

Castes, Perceived Discrimination and Human Capital Formation in India^{*}

ISHA GUPTA[†]

Department of Economics and Management “Marco Fanno”

University of Padova, Italy

January 2021

Abstract

India is characterized by social stratification of people along the lines of religion and caste. In this paper, I examine the role of caste and parents’ perceived social discrimination on human capital development in India. I investigate the evolution of gaps across castes in children’s cognitive outcomes and parental investment in children’s education from age 5 to age 15. I find that significant gaps in test scores as well as parental investment originate early in childhood between children belonging to lower vs. upper Hindu castes and these gaps persist throughout. These gaps cannot be completely explained by the differences in socioeconomic status across castes. Parents’ perceived social discrimination hampers parental investment throughout childhood, but it negatively affects children’s outcomes only at later ages. I address the concerns related to ordinality of test scores. Findings have important policy implications.

Keywords: *child development, parental investment, human capital formation, caste, perceived social discrimination, India*

JEL classification: *I24, J15, J24*

^{*} I would like to thank my advisors, Guglielmo Weber, Marco Bertoni and Daniele Paserman, for their priceless guidance and support. My gratitude also goes to Kevin Lang, Giorgio Brunello, Lorenzo Rocco, Roberto Bonfatti for their helpful comments and suggestions. I am grateful to participants of seminars at the University of Padova and Development Reading Group at Boston University for helpful and healthy discussions. All remaining errors are my own.

[†] Department of Economics & Management “Marco Fanno”, University of Padova, Italy. Email-isha.gupta@studenti.unipd.it

1. Introduction

In India, caste is a historically defined social identity which is inherited at birth. It plays a significant role in defining access to resources and opportunities at every stage of economic and social life. There exists a wide heterogeneity across castes in terms of socioeconomic status, access to education, and access to the labour market. Children born in lower castes are exposed to disadvantaged environments while growing up, and there is evidence of marginalization, discrimination, and violence against certain social categories in India. Lower castes, in general, have been subjected to deep-rooted prejudices and social stigmatization in Indian society. For example, Dalits – considered to be at the bottom of the Hindu caste hierarchy – were regarded as ‘untouchables’ and are often subjected to discriminatory and unequal treatment. It is well established that these early life experiences and living conditions may have lasting consequences on children’s overall development, later life outcomes, and even inter-generational transmission of human capital (Attanasio et al., 2015; Cunha & Heckman, 2007; Rubio-Codina et al., 2016).

A growing body of empirical evidence suggests that children belonging to lower castes are inferior to children from upper castes in both physical and human capital outcomes such as health, educational attainment, and cognitive outcome. Most of these studies identify economic disadvantages faced by children belonging to lower castes as the major reason behind their poor development and later life outcomes (Banerjee & Knight, 1985; Borooah, 2012; Deshpande, 2001; Munshi, 2019).

However, little is known yet about the age at which these gaps in human capital start to emerge across castes and about their evolution as children age. Answering this question would bring crucial insights about the right age at which policies aiming to bridge caste-based differences should target. This paper attempts to fill this void by analysing the dynamics of the role of caste and perceived social discrimination in human capital formation during mid-childhood and early adolescence, between 5 and 15 years of age. I look at human capital accumulation from two different perspectives – cognitive outcomes of children and parental investment in children’s human capital. I examine a wide range of indicators of both parental investment and children’s human capital stock over time, including performance in various tests and material investment in education.

Fryer & Levitt (2004, 2005) analyse the racial gaps in math and reading test scores in the US during the early years of school. They find that the black-white test score gap among incoming kindergartners disappears after controlling for a small number of socioeconomic covariates. As they

grow older, however, blacks lose substantial ground relative to other races. In the first part of this paper, I study these patterns across Indian social groups. In addition, I look at the gaps in parental investment which is an important input in the process of human capital formation.

Next, I analyse how parents' perception of social discrimination affects their investments in children's education. I hypothesize that if parents perceive that they are discriminated against, then this lowers their expected returns to education, thus, lowering their investment in children's education.

I also examine the effect of parents' perception of discrimination on children's cognitive outcomes over time. Parents' perceptions about discrimination is likely to shape their children's understanding and perceptions of discrimination. For example, if parents concur that some store manager is acting discriminatory, then the child is more likely to make an attribution to discrimination than if his parents disagree with his perception.¹ Many studies in the US, have extensively investigated the age when children start perceiving racial or gender discrimination and its effect on cognitive outcomes (for instance, see, Brown & Bigler, 2005; Simons et al., 2002; Theimer et al., 2001). However, this paper is the first attempt in the Indian context to investigate the age at which perceived discrimination starts to affect children's cognitive outcomes as well as parental investment.

Unlike others in the literature, I do not estimate the contribution of discrimination to the observed gap in human capital between castes using the Blinder-Oaxaca decomposition (for instance, see, Arouri et al., 2019; Banerjee & Knight, 1985; Borooah, 2012), as this approach has been criticized for understating or overstating the effect of discrimination (for instance, see, Madden, 2000; Munshi, 2019; Ospino et al., 2010). Thanks to the richness of my data, I instead use direct self-reported measure of perceived discrimination.²

I utilize the Young Lives survey data, which is particularly well suited for this paper. Young Lives survey is longitudinal and followed 2000 children for 5 rounds starting at the age of 1 to 15 years, from 2002 to 2016. The data contains various pieces of information that are key for this analysis, such as children's scores in PPVT, maths, english and reading tests conducted at different ages;

¹ Understanding relations between perceptions of discrimination and children's development has been identified as a key priority in both development and education economics literature (see, for instance, Brown, 2015; Brown & Bigler, 2005; Cheng et al., 2015; Stone & Han, 2005). Perceiving oneself to be the target of discrimination is likely to affect individuals' identity formation, peer relations, academic competencies, occupational goals, and mental and physical wellbeing (Brown & Bigler, 2005; Stone & Han, 2005).

² Using self-reported perceived discrimination also has some potential concerns, such as social-desirability bias, which I discuss in detail in section 4.3.

various measures of parental investment like expenditure on education related activities and type of school attended; a rich set of household and individual characteristics; measures of perceived social discrimination; among others.

Recent literature has affirmed that the test scores are measured on ordinal scales³. As with utility functions, any monotonic transformation of the test score scale is also potentially a valid scale. Bond & Lang (2013) do a bounding exercise for Fryer & Levitt (2005) and show that order preserving scale transformations of the test scores can provide contradictory conclusions about the growth in gap between Blacks and Whites- starting from increasing gaps over time to decreasing gaps over time and some transformations also suggesting that Blacks outperform Whites over time. In this paper, I deal with this issue of test scores ordinality by using percentile rankings of test scores which is scale invariant.

The findings of this paper suggest that there are substantial and persistent gaps in the test scores of children belonging to lower and upper castes in India, throughout the 10 years of the study period. These gaps cannot be explained by the observed differences in SES across castes. As compared to the racial test score gaps in the US reported by Fryer and Levitt (2005), caste-based test score gaps observed in this paper are smaller in magnitude but persistent over time. Besides, I also analyse the gaps between Muslims and Hindus and find that Muslims perform equally well in PPVT test as upper caste Hindus at the age of 5 and 8, but this gap becomes significant over time. However, in maths, english, and reading tests, Muslims perform worse than both upper and lower caste Hindus.

This paper also establishes that both lower Hindu castes and Muslims invest significantly less in the education of children, even after controlling for socioeconomic background, as compared to upper Hindu castes. These gaps in parental investments across social groups are consistent over time. These children are more likely to drop out of school early and are also less likely to attend private school and expensive schools.

Finally, this paper finds that perceived social discrimination plays a crucial role in human capital formation. It negatively affects parental investment in the education of children starting from a very early age, and the resulting gaps are persistent throughout the 10 years of the study period. On the contrary, the effect of perceived discrimination on test scores only appears as children age. This

³ See, Cunha & Heckman (2008); Bond & Lang (2013)

finding is consistent with the hypothesis that children develop an awareness of discrimination only as they grow older (Brown & Bigler, 2005).

The findings of this paper have important implications from a policy perspective. They emphasize that differences in cognitive outcomes observed across castes arise at a very early age and persist over time. Children belonging to lower castes are disadvantaged in terms of parental investments, more likely to drop out of school early, and are less likely to attend private schools. In order to bridge these gaps, there is a need for policies that promote quality investment in children belonging to lower castes at a very early age and discourage social discrimination. Even though the Government of India provides free education to socially and economically disadvantaged children through public schools, there is wide evidence in the literature that these schools are poor in quality (Gouda et al., 2013; Muralidharan & Kremer, 2006; Muralidharan & Sundararaman, 2013). Also, while affirmative policies reserving seats to backward castes in higher education and public jobs are in place, these policies may not be helpful in compensating for the gaps in human capital generated during critical periods of development in early life.

The rest of the paper proceeds as follows. Section two gives a brief background on the Indian caste system. Section three briefly discusses the related literature. Section four discusses the issue of test score ordinality. Section five describes the methodology, data and descriptive statistics. Section six presents the main results and finally, section seven concludes.

2. Background on Indian caste system

The caste system in India is a historical social stratification of people into various hierarchically ranked groups that were traditionally defined on the basis of professions. The existence of the caste system goes back to more than 2000 years ago. It comprises of four hierarchical classes or varnas, namely- Brahmins (priests and teachers), the Kshatriyas (rulers and soldiers), the Vaishyas (merchants and traders), and the Shudras (laborers and artisans). Certain population groups, known as Dalits, were historically excluded from the varna system and were regarded as “untouchables”. Each *varna* was further divided into hundreds of sub-castes called *jatis*, based on their specific occupation. The contemporary manifestation of caste system comprises of 6,000 endogamous *jatis* (Coffey et al., 2019).

Caste is inherited at birth and typically stays same throughout the life with some exceptions, such as, women in inter-caste marriages take on the caste of their husbands and their children also inherit

the caste from their fathers. Thus, an implicit social status is attached to a person by birth with limited mobility.

In modern India, the Indian government introduced a categorization scheme in which the untouchable castes were categorized as scheduled castes (SCs), socially and economically marginalized indigenous ethnic groups were categorized as scheduled tribes (STs), another group of castes that were identified as disadvantaged were referred to as other backward castes (OBCs), and the general caste (also known as upper castes) constitutes the high caste groups.

These social groups are highly heterogenous but, on average, lower castes like SCs, STs and OBCs, have been disadvantaged in terms of income, education, and many other socioeconomic indicators. To address these disadvantages, untouchability was officially abolished in 1950 and compensatory, affirmative action in education and employment were introduced for scheduled castes and scheduled tribes who have suffered cumulative, social and economic disabilities (Sankaran et al., 2017a). Recently these benefits have been extended to other lower castes (OBCs) in response to their organized political assertion. Even after various affirmative actions, significant gaps persist across these social groups. There is evidence of substantial gaps in the level of schooling between lower and upper castes; discriminatory practices and preconceptions at school against lower caste; and pre-market discrimination against lower castes (Banerjee and Knight (1985) and Kijima (2006)).

3. Related literature

A growing body of literature globally suggests that the economic differences observed among individuals and households may have ethnic and racial origins. There is a large stream of literature demonstrating racial differences in the cognitive ability of young children, quality of schools attended, and school drop-out (Fryer & Levitt, 2004, 2005, 2013; Jones et al., 1984; Neal, 2006). Fryer and Levitt (2004, 2005) find that a substantial Black-White achievement gap exists at entry to school which can be completely explained by differences in SES across races, and this gap increases with age and can no longer be explained by differences in SES. Arouri et al. (2019) find that in developing countries like Vietnam, Peru, and Ethiopia, children from small ethnic groups have lower educational attainment and cognitive ability.

In India, the lower castes have been socially disadvantaged for centuries. They were originally assigned the lowest-status occupations, requiring little investment in human capital, and even when they managed to achieve occupational mobility over time, they typically ended up in low- skill

industrial jobs (Munshi, 2019). These differences continue to persist now and reinforce inequality throughout life as well as for the next generations.

Most of the studies in India have found significant differences in cognitive outcomes of children across castes. Disparities in factors like child health, parental education, household's socioeconomic status, have been found to be important in explaining these gaps across castes in India. Other recent studies have found that even after controlling for the differences in initial endowments like socioeconomic endowments, the effects of these social institutions persist (Borooah, 2012; Munshi, 2019). For example, Munshi (2019) reviewing the literature on caste and Indian economy reports that even after controlling for parental education, household wealth, measures of school quality, and teacher inputs, SC/ST and OBC children are significantly less likely to attend school.

Gangopadhyay & Sarkar (2014) find that scheduled caste households invest significantly less than other households in private coaching of children, even after controlling for all available socioeconomic background variables. They posit these differences to be driven by the cultural paradigm as lower castes may be inherently less motivated to invest in education, for historical reasons.

Munshi & Rosenzweig (2006) analysed schooling and career choices of children across castes in India with the advent of liberalization in 1990s. There was a dramatic shift in the returns to different occupations and returns to learning English also increased, with greater access to white-collar jobs. They found that boys belonging to lower castes continued attending local language schools; whereas, for upper caste children, an increase in enrolment at English-medium schools was observed.

