# A Stairway to Success: How Parenting Shapes Culture and Social Stratification\*

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#### Abstract

This chapter argues that parenting decisions are a key engine behind the intergenerational transmission of culture. We develop a model in which parents choose between different parenting styles based on the anticipated returns to children's cultural traits. Parenting decisions are shaped by economic incentives and generate cultural and economic stratification in society. We emphasize the mutual interaction between occupational and cultural segregation and show how parenting strategies mediate the transmission of work ethic and religiosity across generations. We then extend the framework to incorporate neighborhood choice and social interactions, showing how residential sorting amplifies differences in parenting and contributes to persistent gaps in trust and human capital. Using data from the World Values Survey, we provide empirical evidence consistent with the predictions of the model. The results underscore the role of parenting in the reproduction of cultural and economic inequality.

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# 1 Introduction

Culture can be defined as a set of widely shared attitudes, preferences, and beliefs that characterize a particular social group or society. Parenting, in turn, is one of the primary mechanisms through which cultural values and norms are transmitted between generations. Parents shape not only their children's skills and preferences, but also their broader worldviews and social behaviors. Parenting therefore plays a fundamental role in preserving, modifying, or even disrupting cultural traditions over time. Conversely, culture influences parenting practices by shaping norms about child-rearing and parent-child relationships. Understanding this mutual interaction is crucial for understanding how economic and social conditions shape cultural evolution.

This close connection between culture and parenting arises because values and attitudes are often passed from parent to child. However, cultural transmission is neither limited to the parent-child relationship nor entirely dictated by cultural norms. Economic conditions, social institutions, and peer influences also shape both parenting practices and the persistence of cultural traits over time. In this chapter, we propose an economic approach to parenting that aims to clarify these connections by examining how parenting both reflects and reshapes cultural norms, highlighting the economic and social forces that influence this process.

A central feature of our approach is its focus on how parenting decisions respond to economic incentives rather than being purely psychological or culturally fixed. Parents strategically adapt their socialization strategies based on anticipated future payoffs for their children, which are shaped by labor market conditions, technological change, educational opportunities, neighborhood effects, and social mobility as analyzed in our recent research (Doepke and Zilibotti 2017a and 2019, Doepke, Sorrenti, and Zilibotti 2019, Agostinelli et al. 2022 and 2025). Rather than simply transmitting inherited values, they adjust their parenting styles in response to shifting economic conditions, helping to explain both the evolution of parenting norms over time and their variation across countries, as well as among different socioeconomic groups within a society.

For instance, in societies where success is closely tied to standardized academic performance, parents may invest heavily in structured education and intensive

tutoring while also shaping their children's values to cultivate high achievement. In contrast, in economies where entrepreneurial skills or creativity yield high returns, parenting can prioritize fostering independence and risk-taking. A key driver of this response is parental *altruism*: parents seek to prepare their children for the world they will enter as adults, ensuring they have the best possible opportunities to succeed. However, the extent of this adaptation varies depending on the perceptions of parents about the economic landscape and their beliefs about what constitutes success.

Beyond altruism, *paternalism* plays a crucial role in shaping parenting decisions. While the altruistic drive makes parents care about their children's well-being and future success, the paternalistic drive goes further: parents make choice based on the belief that they know what is best for their children, even if their children would prefer a different path. In other words, paternalism implies that parents may override their children's preferences and induce or impose choices that they believe will be beneficial in the long run. This paternalistic dimension is particularly important in the persistence of traditional values such as religious beliefs or political ideologies, where parents often seek to transmit their own convictions rather than allowing their children to develop independent views.

In our framework, altruism and paternalism coexist, jointly shaping parental decisions. More specifically, we introduce a parameter  $\lambda$  that captures the extent to which parents prioritize their own judgment of what is best for the child over the child's own preferences. When  $\lambda = 0$ , parents are purely altruistic and fully respect the child's choices. As  $\lambda$  increases, parents are more inclined to instill—or even impose—values that may conflict with the child's immediate desires, based on the belief that such intervention will yield better long-term outcomes.

A central concept in our analysis is that of parenting styles, which we draw from the developmental psychology literature (Baumrind 1967) and embed within an economic framework following Doepke and Zilibotti (2017b). Whereas psychology typically views parenting styles as stable personality traits, our model treats them as strategic choices that respond to economic and cultural conditions. This shift allows us to examine how parents adapt their approach to child-rearing based on the traits they believe will yield the greatest returns in a given environment. We focus on the three parenting styles originally identified by Baumrind: authoritarian, authoritative, and permissive.<sup>1</sup> Parents with an authoritarian style impose strict control, ensuring compliance with their values and discouraging deviation. Those with an authoritative style attempt to shape their child's preferences while allowing some autonomy, recognizing that direct control may be costly or detrimental to the parent-child relationship. In contrast, permissive parents prioritize self-expression and independence, intervening minimally in shaping cultural or economic values.

The choice of parenting style depends on both parental preferences and external conditions. Parents strategically adjust their approach based on expectations about the future economic and cultural landscape. In rigid social structures where success depends on conformity to established norms, authoritarian parenting may dominate. Conversely, in dynamic societies where adaptability and innovation are crucial, parents may favor authoritative or permissive styles that foster independence.

The choice of parenting style also critically hinges on external influences, such as peer groups, schools, and media. Parents who perceive these external influences as misaligned with their values may respond by intensifying efforts to shape their child's preferences. This dynamic creates a complementarity between culture and parenting, where the strength of parental control varies based on how much parents trust or distrust broader societal influences.

For example, in highly secular societies where religious values are declining, religious parents may seek to segregate their children from the influence of external society as well as double down on strict religious socialization, whereas secular parents may exert little effort in cultural transmission. Similarly, in societies with rising economic inequality, parents may feel greater pressure to instill work ethic and discipline to ensure their children's economic success.

This tension between external influences and parental control is particularly evident in what we label *defensive parenting*, where parents take active measures to shield their children from potentially disruptive social forces. Children are

<sup>&</sup>lt;sup>1</sup>We exclude the neglecting parenting style (Maccoby and Martin 1983), which is typically associated with problematic family situations beyond the scope of our analysis.

shaped not only by their home environment but also by their broader social surroundings, including peer networks and media exposure. While many of these influences may be enriching, others can undermine parental efforts. In response, parents strategically select neighborhoods, schools, and even online environments to either reinforce or counteract these external effects. This logic is closely tied to the authoritarian parenting style, which seeks to limit undesirable external influences through strict control and restricted exposure. Our model formalizes this mechanism, highlighting how trust in societal institutions and perceived risks in the external environment shape parental choices.

When parents perceive the surrounding world as trustworthy—where institutions function effectively and cooperation is widespread—they are more likely to encourage openness, autonomy, and engagement with broader society. This, in turn, reinforces cooperative social norms across generations. Conversely, in low-trust environments, where external influences are seen as unreliable or even harmful, parents may adopt stricter socialization strategies that emphasize caution, in-group loyalty, and skepticism toward outsiders. Over time, these choices contribute to the persistence of fragmented or exclusionary social norms, limiting the accumulation of social capital and weakening broader societal cooperation. These dynamics highlight how parenting strategies interact with trust and social norms, shaping long-term outcomes—a theme we explore in greater detail later in this chapter.

In Section 2, we introduce a general model of parental choice over parenting styles. Section 3 applies this model to examine how the formation of economic preferences interacts with economic conditions, shaping cultural stratification and the endogenous formation of social classes. Section 4 extends the analysis to the transmission of non-economic values, with a particular focus on religion. Section 5 explores the relationship between residential and cultural segregation within a framework of parenting and location choices. Section 6 presents empirical evidence consistent with our theoretical predictions. Finally, Section 7 concludes.

## 2 An Analytical Framework

We begin by outlining a general framework for analyzing the mutual interactions between economic conditions, parenting, residential choices, and cultural transmission. We consider a population of dynasties in which each parent has a child, followed by a grandchild, and so forth. The model combines features of the economic literature on child development (Heckman and Mosso 2014, Attanasio 2015) with the literatures on the economics of parenting style and culture.

#### 2.1 The Parent's Decision Problem

The circumstances of a given parent are characterized by two state variables, H and X. H represents economic state variables; in the applications discussed below, H typically denotes human capital, though it may also include other factors such as wealth. The variable X captures the preferences, attitudes, and values that represent culture in our analysis. X can encompass economic preferences such as work ethic, patience, or risk tolerance; broader social attitudes such as trust and altruism; and distinct cultural elements, including religious beliefs. The child's state variables, shaped by the parent, are denoted as H' and X'.

A parent derives utility from consumption and cares about their child's well-being. Specifically, the preferences of a parent with state variables H and X are described by the value function:

$$V(H,X) = \max_{\{Y,P,N\}} \left\{ E\left[ U(C,P) + z\left(\lambda \ \tilde{v}(H',X'|X,N) + (1-\lambda) \ v(H',X')\right) \right] \right\}.$$
 (1)

The maximization is subject to a set of feasibility constraints, which may include budget and time constraints; the technologies governing human capital accumulation and preference transmission—which jointly determine the child's state variables H' and X'; as well as the influence of neighborhood choice N, which may affect both parent and child.

The parent makes choices across multiple dimensions: Y encompasses standard economic decisions such as occupational choice; P represents parenting strategies; and N denotes residential location.

The parent's felicity is represented by a standard utility function that depends on consumption and the parenting style adopted, U(C, P), where both consumption and the cost of different parenting styles may depend on H.<sup>2</sup> A key feature of the parent's concern for the child is that it includes both altruistic and paternalistic components. The overall weight assigned to the child's welfare is captured by the parameter z > 0. With relative weight  $1 - \lambda$ , the parent values the child's actual lifetime utility, v(H', X'), defined as:

$$v(H', X') = u(X') + \beta V(H', X').$$

During childhood, the child derives utility u(X') from their values X'. As an adult, the child's lifetime utility is given by the value function V(H', X'), discounted by  $\beta$ .<sup>3</sup> The presence of v(H', X') in the parent's utility reflects genuine altruism.

When  $\lambda = 0$ , the parent is fully altruistic, and no conflict arises between parent and child. When  $\lambda > 0$ , the parent is also influenced by a paternalistic evaluation of the child's outcomes. In general, paternalism implies that the parent holds independent views about what is best for the child, regardless of the child's own utility.

Paternalism can manifest along several dimensions. In earlier work on the economics of parenting, the focus was on potential disagreement between parent and child regarding the trade-off between present enjoyment and future investment. For example, future-oriented parents might encourage academic effort and discourage risk-taking during adolescence.

In this study, we focus on a broader cultural dimension, emphasizing potential disagreement over the child's attitudes and values, encapsulated in X'. The

<sup>&</sup>lt;sup>2</sup>The nature and relative cost of different parenting styles may vary across applications. An authoritarian style may strain family relationships by prioritizing strict control over open communication. An authoritative style may require significant time and effort to shape the child's preferences. A permissive approach also carries costs, as it involves expanding the child's choice set and accepting the potential consequences of a more liberal upbringing.

<sup>&</sup>lt;sup>3</sup>In more general economic models of parenting, the child's utility during childhood may depend on additional choices and state variables. Here, we restrict attention to cultural factors.

paternalistic utility function is given by:

$$\tilde{v}(H', X'|X, N) = \tilde{u}(X'|X, N) + \beta V(H', X').$$

This function includes the same future utility term V(H', X') as the altruistic case but replaces the child's own evaluation u(X') with the parent's assessment  $\tilde{u}(X'|X, N)$ . This evaluation may depend on the parent's own values X and the characteristics of the neighborhood N. For example, a parent may prefer that the child adopts their religious beliefs, even if doing so does not maximize the child's own utility.

#### 2.2 Parenting Styles

The potential conflict between parent and child arising from paternalism gives rise to the concept of parenting styles. A parenting style can be understood as the approach a parent takes to managing parent-child conflict.

In developmental psychology (Baumrind 1967), the standard classification of parenting styles consists of permissive, authoritative, and authoritarian parenting. Similar categories have been incorporated into economic theories of parenting by Doepke and Zilibotti (2017a). Broadly, a permissive parenting style is characterized by parents granting their children significant freedom and refraining from intervening in their choices. An authoritative style involves parents actively shaping their children's values and preferences to influence their decisions. In contrast, an authoritarian style is characterized by parental control, where parents impose restrictions on their child's choices and demand obedience without necessarily justifying their decisions or attempting to persuade the child.

In our model, parenting styles influence the formation of the child's values, X', which develops in two stages. Let  $X_P^*$  denote the parent's preferred values for the child. In the first stage, the parent can choose whether to exert effort on instilling these values in the child. In the second stage, the parent may allow the child to express their own preference,  $X_C^*$ , or alternatively attempt to suppress the child's views. The child determines this preference by maximizing their own utility,

leading to:

$$X_C^{\star} = \operatorname*{argmax}_{X' \in \mathbb{X}(X_P^{\star}, P)} \left\{ E\left[u(X') + \beta V(H', X')\right] \right\},\$$

where the expectation is taken over the realization of H' given the state variables. Here, the set  $\mathbb{X}(X_P^*, P)$  denotes the feasible choices for X' available to the child, which may depend on the parent's decisions. Specifically, some values X' may only be available to the child if the parent first puts effort into molding them. For example, children may be unable to choose to be patient and future-oriented on their own, but they may want to have these values if they are first demonstrated by their parent.

The three parenting styles now arise from the parent's choices in these two stages. If the parent refrains from instilling particular values and leaves the determination of X' entirely to the child, the parenting style is permissive. If the parent does attempt to instill particular values but also allows the child to have a say, we classify the parenting style as authoritative, as the parent seeks to influence the child but does not impose strict obedience. Lastly, if the parent suppresses the child's preference, the parenting style is authoritarian. Formally, we express X' as a function of the parent's and child's preferred values, the parenting style P, as well as potential random shocks  $\epsilon$ :

$$X' = f(\varsigma(P)X_P^{\star} + (1 - \varsigma(P))X_C^{\star}, \epsilon),$$
(2)

We can now define parenting styles in our model.

**Definition 1** (Parenting Style). *The function*  $\varsigma(P)$  *pins down the parenting style as follows:* 

- (*i*) If  $\varsigma(P) = 0$ , the parent does not interfere in the child's choice of X', and hence the parenting style is permissive.
- (*ii*) If  $0 < \varsigma(P) < 1$ , the parent molds the child's preferences but also allows the child to influence X', and hence the parenting style is authoritative.
- (iii) If  $\varsigma(P) = 1$ , the parent suppresses the child's influence on X', and hence the parenting style is authoritarian.

This definition of parenting style is broadly in line with the axiomatic approach of Doepke and Zilibotti (2017a), which characterizes an authoritarian parenting style as one in which parents restrict the child's choice set, an authoritative style as one in which parents do not impose such restrictions but attempt to shape their child's preferences, and a permissive style as one in which parents do neither and may even seek to expand the child's choice set. The parametric assumptions introduced here are tailored to the applications in the following sections.

The setup implies that authoritative parenting can vary in intensity. A parent who shapes the child's preferences and then, in addition, exerts significant influence over the child's choice (i.e., sets  $\varsigma(P)$  large) adopts an authoritative style that leans toward authoritarian. Conversely, a parent who shapes the child's preferences but grants ample freedom in the final choice (i.e., sets  $\varsigma(P)$  small) adopts an authoritative style closer to permissive.

The value of  $\varsigma(P)$  may reflect the parent's own disposition (more or less liberal) but can also be determined by external constraints on the parent's ability to intervene. For instance, once the child leaves home to attend college, the parent may be unable to interfere on their academic effort. In this case, a small  $\varsigma(P)$  may be imposed by circumstances, prompting the parent to invest more effort in shaping the child's preferences at an earlier stage.

The parenting style may have implications beyond the determination of X'. For example, suppressing the choice of the child may require a degree of control that also suppresses the child's independence and creativity, thereby affecting the evolution of the child's human capital H'.

#### 2.3 General Predictions

Even at this level of generality, we can derive some insights into the interplay between parenting, culture, and economic conditions within our framework. For instance, if the parent is fully altruistic ( $\lambda = 0$ ), they will never choose to be authoritarian, as parent and child agree on the preferred value of X'.

However, when parents are paternalistic ( $\lambda > 0$ ), a trade-off emerges between paternalistic motives and the implications of specific values X' for the child's future

adult utility, V(H', X'). If economic conditions evolve such that certain values X' yield high returns for the child—regardless of the parent's own values X—there will be a tendency toward greater uniformity in children's values, independent of parental culture.

Moreover, multiple mechanisms can contribute to the stratification of preferences and culture in society. These include the influence of parental values X in paternalistic utility, potential complementarities between specific values X' and human capital H', and interactions with neighborhood choice N.

#### 2.4 Relationship with the Literature

The intellectual roots of our theory lie in the seminal work of Becker (1981), which highlights altruism as a fundamental force driving intergenerational transfers. In Becker's model, as in ours, parents maximize a family utility function that includes weight on children's well-being. While preferences are exogenous in Becker (1981), subsequent work by Becker and Mulligan (1997) provides a foundation for understanding intergenerational preference formation, particularly in shaping time preferences (patience) through parental investment. They argue that parents actively influence their children's discount rates by making strategic investments that cultivate patience, thereby enhancing human capital accumulation and long-term economic outcomes. The role of patience as a cultural asset further developed in Doepke and Zilibotti (2008).

Our research is also closely related to the work of Bisin and Verdier (2000 and 2001), who develop models of cultural transmission in which parents actively shape their children's preferences while also being influenced by external social interactions. They highlight two primary mechanisms: direct socialization (parental transmission of values) and oblique transmission (influences from society and peer effects). Relative to their framework, we emphasize an explicit utilitarian approach in which we separate the role of altruism and paternalism. This distinction allows us to study dynamic interaction where parents enforce values they believe to be beneficial for the child, even against the child's preferences. Moreover, we explicitly incorporate into our analysis the notion of parenting style.

