also be used to examine class differences in parenting style. In Section 3.3, we have already established (using time use data and GSS data on the approval of corporal punishment) that in recent decades in the United States, the authoritarian style (proxied by approval of corporal punishment) is more prevalent among individuals with less education, whereas the authoritative style (proxied by time-intensive parenting) is more prevalent among those with more education. The NLSY data lead to the same conclusions. Table VI provides a breakdown of mothers’ and fathers’ parenting styles by education of the parent, based on 1998 data on parenting style of residential parents.² We find that for both mothers and fathers, authoritarian and neglecting parenting is most prevalent for those with the lowest education level (up to high school), and authoritative parenting is most common among parents with advanced degrees (master, Ph.D., or professional degree).

Tables VII and VIII provide results for multinomial logit regressions that also control for the parent’s age, age squared, and race and ethnicity controls. Even after introduc-

²We use the 1998 parenting style here because data on degrees earned by the parents are not available for 1997. However, combining the parenting style measured in 1997 with degree information in 1998 leads to similar results.

TABLE VI
BREAKDOWN OF PARENTING STYLE BY EDUCATION OF THE PARENT (IN PERCENT) IN NLSY 1997^a

	Mother's Parenting Style			
	Neglecting	Permissive	Authoritarian	Authoritative
Up to High School	16.33	30.54	17.33	35.79
Bachelor or Some College	13.35	31.99	13.71	40.95
Advanced Degree	7.43	33.14	14.41	45.02
Total	14.61	31.12	16.44	37.83
	Father's Parenting Style			
Up to High School	18.25	24.99	24.03	32.73
Bachelor or Some College	14.35	28.27	21.94	35.41
Advanced Degree	7.23	27.48	19.48	45.81
Total	15.30	25.83	22.78	36.09

^aBased on 1998 parenting style of residential parents in NLSY 1997 data set (no. of observations: 4422 for mothers, 3209 for fathers). The table shows the proportion of parents adopting each of the four parenting styles in 1998, broken down by the education level of parents.

TABLE VII
MOTHERS' PARENTING STYLE AND EDUCATION IN NLSY 1997: MULTINOMIAL LOGISTIC REGRESSIONS^a

	Reference Category: Neglecting		
	Mothers		
	Permissive	Authoritarian	Authoritative
High School Diploma/GED	1.59*** (0.21)	1.01 (0.15)	1.65*** (0.21)
Some College	1.72*** (0.34)	1.07 (0.24)	2.03*** (0.39)
Bachelor's	2.84*** (0.59)	1.68** (0.39)	3.53*** (0.71)
Graduate Degree	3.57*** (1.16)	2.83*** (0.99)	5.28*** (1.66)
Age	1.04 (0.12)	1.08 (0.14)	1.24* (0.14)
Age Squared	1.00 (0.00)	1.00 (0.00)	1.00* (0.00)
Black	1.17 (0.15)	1.54*** (0.22)	1.73*** (0.21)
Asian	0.71 (0.29)	1.65 (0.68)	1.16 (0.44)
Other	0.97 (0.19)	0.81 (0.18)	0.97 (0.19)
Hispanic	1.07 (0.18)	1.46** (0.27)	1.23 (0.20)

^aBased on 1998 parenting style of residential parents in NLSY 1997 data set (no. of observations: 4285). Dependent variable: Mother's parenting style (indicator). The reference category is neglecting. Omitted category is less than high school for education and white, non-Hispanic for race/ethnicity. All the models are multinomial logistic models. The displayed coefficients are RRRs. Standard errors in parentheses. *, **, *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.

TABLE VIII
FATHERS' PARENTING STYLE AND EDUCATION IN NLSY 1997: MULTINOMIAL LOGISTIC REGRESSIONS^a

	<i>Reference Category: Neglecting</i>		
	Fathers		
	Permissive	Authoritarian	Authoritative
High School Diploma/GED	1.44** (0.23)	1.58*** (0.25)	1.39** (0.20)
Some College	1.88** (0.48)	1.79** (0.47)	1.85** (0.45)
Bachelor's	3.42*** (0.81)	3.06*** (0.74)	4.44*** (0.99)
Graduate Degree	3.81*** (1.12)	3.20*** (0.98)	5.08*** (1.43)
Age	1.11 (0.09)	1.03 (0.09)	1.11 (0.09)
Age Squared	1.00 (0.00)	1.00 (0.00)	1.00 (0.00)
Black	0.98 (0.16)	1.15 (0.19)	1.24 (0.19)
Asian	0.70 (0.32)	1.87 (0.76)	0.99 (0.41)
Other	0.89 (0.22)	1.07 (0.25)	1.06 (0.24)
Hispanic	1.13 (0.22)	1.58** (0.31)	1.10 (0.21)