Literature has also emphasized on the contribution of caste-based discrimination, exclusion, and humiliation towards the underperformance of the lower caste children (Borooah (2012); Rawal and Kingdon (2010)). In an article, Singh & Husain (2016) argue that society's belief in the backwardness of certain communities has resulted in discrimination against them in the labour market, lowering perceived returns to education for such communities. They posit that these communities start behaving in a manner that justifies society's perceptions about them, reinforcing and perpetuating initial disparities (Singh & Husain, 2016). Thorat and Attewell (2007) conducted a field experiment to document caste-based pre-market discrimination against lower castes in the labour market. They found that SC and Muslim candidates with identical educational qualifications and experience as upper caste candidates were significantly less likely to be called for an interview.

Perceived discrimination has been shown to be strongly associated with physical, mental, and behavioural health outcomes, such as depression, anxiety, chronic stress, post-traumatic stress disorder, and low self-esteem (Cheng et al., 2015; Cooke et al., 2014; Stone & Han, 2005; Xiang et al., 2018). Children who experience discrimination from their teachers are more likely to have negative attitudes about school and lower academic motivation and performance, and are at increased risk of dropping out of high school (Brown, 2015; Brown & Bigler, 2005).

In addition to social identity-based discrimination, there is also evidence of discrimination due to the economic status of one's parents, also known as class discrimination (Schiller, 1971). Xiang et al. (2018) studied Chinese migrants and found that children from lower-income families experienced greater discrimination than those with higher family incomes. In India, caste-based discrimination overlaps class-based discrimination. Lower social categories in India, especially scheduled castes, tribes, and Muslims, have disproportionately poorer than others and therefore face relatively greater discrimination (Dhesi, 1998).

The Government of India has made several provisions to bridge the caste-based gaps and safeguard the economic and social interests of the lower castes- SC, ST, and OBC- and address disparities in wages, employment, education and consumption, for example, by providing up to 50% reservation of total available seats in universities, government jobs, political positions, etc; and introducing 'Universal Education Program' (Sarva Shiksha Abhiyan), which targets the education of lower caste children through incentives like mid-day meal; establishment of new schools; and provision of scholarships to these children. Despite these efforts, caste-based differences are still persistent in India. It is, thus, important to understand the role of caste in the formation of human capital; the mechanisms through which caste channelizes its impact; and how this relationship evolves over time, so that relevant policy measures can be taken to moderate these caste-based differences.

4. Empirical Framework

4.1 Data and descriptive statistics

The main objective of this paper is to understand how the role of caste and perceived social discrimination in human capital formation evolve over time. For carrying out the analysis, the ideal dataset would be one which provides detailed information on: children's cognitive outcomes and parental investment in children's education, measured at various ages; socioeconomic background such as caste, religion, and household wealth; and measure of perceived social discrimination.

In this paper, I utilize the younger cohort data from the Young Lives Survey (YL) which is particularly well suited for carrying out the analysis. The survey started in 2002 with two cohorts; younger cohort aged between 6 to 18 months and older cohort aged between 7.5 and 8.5 years. The sample of younger cohort contains 2011 children and the data were collected in five rounds at ages 1, 5, 8, 12, and 15. Children were selected from the Hyderabad district and a 'poor' and a 'non-poor' district in each of the 3 distinct agro-climatic regions in Andhra Pradesh: Coastal Andhra, Rayalaseema, and Telangana, for a total of 7 districts. Since Young Lives survey aims to document child poverty, it deliberately oversampled poor communities. As a result, while households from different socioeconomic backgrounds are included, the sample is not representative of the whole population.

In each round, an extensive effort was made to find and interview children who had moved from their location in the previous survey round. As a result, the attrition between rounds was very low. Total attrition from round 1 to round 5 was 5.9%. These figures include attrition due to mortality, with 2.14% of children dying between ages 1 to 15.

For the purpose of analysis, I delineate the social groups by caste and religion. I construct four categories, namely, lower-caste Hindus- constituting Hindus belonging to SC, ST and OBC; upper caste Hindus- constituting Hindus belonging to forward/upper castes; Muslims; and other religions.

I construct an index for parents' perceived social discrimination using the two survey questions asked to parents in round 2. Parents were asked to rate how much they agreed with the following two statements on a four-point Likert scale: 'When I am at shops/market I am usually treated with fairness and with respect by others' (called RESPECT henceforth); and 'Other people in my street/village look down on me and my family' (called LOOKED DOWN henceforth). These two manifestations of discrimination are combined to form an index for parents' perceived discrimination called 'DISCR'. This index takes a value of 0 if parents report no discrimination; and 1, if parents report facing either of the two manifestations of discriminations. More details on construction of the measure of perceived discrimination and the manifestation of discrimination across castes are presented in the appendix.

I look at two key outcomes. The primary outcome variable is children's cognitive ability which I proxy using the scores obtained in PPVT, maths, english, language, and reading tests conducted by the YL interviewer in various rounds. In Peabody Picture Vocabulary Test (PPVT) the child is asked to select the picture that best represents the meaning of a stimulus word presented orally by the examiner.

PPVT test scores are observed in all rounds starting from round 2 when children are 5 years old. Maths test scores, on the other hand, were administered in rounds 3, 4, and 5; these are, therefore, available at ages 8, 12, and 15. English and reading test scores are available for rounds 4 and 5, respectively. The reading test was conducted on Telegu, which is a local and widely spoken language in Andhra Pradesh.

The second outcome variable is parental investment in education which is an important input in the process of human capital formation. Parents base their investment decisions on the returns to investments at different stages, the available resources, the prices of investment goods and, importantly, on parents beliefs about the child development process (Attanasio et al., 2015). I use the following measures of parental investment: expenditure by the household on education related commodities like school uniform, books, private tuitions; school fees; enrolment at school; and the type of school enrolled in (Private/Public); etc., in the last 12 months. All the investment variables have been deflated to 2002 prices and standardized with a mean of zero and a standard deviation of one.

In figure 1, I demonstrate the plausible pathways between the variables of interest which gives a quick sense of how these variables are related. Caste may channelize its impact on children's cognitive and educational outcomes (a) directly through differences in initial endowments like socioeconomic status, parental education, and occupational status, etc, (b) indirectly via mediators like perceived discrimination and parental investment. Similarly, caste can potentially affect the parental investment in education (a) directly, (b) indirectly via our mediator of interest, perceived discrimination, and (c) indirectly by affecting children's cognitive outcomes, which in turn affect parents' investment decisions.

In Table 1 presents descriptive statistics on children's household characteristics at the baseline (round 1). Around 76% live in rural communities, 54% of children are male, and the average household size is 5.4. Mothers are relatively young with the average age of 24. Mothers' education is also low with an average of just 3 years of education. 72.6% of the surveyed households are lower caste Hindus, 14% are upper caste Hindus, and the remaining are Muslims and other religions.

In Table 2, I report additional statistics that vary across rounds. A significant fraction of the children suffer from stunting, wasting, and being underweight. Together, these indicators are suggestive of significant morbidity in this population. While wealth index seems to be rising as the cohorts age (in

part reflecting economic growth in the area), health indicators (height, weight, and BMI for age z scores) do not improve. Children spend minimal time working on household chores. By age 15, children spend approximately an hour a day helping out at home. Almost no children do paid work outside of the home. School enrolment increases from 22% at age 5 to 96% at age 12 and then decreases to 83% at age 15.

In Table 3, I report the initial endowments of children at the baseline⁴ across the four social groups. The descriptive statistics provide suggestive evidence that children from backward castes are economically disadvantaged and, on average, exposed to challenging environments. Lower caste children belong to lower wealth families and have lower parental education. They also have a lower height for age z-score and are more likely to be stunted and underweight. Muslims on average are disadvantaged as compared to upper caste Hindus but are better off than lower caste Hindus. Muslims on average start school late and have lower school enrolment at the age of 5 years as compared to other social groups. To check if some social groups are more likely to report social discrimination than others, I run regression of perceived discrimination on caste- with and without controlling for income and wealth. The results are reported in Table 4. I find that after controlling for wealth and income, lower Hindu castes are 7% more likely to face discrimination as compared to upper caste Hindu. Other religions, on the other hand, are 15% more likely to face discrimination as compared to upper caste Hindus. There is also evidence of class-based discrimination with higher perceived discrimination among low-income families.

4.2 Ordinality of Test Scores

Recent literature has affirmed that the test scores are ordinal in nature and lack interval properties since these scores are monotonic transformations of some unobserved true measure of ability in a subject (Lord, 1975). They provide a rank ordering of students but cannot measure by how much one student outperforms another. For example, the difference between a test score of 40 and 50 may be either more or less than the difference between a score of 70 and 80.

Bond & Lang (2013) perform a bounding exercise on the black-white test score gap. They use an algorithm to generate monotonic transformations of the original test score scale to maximize and then minimize the growth of the test score gap and also maximize the correlation between

⁴ Table 3 reports descriptive statistics in round 1 (age 1) for all variables except school enrolment, which is reported for round 2 (age 5) because children are not enrolled in schools at the age of 1.

kindergarten and third-year scores. They show that order preserving scale transformations of these test scores can provide contradictory conclusions starting from increasing gaps over time to decreasing gaps over time and some transformations also suggesting that Blacks outperform Whites over time.

To deal with this issue of ordinality of scores, Cunha & Heckman (2008) and Bond & Lang (2018) propose anchoring test scores to adult outcomes such that the gaps are expressed in concrete units, such as completed years of education. As the adult outcomes are observed with significant delays, the primary challenge with this approach is the difficulty in the availability of relevant data.

In this paper, I transform the test scores in each round to percentile rankings which are scale-invariant. Percentile rankings are also invariant to changes in the scores that do not change ranks even though such modifications can change the relative means of the raw test scores. I estimate the gaps across castes at a given age as the difference in the mean percentile ranking. In order to maintain comparability with the literature on this subject, the test scores are standardized with a mean of zero and a standard deviation of one for the overall sample in each test and round.

Another solution, to estimate the test score gaps that are invariant to monotonic transformations, was recently proposed in a RES paper by Jeffery Penney (2017). The proposed method employs the ordinary least squares variant of unconditional quantile regressions (UQR) as developed by Firpo, Fortin, and Lemieux (2009) to estimate the test score gap at the median and then normalizes the coefficients of interest by dividing them with the standard error of the regression. This is in contrast to the usual method, which instead normalizes the coefficients by dividing them by the standard deviation of the dependent variable. I use this solution as a robustness check to verify that the test score gaps across castes over time are not just artefacts of test score scaling.

4.3 Estimation

To estimate the differences in children's cognitive outcomes and parental investment across social groups over time, I run the following regression model (1) separately for each YL round:

$$Y_{it} = \alpha_0 + \beta_t Caste_i + \theta_t X_{it} + \gamma_i + \epsilon_{it} \quad (1)$$

where, Y_{it} denotes the two outcome variables of interest- a) child i 's percentile ranking in round t in various tests, and b) child i 's standardized parental investment in round t . $Caste_i$ is a full set of caste dummies with upper Hindu as the base category. X_{it} represents a parsimonious set of following socioeconomic controls: gender of the child; height by age score as a proxy for child health;

birth order; sibling size; and socioeconomic status proxied by wealth index⁵ of the household, all at the baseline survey. γ_i represents the community level fixed effects, which controls for unobserved heterogeneity among the communities and ϵ_{it} is the random error term. Standard errors are clustered at the community level⁶ to account for correlation in outcomes within communities.

First, I estimate the model without including socioeconomic controls (X_{it}). Consequently, β_t is the coefficient of interest which captures the raw gaps in outcome variables between the named caste category and upper Hindus in round t.

Next, I estimate the model with socioeconomic controls. Here, β_t captures the unexplained gaps in outcome variables across castes that cannot be explained by the differences in SES. It represents the additional penalty of being born in lower caste, as opposed to being born in upper Hindu caste, that is not explained by other measures of socioeconomic disadvantage.

In papers such as Fryer & Levitt (2004), estimating the racial differences in children's test scores in the US, controls for parental education, parental employment and household income are also included. However, one could argue that these controls are heritable and themselves outcomes of caste, which is the treatment in my analysis, making them bad controls. Hence, in my main specification, I do not include controls for these variables. However, I do carry out a robustness check by including these controls and the results remain unchanged⁷.

Next, to estimate the effect of perceived discrimination on the outcome variables, I run the following regression for each YL round.

$$Y_{it} = \alpha_0 + \beta_t Caste_i + \delta_t Discr_i + \theta_t X_{it} + \gamma_i + \epsilon_{it} \quad (2)$$

where, $Discr_i$ is parents' perceived social discrimination index, with 'no discrimination' as the omitted category. It takes a value of 1 if parents perceive any manifestation of social discrimination, and 0, otherwise.

⁵ Data on wealth index is provided in YL survey. It takes on a value between 0 and 1 and is constructed as an average of three indices: housing quality (quality of wall, roof, floor, and number of rooms/person), access to services (drinking water source, sanitation, cooking fuel, and electricity) and ownership of consumer durables (9 items such as- radio, television, motorbike, bicycle, automobile, landline, mobile phone, refrigerator, and fan) (Briones, 2017).

⁶ Some children migrate over YL rounds to different communities, but I cluster standard errors at round 1 community level. This is done to maintain comparison among same children over time. I carry out some robustness checks which are detailed in section 6.1.