Another closely related theory is that of Hauk and Sáez Martí (2002), who analyze

cultural transmission through the lens of strategic complementarities, where parents invest in shaping their children's preferences based on expectations about the broader social environment. Their work emphasizes how cultural traits persist when individual incentives to conform reinforce or oppose existing social norms. A similar theme is developed by Saez Marti and Zenou (2012), which analyze the relationship between cultural transmission and racial discrimination. In their work, cultural persistence arises primarily due to strategic complementarity effects, where parents transmit values which they expect to be advantageous given prevailing social norms. Our analysis in Section 5 is especially close to theirs.

Finally, our work is related to Lizzeri and Siniscalchi (2008). They propose a theoretical model where parents act as supervisors, guiding their children's learning processes by providing information and shaping their beliefs. In this framework, children learn about the world through observations and signals from their parents, who serve as carriers of information, influencing the development of the child's preferences and decision-making strategies. While Lizzeri and Siniscalchi emphasize parents as conveyors of information, our work studies the motivations behind parental guidance.

#### 2.5 Outlook

To examine the forces at play in the general model more precisely, we consider three special cases that highlight specific mechanisms shaping the interaction between economic conditions and culture. In the analysis below, we simplify the general framework by replacing the child's dynastic value function, V(H', X')—which accounts for the future utility of grandchildren, great-grandchildren, and subsequent generations—with a value function,  $V_C(H', X')$ , that considers only the child's own felicity. This simplification enables fully analytical results without altering the main insights.

In each of the models below, the cultural variable X corresponds to a specific dimension of preferences or values: work ethic A in Section 3, religion R in Section 4, and trust T in Section 5. The models emphasize different trade-offs and different aspects of cultural transmission. The first model focuses on the trade-off between permissive and authoritative parenting. In the model on religion, we

introduce authoritarian parenting into the analysis. Finally, the model on trust examines the role of neighborhood interactions and residential sorting.

# 3 Economic Incentives and Cultural Stratification

Cultural heterogeneity is reflected in a range of attitudes and preferences—some with direct economic implications, such as risk tolerance, patience, or work ethic, and others, like religion, that are less directly linked to economic outcomes.

In this section, we focus on a setting where only economically relevant preferences are considered. Specifically, we present a framework in which individual preferences shape occupational choices, which in turn influence patterns of cultural stratification and social mobility. Because the cultural variable in question—work ethic—has direct consequences for individual outcomes, we observe meaningful interactions between parenting, culture, and economic conditions even in the absence of paternalistic motives.

To isolate the effect of these interactions, we consider the case of fully altruistic parents ( $\lambda = 0$ ). Under this assumption, as discussed above, parenting style becomes a binary choice: whether to actively mold the child's preferences or not—that is, whether to adopt an authoritative or a permissive approach.

## 3.1 The Origin of Work Ethic

Consider an economy where production requires the input of workers in two occupations: managers and laborers. The wage per efficiency unit of labor supply for managers is denoted by  $w_M$ , while the wage for laborers is  $w_N$ , with  $w_N < w_M$ . In general equilibrium, these wages would depend on the labor supply in each occupation (see, e.g., Doepke and Zilibotti 2013); however, for simplicity, we take  $w_M$  and  $w_N$  as given.

The efficiency units a worker can supply in each occupation depend on both their talent for that occupation and a preference trait, *A*, which we interpret as "work ethic." In this framework, work ethic *A* serves as the cultural variable *X* described in the general model above. The economic state variable *H* represents

an individual's talent for the managerial occupation. Specifically, a worker with talent *H* for the managerial occupation and work ethic  $A \in \{0, 1\}$  can supply:

$$L_M(H,A) = H + \rho A$$

efficiency units of managerial labor. The talent variable *H* is uniformly distributed on the interval [0, 1] among workers. The parameter  $\rho > 0$  captures the economic return to the work ethic trait *A*, which may vary depending on technology and production methods.

In contrast, the effective labor supply of laborers is independent of both preferences and talent and is fixed at unity:

$$L_N(H,A) = 1.$$

The key assumption is that the return to the preference trait *A* differs across occupations. Given free occupational choice, a worker selects the occupation that offers the higher return. A worker will therefore choose to become a manager if:

$$w_M(H+\rho A) \ge w_N,$$

which is equivalent to:

$$H \ge \frac{w_N}{w_M} - \rho A \equiv \tilde{H}(A). \tag{3}$$

Thus, individuals with a strong work ethic (A = 1) are more likely to become managers.

Next, we examine the origins of work ethic. A child's work ethic is shaped by their parent, who can choose either to instill this trait or to refrain from doing so. This parenting decision is captured by the variable  $P \in \{0, 1\}$ , where P = 1 indicates that the parent actively instills a work ethic, while P = 0 signifies no intervention. We interpret a choice of P = 1 as corresponding to an authoritative parenting style, as the parent actively shapes the child's preferences, whereas P = 0 reflects a permissive parenting style. The effort cost of authoritative parenting, P = 1, is denoted by D(A) > 0, where A represents the parent's own work ethic. This cost can be interpreted as the effort and time a parent invests in shaping the child's

values. We assume D(0) > D(1) > 0: the cost is lower when the parent has a strong work ethic, as the parent's example partially influences the child. The child always benefits from a work ethic, but is unable to acquire one without the socialization effort of the parent. Hence, if P = 0 the child is unable to envision a work ethic and we have  $X_C^* = 0$  by default, whereas if we have P = 1 and the parent actively instills a work ethic, we have  $X_C^* = 1$  because the child now has access to a work ethic and prefers having one over remaining lazy.

If the parent invests in instilling a work ethic, the child develops A' = 1 with high probability  $p_1$  from the combined effect of the parent aiming to instill A' = 1 and the child reaffirming this choice. Conversely, without investment (P = 0), this probability is reduced to  $p_0$ , where  $0 < p_0 < p_1 < 1$ .<sup>4</sup>

Both parents and children derive linear felicity from consumption. Additionally, parents care about their children. The value function of a parent in occupation  $i \in \{M, N\}$  with talent *H* is given by:

$$V(H, A) = \max_{i \in \{M, L\}, P \in \{0, 1\}} \left\{ w_i L_i(H, A) - D(A)P + zE\left[V_C(H', A')\right] \right\},\$$

which represents a special case of the general decision problem (1) from the previous section, subject to the restrictions  $\lambda = 0$  (no paternalism), u(A) = 0 (the child does not derive utility from *A* during childhood), and  $\beta = 1$ .

The first term in the value function represents the parent's own felicity, which depends on their labor income and their choice of parenting style P. The second term captures the parent's expected utility derived from the child's future well-being, here defined solely in terms of the child's adult utility  $V_C(H', A')$ . The expectation is taken over the realization of the child's preference A', which depends on the parent's choice of parenting style  $P \in \{0, 1\}$ , as well as the realization of the child's talent H'.

<sup>&</sup>lt;sup>4</sup>An authoritarian parenting style would force the child to make a particular occupational choice. We do not discuss on this option because it would not be ex-post desirable from the perspective of an altruistic parent.

The adult utility of a child with preference A' is determined by their labor income:<sup>5</sup>

$$V_C(H', A') = \max \{ w_M L_M(H', A'), w_N L_N(H', A') \}.$$

#### 3.2 Occupational and Cultural Stratification in Equilibrium

We now characterize the equilibrium outcomes. Our primary interest lies in the potential for complementarities between specific occupations and preferences to drive cultural stratification and the endogenous formation of social classes in society.

Consider the parent's evaluation of the child's utility,  $V_C(H', A')$ . We focus on the case where  $\rho < w_N/w_M$ , which ensures that the threshold  $\tilde{H}(A')$  for selecting the managerial occupation remains strictly between zero and one, regardless of A'. Given that talent H follows a uniform distribution, the child's expected income for a given A' is:

$$E[V_C(H',A')] = (1 - \tilde{H}(A')) \left(\frac{1 + \tilde{H}(A')}{2} + \rho A'\right) w_M + \tilde{H}(A') w_N.$$

The first term represents the probability that  $H' \ge \tilde{H}(A')$ , implying that the child chooses to become a manager. The second term corresponds to the expected productivity in the managerial occupation, conditional on  $H' \ge \tilde{H}(A')$ . Using Equation (3), we can simplify the expression as:

$$E[V_C(H',A')] = \frac{1}{2}(w_M + w_N^2/w_M) + \rho A'(w_M - w_N) + \frac{1}{2}\rho^2(A')^2w_M$$

The benefit derived from the child acquiring a work ethic A' = 1 is given by:

$$E[V_C(H',1)] - E[V_C(H',0)] = \rho(w_M - w_N) + \frac{1}{2}\rho^2 w_M.$$
(4)

Consider the case where D(0) is prohibitively large, implying that parents without

<sup>&</sup>lt;sup>5</sup>As noted above, one simplification relative to the general framework in Section 2 is that the parent considers only the child's expected income rather than the full value function V(H', A'), which would also account for the child's concern for their own offspring (the parent's grandchild). This assumption simplifies the analysis without affecting the main results.

a work ethic will never invest in their children's work ethic, as they may not fully understand what it entails. In contrast, the decision of parents with a strong work ethic (A = 1) depends on the return to a work ethic,  $\rho$ , in the managerial occupation.

We can now characterize how social stratification and social mobility depend on economic conditions.

**Proposition 1** (Classless Society). *If the return*  $\rho$  *to a strong work ethic is sufficiently low such that*  $\rho < \tilde{\rho}$ *, where* 

$$\tilde{\rho} = \frac{w_M - w_N}{w_M} \left( \sqrt{1 + \frac{2w_M D(1)}{z(p_1 - p_0)(w_M - w_N)^2}} - 1 \right),$$

then:

- No parents invest in their children's work ethic;
- The children of managers and laborers have an equal likelihood of becoming managers.

**Proof:** The parent's decision problem implies that no parent will invest in the child's work ethic if:

$$z(p_1 - p_0) \left( E\left[ V_C(H', 1) \right] - E\left[ V_C(H', 0) \right] \right) \le D(1).$$

Using (4), yields the threshold  $\tilde{\rho}$  at which this expression holds as an equality. If  $\rho < \tilde{\rho}$ , there will be no persistence in economic status across generations because the distribution of children's preferences is identical across occupations, and the distribution of skill is independent of the parent's skill or occupation.

In a society where  $\rho < \tilde{\rho}$ , the returns to specific economic preferences are not strong enough to induce social stratification. The distribution of preferences remains identical among the children of managers and laborers, and children from both groups are equally likely to enter the managerial profession. The only observable social distinction is that managers are more likely to have a strong work ethic, as a higher work ethic lowers the ability threshold for managerial entry. Additionally, managers earn a higher income than laborers, as most exceed the ability threshold and therefore receive a wage premium over laborers.

Next, we consider the case where the return to work ethic in the managerial occupation is sufficiently high to generate intergenerationally persistent social stratification of preferences.

**Proposition 2** (Stratified Society). *If the return*  $\rho$  *to work ethic is sufficiently high such that*  $\rho \geq \tilde{\rho}$ *, then the steady-state of the economy exhibits the following properties:* 

- Parents with a work ethic (A = 1) invest in their children's work ethic, while other parents do not;
- The children of managers have a higher likelihood of becoming managers than the children of laborers;
- *The difference in average work ethic between managers and laborers increases with ρ;*
- Intergenerational persistence in occupation and income increases with  $\rho$ .

The proof for the proposition is given in the appendix.

When the return to entrepreneurship is sufficiently high, parental socialization decisions, combined with variation in the return to specific traits across occupations, lead to cultural stratification in society, where individuals in different occupations are characterized by distinct preferences and values. The degree of stratification increases with the economic return to work ethic,  $\rho$ .

Moreover, the mutual complementarity between working in a given occupation and possessing suitable preferences generates persistence in social status and limits intergenerational mobility. This occurs despite the fact that our illustrative model abstracts entirely from the direct transmission of human capital or ability; the sole source of persistence is that a parent with a specific preference trait finds it easier to endow their child with the same trait.

#### 3.3 Separated Social Classes

In our baseline model, there are no formal barriers to social mobility; persistence in status arises solely from endogenous preference transmission. Historically, however, many societies have reinforced class distinctions through institutional mechanisms such as hereditary aristocracies, caste systems, or legal restrictions on occupational mobility. These structures impose exogenous constraints on social mobility, preventing individuals from freely transitioning across economic roles, regardless of their abilities or preferences.

We next examine how the forces shaping cultural differences evolve in our model when such rigid class boundaries are present. Specifically, we consider how restricting mobility affects the intergenerational transmission of economic preferences, the stability of cultural stratification, and the persistence of inequality over time.

**Proposition 3** (Stratified Society with Exogenous Class Boundaries). *Consider an environment with a strict separation between two social classes. That is, all members of the manager class become managers, as do their children, while all members of the laborer class remain confined to the laborer occupation. The steady-state exhibits the following properties:* 

- Members of the laborer class never invest in work ethic.
- The threshold  $\hat{\rho}$  above which manager-class parents with a work ethic invest is lower than the threshold in a society without fixed class boundaries,  $\tilde{\rho}_{CB} < \tilde{\rho}$ .

**Proof:** Laborers have no incentive to invest in work ethic, as it yields returns only in the managerial occupation, from which their children are excluded. For managers, the child's expected utility is given by:

$$E\left[V_C(H',A')\right] = \left(\frac{1}{2} + \rho A'\right) w_M.$$

Thus, the benefit from investing in work ethic is:

 $z(p_1 - p_0) \left( E\left[ V_C(H', 1) \right] - E\left[ V_C(H', 0) \right] \right) = z(p_1 - p_0)\rho w_M.$ 

The threshold  $\tilde{\rho}_{CB}$  at which a manager is indifferent to investing in work ethic satisfies

$$D(1) = z(p_1 - p_0)\tilde{\rho}w_M,$$

which yields:

$$\tilde{\rho}_{CB} = \frac{D(1)}{z(p_1 - p_0)w_M} < \tilde{\rho}.$$

The threshold for investing in work ethic is lower in a society with fixed class boundaries because parents in the managerial class know that a strong work ethic will benefit their children with certainty, rather than only if the child also possesses sufficient talent to enter the managerial occupation. If  $\rho > \tilde{\rho}_{CB}$  and, in addition,  $p_1 - p_0$  is sufficiently large, differences in culture—measured here by the average work ethic—are amplified relative to an economy with class mobility. This result follows because the fixed nature of occupational inheritance strengthens parents' incentives to transmit preferences and values that align with their child's predetermined occupation. The effect is particularly strong when  $p_1 - p_0$  is large, meaning that parents exert a strong influence on shaping their children's preferences.

Another important force at play is self-selection: in a mobile society, children with a strong work ethic self-select into the managerial occupation, whereas in an immobile society, this selection effect is absent. As a result, self-selection increases occupational differences in preferences in a mobile society. However, the parental transmission effect dominates when parents have a sufficiently strong impact in shaping their children's preferences.

#### 3.4 Extensions and Discussion

The baseline model can be extended in several directions. Allowing for a continuous choice in shaping children's preferences does not alter the main conclusions, as it leaves the fundamental mechanism—complementarity between specific occupations and specific preferences—unchanged. Introducing diminishing marginal utility in consumption would amplify class distinctions in the economy, as investing in children's work ethic becomes more costly (in utility terms) for laborers due to their lower earnings.

**General Equilibrium.** General equilibrium effects can further reinforce some of the mechanisms described above. Consider an environment in which the labor supply of each occupation is aggregated through a production function with diminishing returns to each factor. If parents from one group invest more heavily in developing their children's occupation-specific preferences, more children from that group will enter the corresponding occupation, thereby reducing its average return. This, in turn, will discourage parents from other groups from preparing their children for that occupation, further entrenching occupational stratification.

**Financial Markets.** Incentives to endow children with occupation-specific preferences may also depend on the development of financial markets. This is particularly relevant for occupations in which patience and risk tolerance yield high returns.

Consider, for instance, an occupation that requires substantial investment during early adulthood—whether monetary, as in capital-intensive professions, or in time, as in highly skilled careers involving prolonged training—followed by high returns later in life. If financial markets are underdeveloped and borrowing constraints are severe, only highly patient individuals who can forgo consumption for an extended period will enter such professions. In this case, parents who wish their children to pursue these careers have strong incentives to instill patience as a core value.

Conversely, if financial markets function well and allow individuals to borrow and smooth consumption over the life cycle, patience becomes less critical. As a result, parents will invest less in fostering patience, and cultural distinctions between occupations will weaken.

A similar logic applies to risk tolerance and entrepreneurship. If entrepreneurship involves bearing large, undiversifiable risks, parents who want their children to become entrepreneurs will be incentivized to cultivate risk tolerance. However, if financial markets facilitate risk-sharing—through mechanisms such as limited liability, public capital markets, or private equity funding—risk tolerance becomes less important. Consequently, entrepreneurs may become less culturally distinct over time, at least in terms of their risk preferences.

**Interaction of Work Ethic and Patience.** Up to this point, we have considered a model in which the parent is fully altruistic, and both parent and child agree that possessing a strong work ethic is desirable. In this setting, work ethic functions as a form of human capital: while not directly tied to knowledge or technical skills, it is a child characteristic in which parents can invest, yielding returns in the form of higher future income.

The main insights from this analysis extend to a richer framework involving multiple preference traits and potential parent-child conflict. Consider a scenario in which acquiring a work ethic requires effort by the child, and the parent and child differ in their time preferences: the parent favors long-term preparation, while the child prefers present enjoyment. In this case, attempts to instill work ethic may fail if the child is unwilling to exert the necessary effort. For transmission to succeed, the parent must resort to additional strategies—either authoritarian (e.g., compelling the child to comply) or authoritative (e.g., instilling patience alongside work ethic). The core mechanism remains intact: parental effort is motivated by the future economic returns for the child. This logic holds not only in fully altruistic settings but also in models with some degree of parent-child conflict, provided that at least a minimal level of altruism is present.