^aBased on 1998 parenting style of residential parents in NLSY 1997 data set (no. of observations: 3135). Dependent variable: Father's parenting style (indicator). The reference category is neglecting. Omitted category is less than high school for education and white, non-Hispanic for race/ethnicity. All the models are multinomial logistic models. The displayed coefficients are RRRs. Standard errors in parentheses. *, **, *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.

ing additional controls, parents with completed higher education (bachelor's degree or higher) have a substantially lower likelihood of being neglecting parents, and correspondingly large and highly significant RRRs for the other three parenting styles (neglecting is the reference category). Moreover, the strongest impact is that of having an advanced degree on the RRR of authoritative relative to neglecting parenting, with values in excess of 5.0 for both mothers and fathers.

C.5. NLSY Estimates of Success in Education: Complete Tables

Table IX reproduces the results of Table III while also displaying the coefficients of all control variables.

TABLE IX
PARENTING STYLE AND EDUCATIONAL OUTCOMES: FULL RESULTS^a

Outcome:	<i>Reference Category: Neglecting</i>					
	GPA			Bachelor's Degree		
	(1)	(2)	(3)	(4)	(5)	(6)
Permissive Mother	0.05 (0.04)	0.08** (0.04)	0.08** (0.04)	0.07*** (0.02)	0.06*** (0.02)	0.06** (0.03)
Authoritarian Mother	-0.02 (0.04)	-0.01 (0.04)	-0.03 (0.05)	0.03 (0.03)	0.02 (0.03)	0.02 (0.03)
Authoritative Mother	0.10*** (0.04)	0.14*** (0.04)	0.13*** (0.04)	0.09*** (0.02)	0.08*** (0.02)	0.06** (0.03)
Permissive Father	0.17*** (0.03)	0.13*** (0.03)	0.12*** (0.04)	0.10*** (0.02)	0.06*** (0.02)	0.08*** (0.03)
Authoritarian Father	0.06 (0.03)	0.03 (0.03)	0.06 (0.04)	0.03 (0.02)	-0.01 (0.02)	0.01 (0.03)
Authoritative Father	0.18*** (0.03)	0.15*** (0.03)	0.15*** (0.04)	0.10*** (0.02)	0.08*** (0.02)	0.09*** (0.03)
Age	0.34 (0.33)	0.18 (0.33)	0.18 (0.38)	0.24 (0.21)	0.31 (0.22)	0.42* (0.25)
Age squared	-0.01 (0.01)	-0.00 (0.01)	-0.00 (0.01)	-0.00 (0.00)	-0.00 (0.00)	-0.01* (0.00)
Education Mother		0.02*** (0.00)	0.03*** (0.00)		0.03*** (0.00)	0.02*** (0.00)
Education Father		0.03*** (0.00)	0.03*** (0.00)		0.03*** (0.00)	0.03*** (0.00)
Black		-0.23*** (0.03)	-0.21*** (0.03)		-0.07*** (0.02)	-0.03* (0.02)
Native American		-0.22* (0.12)	-0.10 (0.14)		-0.13 (0.08)	-0.04 (0.10)
Asian		0.16** (0.07)	0.10 (0.08)		0.22*** (0.04)	0.25*** (0.05)
Other		-0.04 (0.04)	-0.07 (0.04)		0.03 (0.02)	0.04 (0.03)
Hispanic		-0.01 (0.03)	-0.02 (0.04)		0.01 (0.02)	-0.00 (0.02)
Female		0.26*** (0.02)	0.26*** (0.02)		0.12*** (0.01)	0.12*** (0.01)
Household Income 1997			0.26 (0.27)			1.01*** (0.18)
Age Controls	YES	YES	YES	YES	YES	YES
Education and Race Controls	NO	YES	YES	NO	YES	YES
Income Controls	NO	NO	YES	NO	NO	YES
<i>N</i>	4255	3568	2727	6153	5089	3853

^aAll regressions are OLS. Standard errors in parentheses. *, **, *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.

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*Co-editor Gianluca Violante handled this manuscript as an invited Walras–Bowley lecture. The invitation to deliver the Walras–Bowley lecture is also an invitation to publish a suitable version of the lecture in *Econometrica*.*

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