⁷ The results from models controlling for household income and parental education are unchanged. I discuss robustness checks in detail in section 6.1.

I estimate equation (2), both with and without including socioeconomic controls (X_{it}). The coefficient of interest, δ_t , captures the effect of parents' perceived discrimination on outcome variables, holding caste constant.

There are some concerns with using self-reported measures of perceived social discrimination. First, it may also pick up discrimination perceived due to one's class, or economic status. Estimating equation (2) including controls for SES, addresses this concern as it captures the effect of discrimination holding one's economic status constant.

Second, there is a possible concern regarding 'social desirability bias'. Social desirability reflects the tendency of research subjects to claim or say things which are socially desirable and place the speaker in a favourable light. For instance, in the context of this paper, this may arise if parents under-report social discrimination because they might feel ashamed in acknowledging it. While I cannot rule out this concern, I note that in this case, the estimates on perceived social discrimination, controlling for caste, are attenuated. Another possibility is that parents of children who perform worse on tests are more likely to report discrimination. It is important to note that to alleviate this concern I do not use contemporaneous measure of perceived discrimination. As described in section 4.1, I use the earliest available perceived discrimination measure from round 2.

Specification (2) assumes that effect of perceived discrimination on children's cognitive outcomes and parental investment is same among all the social groups. As discussed in this paper before, some caste groups are more likely to face discrimination as compared to others. I check if there are differential effect of perceived discrimination on human capital formation across castes by estimating the following equation- both without and with socioeconomic controls.

$$Y_{it} = \alpha_0 + \beta_t Caste_i + \delta_t Discr_i + \mu_t (Caste_i \times Discr_i) + \theta_t X_{it} + \gamma_i + \epsilon_{it} \quad (3)$$

In equation (4), μ_t captures the additive effect of belonging to the named caste and facing discrimination as compared to upper caste, and is the coefficient of interest.

5. Results

5.1 Cognitive ability

Table 5 presents a series of estimates of the gaps across castes in percentile rankings in various tests, over YL survey rounds. To analyse how the gaps evolve over time, I compare if the coefficients across rounds are statistically different. The odd numbered columns present the differences in mean

percentile ranks in various tests, not controlling for any socioeconomic covariates. These results simply reflect the raw percentile rank gaps across castes. Even numbered columns present the estimates from specifications including SES controls.

At the age of 5 years, there is a significant raw percentile ranking difference of 0.31 standard deviations in PPVT test between lower caste Hindus and upper caste Hindus. This raw gap remains at 0.26 standard deviations at age 8, and 0.37 standard deviations at age 12 and 15. Once I introduce socioeconomic controls, significant gaps persist. At the age of 5 years, the gap in PPVT percentile ranking between lower and upper caste Hindus after controlling for the covariates is 0.18 standard deviations, statistically significant at the 1% level and by the age of 15 years, this gap is 0.268 standard deviations. Results are reported in Table 5a.

Next, I tested for the equality of the estimates of PPVT percentile rank gaps across YL rounds, both with and without controls, and fail to reject the null hypothesis that the estimates are not significantly different across rounds, suggesting that the gap between lower and upper caste Hindus in PPVT test remains constant over the 10 years of the study period.

Muslims, on the other hand, start off with a statistically insignificant deficit of 0.12 standard deviations, which disappears after controlling for the socioeconomic controls. However, over time they lose substantial ground relative to upper caste Hindus and their PPVT percentile ranking deficit increases to 0.48 standard deviations by the age of 15 years, statistically significant at the 1% level, and the unexplained gap, after controlling for the socioeconomic background, remains at 0.39 standard deviations, significant at the 5% level, higher than that of lower Hindu castes.

Table 5b is identical to Table 5a, but presents estimates from maths, english, and reading tests. Even after controlling for socioeconomic background, lower caste Hindus rank 0.20 standard deviations below upper caste Hindus in maths at the age of 8. There is evidence of slight increase in this gap over time to 0.26 and 0.36 standard deviation by age 12 and 15 years, respectively. These gaps are statistically significant at the 1% level. Muslims perform consistently lower than both upper and lower Hindu castes in maths throughout the three YL rounds and rank 0.44, 0.47 and 0.40 standard deviations below upper caste Hindus, all significant at the 1% level. These estimates for Muslims are not significantly different across rounds indicating that the gap is persistent over time.

As compared to racial gaps in maths test scores observed by Fryer & Levitt (2005), caste-based gaps are smaller in magnitude and are persistent over time. Fryer & Levitt (2005), on the other hand,

found that the racial gap in kindergarten disappears after controlling for a small number of socioeconomic covariates, whereas over the three years of schooling, this gap increases significantly and can no longer be explained by the differences in SES across races.

In the English test conducted at the age of 12 years, lower caste Hindus rank 0.27 standard deviations below upper caste Hindus and Muslims are 0.39 standard deviations below upper caste Hindus, after controlling for SES. In the reading test conducted at the age of 15 years, the gap is 0.26 and 0.38 standard deviations for lower caste Hindus and Muslims, respectively. All these estimates are statistically significant at the 1% level.

The results indicate that there are significant differences in the test scores of children across castes starting from a very early age. These gaps persist over time. Children belonging to lower Hindu castes on average perform significantly lower than upper caste Hindus and Muslims perform worse than Hindus in general. These gaps cannot be explained by the differences in socioeconomic background and significant gaps remain when we control for the socioeconomic controls.

The controls in all the specifications enter with the expected sign. An increase in wealth at the baseline survey is associated with improvement in children's performance in all the tests. Better health proxied by height by age z score is also associated with improvement in test scores of children. This suggests that socioeconomic background at an early age is a crucial determinant of human capital formation. There are no significant differences in the test scores of males and females.

Next, I estimate equation (2) for each YL round to capture the effect of parent's perceived discrimination on children's test scores. The estimation results are reported in Tables 6a and 6b. The results suggest that until the age of 8, parents' perception of social discrimination has no significant effect on children's performance in the PPVT test. However, starting from round 4, when children are aged 12 years, parents' perceived discrimination negatively affects the performance of children. Controlling for the caste, children of parents perceiving discrimination rank 0.19 standard deviation below as compared to children whose parents do not perceive discrimination in the PPVT test. This gap remains at 0.12 in round 5. When difference in SES background is accounted for, this gap is 0.18 standard deviations in round 4 and 0.10 in round 5. These estimates across rounds 4 and 5 are not statistically different from each other, suggesting that the effect of perceived discrimination persists. These results are consistent with the fact that as children age they develop awareness about discrimination and it negatively affects their academic performance. For example, Brown &

Bigler (2005) report that in the US, most children (92%) are familiar with the meaning of discrimination by the age of 10.

Similarly, children whose parents report facing discrimination also score substantially lower in maths and english tests. The raw maths percentile ranking gaps between children whose parents perceive discrimination and children whose parents perceive no discrimination are 0.15, 0.13, and 0.17 standard deviations at age 8, 12 and 15, respectively. When I control for SES background, these deficits are 0.11, 0.09 and 0.14. These gaps across rounds are not statistically different from each other.

In english test, conducted at age 12, this deficit is 0.20 and 0.15 standard deviations, without and with SES controls, respectively. I do not find any significant effect of perceived discrimination on reading tests conducted at age 15. The reading test was conducted on Telegu which is the local language spoken in the state of Andhra Pradesh. Overall, the results confirm that perceived social discrimination negatively affects the cognitive development of children as children grow older.

Next, I estimate equation (3) to capture the differential effect of discrimination across castes. The estimation results are reported in Table 7. All the regressions control for socioeconomic characteristics. For upper caste Hindus, there is no significant effect of perceived discrimination on PPVT test scores. There seem to be no effect of discrimination on the maths, english, and reading test scores of upper caste Hindus, except for maths test scores at age 8, which is significant only at the 10% level.

For lower caste Hindus, discrimination significantly negatively affects children's performance in PPVT test at the age of 12 and this effect statistically remains constant at age 15. Lower caste Hindus facing discrimination score 0.20 standard deviations below upper caste Hindus facing no discrimination at age 12, and this gap remains at 0.08 standard deviations at age 15. The effect of discrimination on lower caste Hindus is significant also in maths, english, and reading tests. I do not find any significant effect of perceived discrimination on Muslims.

5.2 Parental Investment

Table 8 presents the estimates of differences in parental investment in children's education across castes over time. The odd numbered columns report the raw differences in the investments across castes without controlling for socioeconomic factors while the even numbered columns control for socioeconomic covariates.

The estimates from Table 8a suggest that lower caste Hindus invest significantly less in children's education as compared to upper caste Hindus. These investment gaps are constant over time. At the age of 5 years, the raw gap in investment between lower caste Hindus and upper caste Hindus is 0.52 standard deviations and it is 0.39 standard deviations at the age of 15. These estimates across rounds are not statistically significantly different, suggesting that the gap in children's expenditure is persistent over time. After controlling for socioeconomic background, the gap is 0.34 standard deviations at age 5 and the gap remains statistically constant over time and is 0.45, 0.30, and 0.30 in the following rounds. All the estimates are statistically significant at the 1% level.

Muslim parents invest further less in the education of children. The raw investment gap in Muslims and upper caste Hindus is 0.64 standard deviations at age 5 and remains statistically constant throughout. After controlling for the covariates, this investment gap is 0.54 standard deviations at the age of 5 and 0.48 standard deviations at the age of 15.

Parents belonging to other religions like Christian, Jain, Sikh, etc, also invest significantly less in the education of children relative to upper caste Hindus.

Table 8b reports the estimates of the differences in expenditure on school fees across castes in round 4 and 5, conditional on enrolment at school. The results indicate that lower caste Hindus spend significantly less on school fees as compared to upper caste Hindus suggesting that upper caste Hindus, in general, attend expensive schools. After controlling for the SES, the difference in the annual school fees paid by the parents belonging to these two social groups is 0.38 and 0.40 standard deviations in round 4 and 5, respectively. The corresponding gap between Muslims and upper caste Hindus is 0.50 and 0.34 standard deviations in round 4 and 5, respectively.

There are no significant differences in the enrolment at school across castes until round 3. However, by the age of 15, children belonging to lower Hindu castes and Muslims are 7% and 10% less likely to attend school as compared to upper Hindu castes, respectively. The results suggest that Muslims and lower caste Hindus drop out from schools early.

The estimates on differences in the type of school attended by children across castes, conditional on enrolment at school are reported in Table 8c. Even after controlling for the socioeconomic differences, there are significant caste-based differences in the type of school children attend. The gaps are constant over time and lower caste Hindus are 20% less likely to attend private schools-

which are comparatively better and more expensive as compared to public schools- than their upper caste Hindu counterparts. For Muslims this difference is 32% at age 5 and 15% at age 15.

Next, I estimate equation (2) for parental investment. The results are reported in Table 9. The estimates from Table 9a suggest that even after controlling for the caste and other observables, perceived discrimination negatively affects parents' investment in children's education. Parents perceiving discrimination invest 0.16 standard deviations less as compared to parents perceiving no discrimination in round 2. The estimate is statistically significant at the 1% level. In round 3 when children are 8 years old, the estimate on perceived discrimination is insignificant. By round 4 and 5, the gap in investment between parents perceiving discrimination and parents perceiving no discrimination is 0.23 and 0.09 standard deviations significant at the 1% and 5% level, respectively.

Results in Table 9b suggest that even after controlling for the observed SES covariates, parents perceiving discrimination spend around 0.10 standard deviations less on school fees as compared to parents perceiving no discrimination in rounds 4 and 5. Both the estimates are statistically significant. Parents' perceived discrimination has no significant effect on school attendance until round 4 but in round 5 discrimination reduces school enrolment by 5%, suggesting that children belonging to parents perceiving discrimination are significantly more likely to drop out of school by age 15, or in other words, perceived discrimination leads to earlier school drop-outs of children.

Estimates reported in Table 9c suggest that conditional on enrolment at school perceived social discrimination significantly affects the likelihood of attending private schools. Controlling for SES, at the age of 5, children are 15% less likely to attend private school if their parents perceive discrimination. This gap is 7%, 5%, and 7% in rounds 3, 4, and 5, respectively.

Finally, I estimate equation (3) to see if perceived discrimination affects parental investment across social groups differently. The results are reported in Table 10. All the regressions include controls for socioeconomic status. Overall, I find that there is no significant effect of discrimination on upper caste Hindus. For lower caste Hindus, discrimination plays a crucial role and reduces parental investment in the education of children. Parents belonging to lower Hindu castes who perceive discrimination invest significantly less in education, spend less on school fees, and less likely to send children to private schools, as compared to lower caste Hindus who do not perceive discrimination. For Muslims, I find significant negative effect of perceived discrimination on school enrolment in all rounds, except for round 3 in which the coefficient is statistically insignificant.

5.3 Analysis within-lower Hindu caste

I also carry out the analysis within lower Hindu castes to estimate the differences in various test scores and parental investment across Scheduled Caste, Scheduled Tribes, and Other Backward Caste (OBC). Tables 11 and 12 report the results for test scores and parental investment, respectively.

There are no differences in percentile rankings in tests across SC, ST, and OBC. There is no significant effect of discrimination on PPVT test scores at the age of 5 and 8. However, at age 12, discrimination reduces PPVT percentile ranking by 0.20 standard deviations, significant at the 1% level. At the age of 15 years, the effect is again insignificant.