#### 3.5 Relationship with the Literature

Doepke and Zilibotti (2008) develop a dynamic model closely related to the extension discussed above, focusing on the joint transmission of patience and work ethic within the family. Their theory offers a historical application by explaining cultural and economic shifts during the British Industrial Revolution. As in our extended framework, parents face a trade-off between present-oriented preferences of children and the long-term returns of instilling forward-looking traits. Differences in parenting strategies, shaped by economic incentives, lead to heterogeneous cultural outcomes across social classes. In their model, preindustrial society produced cultural segregation along occupational lines. For distinct but nearly opposite reasons, both the landowning aristocracy and the landless poor had incentives to promote a leisure-oriented mindset in their children. By contrast, the artisan middle class endogenously cultivated patience and a strong work ethic—traits that proved especially valuable during the Industrial Revolution. This alignment between economic opportunity and preference transmission allowed them to thrive as technological change unfolded. Our extension captures the core logic of this mechanism in a simplified form, highlighting how preference conflict and transmission strategies interact with economic incentives to shape long-run outcomes.

Their argument is consistent with the theses of historians such as de Vries (2008) and Mokyr (2018), who emphasize the cultural and economic transformations in early modern Europe that paved the way for the Industrial Revolution. Before the mechanized transformation of production in the late 18th century, profound shifts occurred in work habits, consumption patterns, and attitudes toward effort and time use—a phenomenon that De Vries terms the *Industrious Revolution*. This period saw households increasing their labor supply, reallocating time from leisure to market-oriented work, and intensifying production in response to expanding consumer demand.

Beyond these changes, Mokyr (2018) highlights a broader intellectual transformation. He argues that the rise of scientific inquiry, technological progress, and a pro-innovation culture—fostered by the European Enlightenment—played a critical role in setting the stage for sustained economic growth. The interplay between changing work ethics, economic incentives, and the diffusion of knowledge created an environment conducive to industrialization, reinforcing the long-term cultural and technological shifts that underpinned the modern economy.

Doepke and Zilibotti (2008) also show that, as economic growth progressed, even parenting styles within the bourgeoisie underwent a transformation, shifting from a culture centered on hard work—where parents emphasized patience and work ethic—to a more relaxed, leisure-oriented approach (as discussed by Veblen 1899). Initially, the ethos of diligence and perseverance characterized the early captains of industry. However, as successful entrepreneurs gradually transitioned into rentiers, relying less on their own labor efforts, the incentives for parents to instill the virtues of thrift and hard work diminished.

Another point of connection is the role of economic conditions in reinforcing cultural and occupational persistence across generations. Doepke and Zilibotti (2008) suggests that cultural attitudes toward patience and hard work are complementary to economic conditions, leading to self-reinforcing patterns of wealth accumulation and inequality. Our model shares this fundamental mechanism: when the return to work ethic is sufficiently high, parents from managerial backgrounds disproportionately invest in transmitting work-oriented values, resulting in stratified social classes. Similarly, in an environment where work ethic has low returns, parental investment in cultural transmission weakens, and intergenerational mobility increases.

Altogether, this historical narrative aligns with the transition between different equilibria in our model. Our results suggest that in pre-industrial economies, where the return to work ethic was relatively high in managerial occupations, stratification naturally emerged, with parents in managerial roles investing heavily in work ethic transmission. However, as the economy shifts toward sectors that prioritize adaptability and creativity over raw effort, we would expect to see a weakening of cultural stratification, as in Doepke and Zilibotti's framework.

#### 3.6 Taking Stock

The stylized model outlined in this section provides a structured framework for understanding how economic incentives shape the intergenerational transmission of cultural traits, particularly economic preferences such as work ethic. We provide an explicit link between occupational choice and cultural stratification showing that when economic conditions favor traits like work ethic, parents actively invest in shaping their children's values, leading to persistent cultural differences across social classes. Conversely, when these traits yield lower economic returns, cultural stratification diminishes, and intergenerational mobility increases.

Our model sheds light on the mechanisms that sustain inequality across generations. Even in the absence of direct transmission of human capital or wealth, cultural complementarities between occupational choice and preferences create persistent social divisions. This highlights an underexplored channel through which economic structures reinforce class stratification, emphasizing that culture is not merely an outcome of economic conditions but an active force that shapes economic opportunities.

In this regard, the theory makes contact with classic ideas on the relationship between culture and the economy, tracing back to the work of Max Weber and Karl Marx. Weber and Marx each emphasized a one-way causal link between culture and the economy, albeit in opposite directions.

In Weber's framework, cultural values—developed independently of economic structures—shape economic behavior and, ultimately, economic success (Weber 1905). A prime example is Weber's concept of the capitalist spirit, which he argued emerged from Protestant ethics emphasizing discipline, frugality, and hard work. According to Weber, these values encouraged occupational choices that facilitated economic prosperity and reinforced class distinctions. In this view, culture is a fundamental driver of economic stratification, as differences in values and beliefs across groups translate into disparities in economic outcomes.

In contrast, Marx viewed culture as a byproduct of material conditions, where the dominant ideology serves to justify and reinforce the prevailing economic system (Marx 1859). In his historical materialist framework, the economic base (the structure of production and class relations) determines the cultural superstructure, including values, beliefs, and institutions. In this perspective, changes in economic conditions, such as technological advances or shifts in labor relations, ultimately reshape cultural values rather than the other way around.

Our theory incorporates both of these perspectives. Economic returns, measured by the parameter  $\rho$ , shape the evolution and stratification of culture in society, where culture is represented by economic preferences. Higher returns to specific values, such as work ethic, reinforce the transmission of these values across generations, leading to the emergence of culturally distinct social classes. At the same time, cultural values influence economic decisions, occupational choices, and patterns of social mobility and inequality. By allowing for bidirectional causality, the model highlights how cultural and economic forces reinforce one another, contributing to the persistence of economic and cultural divisions across generations.<sup>6</sup>

# 4 The Transmission of Non-Economic Cultural Traits

Religious creeds often include prescriptions relevant to economic outcomes—such as frugality and hard work—central to Max Weber's analysis of the Protestant ethic and the spirit of capitalism. However, in many cases, religious tenets intersect with economic behavior only tangentially. Even when religious beliefs do not directly shape economic decision-making, their transmission remains influenced by the trade-offs emphasized in the economics of parenting.

Paternalism plays a central role in this process. Unlike economic preferences, such as work ethic or risk aversion, which parents may strategically encourage to promote their children's economic success, religious beliefs are often transmitted due to deeply held normative convictions. Accordingly, while the previous section assumed purely altruistic parental concerns, here we adopt the opposite assumption: religious parents derive utility from their children adopting the same faith, viewing their creed as intrinsically right.

This distinction has important implications. Parenting choices driven by paternalism may not always align with a child's economic interests. Religious parents may encourage beliefs or practices that restrict career options, shape occupational choices, or influence attitudes toward wealth accumulation. Some religious norms promote behaviors that reduce economic engagement—such as prioritizing community service over professional advancement—while others reinforce economically beneficial traits, including trust, work ethic, or long-term planning.

The degree of parental enforcement is also important. Highly paternalistic parents may impose strict socialization strategies to ensure adherence to religious values, whereas more permissive parents allow greater individual choice. These variations contribute to differences in how religious identity interacts with economic behavior across families and social groups. More generally, religion often persists

<sup>&</sup>lt;sup>6</sup>A more comprehensive discussion of the relationship between economic models of parenting and the intellectual perspectives of Marx and Weber can be found in Sáez Martí and Zilibotti (2008).

across generations through cultural transmission mechanisms. Even when it does not directly influence economic decision-making, parental investment and socialization shape how religious values interact with broader economic attitudes, including work, consumption, and societal participation.

The discussion in this section extends beyond religion to include political ideologies and moral doctrines that parents pass on for their intrinsic merit rather than economic utility. This perspective aligns with Kant's categorical imperative, in which moral principles are upheld as ends in themselves, independent of material considerations (Kant 1785).

#### 4.1 A Model of Religious Preferences and Economic Returns

To analyze the implications of paternalism in religious socialization, consider an economy where individuals adopt religious beliefs from a finite set, denoted by R. In this context, R represents the cultural variable X in our general model. Religious affiliation may encompass broad traditions such as Christianity or Islam, specific denominations within these faiths, or secular alternatives, including atheism and agnosticism.

For simplicity, we categorize beliefs into three groups,  $R \in \{F, M, S\}$ : fervent believers (*F*), who adhere strictly to religious doctrine; moderate believers (*M*), who maintain a more flexible approach to faith; and the secular group (*S*), which consists of non-believers. This classification allows us to explore how religious transmission differs between parents with varying levels of religiosity and the trade-offs they face when instilling their beliefs in their children.

**Parenting Style.** Parents derive a positive (paternalistic) utility flow,  $\tilde{u}(R, R')$ , when their child's religion R' matches their own. In contrast, a child's utility from religion, u(R'), is independent of the parent's beliefs and is maximized when R' = S, meaning secular beliefs provide the greatest enjoyment for the child. Parents are assumed to be fully paternalistic ( $\lambda = 1$ ), implying that religious parents will attempt to transmit their own faith to their child.

The choice of parenting style is binary,  $P \in \{0, 1\}$ . If the parent adopts an authoritarian approach (P = 1), they restrict the child's exposure to individuals with different beliefs.<sup>7</sup> If the parent is permissive (P = 0), the child is free to choose their religion based on their own inclinations.

Parenting style affects the probability that the child adopts the parent's religion. Under permissive parenting, the child leans toward secular beliefs, which they adopt with probability p > 0.5. Under authoritarian parenting, the child adopts the parent's religious faith with probability p > 0.5. In both cases, random shocks may influence the outcome: with probability 1 - p, the child adopts one of the two remaining options with equal probability. Specifically, under permissive parenting, the child has a (1-p)/2 probability of adopting either R' = F or R' = M, while under authoritarian parenting, they have the same probability of adopting either R' = M or R' = S. This randomness reflects external influences beyond parental control. A child may encounter a particularly persuasive believer, or an authoritarian parent's efforts may fail, leading to deviations from the intended outcome.

Choosing authoritarian parenting increases the probability that the child adopts R from (1-p)/2 to p, while reducing the probability of secular beliefs from p to (1-p)/2. We define the resulting increase in the probability of successful religious transmission under authoritarian parenting as  $\Delta p = p - \frac{1-p}{2}$ .

**Cost and Benefits of Authoritarian Parenting.** Imposing an authoritarian parenting style on the child requires costly effort, denoted by  $\xi$ , on the part of the parent. This effort cost varies across parents and follows a uniform distribution,  $\xi \sim U(0,1)$ . Beyond the direct cost  $\xi$ , authoritarian parenting also imposes an indirect cost by restricting the child's freedom and independence, which may have economic consequences. For instance, a child raised in an authoritarian manner may have fewer opportunities to explore their talents and interests or may develop weaker critical thinking skills, both of which can affect future earnings.

<sup>&</sup>lt;sup>7</sup>One could, in principle, distinguish between an authoritative strategy, where parents attempt to persuade the child of their beliefs while ultimately allowing them to choose, and a stricter authoritarian approach. Under our assumption, parents strictly prefer the authoritarian strategy, using any available means to maximize the likelihood that their child adopts their faith. A weaker version of this result could arise if persuasion were less costly than restricting choice, leading some parents to prefer persuasion over coercion. While this scenario introduces richer dynamics, it ultimately leads to similar conclusions and is not our primary focus.

These broader implications establish a connection between religious transmission and economic conditions.

We model this economic cost of authoritarian parenting through introducing an *economic return to independence* such that the child's earnings capacity is given by:

$$H' = W + \rho(1 - P),$$

where *W* represents the wage of a child raised under authoritarian parenting, and  $\rho$  captures the additional income earned by a child who was raised with a permissive parenting style (*P* = 0).

**The Parent's Value Function.** The full value function of a parent with human capital *H* and religion *R* is given by:

$$V(H,R) = E\left[\max_{P} \left\{ H - \xi P + zE\left[\tilde{u}(R,R') + \beta V_{C}(H',R')\right] \right\}\right].$$

Here, the outer expectation is taken over the realization of the parenting cost  $\xi$ , while the inner expectation is over the realization of the child's religion R'. The value function incorporates the parent's felicity, here solely determined by consumption, along with a concern for the child, weighted by z.

The parental concern includes a paternalistic component,  $\tilde{u}(R, R')$ , which depends on the parent's religion R and the child's religion R'. This term reflects the notion that religious parents seek to transmit their beliefs to their children. Specifically,  $\tilde{u}(R, R')$  takes the following form:

$$\tilde{u}(R,R') = -\mu_F \chi(R=F, R' \neq F) - \mu_M \chi(R=M, R' \neq M),$$

where  $\chi(\cdot)$  is an indicator function that equals one if both conditions are met and zero otherwise. Here,  $\mu_F > 0$  represents the disutility experienced by fervent believers (R = F) if their child does not adopt the same religion, while  $\mu_M$ captures the corresponding disutility for moderate believers. We assume  $\mu_F > \mu_M$ , meaning that fervent believers care more about religious transmission than moderate believers, whereas secular parents remain indifferent to their child's religious choices. This also implies that secular parents always adopt a permissive parenting style.

The Child's Problem. The child's utility function is given by:

$$v(H', R') = u(R') + \beta V_C(H', R').$$

Here, the child's immediate felicity, u(R'), is maximized when R' = S, indicating that children raised under permissive parenting are naturally drawn to secular beliefs. The child's adult utility is determined solely by their consumption-based utility:

$$V_C(H', R') = H'.$$

As in the previous section, we consider a simplified framework where the child's concern for their own offspring is omitted. This assumption simplifies the analysis while preserving the key insights.

#### 4.2 The Interaction between Economic Conditions and Religiosity

Our primary focus is on how the transmission of R is influenced by the economic return to independence,  $\rho$ . We analyze steady-state equilibria in which each generation of children encounters the same decision problem in raising their own offspring as their parents did.

The following proposition characterizes the role of  $\rho$  in shaping both cultural and economic stratification within the model economy.<sup>8</sup>

**Proposition 4** (Returns to Independence and Religiosity). *The return to independence*  $\rho$  *determines equilibrium outcomes as follows:* 

1. If

$$\rho < \frac{\mu_M \, \Delta p - 1}{\beta},$$

<sup>&</sup>lt;sup>8</sup>The proof of this proposition is provided in the appendix. Note that, for sufficiently large values of  $\rho$ , even (some) fervent parents abandon the authoritarian parenting style, leading to a more secular society.

then all religious parents with  $R \in \{F, M\}$  adopt an authoritarian parenting style. In the steady state, each group  $R \in \{F, M, S\}$  constitutes one-third of the population.

2. If

$$\frac{\mu_M \,\Delta p - 1}{\beta} \le \rho < \frac{\mu_M \,\Delta p}{\beta},$$

all fervent parents (R = F) are authoritarian, while the proportion of authoritarian parents among moderates (R = M) decreases  $\rho$ . In steady state, the share of moderates decreases, whereas the share of secular individuals increases with  $\rho$ .

3. If

$$\frac{\mu_M \,\Delta p}{\beta} \le \rho < \frac{\mu_F \,\Delta p - 1}{\beta},$$

only fervent parents (R = F) are authoritarian, while all other parents adopt a permissive parenting style. In steady state, the fervent group (R = F) makes up one-third of the population, the moderate group (R = M) shrinks to a share of (1 - p)/2, and the secular group (R = S) becomes the largest, accounting for a share of  $\frac{p}{2} + \frac{1}{6}$ .

4. If p is sufficiently high, the income ratio between secular and fervent individuals increases with  $\rho$ .

The proposition demonstrates that, although religion itself does not have direct economic consequences in this model, the constraints imposed by a parenting style focused on religious transmission create an interaction between economic conditions and cultural persistence.

First, as the economic returns to independence increase, the cost of transmitting religion rises. Since parents vary in their tolerance for the effort required to enforce an authoritarian parenting style, this results in a gradual process of secularization as the benefits of independence grow. Notably, secularization disproportionately affects moderate religious groups, as they place a lower priority on ensuring religious continuity across generations.

Second, within religious groups that strongly prioritize transmission (here, the fervent group), the burden of maintaining religious adherence becomes more

pronounced when the returns to independence are high. Consequently, highly insular religious communities, such as the Amish or Ultra-Orthodox Jews, must forgo relatively more economic opportunities to sustain their way of life in environments where independence is increasingly rewarded. This suggests a trade-off: societies with strict religious transmission norms may survive only by remaining economically isolated or by developing institutional mechanisms that compensate for the economic disadvantages of authoritarian parenting.

#### 4.3 Religiosity and Economic Development

In our model, parenting decisions are shaped by economic incentives, with parents selecting socialization strategies based on their own values and the expected return to specific traits. Historically, authoritarian parenting was the dominant mode. Doepke and Zilibotti (2019) argue that one key reason for its prevalence in pre-industrial societies was that parents had strong incentives to enforce obedience. Since children were expected to inherit their parents' profession, independence had limited economic value.

As economies evolved—with industrialization, greater occupational mobility, and the rise of human capital-intensive sectors—authoritarian parenting became less advantageous. This shift aligns with our argument that authoritarian parenting and the emphasis on transmitting religious principles tend to persist when cultural and economic structures favor stability over flexibility, and decline when the economic return to independence rises. Consistent with this view, in preindustrial economies, strict parenting was widespread because parents knew their children would follow in their footsteps, implying low returns to independence and individual creativity.

Doepke and Zilibotti (2019) further show that economic modernization—especially the expansion of higher education, occupational mobility, and the growing demand for flexible skills—undermined the incentives for authoritarian parenting. Our model captures a similar dynamic: parents invest less in rigid socialization strategies when the economic returns to specific cultural traits diminish.

Their empirical evidence supports our theoretical prediction that cultural stratification weakens in societies where economic flexibility increases. Authoritarian parenting persists in environments characterized by low social mobility and high economic insecurity—for example, in Brazil, where high inequality reinforces both authoritarian parenting and religious socialization. In contrast, as the economic environment evolves and financial markets develop, the incentives for strict socialization weaken.

Doepke and Zilibotti (2019) also document that religious traditions historically justified strict discipline—with Biblical, Islamic, and cultural proverbs reinforcing corporal punishment as a moral duty. We return to the empirical relationship between individual religiosity and parenting style in Section 6 below.

## 4.4 Relationship with the Literature

Our stylized model captures only a partial aspect of the complex interactions between economics and religion. More broadly, religious beliefs and doctrines can exert direct economic effects, which in turn shape the incentives for parents to adopt different parenting styles.

We have already mentioned Max Weber's thesis that Protestant ethics—particularly the emphasis on hard work and frugality—played a key role in fostering the development of capitalism in Western societies.<sup>9</sup>

Recent economic research has investigated the Weberian hypothesis from an empirical perspective. Specifically, Becker and Wößmann (2009) analyze 19thcentury Prussian counties to assess the economic impact of Protestantism. They find that Protestant regions exhibited greater economic prosperity, though the primary mechanism appears to be an increase in literacy rather than a distinct Protestant work ethic. Their interpretation is that Protestantism encouraged individual Bible reading, which led to higher literacy rates and, in turn, supported economic development through enhanced human capital.

Conversely, Cantoni (2015) investigates the long-term economic consequences of the Protestant Reformation across German cities from 1300 to 1900. His findings indicate no significant growth differences between Protestant and Catholic

<sup>&</sup>lt;sup>9</sup>See Weber (1905). Weber (1920) extends the analysis to other world religions, examining how their beliefs shape economic behavior and societal development.

cities, challenging the notion that Protestantism inherently spurred economic development.

Andersen et al. (2017) suggest that some of the cultural values associated with the Protestant work ethic—such as diligence and thrift—may indeed have religious roots, but these predate the Reformation. Their study finds that medieval European regions with a historical presence of Cistercian monasteries exhibited higher levels of productivity and long-term economic success. These monasteries, which emphasized disciplined labor and resource management, may have helped instill values that later aligned with Protestant teachings. These findings support the idea that religion played a role in shaping economically relevant cultural values, but challenge the view that such values were unique to Protestantism or originated with the Reformation.

Another important contribution to this debate comes from Botticini and Eckstein (2005 and 2012), who argue that the Jewish transition from agriculture to urban professions and the formation of the diaspora were significantly influenced by a religious mandate for male literacy. Following the destruction of the Second Temple in 70 CE, Jewish religious leaders emphasized Torah study, making education a religious obligation. This emphasis on literacy led Jews to gravitate toward occupations that valued reading and writing skills, such as trade and finance, particularly as these skills became economically advantageous under Muslim rule during the Middle Ages. Their perspective offers an intriguing parallel to Weber's hypothesis, though their analysis shifts the focus from religious ethics to the role of religiously motivated education in economic specialization and success.

The Weberian debate has been equally prominent in sociology. In a classic contribution, Lenski (1961) argued that Protestant communities generally achieved higher levels of economic development than Catholic ones, attributing this to Protestantism's encouragement of individualism and independent reasoning. He suggested that these traits fostered advancements in science and technology by promoting critical thinking and self-reliance.<sup>10</sup>

<sup>&</sup>lt;sup>10</sup>The role of individualism in economic development is further highlighted in recent economics research by Gorodnichenko and Roland (2011; 2017). Their studies suggest that individualistic cultures, which emphasize personal freedom and achievement, tend to generate higher rates of

In contrast, Lenski argued that Catholicism's emphasis on obedience and deference to authority may have constrained such progress by discouraging independent decision-making. While Lenski's thesis has been widely debated and criticized (see, e.g., Calhoun 2004), it remains an important attempt to explain how specific religious values may foster or hinder economic development through their effects on individual autonomy and independent thought.

The secularization hypothesis, discussed above, has been examined extensively, including by Inglehart (1977), who argues that economic development drives cultural change, leading to declining religiosity and a shift toward greater individual autonomy. However, his focus is on the perceived rise in economic security rather than the economic return to independence. Specifically, he argues that in pre-industrial and low-income societies, religion serves as a coping mechanism for existential insecurity arising from poverty, illness, and instability. As economies develop, improvements in living standards, education, healthcare, and social welfare systems mitigate these risks, thereby reducing the psychological and social demand for religious beliefs.

Inglehart's hypothesis finds empirical support in Becker and Woessmann (2013), who analyze a panel dataset of 175 Prussian counties between 1886 and 1911 and demonstrate a negative relationship between rising incomes and Protestant church attendance. Their study provides historical evidence that economic prosperity fosters secularization, consistent with the idea that as economic security increases, the role of religion as a source of stability and guidance diminishes. These results reinforce the broader view that religious socialization may become less central for parents in societies where economic conditions allow children to thrive independently of religious institutions. In our economic theory of parenting, Inglehart's thesis suggests that as economies develop, parents reduce their commitment to religious socialization when its perceived value declines.

The interplay between religion and economic growth is also central to the work of Barro and McCleary (2003), who use international survey data to investigate the

innovation and, in turn, greater economic growth. To the extent that religious values cultivate either individualism or collectivism, they can influence economic outcomes by shaping cultural attitudes toward innovation and autonomy.

causal effects of church attendance and religious beliefs on economic growth. Their instrumental variables approach suggests that while religious beliefs—particularly in concepts such as heaven and hell—are positively associated with economic growth, frequent church attendance has a negative effect. Their findings are consistent with the idea that some religious beliefs may foster economic activity (e.g., through a work ethic similar to the mechanism in our first model), whereas fervent religiosity, on average, hinders economic performance. In a recent comprehensive study (McCleary and Barro 2019), the same authors investigate how different religious beliefs and practices intersect with economic performance and political institutions. They explore how variations in religiosity can impact productivity, economic growth, and the stability of democratic institutions.

Religious beliefs also have the potential to shape social norms and social capital, both of which have been shown to influence economic development. An empirical study by Guiso, Sapienza, and Zingales (2003), based on the World Values Survey, examines how religious beliefs affect individual perspectives on various economic issues, including cooperation, the role of government, gender dynamics in the workforce, legal systems, thriftiness, and attitudes toward market economies. Their findings present a nuanced picture. On the one hand, religious beliefs are associated with attitudes that foster higher social capital and stronger institutions. For instance, religious individuals tend to trust others more, have greater confidence in government and the legal system, are less willing to break the law, and are more likely to perceive market outcomes as fair. On the other hand, religious individuals also exhibit more conservative views regarding gender roles, particularly with respect to women in the workforce, and display higher levels of social intolerance.

#### 4.5 Taking Stock

In this section, we develop a simple model where parents socialize their children with religious principles because they view these principle as intrinsically good. In the model, this may come at the expense of their children's economic success.

The key takeaway here is not that religion and economic success are inherently at odds, but rather that they are deeply interconnected through cultural transmission
and evolving economic incentives. In our illustrative model, this connection emerges specifically through parenting style, yet even within this narrow channel, we observe complex interactions between economic conditions, cultural change, and social stratification.

More broadly, parents adjust the emphasis they place on religious principles in raising their children based on how these principles influence—positively or negatively—their children's future economic opportunities. This suggests that the persistence of religious values is not static but shaped by broader societal forces, including technological progress, labor market dynamics, and the evolving demands of human capital formation in a modern economy.

# 5 Social Interactions and the Transmission of Trust

A defining feature of culture is its role in shaping social interactions, particularly norms of cooperation and trust. These values influence individual engagement and form a key component of social capital.<sup>11</sup> Cultural attitudes—such as trust—both shape and respond to local social environments, many of which are defined geographically. As a result, residential segregation and neighborhood composition play a central role in the choice of parenting styles and the intergenerational transmission of cultural values.

In this section, we incorporate social interactions into our analysis, focusing on trust as a key determinant of both economic and social outcomes. While previous sections explored how work ethic and religious belief influence occupational choice and ideology, trust governs interpersonal cooperation, local economic exchange, and civic engagement. For example, in high-trust communities, small businesses can flourish through informal arrangements: local shopkeepers extend credit, neighbors pool resources, and community ties support mutual aid. Such dynamics have historically sustained tightly knit ethnic enclaves—such as Chinatowns or Jewish merchant communities—where intra-group trust facilitated

<sup>&</sup>lt;sup>11</sup>The notion of social capital dates back to Hanifan (1916), who described the value of social networks in improving education and civic life. The concept has become central in modern sociology—see, e.g., Bourdieu (1986), Coleman (1988), and Putnam (1993; 2000). Contributions in economics include Knack and Keefer (1997), Glaeser, Laibson, and Sacerdote (2002), Guiso, Sapienza, and Zingales (2004; 2008), Durlauf and Fafchamps (2004), and Algan and Cahuc (2010).

trade, investment, and intergenerational economic continuity.

These examples underscore how trust, once established, can become self-reinforcing and economically productive. Yet trust is unevenly distributed across neighborhoods and social groups. Its formation depends not only on local conditions but also on cultural attitudes transmitted within families. To capture these dynamics, we extend our framework to include trust formation as an outcome that interacts with residential choices and economic sorting. Individuals select neighborhoods based on income and expectations about the local social environment, resulting in endogenous residential segregation.

Building on insights from Rohner, Thoenig, and Zilibotti (2013), we emphasize the role of strategic complementarity in trust formation: when more parents in a neighborhood instill trust in their children, others are more likely to do the same.<sup>12</sup> This dynamic generates a feedback loop that links neighborhood composition, parenting strategies, and the social fabric of communities.

In affluent neighborhoods, where interactions are generally safe and predictable, parents are more likely to instill trust, reinforcing social cohesion and contributing to collective economic success. In contrast, in disadvantaged neighborhoods marked by crime, instability, and negative peer effects, parents often adopt a more defensive posture—instilling distrust as a way to protect their children. These divergent strategies reinforce underlying inequalities: high-income, high-trust neighborhoods evolve into cohesive and prosperous communities, while low-income, low-trust neighborhoods remain trapped in cycles of stagnation and exclusion. This process is driven by the intergenerational transmission of cultural attitudes shaped by local conditions.

By embedding trust formation in a broader model of parenting and location choice, we show how cultural values co-evolve with economic environments. Just as differences in work ethic contribute to occupational stratification, and religious values shape moral worldviews, trust affects the accumulation of social

<sup>&</sup>lt;sup>12</sup>Rohner, Thoenig, and Zilibotti (2013) examine how trade and conflict influence intergroup trust, showing that cooperative behavior is reinforced when trust is reciprocated and eroded when it is not. Their model highlights strategic complementarities in the accumulation (or breakdown) of trust.

capital and the resilience of communities. Our analysis highlights how parenting strategies—mediated by neighborhood context—can perpetuate or disrupt long-term disparities across social groups.

## 5.1 A Model of Trust and Neighborhoods

We develop a stylized theory where parents make a residential choice and, through the choice of their parenting style, influence their children's trust in other people. The state variables for a given parent consist of human capital H and trust  $T \in \{0, 1\}$ , where trust represents the cultural variable X in the general model in Section 2. There are three levels of human capital,  $H \in \{H_1, H_2, H_3\}$ , with  $H_1 < H_2 < H_3$ , and each group makes up one-third of the population.

**Trust.** Parents can shape the trust  $T' \in \{0, 1\}$  of their children, and we aim to examine how the intergenerational transmission of trust interacts with economic decisions and neighborhood effects. Trust has dual implications for a child's outcomes. First, children interact with others in their local neighborhood, and the level of trust they develop influences how these interactions shape their development. Second, trust has long-term economic consequences, as it may enhance a child's ability to thrive in occupations that rely on cooperation, reputation, and social capital.

As in the previous section, we focus on the case  $\lambda = 1$ , i.e., parents are fully paternalistic. The value function of a parent with human capital *H* and trust *T* is given by:

$$V(H,T) = \max_{N,P} \{ C + zE \left[ \tilde{u}(T',T'(N)) + \beta V_C(H',T') \right] \},\$$

where the maximization is subject to the budget constraint:

$$C = Y(H,T) - D(N).$$

Here,  $\tilde{u}(T', T'(N))$  represents the parent's paternalistic evaluation of the child's local interactions during childhood, which depends on both the child's own trust level T' and the average trust level in the local neighborhood, T'(N). The term

 $V_C(H', T')$  captures the child's future adult utility as a function of skill H' and trust T', which is determined by adult income:

$$V_C(H',T') = Y(H',T').$$

In the budget constraint, D(N) denotes the rent required to reside in neighborhood N. The child's human capital H' evolves stochastically as a function of the parent's human capital H, capturing either direct ability transmission or, in reduced form, the higher returns to human capital investment among highly skilled parents. For simplicity, we initially assume perfect transmission, so that H' = H. We will later relax this stark assumption.

Similar to the religion model, the child's trust is shaped by both parental influence and the child's own choices. The child selects their preferred trust level by maximizing utility:

$$v(H', T') = u(T') + \beta V_C(H', T').$$

Here, we assume that u(1) > u(0), implying that children has natural inclination for trusting other people. Since we also assume  $V_C(H', 1) \ge V_C(H', 0)$ , reflecting the economic returns to trust later in life, children will always opt for T' = 1 if they are given free choice. The parent then faces a decision: whether to accept the child's choice or overrule it. Thus, as in the religion model, the choice reduces to selecting between two parenting styles: permissive (P = 0) or authoritarian (P = 1). Under a permissive approach, the child's preference prevails, and T' = 1. However, an authoritarian parent can override this choice, enforcing T' = 0. This imposition may involve indoctrination, restrictions on the child's social interactions (e.g., forbidding interactions with strangers, enforcing curfews), or other protective measures.

From the parent's perspective, limiting the child's trust may prevent harmful interactions, a concern captured by the paternalistic utility function  $\tilde{u}(T', T'(N))$ . Intuitively, the parent may view the child's natural preference for trust as naive and seek to correct it. However, the parent also recognizes that enforcing mistrust (T' = 0) affects the child's future utility, given the economic benefits of trust embedded in  $V_C(H', T')$ . **Residential Choice.** A second key parental decision concerns the choice of neighborhood. We consider a setting with two neighborhoods,  $N \in \{G, B\}$ , which may differ in the rent D(N) required to live there. The neighborhood plays a crucial role because it shapes local interactions, which in turn influence the parent's paternalistic evaluation,  $\tilde{u}(T', T'(N))$ . Specifically, parents may perceive trust as more problematic in an environment where many peers are distrusting. As a result, the neighborhood choice directly interacts with the transmission of trust, influencing both parental strategies and children's socialization experiences.

In adulthood, trust is valuable, and especially so for a child with more human capital. To capture this in a simple way, we assume that returns are independent of human capital for a mistrusting individual,  $Y(H_1, 0) = Y(H_2, 0) = Y(H_3, 0) = \bar{Y}$ , but increasing in human capital for trusting individuals,  $\bar{Y} < Y(H_1, 1) < Y(H_2, 1) < Y(H_3, 1)$ .

**Local Interactions.** Next, we turn to the impact of local interactions. Children may be influenced by interactions with other individuals in their neighborhood, and the outcomes of these interactions depend both on the child's cultural attitudes and on the distribution of attitudes in the surrounding environment. Specifically, if a child is trusting (T' = 1) but frequently encounters distrusting individuals, parents may perceive that the child risks being exploited or harmed. We capture the parent's perception of these interactions through the paternalistic utility  $\tilde{u}(T', T'(N))$ , where  $T' \in \{0, 1\}$  represents the child's level of trust, and  $T'(N) \in [0, 1]$  denotes the average trust in neighborhood N. We assume utility satisfies the following properties.

**Assumption 1.** The paternalistic utility  $\tilde{u}(T', T'(N))$  is such that:

- 1. Parents always prefer their children to be cautious:  $\tilde{u}(0, T'(N)) > \tilde{u}(1, T'(N))$ , meaning that, in terms of local interactions alone, parents favor distrust over trust.
- 2. Higher neighborhood trust is always beneficial:  $\tilde{u}(T', T'(N))$  is strictly increasing in T'(N), implying that living in a more trusting neighborhood is preferable.

3. The risk of being trusting diminishes in more trusting environments: The difference  $\tilde{u}(0, T'(N)) - \tilde{u}(1, T'(N))$  is strictly decreasing in T'(N), indicating that trust becomes less harmful when more people around the child are also trusting.

This formulation captures the idea that children interact with others in the neighborhood, some of whom may have different levels of trust. If a trusting child encounters a distrusting individual, they might be taken advantage of, leading to a lower utility. Since the probability of meeting a distrusting individual depends on the overall composition of the neighborhood, being trusting is relatively safer in an environment where a high share of individuals are also trusting.

We can interpret this paternalistic function as capturing the parent's belief that a trusting child is naive and does not fully comprehend the risks associated with interacting with distrusting individuals. The parent, recognizing these risks, may therefore attempt to shield the child by discouraging trust in certain environments.

We abstract from parenting costs beyond the rent paid for residing in a particular neighborhood. Thus, the choice between permissive and authoritarian parenting (and hence between T' = 1 and T' = 0) solely depends on the paternalistic utility from local interactions  $\tilde{u}(T', T'(N))$  and from the child's future utility as an adult  $V_C(H', T')$ .