With respect to parental investment, SCs and STs spend significantly less on children's education in the early years, but there are no significant differences in expenditure across castes in the last two rounds, i.e. at age 12 and 15. SCs spend significantly less on school fees. However, there is no significant difference in school fees paid between OBCs and STs. There are no differences in school enrolment across SCs, STs, and OBCs. And finally, SCs are significantly less likely to attend private school as compared to OBCs and STs.

Parents' perception of discrimination within lower castes significantly lowers expenditure on education, enrolment at school, and attendance at private schools.

6. Robustness Checks

6.1 Sensitivity of results

I conduct a number of robustness check to test the sensitivity of my estimates to different specifications of the model. Firstly, I test whether the estimates are sensitive to inclusion of other SES controls like family income and parental education. This follows from discussion before about these variables being themselves outcomes of caste, making them bad controls. Reassuringly, the estimates from specifications including the above controls mirrors the estimates from the main specification. The results can be made available on request.

Next, since some children migrated over time to other places, I also tried specifications with round specific location fixed effects and the results are robust. I also carry out analysis for a subsample excluding children who migrated outside their sentinel site over time to avoid comparison of children who migrated with children who did not migrate, as migration could be an endogenous

choice. The results are reported in Table 13. The estimates are robust and mirror the results from the main specification reported in Table 5 and Table 8.

6.2 Ordinality

As discussed in section 4, test scores are ordinal measures of achievement. In order to verify that the results are not mere artefacts of test score scaling, I use the solution proposed by Penney (2017) which employs the ordinary least squares variant of unconditional quantile regressions (UQR) to estimate the test score gap at the median and then normalizes the coefficients of interest by dividing them with the standard error of the regression. Its invariance to monotonic transformations means that the same regression results will be obtained as if one had access to the “true” set of test scores. Table 14 displays the coefficient estimates for lower caste Hindus from estimating equation (1) using OLS, unconditional quantile regression at the median and the method outlined in Penney (2017).

Comparing the z-UQR estimates at the median with those from the proposed method (column titled ‘Normalized’), both with and without SES controls, the evolution pattern of percentile ranking gaps over time is almost identical. The results suggest that the gaps in percentile rankings between lower and upper caste Hindus are constant over time suggesting that the gaps persist over time. The OLS results are also reported in the table for comparison purposes and they exhibit similar evolution patterns as the normalized estimates.

Overall, the above robustness check assuages the concerns of ordinality and test score scaling and raises confidence in the results.

6.3 Oster test

There are many unobserved individual or household characteristics, such as, parents’ preferences for children’s education and children’s innate ability, that may be correlated with caste or perceived social discrimination and excluding them from the regression may lead to omitted variable bias. To check if the estimates of gaps in children’s test scores and parental investment across castes and the effect of perceived discrimination are robust to omitted unobservable variable bias, I perform Oster test (Oster, 2019).

Oster (2019) builds on Altonji et al. (2005), to develop a novel method for assessing bias from unobservable factors and estimating the degree of selection on unobservable that would be required to drive the ATT to 0 (called $\tilde{\delta}$). It exploits information on coefficient movements and

movements in R-squared values after the inclusion of controls to compute bounds for the treatment effect.

To identify bias adjusted β^* , one needs assumptions on (1) δ , the degree of selection on unobservables, and (2) R_{max} that indicates the maximum share of variance of the outcome that could be explained by any set of observable and unobservable covariates. Oster (2019) argues that $\delta \in [0, 1]$ is an appropriate bound because observed control variables are deliberately chosen as determinants of the outcome and must be at least as important as the unobservables. It is unlikely that $\delta > 1$ i.e. unobservables have a stronger impact on the outcome variable than the control variables.

So, for this analysis I assume $R_{max}^2 = 1.3 \times R_{controlled}^2$, a rule proposed by Oster, where $R_{controlled}^2$ is the R^2 of the model with all observables and assume $\delta = 0.80$. In other words, I am assuming that selection on unobservable is 80% of selection on observable and inclusion of these unobservables would have increased R^2 of the regression by 1.3 times. I also estimate the value of $\tilde{\delta}$ that will drive the estimate to 0.

I perform this test by estimating following models

$$Y_{it} = \alpha_0 + \beta_t UpperCaste_i + \theta_t X_{it} + \gamma_i + \epsilon_{it} \quad (7)$$

$$Y_{it} = \alpha_0 + \beta_t Caste_i + \rho_t Discr_i + \theta_t X_{it} + \gamma_i + \epsilon_{it} \quad (8)$$

where Y_{it} denotes child i 's percentile ranking in round t in various tests and parental investment in child i 's education in round t . $UpperCaste_{it}$ is an indicator of caste which takes a value 1, if child belongs to upper caste and 0, otherwise. $Caste_{it}$ is a full set of caste dummies with upper Hindu caste as the base category and $Discr_{it}$ is index for parents' perceived discrimination. X_{it} represents an array of child level social and economic variables

The results are reported in Table 15. Baseline effects (column 1) are the estimates from the regressions including controls for child's sex, birth order and location fixed effect (variables are assumed to be unrelated to the set of proportionally related unobservables). Controlled effects are the estimates from the regressions including full control set. Bias adjusted β^* are the estimates adjusting for the plausible bias due to unobservables.

Estimates reported in Table 15a capture the differences in test scores and parental investment between upper Hindu caste and other social groups. Even when selection on unobservables is as high as 80% of selection on observables, the omitted variable bias does not change the direction of most of the estimate, except for PPVT tests in round 2 and 3. The last column reports the minimum degree of selection on unobservables that would be required to drive the estimate to 0 (called $\tilde{\delta}$). For most of the significant estimates, the estimated $\tilde{\delta}$ is close to 1.

In Table 15b, I have reported the estimates of the effect of parent's perceived discrimination on children's test scores and parental investment. All the estimates are robust to omitted variable bias, except for school enrolment in round 5 and the estimated $\tilde{\delta}$ is greater than 1 for all significant estimates raising our confidence in the results.

7. Discussion

The objective of this paper was twofolds. Firstly, to investigate at what age the gaps in human capital formation across castes originate and how they evolve as children age from 5 to 15 years. And secondly, to analyze how perceived social discrimination affects human capital formation over this time. I look at two determinants of human capital- cognitive outcome, as measured by performance at various tests and parental investment in children's human capital. This is the first study to analyse this dynamics of the Indian caste system as well as perceived social discrimination in human capital formation over time. This paper speaks to the following two strands of literature (1) the literature of human capital formation and (2) the strand of work in economics, which focuses on the role of social institutions, social discrimination and stereotypes.

The findings of this paper suggest that there are substantial and persistent gaps in the test scores of children across castes which cannot be completely explained by differences in SES. Lower caste Hindus and Muslims score significantly less in PPVT, maths, English, and reading tests relative to upper caste Hindus. Gaps between lower caste Hindus and upper caste Hindus in PPVT percentile rankings are constant over time. Whereas, there is evidence of a slight increase in percentile ranking gap in maths tests over time. Muslims, on the other hand, perform equally well as upper caste Hindus at the age of 5 and 8 years in PPVT test, but over time lose significant ground to both upper and lower caste Hindus. However, in maths, english and reading tests, Muslims persistently lag behind Hindus.

This paper also establishes that parents belonging to backward social groups invest significantly less in the education of children. These caste-based gaps in parental investments are also persistent over time. Children belonging to lower castes are more likely to drop out early as compared to children from upper castes and they are also less likely to attend private school. These gaps persist even after differences in socioeconomic background are accounted for.

Consistent with the hypothesis that children develop an awareness of discrimination as they grow old which negatively affects their cognitive development, this paper finds that perception of discrimination by parents negatively affects children's performance in at a later age. Perception of social discrimination by parents demotivates investment in children's education throughout childhood. It also increases early drop-outs from schools and reduces the likelihood of attending private schools. The effect of perceived social discrimination on children's cognitive development as well as parental investment is found significant only for backward castes, suggesting that backward castes are more vulnerable.

The findings of this paper are informative for enduring debates in India about social policies favouring children belonging to disadvantaged castes in early age. The results point out that caste in which children are born as well as the perceptions about social discrimination against oneself may shape their abilities, and thus, affect their life outcomes such as cognitive development, educational attainment, etc. Policies promoting investment in the education of children belonging to backward castes and rooting out social discrimination against them are fundamental to improving human capital.

The government of India has introduced policies of affirmative action to address social inequality, such as reservations at government universities, government jobs, and legislative representation to backward castes. Literature has highlighted the success of these policies, including improved representation of marginalized communities in government jobs (Deshpande & Ramachandran, 2016) and improved diversity of social backgrounds in higher education (Bertrand et al., 2010). However, these affirmative action policies may be insufficient to respond to the gaps in human capital generated early in life. They may not raise human capital among children from backward castes but only provide them representations at higher educations and jobs by reserving seats for them and diluting the eligibility criterion.

Even though the government of India provides free education to socially and economically disadvantaged children through public schools, there is wide evidence in the literature that these

schools are poor in quality, both in terms of infrastructure and quality of education. In 2009, the Right of Children to Free and Compulsory Education Act or Right to Education Act (RTE) was enacted, which makes education a fundamental right of every child between the ages of 6 and 14. It requires all private schools to reserve 25% of seats for the poor and other categories of children. However, the act has been criticized for several reasons. In India, elementary education starts at the age of 2 and half years of age and this policy excludes children below the age of 6 years. Moreover, according to the findings of this paper, significant differences in cognitive outcomes and parental investment develop across castes by the age of 5 years and thus, this act does not address the issue of significant gaps generated before the age of 6. Similarly, the RTE act excludes children aged above 14 years. In India, secondary education covers children aged 14 to 18 and exclusion of children above 14 years would lead to significant increase in school drop-out at this age, which is also one of the findings of this paper.

The paper points towards the need for policies that alleviate the consequences of the accident of birth that is a major source of human inequality.

8. References

- Akerlof, G. A., & Kranton, R. E. (2000). Economics and Identity*. *Quarterly Journal of Economics*, *115*(3), 715–753. <https://doi.org/10.1162/003355300554881>
- Altonji, J. G., Elder, T. E., & Taber, C. R. (n.d.). Selection on Observed and Unobserved Variables: Assessing the Effectiveness of Catholic Schools. *Journal of Political Economy*, *34*.
- Arouri, M., Ben-Youssef, A., & Nguyen, C. V. (2019). Ethnic and racial disparities in children's education: Comparative evidence from Ethiopia, India, Peru and Viet Nam. *Children and Youth Services Review*, *100*, 503–514. <https://doi.org/10.1016/j.childyouth.2019.03.031>
- Attanasio, O., Cattan, S., Fitzsimons, E., Meghir, C., & Rubio-Codina, M. (n.d.). *Estimating the Production Function for Human Capital: Results from a Randomized Control Trial in Colombia*. 52.
- Attanasio, O., Meghir, C., & Nix, E. (2015). *Human Capital Development and Parental Investment in India* (Working Paper No. 21740; Working Paper Series). National Bureau of Economic Research. <https://doi.org/10.3386/w21740>

- Attanasio, O., Meghir, C., Nix, E., & Salvati, F. (2017). Human capital growth and poverty: Evidence from Ethiopia and Peru. *Review of Economic Dynamics*, 25, 234–259.
<https://doi.org/10.1016/j.red.2017.02.002>
- Banerjee, B., & Knight, J. (1985). Caste discrimination in the Indian urban labour market. *Journal of Development Economics*, 17(3), 277–307.
- Bertrand, M., Hanna, R., & Mullainathan, S. (2010). Affirmative action in education: Evidence from engineering college admissions in India. *Journal of Public Economics*, 94(1–2), 16–29.
<https://doi.org/10.1016/j.jpubeco.2009.11.003>
- Bond, T. N., & Lang, K. (2013). THE EVOLUTION OF THE BLACK-WHITE TEST SCORE GAP IN GRADES K–3: THE FRAGILITY OF RESULTS. *THE REVIEW OF ECONOMICS AND STATISTICS*, 12.
- Bond, T. N., & Lang, K. (2018). The Black-White Education-Scaled Test-Score Gap in Grades K-7. *The Journal of Human Resources*, 65.
- Borooah, V. K. (2012). Social Identity and Educational Attainment: The Role of Caste and Religion in Explaining Differences between Children in India. *Journal of Development Studies*, 48(7), 887–903.
<https://doi.org/10.1080/00220388.2011.621945>
- Briones, K. (2017). How Many Rooms Are There in Your House? Constructing the Young Lives Wealth Index. *Young Lives*, 18.
- Brown, C. S. (2015). The Educational, Psychological, and Social Impact of Discrimination on the Immigrant Child. *Migration Policy Institute*, 28.
- Brown, C. S., & Bigler, R. S. (2005). Children’s Perceptions of Discrimination: A Developmental Model. *Child Development*, 76(3), 533–553.
- Cheng, E. R., Cohen, A., & Goodman, E. (2015). The Role of Perceived Discrimination during Childhood and Adolescence in Understanding Racial and Socioeconomic Influences on Depression in Young Adulthood. *The Journal of Pediatrics*, 166(2), 370-377.e1.
<https://doi.org/10.1016/j.jpeds.2014.10.010>
- Cunha, F., & Heckman, J. (2007). *The Technology of Skill Formation*. 38.