**Simplifying Assumptions.** To simplify the analysis and focus on the core mechanisms, while avoiding a taxonomic presentation, we impose the following additional assumptions:

**Assumption 2.** The function  $\tilde{u}$  is such that the following conditions are satisfied:

1. If the child has high skill,  $H' = H_3$ , the parent prefers the child to be trusting even if no one in the neighborhood is trusting (T'(N) = 0):

$$\lambda \left( \tilde{u}(0,0) - \tilde{u}(1,0) \right) < (1-\lambda) \left( V_C(H_3,1) - V_C(H_3,0) \right).$$

2. If the child has low skill,  $H' = H_1$ , the parent prefers the child to be distrusting

even if everyone in the neighborhood is trusting (T'(N) = 1):

$$\lambda \left( \tilde{u}(0,1) - \tilde{u}(1,1) \right) > (1-\lambda) \left( V_C(H_1,1) - V_C(H_1,0) \right).$$

3. If the child has mid-level skill,  $H' = H_2$ , there is a threshold level  $\overline{T}$  of neighborhood trust, where  $0 < \overline{T} < 1$ , such that the parent prefers the child to be trusting if  $T'(N) \ge \overline{T}$  and distrusting otherwise, i.e.:

$$\lambda \left( \tilde{u}(0,\bar{T}) - \tilde{u}(1,\bar{T}) \right) = (1-\lambda) \left( V_C(H_2,1) - V_C(H_2,0) \right).$$

Hence, for parents of a high-skill child, the returns to trust in the child's future life always outweigh other considerations. Although this predetermines their decision to instill trust in their child, the parent still cares about the neighborhood; in fact, given that the child will be trusting, such a parent has a particularly strong desire to live in a neighborhood with many trusting individuals ensuring a safer environment for local interactions. In contrast, parents of low-skill children perceive a lower return to trust in the future, and instill distrust in their offspring. For the middle group with  $H' = H_2$ , the decision to foster trust depends on the prevailing level of trust within their chosen neighborhood. This decision exhibits strategic complementarity: the higher the proportion of parents who instill trust in their children within a neighborhood, the more inclined each parent is to do the same.

## 5.2 Residential and Cultural Segregation in Equilibrium

We now characterize possible equilibria in terms of neighborhood and socialization choices. There are two neighborhoods, ex-ante identical, denoted by  $N \in \{G, B\}$ . However, these locations will differ ex-post as families with different skill levels endogenously sort into distinct neighborhoods. We assume a fixed capacity for each neighborhood, ensuring that both *G* and *B* house an equal number of families. Consequently, half of all families must reside in *G* and the other half in *B*. When demand for one location exceeds its capacity, rents D(N) adjust accordingly and are paid to a group of rentiers who play no other role in the economy.

An equilibrium that always exists is a fully segregated equilibrium, in which neigh-

borhoods become sharply distinguished by their local culture. In this scenario, families with similar cultural traits and trust levels cluster together, reinforcing distinct socialization patterns across locations.

**Proposition 5** (Segregated Equilibrium). There exists an equilibrium in which all highskill families  $H' = H_3$  and half of the mid-skill families  $H' = H_2$  reside in neighborhood G. In this neighborhood, all parents are permissive (P = 0), and all children are trusting (T' = 1). All other families live in neighborhood B, where all parents are authoritarian (P = 1) and all children are distrusting (T' = 0).<sup>13</sup>

The rent in neighborhood B is zero (D(B) = 0), while the rent in neighborhood G is determined such that mid-skill individuals are indifferent between the two locations, i.e.,

$$D(G) = z \left( \lambda \left( \tilde{u}(1,1) - \tilde{u}(0,0) \right) + (1-\lambda) \left( V_C(H_2,1) - V_C(H_2,0) \right) \right).$$

$$D(G) = z \left( \lambda \left( \tilde{u}(1,1) - \tilde{u}(0,0) \right) + (1-\lambda) \left( V_C(H_2,1) - V_C(H_2,0) \right) \right)$$

**Proof:** The parental choices of the  $H' = H_2$  group in each neighborhood are optimal because  $T'(G) = 1 > \overline{T}$  and  $T'(B) = 0 < \overline{T}$ . Moreover, since utility is increasing in the local share of trusting individuals, each group prefers to reside in neighborhood *G*. However, the willingness to pay is highest for the  $H_3$  group and lowest for the  $H_1$  group. The specified rent ensures that the  $H_2$  group is indifferent between the two locations, thereby clearing the market.

The segregated equilibrium highlights the dual forces at play: parents aim to prepare their children for the future while also considering the local interactions they will experience. The original source of group differences stems from the higher return to trust for high-skill individuals. This initial difference is amplified by sorting and segregation, which reinforce and deepen the original disparities. In this case, it even splits the middle group into two cultural subgroups based on their residential choices.

<sup>&</sup>lt;sup>13</sup>An alternative equilibrium that also exists is a fully symmetric equilibrium, in which the two neighborhoods are perfectly identical in all respects. Such an equalibrium would not be stable: a small perturbation in beliefs toward more trusting individuals in one neighborhood would unravel the equilibrium and lead to sorting. Given its fragility, we do not discuss this equilibrium.

Additional equilibria may exist depending on the threshold  $\overline{T}$ , which determines the middle group's indifference between the two parenting styles. In particular, if this threshold is sufficiently low, the middle group could form its own subculture within neighborhood B by coordinating on permissive parenting. We label such equilibria partially segregated.

**Proposition 6** (Partially Segregated Equilibrium). If  $\overline{T} < \frac{1}{3}$ , there exists an additional equilibrium where all high-skill families  $H' = H_3$  and half of mid-skill families  $H' = H_2$  families reside in neighborhood G, all parents in this neighborhood are permissive, P = 0, and all children are trusting T' = 1. All other families live in neighborhood B. Here all low-skill parents are authoritarian, P = 1, but all mid-skill individuals are permissive, P = 0, and hence the local fraction of trusting individuals is given by  $T'(B) = \frac{1}{3}$ . The rent in neighborhood B is zero, D(B) = 0, and the rent in the neighborhood G is such that mid-skill individuals are indifferent between the locations, i.e.:

$$D(G) = z\lambda\left(\tilde{u}(1,1) - \tilde{u}\left(1,\frac{1}{3}\right)\right).$$

**Proof:** The parental choices of the  $H' = H_2$  group are optimal because they constitute one-third of the population in the *B* neighborhood and, as assumed,  $\overline{T} < \frac{1}{3}$ . As in the fully segregated case, the willingness-to-pay for the *G* is highest for the  $H_3$  group and lowest for the  $H_1$  group. The given rent ensures the group  $H_2$  is indifferent and therefore clears the market.

Notice that future returns no longer appear in the compensating differential that determines the rent, since mid-skill parents make the same decisions in both locations. Thus, the rent merely compensates for the direct effect of exposure to more distrusting individuals in local interactions in neighborhood B. A parallel but welfare-lowering partial segregation equilibrium exists when  $\overline{T}$  is close to one. In this case, mid-skill parents may fail to coordinate on permissive parenting even in neighborhood G.

## 5.3 Financial Constraints and Segregation

In our baseline model, the only force towards segregation comes from different perceived returns to trust across groups. More generally, this mechanism can interact with other forces that may push towards more or less segregation in society. To illustrate, consider the role of financial constraints. So far, we have not imposed that parents need to have sufficient funds to be able to pay rent in their chosen neighborhood; this is as if there is a financial market where the rent can be borrowed if necessary. Consider an alternative setting where parents can locate in neighborhood *G* only if they have sufficient income,  $Y(H,T) \ge D(G)$  (rent will always be zero in neighborhood *B*). It then also matters how parental income Y(H,T) correlates with the child's skill *H*', because some parents that would live in neighborhood *G* in the unconstrained equilibrium may not be able to afford to with the financial constraint.

So far, we have assumed that skill is perfectly correlated between parent and child, H' = H, so that the children with the highest skill also have the richest parents. More generally, a fraction of high-skill children may have parents with lower human capital and hence lower income. Consider the case where in the group of high-skill children with  $H' = H_3$ , fraction  $\mu < 0.5$  of parents are financially constrained, i.e., the parent's state variables are such that Y(H,T) < D(G). Compared to the baseline case, the main new feature is that a fraction of families with high-skill children,  $H' = H_3$ , will now live in neighborhood *B*. Because these parents are always permissive, this will raise the fraction of trusting children in *B*. If there are sufficiently many such families, a segregated equilibrium is no longer possible, and instead all mid-skill parents in *B* will also be permissive and have trusting children.

**Proposition 7** (Partially Segregated Equilibrium under Financial Constraints). If  $\mu \geq 3\overline{T}$ , there no longer exists a segregated equilibrium in which mid-skill children in neighborhood *B* are distrusting. The equilibrium therefore takes the form described in Proposition 6. Specifically, fraction  $1 - \mu$  of high-skill families  $H' = H_3$  and fraction  $\frac{3-2(1-\mu)}{2}$  of mid-skill families  $H' = H_2$  live in neighborhood *G*. All parents in this neighborhood are permissive, P = 0, and all children are trusting, T' = 1.

All other families live in neighborhood B, where only parents with  $H' = H_1$  are authoritarian, P = 1, whereas all other parents are permissive and their children are trusting. The share of trusting children in B is therefore  $\frac{1}{3}$ .

The rent in neighborhood B is zero, D(B) = 0, and the rent in neighborhood G is such

that mid-skill individuals are indifferent between the locations, i.e.:

$$D(G) = z\lambda\left(\tilde{u}(1,1) - \tilde{u}\left(1,\frac{1}{3}\right)\right).$$

**Proof:** The equilibrium outcome is as in Proposition 6; the segregated equilibrium does not exist because the presence of the  $H' = H_3$  families in neighborhood *B* on its own is sufficient to induce all  $H' = H_2$  parents to be permissive and have trusting children.

The result suggests that social mobility, inequality, and residential segregation are self-reinforcing over time. In our baseline case with H' = H, parents with more human capital pass on this advantage to their children. As a result, sharp residential segregation arises, thereby further widening the gap between richer and poorer families. When initial differences across families are smaller, neighborhood disparities are also reduced, leading to lower inequality within the next generation.

## 5.4 Defensive Parenting

Our model of trust and neighborhood sorting highlights how parental decisions regarding socialization are shaped by the local environment. In low-trust neighborhoods, parents adopt defensive parenting strategies to shield their children from negative peer influences, leading to a prevalence of authoritarian parenting. This mechanism aligns with empirical findings from Agostinelli et al. (2025), henceforth ADSZ, who investigate how parents intervene in their children's socialization choices, particularly regarding peer selection.

ADSZ analyze how both parental influence and peer interactions shape children's skill development during their high school years, using a dynamic rational choice framework. In their model, friendships are formed by mutual consent among children, but parents can intervene by steering their children away from academically weaker peers—a behavior ADSZ classify as authoritarian parenting. While this approach leads to an improvement in the average academic performance of a child's peer group, it comes at a cost by diminishing the overall effectiveness of

skill formation. In their model, families do not choose the neighborhood in which they reside, which is exogenously given.

They analyze the theoretical mechanism and structurally estimate their model using data from the Add Health Study, a longitudinal survey tracking a cohort of U.S. students throughout their high school years. The data set provides rich information on students' academic performance, family socioeconomic background, and parental control over peer selection. A key survey question asks children:

'Do your parents let you make your own decisions about the people you hang around with?'

ADSZ classify parents who respond 'No' as authoritarian, meaning they restrict their children's choice of friends, while those who respond 'Yes' are classified as non-authoritarian. This empirical distinction allows them to directly examine the relationship between neighborhood environments and parenting styles.

ADSZ document that authoritarian parenting is more prevalent when the average academic proficiency of the child's peer group is lower and when inequality within the peer group is high. This typically occurs in poor disadvantaged neighborhoods. This suggests that parents engage in defensive parenting not out of intrinsic authoritarian tendencies, but as a rational response to adverse local conditions. Their findings parallel the mechanism in our trust model, where parents in low-trust neighborhoods enforce strict control to protect their children from harmful influences.

Moreover, ADSZ find that authoritarian parenting is effective in improving peer quality: children whose parents interfere in their friendship choices subsequently interact with academically stronger peers. However, this comes at a cost—interfering in peer selection can weaken the parent-child relationship, potentially reducing children's responsiveness to other parental investments.<sup>14</sup>

ADSZ's findings are consistent with our framework. In their model, defensive authoritarian parenting is a response to the local environment, just as parents

<sup>&</sup>lt;sup>14</sup>Agostinelli et al. (2022) extend and adapt the ADSZ framework to analyze the impact of the COVID-19 shock, focusing on the temporary shutdown of schools.

in our model instill low trust to children in poor neighborhoods. Both frameworks emphasize that parents intervene in peer selection when they perceive their children's social environment as harmful. Also, intergenerational transmission of cultural traits: in our model, distrust is perpetuated through residential sorting, while in ADSZ, parenting styles persist due to rational responses to peer environments.

### 5.5 Relationship with the Literature

This section builds on multiple strands of literature that explore the relationship between neighborhood segregation, social interactions, and human capital formation.

**Residential Segregation.** The mechanism leading to residential segregation was first studied in the seminal work of Schelling (1971), who demonstrates in an agent-based model how mild individual preferences can generate strong patterns of segregation. Another foundational theoretical contribution is Benabou (1993), who presents a model linking residential choice, education, and productivity where local complementarities in human capital investment drive residential and occupational segregation. Durlauf (1996) develops a dynamic model of income inequality where neighborhood effects perpetuate long-run disparities in human capital and earnings. Fernández and Rogerson (1996) analyze the role of public policies in redistributing education funding across communities to mitigate these inequalities.

More recent studies build on these foundational models with a quantitative approach. Aliprantis and Carroll (2018) develop a dynamic general equilibrium model of neighborhood effects, showing how parental investment and local externalities reinforce segregation. Calibrating their model with historical Chicago data, they provide empirical support for Wilson (1987), demonstrating how initial conditions and sorting mechanisms create persistent disparities despite legal racial equality. Eckert and Kleineberg (2021) estimate a spatial equilibrium model linking children's education outcomes to their childhood location, showing that local school quality and labor market access shape educational choices. Chyn and

Daruich (2022) extend this approach with a heterogeneous-agent overlappinggenerations model, incorporating endogenous housing costs and neighborhood effects to evaluate the long-term impact of place-based policies and housing vouchers.

**Moving to Opportunity.** A number of recent studies by Chetty and Hendren (e.g., Chetty and Hendren 2018a and 2018b) provide empirical evidence on the role of neighborhoods in intergenerational mobility. Fogli et al. (2023) calibrate a general equilibrium model using their estimates, showing how rising income inequality and residential segregation in the U.S. since the 1980s have mutually reinforced each other through parental neighborhood selection and educational investments.

Another strand of research examines the effects of relocating children to better neighborhoods, notably Chetty, Hendren, and Katz (2016) and Chyn (2018). Chetty, Hendren, and Katz (2016) use data from a randomized housing intervention to show that moving from high- to low-poverty areas significantly improves children's long-term economic outcomes. Similarly, Chyn (2018) analyzes public housing demolitions in Chicago, where displaced low-income families relocated using housing vouchers. He finds that displaced children—especially those relocated at a young age—experience higher employment rates, higher wages, lower violent crime arrests, and reduced high school dropout rates. Agostinelli et al. (2025)—discussed in more detail above—use an estimated structural model to assess the scalability of these moving-to-opportunity policies. While their quantitative predictions align with previous findings, they show that scaling up the policy leads to significantly smaller positive effects, primarily due to the defensive reaction of more affluent communities.

**Schools and Institutions.** A related literature examines the relationship between residential segregation, house price capitalization, and unequal access to high-quality public schools (see, for example, Black 1999; Epple and Sieg 1999; Bayer, Ferreira, and McMillan 2007). Notably, Agostinelli, Luflade, and Martellini (2024) develop a spatial equilibrium model of residential sorting and endogenous school

quality (peer effects). They show that segregation stems not only from heterogeneous preferences but also from institutional constraints, such as (i) fragmented school catchment areas that limit access to high-quality schools and (ii) restrictive housing regulations in these zones, which act as barriers to lower-income families.

**Social Interactions.** Our work is also related to the extensive literature on social interactions within neighborhoods (e.g., Brock and Durlauf 2001a, 2001b, 2002, and Durlauf and Ioannides 2010) and the associated empirical literature.<sup>15</sup>

A puzzle in the literature on cultural transmission and social interactions is why negative social phenomena like juvenile crime persist even though no parents (or at least no significant proportion of them) actively promote them. Sáez Martí and Sjögren (2008) show that this can occur in models of cultural transmission where parents influence their children's values, but when transmission fails, children learn from peers. The persistence of such negative cultures is possible when the selection of different cultural variants within peer groups depends not only on their frequency but also on the intrinsic merit children assign to them. In other words, children may be attracted to certain types of juvenile behavior, which can grow and persist even in the face of concerted efforts by the surrounding adult community.

Finally, our work relates to the literature on the economic value of trust and social capital discussed in Section 4. Trust is deeply persistent, transmitted across generations, and linked to economic performance across countries. Durlauf (2002) highlights how neighborhood sorting and social interactions reinforce disparities in trust and economic mobility, while Alesina and La Ferrara (2002) show that trust declines in more unequal and ethnically fragmented societies.

## 5.6 Taking Stock

In this section, we present a stylized model in which parents may choose to reduce their children's natural inclination to trust others. We interpret this behavior as

<sup>&</sup>lt;sup>15</sup>See, among others, Case and Katz (1991), Altonji and Mansfield (2018), Hoxby (2000), Zimmerman (2003), Calvó-Armengol, Patacchini, and Zenou (2009), Sacerdote (2011), Arcidiacono et al. (2012), Carrell, Sacerdote, and West (2013), Feld and Zölitz (2017), Boucher et al. (2023), and List et al. (2025)).

a form of defensive parenting. Specifically, parents may attempt to shield their children from the surrounding environment when they perceive potential risks to outweigh the long-term benefits of open interactions with other members of the local communities. We explore how such defensive strategies can shape prevailing social norms within communities, potentially reinforcing low-trust equilibria.

We reviewed some of the large body of literature, including our own previous work, that has examined the persistence of spatial inequality. While most existing research focuses on feedback mechanisms such as human capital investment and segregation dynamics, and explores policy levers to mitigate these disparities, our analysis highlights the role of parenting and cultural transmission. We emphasize how the intergenerational transmission of preferences and beliefs interacts with these mechanisms, offering a complementary perspective on the mechanism that induce persistence in inequality.

In particular, we highlight the role of trust as a key factor shaping parental socialization strategies and neighborhood sorting. In low-trust environments, parents may adopt restrictive socialization strategies that reinforce in-group cohesion while limiting engagement with broader society, thereby perpetuating segregation and inequality. By integrating cultural formation into models of neighborhood sorting, human capital investment, and economic mobility, we provide a novel perspective on how segregation sustains not only economic disparities but also persistent differences in values, aspirations, and social norms, reinforcing longterm socioeconomic stratification.

# 6 Empirical Evidence

In this section, we present suggestive empirical evidence supporting our theoretical predictions using data from the World Values Survey (WVS) (Haerpfer et al. 2022). The WVS allows us to examine parenting styles in modern society and their correlation with neighborhood quality, trust, and religiosity. Our analysis primarily focuses on the seventh and most recent wave of the WVS, specifically in the United States.<sup>16</sup> Focusing on the U.S. helps minimize cross-country confounding

<sup>&</sup>lt;sup>16</sup>In the U.S., the seventh wave of the WVS was collected in 2017.

factors. We also include some cross-country comparisons.<sup>17</sup>

Following our previous work, we proxy parenting styles using respondents' answers to the 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?*' We focus on four specific responses: obedience, hard work, imagination, and independence.<sup>18</sup> Additionally, we consider responses to the question: '*Please tell me for each of the following actions whether you think it can always be justified, never be justified, or something in between... Parents beating children.*' Respondents rate their opinion on a scale from one ('Never justifiable') to ten ('Always justifiable').

We classify parents as authoritarian if they mention obedience as an important value for children to learn at home or if they assign a score higher than three to the justification of beating children.<sup>19</sup> We classify parents as authoritative if they are not authoritarian but consider hard work an important value to instill in children. Finally, we define parents as permissive if they are neither authoritarian nor authoritative but emphasize imagination or independence as key values for children to learn at home. We exclude the small share of respondents (ca. 3% of the sample) who do not fall into any of these categories.

Figure 1 presents the distribution of parenting styles in the data. Approximately half of respondents are classified as authoritative parents, while 33% fall into the authoritarian category. As shown in Doepke and Zilibotti (2019), the permissive parenting style is the least common in the U.S., with fewer than one in five respondents classified as permissive parents.

## 6.1 Parenting Styles and Religiosity

Our theoretical model in Section 4 suggests that religious parents place greater emphasis on paternalistically transmitting their own values and faith to their

<sup>&</sup>lt;sup>17</sup>More extensive cross-country analyses of parenting styles based on earlier waves of the WVS can be found in Doepke and Zilibotti 2017a and Doepke, Sorrenti, and Zilibotti 2019.

<sup>&</sup>lt;sup>18</sup>Each respondent can select up to five options. Other available choices include: good manners; feeling of responsibility; tolerance and respect for other people; thrift, saving money and things; determination, perseverance; religious faith, and unselfishness.

<sup>&</sup>lt;sup>19</sup>Our empirical results remain robust to alternative definitions of authoritarian parenting, such as requiring both the mention of obedience and a score greater than one to the justifiability of beating children.



Figure 1: Parenting Styles

Notes: This figure displays the proportions of permissive, authoritative, and authoritarian parenting styles in the sample. See the text for details on how these parenting styles are defined.

children. As a result, we expect them to exhibit a stronger tendency toward adopting an authoritarian parenting style while being less inclined toward permissive parenting.

The WVS contains information about individuals' attitudes toward religion. We classify a respondent as religious if they select 'A religious person' in response to the question:

'Independently of whether you attend religious services or not, would you say you are...?'

Those who choose 'Not a religious person' or 'An atheist' are classified as non-religious. In our sample, 55% of respondents are classified as religious.

Figure 2 presents the distribution of parenting styles by religiosity. The figure shows that religious parents are significantly more likely to adopt an authoritarian parenting style (+11 percentage points, henceforth pp) and less likely to

adopt a permissive style (-10 pp). As a result, the authoritative parenting style is distributed almost identically between religious and non-religious parents.



Figure 2: Parenting Styles and Religiosity

Notes: This figure shows the share of religious versus non-religious respondents by parenting style. Respondents are classified as religious if they answer 'A religious person' to the question: *Independently of whether you attend religious services or not, would you say you are...?*'. Respondents who answer 'Not a religious person' or 'An atheist' are classified as non-religious. See the text for further details.

**Regression Analysis.** To address potential confounding factors, we estimate multiple regressions controlling for socioeconomic characteristics, including education, race, gender, and age.<sup>20</sup> All results we report should be interpreted as correlation rather than causal effects.

We treat the dependent variables as follows:

1. The first set of regressions (columns 1–3) estimates the effect of religiosity on the likelihood of adopting a permissive parenting style relative to any of the alternatives.

<sup>&</sup>lt;sup>20</sup>The inclusion of neighborhood quality and trust does not affect the conditional correlation of religiosity with parenting style. A more detailed discussion of these effects follows in the next section.

- 2. The second set of regressions (columns 4–6) estimates the effect of religiosity on the likelihood of adopting an authoritarian parenting style relative to any of the alternatives.
- 3. The third set of regressions (columns 7–9) defines a dependent variable that orders the three parenting styles by increasing levels of parental control: 1 for permissive parents, 2 for authoritative parents, and 3 for authoritarian parents. This approach reflects the idea that authoritative and authoritarian parenting represent varying degrees of parental influence over children's values. We label this dependent variable intensity of parenting.

	Permissive			Authoritarian			Intensity of Parenting		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Religious	-0.09***	-0.09***	-0.10***	0.10***	0.10***	0.12***	0.20***	0.19***	0.22***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)
High neighbor. quality		0.06***			-0.07**			-0.12***	
		(0.02)			(0.03)			(0.04)	
Trust in people		0.04***			-0.07***			-0.12***	
		(0.02)			(0.02)			(0.03)	
Neighbor. quality (Factor)			0.02**			-0.01			-0.03*
			(0.01)			(0.01)			(0.02)
Trust (Factor)			0.02***			-0.05***			-0.08***
			(0.01)			(0.01)			(0.02)
High education	0.06***	0.04***	0.04**	-0.11***	-0.09***	-0.09***	-0.17***	-0.13***	-0.13***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)
Observations	2,466	2,455	2,371	2,466	2,455	2,371	2,466	2,455	2,371

#### Table 1: The Determinants of Parenting Style

Notes: This table shows the relationship between religiosity, neighborhood quality, trust, and parenting style. The dependent variables are: an indicator for a permissive parenting style (columns 1–3); an indicator for an authoritarian parenting style (columns 4–6); and a measure of intensity of parenting, coded as 1 for permissive, 2 for authoritative, and 3 for authoritarian (columns 7–9). *High neighborhood quality* is an indicator for respondents who answer 'Very Frequently' or 'Quite Frequently' to the question: '*How frequently do the following things occur in your neighborhood? Street violence and fights'. Trust in people* is an indicator for respondents who answer 'Most people can be trusted' to the question: '*Generally speaking, would you say that most people can be trusted, or that you need to be very careful in dealing with people?'. Neighborhood quality (Factor)* is derived from factor analysis based on responses to questions about the frequency of specific behaviors at the neighborhood level. *Trust (Factor)* is derived from factor analysis based on responses to questions about trust in different groups of people. *High education* is an indicator for respondents with at least a bachelor's degree or equivalent education (ISCED 6). All regressions control for race, gender, age, and age squared. See the text for further details. Robust standard errors are reported in parentheses. \* p<0.10, \*\* p<0.05, \*\*\* p<0.01.

#### Table 1 presents the key coefficients of interest, including that for *High education*, a

binary indicator for respondents with at least a bachelor's degree or equivalent education (ISCED 6). The full set of coefficients is reported in Appendix Table B.1. We report the results for OLS regressions.<sup>21,22</sup>

The results reveal a consistent pattern: the relationship between religiosity and parenting styles is not (entirely) driven by selection or socioeconomic differences between religious and non-religious respondents. Religious respondents are 9 to 10 pp less likely to adopt a permissive parenting style and 10-12 pp more likely to adopt an authoritarian style, with both effects highly statistically significant. Consequently, religiosity does not significantly affect the likelihood of adopting an authoritative parenting style.<sup>23</sup>

The table also shows that highly educated respondents are more likely to adopt permissive or authoritative parenting styles and less likely to be authoritarian. The full appendix table further reveals that Black and Hispanic respondents have a higher likelihood of adopting an authoritarian parenting style, and females are less likely to be authoritarian.

**International Evidence.** While the empirical analysis so far has focused on the U.S., it is important to examine whether the relationship between parenting styles and religiosity holds across different countries. The seventh wave of the WVS enables this extension by providing a cross-country sample covering 64 countries and 84,046 respondents.<sup>24</sup> According to our definition of religiosity, 61% of respondents are classified as religious, while 39% are non-religious.

Figure 3 presents the cross-country analysis. Consistent with the U.S. findings, religious parents are more likely to adopt an authoritarian parenting style (+12

<sup>&</sup>lt;sup>21</sup>Given the nature of the intensity of parenting variable, which takes three values ranging from 1 to 3, Appendix Table B.2 also reports estimates from a multinomial probit model. The results are consistent with those presented in Table 1.

<sup>&</sup>lt;sup>22</sup>In some specifications, we also control for neighborhood quality and trust. We defer the discussion of these coefficients to the following sections, here it is only important to highlight that their inclusion does not alter the estimated effect of religiosity.

<sup>&</sup>lt;sup>23</sup>This follows from the fact that the coefficients for permissive and authoritarian parenting styles have similar magnitudes but opposite signs, and that the three parenting styles are mutually exclusive.

<sup>&</sup>lt;sup>24</sup>See Appendix C for the full list of countries included.

pp) and less likely to adopt a permissive style (-10 pp). The share of authoritative parents remains similar between religious and non-religious respondents.



### Figure 3: Parenting Styles and Religiosity—Cross-country Sample

Notes: This figure replicates Figure 2 using the full set of countries from WVS Wave 7. See the main text and Appendix C for further details and for the list of countries included in the analysis.

The international evidence shown in Figure 3 is in line with findings from earlier waves of the WVS, as discussed in Doepke and Zilibotti (2019).<sup>25</sup> Their analysis similarly documents a systematic relationship between religiosity and parenting styles, with religious individuals overrepresented among authoritarian parents and underrepresented among permissive parents.

**Taking Stock.** Overall, the empirical evidence aligns with our theoretical prediction that religious parents are more inclined toward authoritarian parenting and less likely to adopt a permissive approach. These patterns hold consistently across multiple data sources and remain robust after accounting for heterogeneity in socioeconomic characteristics.

<sup>&</sup>lt;sup>25</sup>Doepke and Zilibotti (2019) classify respondents as religious if they consider religion to be 'Very' or 'Rather Important,' and as non-religious otherwise.

## 6.2 Parenting and Neighborhood Effects

The model in Section 5 suggests that parents engage in defensive parenting when their children are exposed to potentially harmful influences in their environment. Specifically, parental perceptions of an unsafe environment or exposure to negative peer influences—such as crime, substance abuse, or delinquent behavior—are associated with a greater likelihood of adopting an authoritarian parenting style as a form of protection. By exerting stricter control over their children's interactions and activities, authoritarian parents aim to shield them from adverse social influences.

A direct implication of this mechanism is that families residing in high-risk neighborhoods should be more prone to authoritarian parenting. In contrast, in safer, high-trust communities, parents can afford to adopt a more permissive approach, allowing greater autonomy in their children's social interactions. This reasoning further implies that trust and neighborhood quality should be positively correlated: individuals living in safer neighborhoods, where cooperation and mutual support are prevalent, are more likely to express trust in others. Conversely, in disadvantaged neighborhoods with lower social cohesion and greater exposure to crime, individuals may develop a more skeptical outlook, reinforcing a culture of distrust. If empirically confirmed, these patterns would provide further support for the role of local conditions in shaping both parenting styles and cultural attitudes toward trust.

**Measuring Neighborhood Quality and Trust.** We proxy neighborhood quality in two ways. First, we use a direct question capturing whether a neighborhood is perceived as unsafe and prone to violence. The question asks:

'How frequently do the following things occur in your neighborhood? Street violence and fights.'

We classify a neighborhood as 'High neighborhood quality' if the respondent answers 'Not Frequently' or 'Not at All Frequently' to this question. All other responses are categorized as 'Low neighborhood quality.' Second, we use factor analysis to construct a measure of overall neighborhood quality. This approach extracts a common component that reflects overall neighborhood conditions, yielding a continuous quality score. While the question remains the same, we now consider the full range of related behaviors included in the WVS. In addition to street violence and fights, respondents are additionally asked about the frequency of robberies, alcohol consumption in the streets, police or military interference in private life, racist behavior, drug sales in the streets, and sexual harassment. Each behavior is rated from 1 ('Very Frequently') to 4 ('Not at All Frequently'). We apply factor analysis to this set of variables and generate a continuous factor-based score labeled *Neighborhood quality (Factor)*. This score is standardized to have mean zero and standard deviation one, with higher values indicating better neighborhood quality. For regressions, we use the continuous score; for graphical analysis by parenting style, we split the distribution at the median to define 'high' and 'low' quality neighborhoods.

We follow a similar strategy to construct measures of trust. The WVS includes a general trust question:

'Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?'

We define the variable *Trust in people* as an indicator equal to one if the respondent selects 'Most people can be trusted.' In addition, the WVS contains a battery of more detailed questions:

'I'd like to ask you how much you trust people from various groups. Could you tell me for each whether you trust people from this group completely, somewhat, not very much or not at all?'

Respondents rate trust in various groups, including family, neighborhood, people they know personally, people they meet for the first time, people of another religion, and people of another nationality. Each group is rated from 1 ('Trust Completely') to 4 ('Do Not Trust at All'). We combine these responses using factor

analysis to generate a continuous trust score, *Trust (Factor)*, with mean zero and standard deviation one. The factor-based score is reversed so that higher values correspond to higher trust. As with neighborhood quality, we use the continuous score in regressions and define 'high' versus 'low' trust by the median split in graphical analyses.

**Neighborhood Quality and Trust.** We begin by examining the relationship between neighborhood quality and trust. Ideally, we would use average trust levels measured at the neighborhood level. However, in the absence of such data, we rely on self-reported individual trust. This measure captures both local social attitudes and the respondent's personal disposition, making it an imperfect proxy. Nonetheless, it allows us to assess whether empirical patterns are consistent with the theoretical framework.



Figure 4: Neighborhood Quality and Trust

Notes: This figure shows the relationship (binscatter) between neighborhood quality and trust in the sample. Neighborhood quality is derived from factor analysis based on responses to questions about the frequency of specific behaviors in the neighborhood. Trust is similarly measured using factor analysis based on responses to questions about trust in different groups of people. See the text for further details.

Figure 4 presents the binscatter plot of the relationship between neighborhood

quality and trust, using the factor-based measures described above. The figure reveals a strong positive correlation: individuals living in higher-quality neighborhoods exhibit higher levels of trust. This finding aligns with our theory, which suggests that trust formation is shaped by the local environment. In safer, more stable communities, social interactions are more predictable and cooperative norms are reinforced, fostering higher reciprocal trust. In contrast, trust tends to erode in lower-quality neighborhoods.

**Parenting Style Across Neighborhoods.** We now turn to the relationship between neighborhood quality (and trust) and parenting styles. Panel (a) of Figure 5 compares parenting styles across low- and high-quality neighborhoods, based on the reported frequency of violence. Panel (b) employs the factor-based quality score and divides the sample according to its median value.

Both panels convey a compelling message. In lower-quality neighborhoods, i.e., higher exposure to violence, respondents are 18 pp more likely to adopt an authoritarian style. In contrast, in higher-quality neighborhoods, permissive and authoritative parenting styles are more common, each increasing by 9 pp. Using the factor-based score yields qualitatively similar results: moving from high to low neighborhood quality increases the likelihood of authoritarian parenting by 11 pp and decreases the probability of permissive and authoritative styles by 7 pp and 5 pp, respectively.<sup>26</sup>

Figure 6 replicates this analysis using trust measures. Panel (a) distinguishes between high and low general trust in people; panel (b) uses the factor-based trust score. The results echo those for neighborhood quality. Respondents with low levels of trust are 13 pp more likely to be authoritarian, 7 pp less likely to be authoritative, and 6 pp less likely to be permissive. The factor-based measure in panel (b) yields similar findings. These patterns support the idea that individuals who express higher trust in their social environment are more likely to engage in less intensive forms of parenting.

<sup>&</sup>lt;sup>26</sup>The effect size is smaller with the factor-based measure. This suggests that parents are especially responsive to visible threats such as violence, which may be perceived as the most salient risk.







(b) Factor Analysis



Notes: This figure shows the share of respondents living in low- versus high-quality neighborhoods by parenting style. In panel (a), 'Low Neighborhood Quality' refers to respondents who answered 'Very Frequently' or Quite Frequently' to the question: '*How frequently do the following things occur in your neighborhood? Street violence and fights*'. All other respondents are classified as living in 'High Neighborhood Quality' neighborhoods. In panel (b), 'High Neighborhood Quality' refers to respondents with a neighborhood quality score above the median; 'Low Neighborhood Quality' refers to those with a score below the median. The neighborhood quality score is derived from factor analysis based on responses to questions about the frequency of specific behaviors in the neighborhood. See the text for further details.