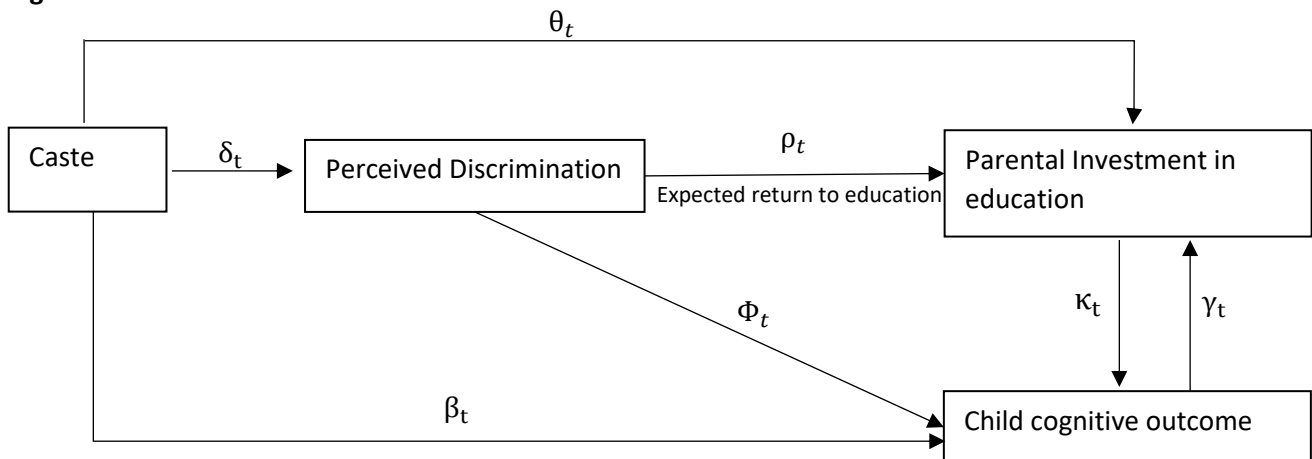
- Cunha, F., & Heckman, J. J. (2008). Formulating, Identifying and Estimating the Technology of Cognitive and Noncognitive Skill Formation. *Journal of Human Resources*, 43(4), 738–782.
<https://doi.org/10.3368/jhr.43.4.738>
- Dee, T. S. (n.d.). TEACHERS, RACE, AND STUDENT ACHIEVEMENT IN A RANDOMIZED EXPERIMENT. *THE REVIEW OF ECONOMICS AND STATISTICS*, 16.
- Deshpande, A. (2001). Caste at Birth? Redefining Disparity in India. *Review of Development Economics*, 5(1), 130–144. <https://doi.org/10.1111/1467-9361.00112>
- Deshpande, A., & Ramachandran, R. (2016). The Changing Contours of Intergroup Disparities and the Role of Preferential Policies in a Globalizing World: Evidence from India. *CDE Working Paper No. 267*, 43.
- Dommaraju, P., Agadjanian, V., & Yabiku, S. (2008). The Pervasive and Persistent Influence of Caste on Child Mortality in India. *Population Research and Policy Review*, 27(4), 477–495.
<https://doi.org/10.1007/s11113-008-9070-0>
- Firpo, S., Fortin, N. M., & Lemieux, T. (2009). Unconditional Quantile Regressions. *Econometrica*, 77(3), 953–973. JSTOR.
- Fryer, R. G., & Levitt, S. D. (2004). Understanding the Black-White Test Score Gap in the First Two Years of School. *THE REVIEW OF ECONOMICS AND STATISTICS*, 18.
- Fryer, R. G., & Levitt, S. D. (2005). *The Black-White Test Score Gap Through Third Grade* (Working Paper No. 11049). National Bureau of Economic Research. <https://doi.org/10.3386/w11049>
- Fryer, R. G., & Levitt, S. D. (2006). The Black-White Test Score Gap Through Third Grade. *American Law and Economics Review*, 8(2), 249–281. JSTOR.
- Fryer, R. G., & Levitt, S. D. (2013). Testing for Racial Differences in the Mental Ability of Young Children. *American Economic Review*, 103(2), 981–1005. <https://doi.org/10.1257/aer.103.2.981>
- Gangopadhyay, K., & Sarkar, A. (2014). *Private Investment in Education across Castes and Religion: Evidence from West Bengal*. 26.

- Imai, K., Keele, L., Tingley, D., & Yamamoto, T. (2011). Unpacking the Black Box of Causality: Learning about Causal Mechanisms from Experimental and Observational Studies. *American Political Science Review*, 105(4), 765–789. <https://doi.org/10.1017/S0003055411000414>
- Jones, L. V., Burton, N. W., & Davenport, E. C. (1984). Monitoring the Mathematics Achievement of Black Students. *Journal for Research in Mathematics Education*, 15(2), 154–164. <https://doi.org/10.2307/748891>
- Kijima, Y. (2006). Caste and Tribe Inequality: Evidence from India, 1983-1999. *Economic Development and Cultural Change*, 54(2), 369–404.
- Kulic, N., Skopek, J., Triventi, M., & Blossfeld, H.-P. (2019). Social Background and Children’s Cognitive Skills: The Role of Early Childhood Education and Care in a Cross-National Perspective. *Annual Review of Sociology*, 45(1), 557–579. <https://doi.org/10.1146/annurev-soc-073018-022401>
- Lord, F. M. (1975). The ‘ability’ scale in item characteristic curve theory. *Psychometrika*, 40(2), 205–217. <https://doi.org/10.1007/BF02291567>
- Madden, D. (2000). Towards a broader explanation of male-female wage differences. *Applied Economics Letters*, 7(12), 765–770. <https://doi.org/10.1080/135048500444769>
- Munshi, K. (2019). Caste and the Indian Economy. *Journal of Economic Literature*, 57(4), 781–834. <https://doi.org/10.1257/jel.20171307>
- Munshi, K., & Rosenzweig, M. (2006). Traditional Institutions Meet the Modern World: Caste, Gender, and Schooling Choice in a Globalizing Economy. *American Economic Review*, 96(4), 1225–1252. <https://doi.org/10.1257/aer.96.4.1225>
- Nair, A. (2009). *Disadvantaged at Birth?*
- Neal, D. (2006). Chapter 9 Why Has Black–White Skill Convergence Stopped? In *Handbook of the Economics of Education* (Vol. 1, pp. 511–576). Elsevier. [https://doi.org/10.1016/S1574-0692\(06\)01009-9](https://doi.org/10.1016/S1574-0692(06)01009-9)
- Ospino, C. G., Roldan Vasquez, P., & Barraza Narvaez, N. (2010). Oaxaca-Blinder wage decomposition: Methods, critiques and applications. A literature review. *Revista de Economía Del Caribe*, 5, 237–274.

- Oster, E. (2019). Unobservable Selection and Coefficient Stability: Theory and Evidence. *Journal of Business & Economic Statistics*, 37(2), 187–204. <https://doi.org/10.1080/07350015.2016.1227711>
- Penney, J. (2017). Test Score Measurement and the Black-White Test Score Gap. *The Review of Economics and Statistics*, 99(4), 652–656. https://doi.org/10.1162/REST_a_00651
- Rawal, S., & Kingdon, G. (2010). Akin to my teacher: Does caste, religious or gender distance between student and teacher matter? Some evidence from India. In *DoQSS Working Papers* (No. 10–18; DoQSS Working Papers). Department of Quantitative Social Science - UCL Institute of Education, University College London. <https://ideas.repec.org/p/qss/dqsswp/1018.html>
- Rubio-Codina, M., Attanasio, O., & Grantham-McGregor, S. (2016). Mediating pathways in the socio-economic gradient of child development: Evidence from children 6–42 months in Bogota. *International Journal of Behavioral Development*, 40(6), 483–491. <https://doi.org/10.1177/0165025415626515>
- Sankaran, S., Sekerdej, M., & von Hecker, U. (2017). The Role of Indian Caste Identity and Caste Inconsistent Norms on Status Representation. *Frontiers in Psychology*, 8. <https://doi.org/10.3389/fpsyg.2017.00487>
- Simons, R. L., Murry, V., Mcloyd, V., Lin, K.-H., Cutrona, C., & Conger, R. D. (2002). Discrimination, crime, ethnic identity, and parenting as correlates of depressive symptoms among African American children: A multilevel analysis. *Development and Psychopathology*, 14(2), 371–393. <https://doi.org/10.1017/S0954579402002109>
- Singh, M., & Husain, Z. (2016). *Self-fulfilling Equilibrium and Social Disparities in Urban India*. 48, 9.
- Stone, S., & Han, M. (2005). Perceived school environments, perceived discrimination, and school performance among children of Mexican immigrants. *Children and Youth Services Review*, 27(1), 51–66. <https://doi.org/10.1016/j.childyouth.2004.08.011>
- Theimer, C. E., Killen, M., & Stangor, C. (2001). Young children's evaluations of exclusion in gender-stereotypic peer contexts. *Developmental Psychology*, 37(1), 18. <https://doi.org/10.1037/0012-1649.37.1.18>

Thorat, S., & Newman, K. S. (2007). Caste and Economic Discrimination: Causes, Consequences and Remedies. *Economic and Political Weekly*, 42(41), 4121–4124. JSTOR.

Figure 1:



Notes- This figure demonstrates the plausible pathways between the variables of interest.

Table 1: Descriptive statistics of the sample at baseline (round 1)

Variable	Obs	Mean	Std. Dev.	Min	Max
gender= boy child	2011	0.537	0.499	0	1
region= urban	2011	0.253	0.434	0	1
Lower caste Hindu (SC, ST and BC)	2011	0.726	0.446	0	1
Upper caste Hindu	2011	0.143	0.349	0	1
Muslim	2011	0.074	0.262	0	1
Other religions	2011	0.057	0.231	0	1
Age in months	2011	11.822	3.492	5	21
Household size	2011	5.422	2.356	2	22
Mother's age	1995	23.681	4.331	12	48
Mother's edu	1998	2.982	4.195	0	14
Children alive	2011	1.892	0.999	1	8
Order of birth	1950	1.979	1.116	1	11

Notes- This table presents descriptive statistics of the sample at baseline.

Table 2: Descriptive statistics across rounds

	R1	R2	R3	R4	R5
Underweight	0.329	0.444	0.459	.	.
Stunting	0.307	0.357	0.289	0.292	0.278
Thinness	0.188	0.187	0.273	0.330	0.255
Height for age Z-score	-1.337	-1.644	-1.425	-1.462	-1.468
Weight for age Z-score	-1.548	-1.866	-1.869	.	.
BMI for age Z-score	-1.038	-1.176	-1.414	-1.354	-1.138
Wealth index	0.408	0.459	0.514	0.585	0.633
Housing quality index	0.494	0.541	0.582	0.679	0.693
Access to services index	0.551	0.611	0.645	0.700	0.789
Consumer durables index	0.178	0.226	0.315	0.376	0.417
Access to electricity	0.821	0.898	0.965	0.976	0.980
Access to sanitation	0.299	0.327	0.347	0.407	0.497
Access to safe drinking water	0.838	0.949	0.967	0.989	0.992
Access to adequate fuels for cooking	0.245	0.270	0.299	0.428	0.686
Hours spent in paid activity per day	.	0.001	0.009	0.060	0.484
Hours of household chore per day	.	0.056	0.334	0.859	1.190
Hours at school per day	.	5.743	7.667	7.996	7.824
Hours of study per day	.	1.041	1.833	1.916	2.113
School Enrolment	.	0.218	0.935	0.963	0.878

Notes: This table provides descriptive statistics of the sample across YL rounds.

Table 3: Summary statistics for children belonging to various social groups

Baseline	Sample	Full	Lower Hindu	Other Hindu	Muslim	Other religion
Height for age Z-score		-1.337	-1.458	-0.861	-1.133	-1.272
Wealth Index		0.408	0.364	0.538	0.586	0.405
Mother's education		2.982	2.169	6.049	5.013	3.009
Father's education		4.439	3.731	7.445	5.705	4.291
Stunting		0.307	0.343	0.168	0.216	0.327
Underweight		0.329	0.358	0.210	0.295	0.304
School enrolment at age 5		0.219	0.223	0.232	0.134	0.226

Notes: This table provides descriptive statistics of variables at the baseline, for all social groups. All the variables are from round 1, except for school enrolment which is reported for round 2.

Table 4: Perceived discrimination across castes

VARIABLES	(1)	(2)
Caste (Base- Upper Hindu)		
SC/ST/BC Hindu	0.114*** (0.0391)	0.0683* (0.0366)
Muslim	0.0468 (0.0575)	0.0161 (0.0564)
Other religion	0.191** (0.0835)	0.155* (0.0798)
Constant	0.0569** (0.0259)	0.400*** (0.0914)
Observations	1,928	1,924
R-squared	0.134	0.147
Location FE	Yes	Yes
Income and Wealth controls	No	Yes

*Notes: This Table reports the estimates from regression of discrimination on castes. * Indicates statistical significance at 10%. ** Indicates statistical significance at 5%. *** Indicates statistical significance at 1%.*

Table 5: Test score gaps across castes over time

Table 5a: Differences in PPVT percentiles across castes

VARIABLES	Standardized PPVT percentiles							
	Age 5 (Round 2)		Age 8 (Round 3)		Age 12 (Round 4)		Age 15 (Round 5)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Caste (Base- Upper Hindu)								
SC/ST/BC Hindu	-0.321*** (0.066)	-0.178*** (0.061)	-0.263*** (0.084)	-0.140* (0.081)	-0.371*** (0.066)	-0.213*** (0.063)	-0.373*** (0.079)	-0.268*** (0.079)
Muslim	-0.122 (0.131)	-0.018 (0.129)	-0.320* (0.165)	-0.244 (0.150)	-0.648*** (0.157)	-0.553*** (0.153)	-0.476*** (0.165)	-0.392** (0.174)
Other religion	-0.201* (0.116)	-0.058 (0.111)	-0.197 (0.137)	-0.050 (0.120)	-0.320** (0.123)	-0.130 (0.106)	-0.458*** (0.129)	-0.324*** (0.121)
Wealth Index in Round 1		0.999*** (0.173)		0.859*** (0.163)		1.102*** (0.164)		0.790*** (0.182)
Height by age z-score in Round 1		0.078*** (0.018)		0.049*** (0.014)		0.077*** (0.014)		0.053*** (0.019)
Gender- Female		-0.030 (0.040)		-0.230*** (0.045)		-0.119** (0.054)		-0.083 (0.050)
Birth Order=2		0.068 (0.054)		-0.001 (0.056)		-0.089 (0.054)		-0.068 (0.056)
Birth Order=3		-0.118 (0.079)		-0.131 (0.091)		-0.194** (0.090)		-0.247*** (0.088)
Birth Order=4+		-0.017 (0.114)		-0.121 (0.143)		-0.404*** (0.141)		-0.380** (0.152)
Sibling size in Round 1		-0.056* (0.029)		-0.027 (0.034)		0.012 (0.035)		0.032 (0.035)
Constant	-0.882 (0.739)	-1.358** (0.619)	0.690** (0.340)	0.484** (0.233)	0.278 (0.494)	-0.173 (0.358)	0.269 (0.619)	-0.099 (0.655)
Observations	1,851	1,832	1,901	1,879	1,903	1,881	1,890	1,867
R-squared	0.258	0.301	0.244	0.284	0.246	0.296	0.194	0.224

Notes- Standard errors are adjusted for clustering at community level. All regressions control for location fixed effects. * Indicates statistical significance at 10%. ** Indicates statistical significance at 5%. *** Indicates statistical significance at 1%.

Table 5b: Differences in Maths, English, and Reading percentiles across castes

Standardized Percentiles VARIABLES	Maths						English		Reading	
	Age 8 (Round 3)		Age 12 (Round 4)		Age 15 (Round 5)		Age 12 (Round 4)		Age 15 (Round 5)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Caste (Base- Upper Hindu)										
SC/ST/BC Hindu	-0.359*** (0.057)	-0.197*** (0.054)	-0.446*** (0.068)	-0.264*** (0.072)	-0.496*** (0.090)	-0.355*** (0.091)	-0.480*** (0.080)	-0.273*** (0.076)	-0.367*** (0.075)	-0.245*** (0.075)
Muslim	-0.547*** (0.107)	-0.442*** (0.100)	-0.600*** (0.130)	-0.474*** (0.129)	-0.514*** (0.113)	-0.423*** (0.103)	-0.523*** (0.126)	-0.393*** (0.117)	-0.453*** (0.099)	-0.379*** (0.102)
Other religion	-0.359*** (0.133)	-0.184* (0.106)	-0.383*** (0.121)	-0.195** (0.093)	-0.440*** (0.125)	-0.278** (0.117)	-0.451*** (0.117)	-0.244** (0.102)	-0.380*** (0.110)	-0.242** (0.103)
Wealth Index in Round 1		1.268*** (0.175)		1.545*** (0.193)		1.312*** (0.166)		1.827*** (0.158)		0.962*** (0.183)
Height by age z-score in Round 1		0.077*** (0.017)		0.057*** (0.015)		0.031** (0.015)		0.070*** (0.014)		0.064*** (0.018)
Gender- Female		-0.071* (0.039)		-0.045 (0.046)		-0.178*** (0.045)		-0.080* (0.048)		0.043 (0.042)
Birth Order=2		0.007 (0.052)		-0.054 (0.071)		-0.076 (0.059)		-0.175*** (0.063)		-0.083 (0.059)
Birth Order=3		-0.155* (0.082)		-0.315*** (0.108)		-0.250** (0.100)		-0.327*** (0.093)		-0.221** (0.096)
Birth Order=4+		-0.148 (0.146)		-0.244 (0.153)		-0.186 (0.145)		-0.554*** (0.121)		-0.222 (0.159)
Sibling size in Round 1		-0.008 (0.035)		-0.003 (0.043)		0.001 (0.039)		0.052 (0.033)		0.021 (0.040)
Constant	0.120 (0.357)	-0.513 (0.406)	0.221 (0.246)	-0.551* (0.331)	0.317*** (0.103)	-0.179 (0.200)	-0.332 (0.518)	-1.166*** (0.362)	0.396 (0.418)	-0.176 (0.407)
Observations	1,904	1,883	1,858	1,838	1,840	1,818	1,862	1,842	1,831	1,810
R-squared	0.295	0.347	0.228	0.294	0.211	0.261	0.250	0.341	0.185	0.217

Notes- Standard errors are adjusted for clustering at community level. All regressions control for location fixed effects. * Indicates statistical significance at 10%. ** Indicates statistical significance at 5%. *** Indicates statistical significance at 1%.

Table 6a: Effect of discrimination on PPVT percentiles

VARIABLES	Standardized PPVT scores							
	Age 5 (Round 2)		Age 8 (Round 3)		Age 12 (Round 4)		Age 15 (Round 5)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Caste (Base- Upper Hindu)								
SC/ST/BC Hindu	-0.308***	-0.170***	-0.250***	-0.132	-0.368***	-0.221***	-0.370***	-0.271***
	(0.067)	(0.062)	(0.086)	(0.083)	(0.064)	(0.061)	(0.078)	(0.079)
Muslim	-0.110	-0.012	-0.302*	-0.229	-0.644***	-0.558***	-0.470***	-0.394**
	(0.125)	(0.122)	(0.164)	(0.148)	(0.153)	(0.150)	(0.168)	(0.175)
Other religion	-0.190	-0.053	-0.170	-0.037	-0.305**	-0.131	-0.454***	-0.332***
	(0.115)	(0.110)	(0.143)	(0.123)	(0.122)	(0.107)	(0.130)	(0.122)
Perceived social discrimination	0.002	0.029	-0.070	-0.045	-0.194***	-0.178***	-0.117*	-0.098
	(0.055)	(0.055)	(0.045)	(0.043)	(0.062)	(0.059)	(0.061)	(0.061)
Wealth Index in Round 1		1.007***		0.854***		1.035***		0.746***
		(0.176)		(0.162)		(0.173)		(0.185)
Height by age z-score in Round 1		0.079***		0.047***		0.078***		0.053***
		(0.018)		(0.014)		(0.014)		(0.019)
Gender- Female		-0.022		-0.227***		-0.125**		-0.080
		(0.041)		(0.046)		(0.052)		(0.049)
Birth Order=2		0.072		-0.012		-0.112**		-0.085
		(0.054)		(0.054)		(0.054)		(0.055)
Birth Order=3		-0.100		-0.140		-0.218**		-0.256***
		(0.081)		(0.088)		(0.087)		(0.087)
Birth Order=4+		-0.004		-0.129		-0.420***		-0.395**
		(0.113)		(0.142)		(0.139)		(0.153)
Sibling size in Round 1		-0.056*		-0.028		0.013		0.035
		(0.030)		(0.034)		(0.034)		(0.034)
Constant	-0.895	-1.388**	0.695**	0.495**	0.332	-0.066	0.301	-0.043
	(0.738)	(0.615)	(0.339)	(0.235)	(0.510)	(0.379)	(0.651)	(0.682)
Observations	1,833	1,815	1,879	1,859	1,881	1,861	1,868	1,848
R-squared	0.261	0.303	0.247	0.286	0.254	0.303	0.196	0.225

Notes- Standard errors are adjusted for clustering at community level. All regressions control for location fixed effects. * Indicates statistical significance at 10%. ** Indicates statistical significance at 5%. *** Indicates statistical significance at 1%.

Table 6b: Effect of discrimination on Maths, English, and Reading percentiles

Standardized Percentiles VARIABLES	Maths		English		Reading					
	Age 8 (Round 3)		Age 12 (Round 4)		Age 15 (Round 5)					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Caste (Base- Upper Hindu)										
SC/ST/BC Hindu	-0.342*** (0.058)	-0.191*** (0.055)	-0.425*** (0.070)	-0.253*** (0.074)	-0.482*** (0.091)	-0.351*** (0.092)	-0.449*** (0.078)	-0.251*** (0.076)	-0.342*** (0.075)	-0.230*** (0.075)
Muslim	-0.524*** (0.107)	-0.428*** (0.100)	-0.581*** (0.128)	-0.462*** (0.127)	-0.507*** (0.111)	-0.423*** (0.104)	-0.492*** (0.123)	-0.371*** (0.116)	-0.435*** (0.098)	-0.370*** (0.101)
Other religion	-0.323** (0.135)	-0.169 (0.107)	-0.361*** (0.121)	-0.177* (0.095)	-0.427*** (0.130)	-0.272** (0.121)	-0.404*** (0.120)	-0.200* (0.107)	-0.337*** (0.108)	-0.213** (0.099)
Perceived social discrimination	-0.148*** (0.047)	-0.112** (0.047)	-0.134** (0.063)	-0.091 (0.058)	-0.169*** (0.055)	-0.145*** (0.052)	-0.200*** (0.059)	-0.153*** (0.054)	-0.089 (0.064)	-0.069 (0.063)
Wealth Index in Round 1		1.226*** (0.180)		1.513*** (0.199)		1.244*** (0.167)		1.804*** (0.163)		0.947*** (0.188)
Height by age z-score in Round 1		0.078*** (0.018)		0.058*** (0.015)		0.030** (0.015)		0.072*** (0.013)		0.063*** (0.018)
Gender- Female		-0.065 (0.039)		-0.047 (0.047)		-0.181*** (0.044)		-0.086* (0.047)		0.044 (0.042)
Birth Order=2		-0.003 (0.051)		-0.071 (0.070)		-0.079 (0.059)		-0.192*** (0.062)		-0.093 (0.060)
Birth Order=3		-0.163* (0.083)		-0.330*** (0.107)		-0.256** (0.099)		-0.347*** (0.091)		-0.230** (0.097)
Birth Order=4+		-0.155 (0.144)		-0.260* (0.149)		-0.172 (0.145)		-0.576*** (0.122)		-0.237 (0.162)
Sibling size in Round 1		-0.006 (0.035)		-0.001 (0.041)		-0.002 (0.039)		0.053 (0.032)		0.023 (0.040)
Constant	0.130 (0.324)	-0.483 (0.388)	0.229 (0.280)	-0.521 (0.344)	0.337*** (0.126)	-0.116 (0.200)	-0.303 (0.496)	-1.119*** (0.343)	0.386 (0.435)	-0.171 (0.421)
Observations	1,882	1,863	1,837	1,818	1,819	1,800	1,842	1,823	1,810	1,792
R-squared	0.297	0.346	0.229	0.293	0.216	0.264	0.256	0.348	0.181	0.213

Notes- Standard errors are adjusted for clustering at community level. All regressions control for location fixed effects. * Indicates statistical significance at 10%. ** Indicates statistical significance at 5%. *** Indicates statistical significance at 1%.