(b) Factor Analysis



Notes: This figure shows the share of respondents with a low versus high level of trust by parenting style. In panel (a), 'High Trust' refers to respondents who answered 'Most people can be trusted' to the question: '*Generally speaking, would you say that most people can be trusted, or that you need to be very careful in dealing with people*?'. Respondents who answered 'Need to be very careful' are classified as 'Low Trust.' In panel (b), 'High Trust' refers to respondents with a trust score above the median; 'Low Trust' refers t those with a score below the median. The trust score is derived from factor analysis based on responses to questions about trust in different groups of people, such as family and neighbors. See the text for further details.

**Regression Analysis.** The regression analysis in Table 1 includes controls for neighborhood quality and trust, serving a dual purpose. First, it allows us to test the robustness of the estimated effect of religiosity after accounting for neighborhood- and trust-related factors. Second, it helps isolate the independent relationship between neighborhood quality, trust, and parenting styles, while controlling for individual characteristics—such as age, ethnicity, education, and religiosity—that are themselves associated with the propensity to adopt specific parenting styles.

As anticipated, we also include trust as a regressor, in line with our theoretical framework, which suggests that both the external environment (defensive parenting) and the local level of trust (strategic complementarity) influence the choice of parenting style. Specifically, high-risk environments may induce authoritarian parenting as a protective strategy to shield children from negative influences, whereas higher levels of individual or community trust may encourage more permissive or authoritative approaches.

Table 1 confirms the insights from the graphical analysis and provides additional evidence. As in previous analyses, we rely on both the direct and factor-based measures of neighborhood quality and trust. First, irrespective of the proxy used, higher neighborhood quality and trust are positively associated with permissive parenting and negatively associated with authoritarian parenting. Columns (8) and (9) confirm that parenting intensity decreases with neighborhood quality and trust. Second, although neighborhood quality and trust are correlated, their estimated effects are of similar magnitude and remain independently significant, suggesting that they capture distinct dimensions of the social environment. Third, the effects are both statistically and economically meaningful. For example, the estimates in columns (2) and (5) suggest that moving from a low-trust respondent in a low-quality neighborhood to a high-trust respondent in a high-quality neighborhood increases the probability of permissive parenting by 10 percentage points and reduces the likelihood of authoritarian parenting by 14 percentage points.

**Taking Stock.** Taken together, the data analysis in this section supports the central mechanism proposed in our theoretical model. The observed relation-

ship between neighborhood quality, trust, and parenting styles aligns with the prediction that parents engage in defensive parenting in response to adverse environments. In low-trust, high-risk neighborhoods, parents are more likely to adopt an authoritarian style to shield their children from negative peer influences. Conversely, in safer, high-trust communities, parents have greater flexibility to adopt more permissive or authoritative approaches, fostering autonomy and social adaptability in their children.

The significant role of individual trust further highlights the complementarity between cultural attitudes and external conditions in shaping (and being shaped by) parenting decisions, which echoes the work of Hauk and Sáez Martí (2002), Saez Marti and Zenou (2012), and Rohner, Thoenig, and Zilibotti (2013) in different contexts. These results suggest that social capital and community trust are not merely outcomes of economic and social structures but also active forces driving the intergenerational transmission of cultural traits. Future research could examine how interventions aimed at improving neighborhood environments and strengthening trust might shift parenting strategies, thereby helping to mitigate the persistence of economic and cultural disparities across generations.

# 7 Conclusion

This chapter discusses how parental choices over parenting styles shape the intergenerational transmission of preferences, values, and human capital within a broader economic and social context. Our discussion is guided by a simple model in which parents strategically select their parenting style—authoritarian, authoritative, or permissive—based on the anticipated economic and cultural returns to specific traits.

We apply this framework to both economic and non-economic value transmission. First, we analyze the transmission of work ethic, a value directly linked to economic success, and show how parenting choices interact with economic conditions, shaping cultural stratification and the endogenous formation of social classes. Second, we examine religion as a non-economic value, where parents may socialize their children into religious or secular worldviews not solely for economic reasons but also due to intrinsic normative beliefs. We then extend our analysis to social interactions and neighborhood choice, demonstrating how residential sorting reinforces disparities in trust, human capital investment, and parenting practices. Parents' concerns about external influences, such as peers and institutions, influence their location decisions, further entrenching spatial inequality and cultural segmentation.

Our theoretical predictions are broadly supported by empirical evidence from the World Values Survey. First, we find that higher religiosity is associated with a greater likelihood of adopting an authoritarian parenting style, consistent with our model's implication that parents with strong normative convictions exert stricter control over their children's socialization. Second, we provide evidence of defensive parenting across communities: parents in disadvantaged neighborhoods tend to shield their children from external influences, even at the cost of limiting positive externalities. In environments with high crime or juvenile delinquency, the perceived risks of exposure outweigh the potential benefits of openness. Moreover, trust in others is positively correlated with neighborhood quality, supporting our model's prediction that parents foster trust when the surrounding environment is perceived as safe and nurturing.

Understanding parenting strategies and the dynamics of cultural transmission provides insight into the persistence of inequality across generations and highlights potential policy levers for mitigating disparities. Policies that enhance access to high-quality education, reduce economic segregation, and foster social trust could weaken the self-reinforcing link between parental choices and persistent inequality.

Future research on parenting and cultural transmission could move beyond the household to explore how institutions, technologies, and media interact with parenting choices in shaping norms and preferences. For instance, digital environments and social networks may amplify or counteract parental influence in unexpected ways, especially across different socioeconomic groups. Another promising direction involves studying how shifts in environmental uncertainty—due to climate change, migration, or political instability—alter parenting strategies and, in turn, influence societal dynamics. Finally, incorporating the endogenous evolution of parenting norms into macro-level models could shed light on how

micro-level decisions compound over time to shape collective beliefs, trust, and institutional resilience.

## References

- Agostinelli, Francesco. 2018. "Investing in Children's Skills: An Equilibrium Analysis of Social Interactions and Parental Investments." Unpublished Manuscript, University of Pennsylvania.
- Agostinelli, Francesco, Matthias Doepke, Giuseppe Sorrenti, and Fabrizio Zilibotti. 2022. "When the Great Equalizer Shuts Down: Schools, Peers, and Parents in Pandemic Times." *Journal of Public Economics* 206:104574.
  - ——. 2025. "It Takes a Village: The Economics of Parenting with Neighborhood and Peer Effects." Forthcoming, Journal of Political Economy.
- Agostinelli, Francesco, Margaux Luflade, and Paolo Martellini. 2024. "On the Spatial Determinants of Educational Access." Unpublished Manuscript.
- Alesina, Alberto, and Eliana La Ferrara. 2002. "Who Trusts Others?" *Journal of Public Economics* 85 (2): 207–234.
- Algan, Yann, and Pierre Cahuc. 2010. "Inherited Trust and Growth." *American Economic Review* 100 (5): 2060–2092.
- Aliprantis, Dionissi, and Daniel R. Carroll. 2018. "Neighborhood dynamics and the distribution of opportunity." *Quantitative Economics* 9 (1): 247–303.
- Altonji, Joseph G., and Richard K. Mansfield. 2018. "Estimating Group Effects Using Averages of Observables to Control for Sorting on Unobservables: School and Neighborhood Effects." *American Economic Review* 108 (10): 2902– 46.
- Andersen, Thomas Barnebeck, Jeanet Sinding Bentzen, Carl-Johan Dalgaard, and Paul Richard Sharp. 2017. "Pre-Reformation Roots of the Protestant Ethic." *The Economic Journal* 127 (604): 1756–1793.
- Arcidiacono, Peter, Gigi Foster, Natalie Goodpaster, and Josh Kinsler. 2012. "Estimating Spillovers Using Panel Data, with an Application to the Classroom." *Quantitative Economics* 3 (3): 421–70.
- Attanasio, Orazio. 2015. "The Determinants of Human Capital Formation During the Early Years of Life: Theory, Measurement, and Polices." *Journal of the European Economic Association* 13 (6): 949–97.

- Barro, Robert J., and Rachel M. McCleary. 2003. "Religion and Economic Growth across Countries." *Americal Sociological Review* 68 (5): 760–81.
- Baumrind, Diana. 1967. "Child Care Practices Anteceding Three Patterns of Preschool Behavior." Genetic Psychology Monographs 75 (1): 43–88.
- Bayer, Patrick, Fernando Ferreira, and Robert McMillan. 2007. "A Unified Framework for Measuring Preferences for Schools and Neighborhoods." *Journal of Political Economy* 115 (4): 588–638.
- Becker, Gary S. 1981. A Treatise on the Family. Harvard University Press.
- Becker, Gary S., and Casey B. Mulligan. 1997. "The Endogenous Determination of Time Preference." *Quarterly Journal of Economics* 112 (3): 729–58.
- Becker, Sascha O., and Ludger Woessmann. 2013. "Not the Opium of the People: Income and Secularization in a Panel of Prussian Counties." *American Economic Review* 103 (3): 539–544.
- Becker, Sascha O., and Ludger Wößmann. 2009. "Was Weber Wrong? A Human Capital Theory of Protestant Economic History." The Quarterly Journal of Economics 124 (2): 531–596.
- Benabou, Roland. 1993. "Workings of a City: Location, Education, and Production." *Quarterly Journal of Economics* 108 (3): 619–652.
- Bisin, Alberto, and Thierry Verdier. 2000. "Beyond the Melting Pot: Cultural Transmission, Marriage, and the Evolution of Ethnic and Religious Traits." *Quarterly Journal of Economics* 115 (3): 955–88.
- ———. 2001. "The Economics of Cultural Transmission and the Dynamics of Preferences." *Journal of Economic Theory* 97 (2): 298–319.
- Black, Sandra E. 1999. "Do Better Schools Matter? Parental Valuation of Elementary Education." *The Quarterly Journal of Economics* 114 (2): 577–599.
- Botticini, Maristella, and Zvi Eckstein. 2005. "Jewish Occupational Selection: Education, Restrictions, or Minorities?" *Journal of Economic History* 65 (4): 922–48.
- ——. 2012. *The Chosen Few: How Education Shaped Jewish History,* 70–1492. Princeton, NJ: Princeton University Press.

- Boucher, Vincent, Carlo L. Del Bello, Fabrizio Panebianco, Thierry Verdier, and Yves Zenou. 2023. "Education Transmission and Network Formation." *Journal of Labor Economics* 41 (1): 129–173.
- Bourdieu, Pierre. 1986. "The Forms of Capital." In *Handbook of Theory and Research for the Sociology of Education*, edited by J. G. Richardson, 241–258. New York: Greenwood Press.
- Brock, William A., and S. N. Durlauf. 2001a. "Interactions-Based Models." In Handbook of Econometrics, edited by J. J. Heckman and E. E. Leamer, Volume 5, 3297–380. Amsterdam: Elsevier.
- Brock, William A., and Steven N. Durlauf. 2001b. "Discrete Choice with Social Interactions." *Review of Economic Studies* 68 (2): 235–60.
- ———. 2002. "A Multinomial-Choice Model of Neighborhood Effects." American Economic Review 92 (2): 298–303.
- Calhoun, Craig. 2004. "Gerhard Lenski, Some False Oppositions, and 'The Religious Factor'." *Sociological Theory* 22 (2): 194–204.
- Calvó-Armengol, Antoni, Eleonora Patacchini, and Yves Zenou. 2009. "Peer Effects and Social Networks in Education." *Review of Economic Studies* 76 (4): 1239–67.
- Cantoni, Davide. 2015. "The Economic Effects of the Protestant Reformation: Testing the Weber Hypothesis in the German Lands." *Journal of the European Economic Association* 13 (4): 561–598.
- Carrell, Scott E., Bruce I. Sacerdote, and James E. West. 2013. "From Natural Variation to Optimal Policy? The Importance of Endogenous Peer Group Formation." *Econometrica* 81 (3): 855–82.
- Case, A., and L. F. Katz. 1991. "The Company You Keep: The Effects of Family and Neighborhood on Disadvantaged Youths." NBER Working Paper 3705.
- Chetty, Raj, and Nathaniel Hendren. 2018a. "The Impacts of Neighborhoods on Intergenerational Mobility I: Childhood Exposure Effects." *Quarterly Journal of Economics* 133 (3): 1107–1162.
- ———. 2018b. "The Impacts of Neighborhoods on Intergenerational Mobility II: County-Level Estimates." *Quarterly Journal of Economics* 133 (3): 1163–1228.

- Chetty, Raj, Nathaniel Hendren, and Lawrence F. Katz. 2016. "The Effects of Exposure to Better Neighborhoods on Children: New Evidence from the Moving to Opportunity Experiment." *American Economic Review* 106 (4): 855–902.
- Chyn, Eric. 2018. "Moved to Opportunity: The Long-Run Effects of Public Housing Demolition on Children." American Economic Review 108 (10): 3028– 56.
- Chyn, Eric, and Diego Daruich. 2022. "An Equilibrium Analysis of the Effects of Neighborhood-based Interventions on Children." Unpublished Manuscript.
- Coleman, James S. 1988. "Social Capital in the Creation of Human Capital." American Journal of Sociology 94 (Supplement): S95–S120.
- de Vries, Jan. 2008. *The Industrious Revolution: Consumer Behavior and the Household Economy, 1650 to the Present.* Cambridge, UK: Cambridge University Press.
- Doepke, Matthias, Giuseppe Sorrenti, and Fabrizio Zilibotti. 2019. "The Economics of Parenting." *Annual Review of Economics* 11:55–84.
- Doepke, Matthias, and Fabrizio Zilibotti. 2008. "Occupational Choice and the Spirit of Capitalism." *Quarterly Journal of Economics* 123 (2): 747–93.
  - ——. 2013. "Culture, Entrepreneurship, and Growth." Chapter 1 of Handbook of Economic Growth, edited by Philippe Aghion and Steven N. Durlauf, Volume 2A. Amsterdam: Elsevier.
  - ———. 2017a. "Parenting with Style: Altruism and Paternalism in Intergenerational Preference Transmission." *Econometrica* 85 (5): 1331–71.
- 2017b. "Supplement to 'Parenting with Style: Al-Paternalism truism and in Intergenerational Preference Transmission'." Econometrica Supplemental Material, https://www.econometricsociety.org/publications/econometrica/journalmaterials/supplemental-materials.
- ———. 2019. Love, Money, and Parenting: How Economics Explains the Way We Raise Our Kids. Princeton, New Jersey: Princeton University Press.
- Durlauf, Steven N. 1996. "A Theory of Persistent Income Inequality." *Journal of Economic Growth* 1 (1): 75–93.
——. 2002. "Groups, Social Influences, and Inequality." Chapter Chapter 6 of *Handbook of Social Economics, Vol. 1B*, edited by Jess Benhabib, Alberto Bisin, and Matthew O. Jackson. Elsevier.

- Durlauf, Steven N., and Yannis M. Ioannides. 2010. "Social Interactions." *Annual Review of Economics* 2 (1): 451–78.
- Durlauf, Steven N, and Marcel Fafchamps. 2004, May. "Social Capital." Working paper 10485, National Bureau of Economic Research.
- Eckert, Fabian, and Tatjana Kleineberg. 2021. "Saving the American Dream? Education Policies in Spatial General Equilibrium." Unpublished Manuscript, Yale University.
- Epple, Dennis, and Holger Sieg. 1999. "Estimating Equilibrium Models of Local Jurisdictions." *Journal of Political Economy* 107 (4): 645–681.
- Feld, Jan, and Ulf Zölitz. 2017. "Understanding Peer Effects: On the Nature, Estimation, and Channels of Peer Effects." *Journal of Labor Economics* 35 (2): 387–428.
- Fernández, Raquel, and Richard Rogerson. 1996. "Income Distribution, Communities, and the Quality of Public Education." *Quarterly Journal of Economics* 111 (1): 135–64.
- Fogli, Alessandra, Veronica Guerrieri, Mark Ponder, and Marta Prato. 2023. "The End of the American Dream? Inequality and Segregation in US Cities." Unpublished Manuscript, University of Chicago.
- Glaeser, Edward L., David Laibson, and Bruce Sacerdote. 2002. "An Economic Approach to Social Capital." *Economic Journal* 112 (483): F437–F458.
- Gorodnichenko, Yuriy, and Gérard Roland. 2011. "Individualism, Innovation, and Long-Run Growth." *Proceedings of the National Academy of Sciences* 108 (Supplement 4): 21316–21319.
  - ——. 2017. "Culture, Institutions, and the Wealth of Nations." *Review of Economics and Statistics* 99 (3): 402–416.
- Guiso, Luigi, Paola Sapienza, and Luigi Zingales. 2003. "People's Opium? Religion and Economic Attitudes." *Journal of Monetary Economics* 50 (1): 225–282.

———. 2004. "The Role of Social Capital in Financial Development." *American Economic Review* 94 (3): 526–556.

———. 2008. "Long Term Persistence." Journal of the European Economic Association 6 (2-3): 647–657.

- Haerpfer, C., R. Inglehart, A. Moreno, C. Welzel, K. Kizilova, J. Diez-Medrano, M. Lagos, P. Norris, E. Ponarin, and B. Puranen. 2022. *World Values Survey: Round Seven – Country-Pooled Datafile Version 5.0.0.* Madrid, Spain and Vienna, Austria: JD Systems Institute and WVSA Secretariat.
- Hanifan, Lyda J. 1916. "The Rural School Community Center." *The Annals of the American Academy of Political and Social Science* 67:130–138.
- Hauk, Esther, and María Sáez Martí. 2002. "On the Cultural Transmission of Corruption." *Journal of Economic Theory* 107 (2): 311–35.
- Heckman, James J., and Stefano Mosso. 2014. "The Economics of Human Development and Social Mobility." *Annual Review of Economics* 6 (1): 689–733.
- Hoxby, Caroline. 2000. "Peer Effects in the Classroom: Learning from Gender and Race Variation." NBER Working Paper 7867.
- Inglehart, Ronald. 1977. *The Silent Revolution: Changing Values and Political Styles Among Western Publics*. Princeton, NJ: Princeton University Press.
- Kant, Immanuel. 1785. *Groundwork of the Metaphysics of Morals*. Translated by Mary Gregor, Cambridge University Press, 1997.
- Knack, Stephen, and Philip Keefer. 1997. "Does Social Capital Have an Economic Payoff? A Cross-Country Investigation." *Quarterly Journal of Economics* 112 (4): 1251–1288.
- Lenski, Gerhard. 1961. The Religious Factor: A Sociological Study of Religion's Impact on Politics, Economics, and Family Life. New York, NY: Doubleday.
- List, John, Fatemeh Momeni, Michael Vlassopoulos, and Yves Zenou. 2025. "Neighborhood Spillover Effects of Early Childhood Interventions." Working Paper, University of Chicago.
- Lizzeri, Alessandro, and Marciano Siniscalchi. 2008. "Parental Guidance and Supervised Learning." *Quarterly Journal of Economics* 123 (3): 1161–95.

- Maccoby, E. E., and J. A. Martin. 1983. "Socialization in the Context of the Family: Parent-Child Interaction." In *Handbook of Child Psychology: Vol. 4. Socialization, Personality, and Social Development,* edited by P. H. Mussen and E. M. Hetherington, 1–101. New York: Wiley.
- Marx, Karl. 1859. *A Contribution to the Critique of Political Economy*. Translated by S. W. Ryazanskaya, International Publishers, 1970.
- McCleary, Rachel M., and Robert J. Barro. 2019. *The Wealth of Religions: The Political Economy of Believing and Belonging*. Princeton, NJ: Princeton University Press.
- Mokyr, Joel. 2018. *A Culture of Growth: The Origins of the Modern Economy*. Princeton, NJ: Princeton University Press.
- Putnam, Robert D. 1993. *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton, NJ: Princeton University Press.
- ———. 2000. Bowling Alone: The Collapse and Revival of American Community. New York: Simon & Schuster.
- Rohner, Dominic, Mathias Thoenig, and Fabrizio Zilibotti. 2013. "War Signals: A Theory of Trade, Trust, and Conflict." *Review of Economic Studies* 80 (3): 1114–1147.
- Sacerdote, Bruce. 2011. "Peer Effects in Education: How Might They Work, How Big Are They and How Much Do We Know Thus Far?" In *Handbook of the Economics of Education*, edited by Eric A. Hanushek, Stephen Machin, and Ludger Woessman, Volume 3, 249–77. Amsterdam: Elsevier.
- Sáez Martí, Maria, and Anna Sjögren. 2008. "Peers and Culture." *Scandinavian Journal of Economics* 110 (73–92): 73–92.
- Saez Marti, Maria, and Yves Zenou. 2012. "Cultural Transmission and Discrimination." *Journal of Urban Economics* 72 (2–3): 137–46.
- Sáez Martí, María, and Fabrizio Zilibotti. 2008. "Preferences as Human Capital: Rational Choice Theories of Endogenous Preferences and Socioeconomic Changes." *Finnish Economic Papers* 21 (2): 81–94.
- Schelling, Thomas C. 1971. "Dynamic Models of Segregation." Journal of Mathematical Sociology 1 (2): 143–186.

Veblen, Thorstein. 1899. The Theory of the Leisure Class. New York: Dover, 1994.

- Weber, Max. 1905. *The Protestant Ethic and the Spirit of Capitalism*. Translated by Talcott Parsons; with a foreword by R. H. Tawney. New York: Charles Scribner's Sons, 1958. Republished by Dover, New York, 2003.
- ———. 1920. The Economic Ethics of the World Religions. Tübingen, Germany: Mohr Siebeck. Originally published as a series of essays between 1915 and 1920.
- Wilson, William J. 1987. *The Truly Disadvantaged: The Inner City, the Underclass, and Public Policy*. University of Chicago Press.
- Zimmerman, David. 2003. "Peer Effects in Academic Outcomes: Evidence from a Natural Experiment." *The Review of Economics and Statistics* 85 (02): 9–23.

### **A Proofs for Propositions**

**Proof of Proposition 2:** If  $\rho \ge \tilde{\rho}$ , parents with A = 1 will invest given the argument given in the proof of Proposition 1, while others will not. The steady-state share  $s_1$  of individuals with a work ethic A = 1 then satisfies:

$$s_1 = p_0 + s_1(p_1 - p_0),$$

implying that

$$s_1 = \frac{p_0}{1 + p_0 - p_1}$$

Let  $p_{M,1} = 1 - w_N/w_M + \rho$  denote the probability that an individual with a work ethic (A = 1) will choose to be a manager, with the corresponding probability for the other group given by  $p_{M,0} = 1 - w_N/w_M$ . Then the probability for a child of a parent with work ethic to become a a manager is  $p_{CM,1} = p_1 p_{M,1} + (1 - p_1) p_{M,0}$ , and for other children we have  $p_{CM,0} = p_0 p_{M,1} + (1 - p_0) p_{M,0}$ , where  $p_{CM,1} > p_{CM,0}$ . The shares of managers and laborers, respectively, who have a work ethic are given by:

$$s_{1,M} = \frac{s_1 p_{M,1}}{s_1 p_{M,1} + (1 - s_1) p_{M,0}},$$
  

$$s_{1,N} = \frac{s_1 (1 - p_{M,1})}{s_1 (1 - p_{M,1}) + (1 - s_1) (1 - p_{M,0})}$$

as . Here we have  $s_{1,M} > s_{1,N}$ , because having a work ethic makes it more likely to choose to be a manager. We can now write the transition matrix from the occupation of the parent to the occupation of the child as:

$$T = \begin{pmatrix} s_{1,M}p_{CM,1} + (1 - s_{1,M})p_{CM,0} & s_{1,M}(1 - p_{CM,1}) + (1 - s_{1,M})(1 - p_{CM,0}) \\ s_{1,N}p_{CM,1} + (1 - s_{1,N})p_{CM,0} & s_{1,N}(1 - p_{CM,1}) + (1 - s_{1,N})(1 - p_{CM,0}) \end{pmatrix}.$$

The first row contains the probabilities that a child of a manager will turn into a manager and a worker, respectively, and the second row contains the transition probabilities for workers. In each entry, the denominator reflects the composition of the parent's occupation in terms of A = 1 and A = 0 individuals. Consider

now the difference  $\Delta$  in the probability that the child will be a manager between a manager and a laborer parent, i.e., the difference between the entries in the first column of *T*. We have:

$$\begin{aligned} \Delta &= s_{1,M} p_{CM,1} + (1 - s_{1,M}) p_{CM,0} - (s_1, N p_{CM,1} + (1 - s_{1,N}) p_{CM,0}) \\ &= (s_{1,M} - s_{1,N}) p_{CM,1} - (s_1, M - s_1, N) p_{CM,0} \\ &= (s_{1,M} - s_{1,N}) (p_{CM,1} - p_{CM,0}) \\ &> 0, \end{aligned}$$

where the last step follows because  $p_{CM,1} > p_{CM,0}$  and  $s_{1,M} > s_{1,N}$ . Thus, there is persistence in occupation from generation to generation and therefore limited social mobility. Next, the difference in the share of managers and laborers who have a work ethic is given by:

$$s_{1,M} - s_{1,N} = \frac{s_1 p_{M,1}}{s_1 p_{M,1} + (1 - s_1) p_{M,0}} - \frac{s_1 (1 - p_{M,1})}{s_1 (1 - p_{M,1}) + (1 - s_1) (1 - p_{M,0})}$$
$$= \frac{s_1}{s_1 + (1 - s_1) \frac{p_{M,0}}{p_{M,1}}} - \frac{s_1}{s_1 + (1 - s_1) \frac{1 - p_{M,0}}{1 - p_{M,1}}},$$

which is increasing in  $p_{M,0}$  and hence in  $\rho$ , given that  $p_{M,1} = 1 - w_N/w_M + \rho$ . An increase in  $\rho$  also increases the difference  $p_{CM,1} - p_{CM,0}$  in the probability that a child will turn into a manager between parents with and without a work ethic, implying that an increase in  $\rho$  increases  $\Delta$  and hence lowers social mobility in occupation. Lastly, when  $\rho$  rises, lower social mobility in occupation also translates into lower social mobility in terms of income, because managers earn more than laborers on average and an increase in  $\rho$  further increases the average earnings gap between the two occupations.

**Proof of Proposition 4:** The parental decision problem implies that a parent with religion *R* and parenting cost  $\xi$  chooses to be authoritarian if:

$$z\mu_R\Delta p > \xi + z\beta\rho.$$

Here the left-hand side is the benefit from authoritarian parenting, given by the paternalistic enjoyment of a greater probability of passing on one's beliefs, and

the right-hand side is the cost, given by the cost of authoritarian parenting  $\xi$  plus the altruistic concern about the forgone return to independence for the child. The parent will therefore choose to be authoritarian if the condition:

$$\rho < \frac{\mu_R \Delta p - \xi z^{-1}}{\beta}$$

is satisfied. The first condition states that this condition holds even for the M parent with the highest cost of parenting  $\xi = 1$  (recall that  $\xi$  is uniformly distributed on [0, 1]). The second condition implies that there is interior cutoff for  $\xi$  such that M parents below the cutoff are authoritarian and those above are permissive. As  $\rho$  rises, the share of M parents below the cutoff declines, implying that a rising share of M parents is permissive, which raises the share of children who become secular. The third condition states that M parents with the lowest cost cost  $\xi = 0$ are permissive, while F parents with the highest cost  $\xi = 1$  remain authoritarian. Regarding the steady-state shares, in this last case the steady-state distribution across types  $\mathbf{s} = (s_F s_m s_S)'$  has to satisfy:

$$\mathbf{s} = \begin{pmatrix} p & \frac{1-p}{2} & \frac{1-p}{2} \\ \frac{1-p}{2} & \frac{1-p}{2} & \frac{1-p}{2} \\ \frac{1-p}{2} & p & p \end{pmatrix} \mathbf{s},$$

which yields:

$$\mathbf{s} = \begin{pmatrix} \frac{1}{3} \\ \frac{1-p}{2} \\ \frac{p}{2} + \frac{1}{6} \end{pmatrix}.$$

Regarding the impact of  $\rho$  on the income gap between secular and fervent individuals, there are two forces. First, a rise in  $\rho$  unambiguously raises the relative income of independent children who were subject to a permissive parenting style, and there are more such children among the secular than among the fervent. Second, a rise in  $\rho$  changes the composition of types in each group; in particular, if  $\rho$  is large, there are relatively more fervent individuals who were raised permis-

sively, but (randomly) adopted fervent beliefs. The second channel disappears as p approaches one (where transmission becomes deterministic). Hence, for p sufficiently close to one the first channel dominates, and raising  $\rho$  unambiguously increases the income gap.

# **B** Additional Tables

	Permissive			Authoritarian			Intensity of Parenting		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Religious	-0.09***	-0.09***	-0.10***	0.10***	0.10***	0.12***	0.20***	0.19***	0.22***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)
High neighbor. quality		0.06***			-0.07**			-0.12***	
		(0.02)			(0.03)			(0.04)	
Trust in people		0.04***			-0.07***			-0.12***	
		(0.02)			(0.02)			(0.03)	
Neighbor. quality (Factor)			0.02**			-0.01			-0.03*
			(0.01)			(0.01)			(0.02)
Trust (Factor)			0.02***			-0.05***			-0.08***
			(0.01)			(0.01)			(0.02)
High education	0.06***	0.04***	0.04**	-0.11***	-0.09***	-0.09***	-0.17***	-0.13***	-0.13***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)
Black	-0.08***	-0.06***	-0.08***	0.37***	0.34***	0.36***	0.45***	0.40***	0.43***
	(0.02)	(0.02)	(0.02)	(0.04)	(0.04)	(0.04)	(0.05)	(0.05)	(0.05)
Hispanic	-0.04*	-0.03	-0.03	0.17***	0.16***	0.15***	0.21***	0.18***	0.18***
	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)	(0.04)
Other	0.01	0.02	0.02	0.06*	0.05	0.06*	0.05	0.04	0.04
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.05)	(0.05)	(0.05)
Female	0.03*	0.03**	0.03**	-0.06***	-0.07***	-0.07***	-0.09***	-0.10***	-0.10***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)
Age	-0.00	0.00	0.00	-0.00	-0.01*	-0.01*	-0.00	-0.01	-0.01
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Age squared	0.00	-0.00	-0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Observations	2,466	2,455	2,371	2,466	2,455	2,371	2,466	2,455	2,371

#### Table B.1: The Determinants of Parenting Style - Full Set of Controls

Notes: This table shows the relationship between religiosity, neighborhood quality, trust, and parenting style. The dependent variables are: an indicator for a permissive parenting style (columns 1–3); an indicator for an authoritarian parenting style (columns 4–6); and a measure of intensity of parenting, coded as 1 for permissive, 2 for authoritative, and 3 for authoritarian (columns 7–9). *High neighborhood quality* is an indicator for respondents who answer 'Very Frequently' or 'Quite Frequently' to the question: '*How frequently do the following things occur in your neighborhood? Street violence and fights'*. *Trust in people* is an indicator for respondents who answer 'Most people can be trusted' to the question: '*How frequently would you say that most people can be trusted, or that you need to be very careful in dealing with people?'*. *Neighborhood quality* (*Factor*) is derived from factor analysis based on responses to questions about the frequency of specific behaviors at the neighborhood level. *Trust (Factor)* is derived from factor analysis based on responses to questions about trust in different groups of people. *High education* is an indicator for respondents with at least a bachelor's degree or equivalent education (ISCED 6). *White* is the omitted race. See the text for further details. Robust standard errors are reported in parentheses. \* p<0.10, \*\* p<0.05, \*\*\* p<0.01.

	Base Outcome:										
	Intensity of Parenting = 1 (Permissive)										
	Intensit	y of Pare	nting = 2	Intensity of Parenting = 3							
	(A	uthoritat	ive)	(Authoritarian)							
	(1)	(2)	(3)	(4)	(5)	(6)					
Religious	0.35***	0.36***	0.38***	0.66***	0.66***	0.73***					
	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.10)					
Marginal effect	[-0.01]	[-0.01]	[-0.02]	[0.10]	[0.10]	[0.12]					
High neighbor. quality		-0.26*			-0.44***						
		(0.13)			(0.14)						
		[0.00]			[-0.06]						
Trust in people		-0.12			-0.39***						
		(0.09)			(0.09)						
Marginal effect		[0.03]			[-0.08]						
Neighb. quality (Factor)			-0.08*			-0.10*					
			(0.05)			(0.05)					
Marginal effect			[-0.01]			[-0.01]					
Trust (Factor)			-0.05			-0 24***					
			(0.05)			(0.06)					
Marginal effect			[0.03]			[-0.05]					
8			[]			[]					
High education	-0.13	-0.09	-0.08	-0.53***	-0.41***	-0.40***					
	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.10)					
Marginal effect	[0.06]	[0.05]	[0.05]	[-0.11]	[-0.09]	[-0.09]					
Observations	2,466	2,455	2,371	2,466	2,455	2,371					

#### Table B.2: The Determinants of Parenting Style - Multinomial Probit

Note: This table shows the relationship between religiosity, neighborhood quality, trust, and parenting style using a multinomial probit regression analysis. The dependent variable is a measure of intensity of parenting, coded as 1 for permissive, 2 for authoritative, and 3 for authoritarian. Regression coefficients and marginal effects are reported with reference to the baseline outcome, which is the permissive parenting style. *High neighborhood quality* is an indicator for respondents who answer 'Very Frequently' or 'Quite Frequently' to the question: '*How frequently do the following things occur in your neighborhood? Street violence and fights'*. *Trust in people* is an indicator for respondents who answer 'Most people can be trusted' to the question: '*Generally speaking, would you say that most people can be trusted, or that you need to be very careful in dealing with people?*'. *Neighborhood quality (Factor)* is derived from factor analysis based on responses to questions about the frequency of specific behaviors at the neighborhood level. *Trust (Factor)* is derived from factor analysis based on responses to questions about trust in different groups of people. *High education* is an indicator for respondents with at least a bachelor's degree or equivalent education (ISCED 6). All regressions control for race, gender, age, and age squared. See the text for further details. Robust standard errors are reported in parentheses; marginal effects are reported in square brackets. \* p<0.10, \*\* p<0.05, \*\*\* p<0.01.

## C World Values Survey (Wave 7) - List of countries

We provide below the list of countries in WVS Wave 7 for which it is possible to construct our measures of parenting styles and religiosity:

Andorra; Argentina; Australia; Bangladesh; Armenia; Bolivia; Brazil; Myanmar; Canada; Chile; China; Taiwan ROC; Colombia; Cyprus; Czechia; Ecuador; Ethiopia; Germany; Greece; Guatemala; Hong Kong SAR; Indonesia; Iran; Iraq; Japan; Kazakhstan; Jordan; Kenya; South Korea; Kyrgyzstan; Lebanon; Libya; Macau SAR; Malaysia; Maldives; Mexico; Mongolia; Morocco; Netherlands; New Zealand; Nicaragua; Nigeria; Pakistan; Peru; Philippines; Puerto Rico; Romania; Russia; Serbia; Singapore; Slovakia; Vietnam; Zimbabwe; Tajikistan; Thailand; Tunisia; Turkey; Ukraine; Egypt; Great Britain; United States; Uruguay; Venezuela; Northern Ireland.