Table 7: Differential effect of discrimination on test scores across castes and over time

VARIABLES	Standardized Test Scores								
	PPVT				Maths			English	Reading
	Age 5	Age 8	Age 12	Age 15	Age 8	Age 12	Age 15	Age 12	Age 15
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Base- Upper Hindus × No Discr									
Lower Hindu × No Discr	-0.181*** (0.069)	-0.094 (0.091)	-0.175** (0.072)	-0.302*** (0.076)	-0.093 (0.062)	-0.209*** (0.079)	-0.335*** (0.097)	-0.217*** (0.076)	-0.230*** (0.081)
Muslim × No Discr	-0.080 (0.128)	-0.230 (0.156)	-0.484*** (0.180)	-0.396* (0.201)	-0.376*** (0.128)	-0.431*** (0.137)	-0.381*** (0.111)	-0.347*** (0.120)	-0.348*** (0.124)
Other religion × No Discr	-0.048 (0.125)	-0.017 (0.140)	-0.115 (0.140)	-0.376** (0.151)	-0.069 (0.117)	-0.183 (0.119)	-0.301*** (0.114)	-0.186 (0.134)	-0.202* (0.106)
Upper Hindu × Discr	-0.034 (0.161)	0.076 (0.151)	-0.006 (0.139)	-0.207 (0.170)	0.231* (0.139)	0.058 (0.149)	-0.088 (0.187)	-0.033 (0.167)	-0.060 (0.153)
Lower Hindu × Discr	-0.159* (0.086)	-0.168* (0.093)	-0.371*** (0.098)	-0.382*** (0.085)	-0.259*** (0.072)	-0.332*** (0.091)	-0.489*** (0.100)	-0.391*** (0.094)	-0.291*** (0.106)
Muslim × Discr	0.155 (0.153)	-0.177 (0.239)	-0.796*** (0.186)	-0.568** (0.224)	-0.407*** (0.135)	-0.516*** (0.163)	-0.630*** (0.170)	-0.494*** (0.187)	-0.493*** (0.172)
Other religion × Discr	-0.073 (0.183)	-0.039 (0.157)	-0.224 (0.157)	-0.421*** (0.145)	-0.230 (0.192)	-0.147 (0.174)	-0.320 (0.206)	-0.294* (0.157)	-0.299 (0.182)
Constant	-1.362** (0.626)	0.451* (0.240)	-0.131 (0.385)	-0.027 (0.683)	-0.574 (0.383)	-0.606* (0.318)	-0.169 (0.211)	-1.167*** (0.352)	-0.161 (0.444)
Observations	1,815	1,859	1,861	1,848	1,863	1,818	1,800	1,823	1,792
R-squared	0.304	0.286	0.304	0.225	0.350	0.293	0.264	0.348	0.213
SES controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes- Standard errors are adjusted for clustering at community level. All regressions control for location fixed effects and SES. * Indicates statistical significance at 10%. ** Indicates statistical significance at 5%. *** Indicates statistical significance at 1%.

Table 8: Parental investment gaps across castes

Table 8a: Gaps in expenditure on education related commodities

VARIABLES	Expenditure on Education							
	Age 5 (Round 2)		Age 8 (Round 3)		Age 12 (Round 4)		Age 15 (Round 5)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Caste (Base- Upper Hindu)								
SC/ST/BC Hindu	-0.523*** (0.099)	-0.347*** (0.103)	-0.611*** (0.111)	-0.446*** (0.101)	-0.422*** (0.115)	-0.302*** (0.111)	-0.389*** (0.086)	-0.297*** (0.086)
Muslim	-0.642*** (0.093)	-0.542*** (0.090)	-0.692*** (0.135)	-0.594*** (0.125)	-0.446*** (0.128)	-0.391*** (0.119)	-0.512*** (0.083)	-0.482*** (0.079)
Other religion	-0.452*** (0.163)	-0.262* (0.155)	-0.680*** (0.121)	-0.511*** (0.101)	-0.358* (0.207)	-0.229 (0.208)	-0.384*** (0.106)	-0.281** (0.113)
Wealth Index in Round 1		1.593*** (0.206)		1.716*** (0.191)		1.425*** (0.195)		1.421*** (0.225)
Height by age z-score in Round 1		0.050** (0.019)		0.022* (0.013)		0.008 (0.012)		0.005 (0.013)
Gender- Female		-0.030 (0.054)		-0.090* (0.047)		-0.078 (0.048)		-0.065 (0.052)
Birth Order=2		0.115* (0.064)		-0.126** (0.063)		0.086 (0.070)		0.230*** (0.056)
Birth Order=3		-0.155* (0.086)		-0.216*** (0.080)		0.073 (0.068)		0.097 (0.061)
Birth Order=4+		-0.332*** (0.099)		-0.415*** (0.151)		-0.021 (0.085)		-0.049 (0.071)
Sibling size in Round 1		0.066*** (0.020)		0.034 (0.037)		-0.032* (0.019)		0.017 (0.016)
Constant	1.050 (0.650)	-0.008 (0.363)	0.455 (0.363)	-0.284 (0.306)	0.200 (0.189)	-0.435** (0.207)	0.199 (0.165)	-0.766*** (0.176)
Observations	1,484	1,463	1,893	1,870	1,788	1,767	1,763	1,742
R-squared	0.279	0.343	0.198	0.263	0.224	0.264	0.175	0.223

Notes- Standard errors are adjusted for clustering at community level. All regressions control for location fixed effects. * Indicates statistical significance at 10%. ** Indicates statistical significance at 5%. *** Indicates statistical significance at 1%.

Table 8b: Gaps in school fees paid and school enrolment across castes

VARIABLES	School Fees				Enrolment at school							
	Age 8 (Round 3)		Age 12 (Round 4)		Age 5 (Round 2)		Age 8 (Round 3)		Age 12 (Round 4)		Age 15 (Round 5)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)		
Caste (Base- Upper Hindu)												
SC/ST/BC Hindu	-0.532*** (0.109)	-0.375*** (0.108)	-0.507*** (0.093)	-0.395*** (0.091)	0.007 (0.034)	0.009 (0.036)	-0.006 (0.017)	-0.009 (0.017)	-0.028** (0.013)	-0.019 (0.013)	-0.093*** (0.023)	-0.065** (0.025)
Muslim	-0.600*** (0.120)	-0.499*** (0.116)	-0.381*** (0.132)	-0.336** (0.133)	-0.013 (0.054)	-0.016 (0.053)	-0.016 (0.025)	-0.024 (0.028)	-0.006 (0.017)	0.003 (0.017)	-0.119*** (0.040)	-0.099*** (0.038)
Other religion	-0.661*** (0.113)	-0.493*** (0.108)	-0.523*** (0.093)	-0.396*** (0.097)	-0.028 (0.054)	-0.029 (0.057)	0.031 (0.022)	0.024 (0.022)	-0.015 (0.016)	-0.005 (0.017)	-0.038 (0.033)	-0.003 (0.033)
Wealth Index in Round 1		1.519*** (0.224)		1.303*** (0.182)		-0.098 (0.064)		0.011 (0.040)		0.072** (0.035)		0.228*** (0.053)
Height by age z-score		0.022* (0.012)		0.030** (0.011)		0.017** (0.008)		0.007* (0.004)		0.001 (0.003)		0.001 (0.005)
Gender- Female		-0.173*** (0.039)		-0.143*** (0.038)		0.030 (0.019)		0.034** (0.014)		-0.004 (0.009)		-0.038** (0.018)
Birth Order=2		-0.057 (0.054)		-0.019 (0.060)		0.039 (0.027)		0.021 (0.017)		0.000 (0.013)		0.006 (0.023)
Birth Order=3		-0.123* (0.067)		0.015 (0.077)		-0.020 (0.042)		0.024 (0.021)		-0.013 (0.021)		-0.017 (0.043)
Birth Order=4+		-0.188* (0.113)		-0.131 (0.103)		-0.031 (0.052)		-0.016 (0.034)		-0.030 (0.026)		-0.050 (0.068)
Sibling size in Round 1		-0.015 (0.026)		0.002 (0.026)		-0.000 (0.016)		0.002 (0.009)		-0.002 (0.007)		-0.011 (0.019)
Constant	0.132 (0.110)	-0.419* (0.235)	0.412** (0.161)	-0.248* (0.143)	-0.13*** (0.051)	-0.16** (0.061)	0.91*** (0.023)	0.86*** (0.028)	0.976*** (0.030)	0.947*** (0.040)	0.711*** (0.193)	0.636*** (0.175)
Observations	1,839	1,818	1,657	1,638	1,931	1,908	1,931	1,908	1,920	1,896	1,900	1,876
R-squared	0.222	0.275	0.251	0.290	0.119	0.129	0.097	0.107	0.090	0.095	0.125	0.145

Notes- Standard errors are adjusted for clustering at community level. All regressions control for location fixed effects. * Indicates statistical significance at 10%. ** Indicates statistical significance at 5%. *** Indicates statistical significance at 1%.

Table 8c: Gaps in enrolment in private school across castes

VARIABLES	Type of School (Private School)							
	Age 5 (Round 2)		Age 8 (Round 3)		Age 12 (Round 4)		Age 15 (Round 5)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Caste (Base- Upper Hindu)								
SC/ST/BC Hindu	-0.277*** (0.089)	-0.222** (0.088)	-0.277*** (0.049)	-0.182*** (0.045)	-0.279*** (0.042)	-0.202*** (0.039)	-0.267*** (0.042)	-0.194*** (0.039)
Muslim	-0.332** (0.157)	-0.321** (0.161)	-0.250*** (0.059)	-0.185*** (0.057)	-0.299*** (0.049)	-0.244*** (0.044)	-0.188** (0.077)	-0.155** (0.077)
Other religion	-0.388*** (0.092)	-0.326*** (0.087)	-0.288*** (0.078)	-0.187*** (0.063)	-0.326*** (0.062)	-0.239*** (0.047)	-0.270*** (0.057)	-0.188*** (0.052)
Wealth Index in Round 1		0.471*** (0.168)		0.853*** (0.084)		0.786*** (0.097)		0.696*** (0.081)
Height by age z-score in Round 1		0.013 (0.014)		0.014** (0.006)		-0.005 (0.007)		0.013* (0.007)
Gender- Female		0.009 (0.043)		-0.113*** (0.021)		-0.121*** (0.021)		-0.090*** (0.022)
Birth Order=2		-0.043 (0.050)		-0.067** (0.029)		-0.035 (0.027)		0.008 (0.030)
Birth Order=3		-0.010 (0.079)		-0.099** (0.047)		-0.053 (0.044)		-0.032 (0.050)
Birth Order=4+		0.007 (0.130)		-0.202*** (0.063)		-0.124** (0.060)		-0.081 (0.065)
Sibling size in Round 1		-0.012 (0.022)		-0.008 (0.015)		-0.005 (0.013)		-0.018 (0.015)
Constant	1.277*** (0.089)	1.104*** (0.121)	1.634*** (0.180)	1.396*** (0.151)	1.591*** (0.185)	1.338*** (0.150)	1.818*** (0.307)	1.472*** (0.267)
Observations	422	416	1,806	1,784	1,839	1,818	1,658	1,639
R-squared	0.545	0.575	0.355	0.443	0.284	0.354	0.249	0.304

Notes- Standard errors are adjusted for clustering at community level. All regressions control for location fixed effects. * Indicates statistical significance at 10%. ** Indicates statistical significance at 5%. *** Indicates statistical significance at 1%.

Table 9: Effect of discrimination on parental investment

Table 9a: Expenditure on education related commodities in 12 months preceding the survey

VARIABLES	Expenditure on Education							
	Age 5 (Round 2)		Age 8 (Round 3)		Age 12 (Round 4)		Age 15 (Round 5)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Caste (Base- Upper Hindu)								
SC/ST/BC Hindu	-0.514*** (0.100)	-0.350*** (0.105)	-0.614*** (0.112)	-0.450*** (0.102)	-0.410*** (0.115)	-0.294*** (0.111)	-0.326*** (0.080)	-0.241*** (0.080)
Muslim	-0.639*** (0.095)	-0.550*** (0.093)	-0.700*** (0.140)	-0.599*** (0.129)	-0.441*** (0.129)	-0.388*** (0.120)	-0.436*** (0.106)	-0.413*** (0.103)
Other religion	-0.444*** (0.164)	-0.263* (0.157)	-0.674*** (0.123)	-0.502*** (0.103)	-0.326 (0.211)	-0.202 (0.211)	-0.316*** (0.107)	-0.220* (0.114)
Perceived social discrimination	-0.201*** (0.054)	-0.161*** (0.053)	-0.100* (0.054)	-0.052 (0.052)	-0.277*** (0.054)	-0.233*** (0.051)	-0.135*** (0.042)	-0.092** (0.038)
Wealth Index in Round 1		1.558*** (0.204)		1.704*** (0.189)		1.359*** (0.185)		1.358*** (0.210)
Height by age z-score in Round 1		0.049** (0.019)		0.027** (0.012)		0.010 (0.013)		0.009 (0.014)
Gender- Female		-0.037 (0.055)		-0.090* (0.047)		-0.077 (0.048)		-0.087* (0.049)
Birth Order=2		0.108* (0.064)		-0.136** (0.062)		0.079 (0.068)		0.254*** (0.055)
Birth Order=3		-0.166* (0.088)		-0.227*** (0.080)		0.071 (0.068)		0.119* (0.068)
Birth Order=4+		-0.336*** (0.097)		-0.454*** (0.150)		-0.023 (0.085)		-0.032 (0.071)
Sibling size in Round 1		0.064*** (0.019)		0.037 (0.037)		-0.033* (0.019)		0.015 (0.016)
Constant	1.053 (0.643)	0.038 (0.362)	0.484 (0.352)	-0.259 (0.297)	0.232 (0.164)	-0.371** (0.175)	0.179 (0.126)	-0.753*** (0.185)
Observations	1,467	1,447	1,872	1,851	1,770	1,751	1,744	1,725
R-squared	0.290	0.351	0.202	0.267	0.227	0.263	0.165	0.222

Notes- Standard errors are adjusted for clustering at community level. All regressions control for location fixed effects. * Indicates statistical significance at 10%. ** Indicates statistical significance at 5%. *** Indicates statistical significance at 1%.

Table 9b: Effect of discrimination on school fees and enrolment at school

VARIABLES	School Fees				Enrolment at school							
	Age 12 (Round 4)		Age 15 (Round 5)		Age 5 (Round 2)		Age 85 (Round 3)		Age 12 (Round 4)		Age 15 (Round 5)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)		
Caste (Base- Upper Hindu)												
SC/ST/BC Hindu	-0.486***	-0.337***	-0.424***	-0.319***	0.011	0.015	-0.003	-0.006	-0.026**	-0.018	-0.088***	-0.061**
	(0.109)	(0.107)	(0.094)	(0.092)	(0.035)	(0.036)	(0.017)	(0.017)	(0.013)	(0.014)	(0.023)	(0.025)
Muslim	-0.561***	-0.462***	-0.283	-0.243	-0.007	-0.009	-0.015	-0.023	-0.004	0.004	-0.114***	-0.095**
	(0.115)	(0.111)	(0.220)	(0.218)	(0.057)	(0.056)	(0.025)	(0.028)	(0.018)	(0.018)	(0.039)	(0.037)
Other religion	-0.613***	-0.449***	-0.438***	-0.318***	-0.015	-0.018	0.031	0.026	-0.013	-0.003	-0.023	0.004
	(0.114)	(0.110)	(0.103)	(0.107)	(0.055)	(0.057)	(0.023)	(0.022)	(0.016)	(0.017)	(0.033)	(0.034)
Perceived social discr	-0.151***	-0.105**	-0.127**	-0.092*	-0.033	-0.033	0.012	0.014	-0.019	-0.016	-0.052**	-0.045**
	(0.047)	(0.045)	(0.048)	(0.047)	(0.024)	(0.024)	(0.013)	(0.014)	(0.013)	(0.014)	(0.020)	(0.020)
Wealth Index in Round 1		1.450***		1.218***		-0.091		0.026		0.064*		0.215***
		(0.215)		(0.155)		(0.062)		(0.043)		(0.036)		(0.052)
Height by age z-score		0.026**		0.035**		0.017**		0.006		0.001		0.000
		(0.011)		(0.016)		(0.008)		(0.004)		(0.003)		(0.005)
Gender- Female		-0.177***		-0.169***		0.028		0.032**		-0.004		-0.039**
		(0.039)		(0.041)		(0.019)		(0.014)		(0.009)		(0.018)
Birth Order=2		-0.047		0.012		0.032		0.023		-0.001		-0.000
		(0.052)		(0.047)		(0.027)		(0.017)		(0.013)		(0.023)
Birth Order=3		-0.105		0.038		-0.029		0.026		-0.015		-0.027
		(0.065)		(0.091)		(0.042)		(0.021)		(0.021)		(0.043)
Birth Order=4+		-0.186		-0.107		-0.038		-0.009		-0.032		-0.063
		(0.113)		(0.100)		(0.051)		(0.036)		(0.027)		(0.068)
Sibling size in Round 1		-0.017		-0.003		0.001		0.001		-0.002		-0.009
		(0.026)		(0.025)		(0.016)		(0.009)		(0.007)		(0.019)
Constant	0.117	-0.408*	0.373***	-0.236	-0.13***	-0.15**	0.90***	0.848***	0.979***	0.955***	0.718***	0.652***
	(0.117)	(0.233)	(0.129)	(0.142)	(0.047)	(0.063)	(0.024)	(0.028)	(0.029)	(0.040)	(0.201)	(0.182)
Observations	1,818	1,799	1,639	1,622	1,909	1,888	1,909	1,888	1,897	1,876	1,878	1,857
R-squared	0.217	0.269	0.238	0.288	0.121	0.130	0.097	0.106	0.093	0.098	0.127	0.147

Notes- Standard errors are adjusted for clustering at community level. All regressions control for location fixed effects. * Indicates statistical significance at 10%. ** Indicates statistical significance at 5%. *** Indicates statistical significance at 1%.

Table 9c: Effect of discrimination on the type of school attended

VARIABLES	Type of School (Private School)							
	Age 5 (Round 2)		Age 8 (Round 3)		Age 12 (Round 4)		Age 15 (Round 5)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Caste (Base- Upper Hindu)								
SC/ST/BC Hindu	-0.301*** (0.090)	-0.247*** (0.090)	-0.263*** (0.049)	-0.173*** (0.044)	-0.270*** (0.043)	-0.196*** (0.040)	-0.255*** (0.042)	-0.187*** (0.040)
Muslim	-0.301* (0.164)	-0.282* (0.169)	-0.238*** (0.058)	-0.178*** (0.057)	-0.295*** (0.049)	-0.243*** (0.045)	-0.185** (0.075)	-0.157** (0.075)
Other religion	-0.404*** (0.091)	-0.343*** (0.088)	-0.262*** (0.080)	-0.164** (0.065)	-0.309*** (0.065)	-0.224*** (0.052)	-0.249*** (0.057)	-0.171*** (0.054)
Perceived social discrimination	-0.147*** (0.054)	-0.150*** (0.055)	-0.096*** (0.025)	-0.068*** (0.023)	-0.075*** (0.026)	-0.048* (0.026)	-0.088*** (0.027)	-0.072*** (0.027)
Wealth Index in Round 1		0.450*** (0.168)		0.846*** (0.086)		0.776*** (0.097)		0.674*** (0.081)
Height by age z-score in Round 1		0.013 (0.015)		0.015** (0.006)		-0.002 (0.007)		0.013* (0.008)
Gender		0.016 (0.044)		-0.115*** (0.021)		-0.120*** (0.021)		-0.088*** (0.022)
Birth Order=2		-0.035 (0.052)		-0.069** (0.028)		-0.036 (0.026)		0.006 (0.030)
Birth Order=3		-0.019 (0.077)		-0.102** (0.046)		-0.054 (0.045)		-0.028 (0.052)
Birth Order=4+		-0.023 (0.123)		-0.196*** (0.062)		-0.133** (0.060)		-0.073 (0.068)
Sibling size in Round 1		-0.007 (0.022)		-0.010 (0.014)		-0.004 (0.013)		-0.020 (0.016)
Constant	1.301*** (0.090)	1.106*** (0.141)	1.645*** (0.167)	1.413*** (0.138)	1.597*** (0.176)	1.344*** (0.139)	1.836*** (0.280)	1.503*** (0.247)
Observations	417	411	1,787	1,767	1,818	1,799	1,640	1,623
R-squared	0.575	0.602	0.361	0.448	0.288	0.357	0.258	0.310

Notes- Standard errors are adjusted for clustering at community level. All regressions control for location fixed effects. * Indicates statistical significance at 10%. ** Indicates statistical significance at 5%. *** Indicates statistical significance at 1%.

Table 10: Differential effect of discrimination on parental investment across castes

Table 10a: Differential effect of discrimination on Expenditure on education and school fees across castes

VARIABLES	Expenditure on education				School Fees	
	Age 5	Age 8	Age 12	Age 15	Age 12	Age 15
	(1)	(2)	(3)	(4)	(5)	(6)
Base- Upper Hindus × No Discr						
Lower Hindu × No Discr	-0.365** (0.148)	-0.400*** (0.101)	-0.333** (0.132)	-0.253** (0.098)	-0.343*** (0.116)	-0.320*** (0.108)
Muslim × No Discr	-0.586*** (0.129)	-0.598*** (0.147)	-0.417*** (0.142)	-0.457*** (0.115)	-0.406*** (0.122)	-0.242 (0.262)
Other religion × No Discr	-0.225 (0.219)	-0.447*** (0.118)	-0.227 (0.280)	-0.166 (0.149)	-0.464*** (0.124)	-0.316** (0.127)
Upper Hindu × Discr	-0.209 (0.245)	0.118 (0.281)	-0.372*** (0.134)	-0.135 (0.110)	-0.111 (0.147)	-0.094 (0.179)
Lower Hindu × Discr	-0.515*** (0.146)	-0.485*** (0.123)	-0.544*** (0.126)	-0.336*** (0.091)	-0.431*** (0.125)	-0.410*** (0.111)
Muslim × Discr	-0.656*** (0.205)	-0.524*** (0.148)	-0.653*** (0.143)	-0.418*** (0.146)	-0.727*** (0.132)	-0.340** (0.162)
Other religion × Discr	-0.567*** (0.148)	-0.540*** (0.136)	-0.485*** (0.177)	-0.444*** (0.115)	-0.528*** (0.147)	-0.416*** (0.141)
Constant	0.068 (0.382)	-0.299 (0.268)	-0.321* (0.179)	-0.666*** (0.230)	-0.411* (0.234)	-0.232 (0.171)
Observations	1,447	1,851	1,751	1,725	1,799	1,622
R-squared	0.352	0.268	0.263	0.223	0.269	0.288
SES controls	Yes	Yes	Yes	Yes	Yes	Yes

*Notes- Standard errors are adjusted for clustering at community level. All regressions control for location fixed effects and SES. * Indicates statistical significance at 10%. ** Indicates statistical significance at 5%. *** Indicates statistical significance at 1%.*

Table 10b: Differential effect of discrimination on enrolment at school and type of school attended across castes

VARIABLES	Enrolment at school				Private School			
	Age 5	Age 8	Age 12	Age 15	Age 5	Age 8	Age 12	Age 15
	(1)	(2)	(3)	(4)	(7)	(8)	(9)	(10)
Base- Upper Hindus × No Discr								
Lower Hindu × No Discr	0.031 (0.038)	-0.002 (0.020)	-0.005 (0.015)	-0.045* (0.026)	-0.278*** (0.101)	-0.175*** (0.041)	-0.229*** (0.042)	-0.201*** (0.045)
Muslim × No Discr	-0.055 (0.043)	-0.044 (0.034)	0.011 (0.014)	-0.061 (0.038)	-0.277 (0.235)	-0.184*** (0.053)	-0.230*** (0.043)	-0.172** (0.081)
Other religion × No Discr	0.012 (0.065)	0.017 (0.029)	0.002 (0.021)	-0.007 (0.045)	-0.355*** (0.105)	-0.154** (0.074)	-0.247*** (0.062)	-0.150** (0.063)
Upper Hindu × Discr	0.009 (0.055)	0.016 (0.025)	0.031* (0.016)	0.018 (0.030)	-0.257* (0.141)	-0.073 (0.075)	-0.151** (0.071)	-0.118* (0.068)
Lower Hindu × Discr	-0.022 (0.042)	0.002 (0.021)	-0.029 (0.020)	-0.098*** (0.032)	-0.393*** (0.119)	-0.241*** (0.046)	-0.250*** (0.045)	-0.261*** (0.047)
Muslim × Discr	0.111 (0.119)	0.047* (0.024)	0.007 (0.039)	-0.181** (0.072)	-0.480*** (0.160)	-0.235** (0.102)	-0.411*** (0.106)	-0.222** (0.103)
Other religion × Discr	-0.079 (0.073)	0.058** (0.023)	0.002 (0.029)	0.020 (0.042)	-0.546*** (0.101)	-0.252*** (0.086)	-0.300*** (0.068)	-0.313*** (0.068)
Constant	-0.154** (0.071)	0.837*** (0.030)	0.936*** (0.040)	0.615*** (0.177)	1.140*** (0.148)	1.423*** (0.124)	1.381*** (0.140)	1.553*** (0.228)
Observations	1,888	1,888	1,876	1,857	411	1,767	1,799	1,623
R-squared	0.134	0.108	0.100	0.150	0.605	0.448	0.359	0.311
SES controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes- Standard errors are adjusted for clustering at community level. All regressions control for location fixed effects and SES. * Indicates statistical significance at 10%. ** Indicates statistical significance at 5%. *** Indicates statistical significance at 1%.

Table 11: Test score percentile ranking gaps across SCs, STs and OBCs

VARIABLES	PPVT				Maths			English	Reading
	Age 5	Age 8	Age 12	Age 15	Age 8	Age 12	Age 15	Age 12	Age 15
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A: Test score percentile gaps within lower Hindu castes									
Lower Caste (Base- OBC)									
SC Hindu	-0.053 (0.075)	-0.025 (0.076)	0.084 (0.091)	-0.051 (0.082)	-0.048 (0.083)	-0.051 (0.092)	-0.130 (0.083)	-0.044 (0.085)	-0.091 (0.084)
ST Hindu	-0.099 (0.144)	-0.059 (0.115)	-0.078 (0.104)	0.020 (0.115)	-0.137 (0.093)	-0.098 (0.121)	-0.090 (0.121)	-0.047 (0.119)	-0.161 (0.114)
Constant	-1.813** (0.848)	0.219 (0.302)	-0.586 (0.531)	-1.123*** (0.136)	-0.422 (0.402)	-1.219*** (0.251)	-0.705*** (0.193)	-1.281*** (0.454)	-0.962*** (0.231)
Observations	1,348	1,382	1,385	1,373	1,384	1,345	1,331	1,348	1,323
R-squared	0.276	0.290	0.300	0.209	0.356	0.305	0.258	0.344	0.201
SES controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Panel B: Effect of perceived discrimination on test score percentiles within lower Hindu castes									
Lower Caste (Base- OBC)									
SC Hindu	-0.045 (0.076)	-0.035 (0.078)	0.096 (0.088)	-0.047 (0.080)	-0.042 (0.082)	-0.052 (0.091)	-0.120 (0.080)	-0.056 (0.086)	-0.094 (0.084)
ST Hindu	-0.111 (0.144)	-0.054 (0.117)	-0.047 (0.101)	0.034 (0.118)	-0.133 (0.091)	-0.080 (0.123)	-0.061 (0.117)	-0.049 (0.125)	-0.149 (0.117)
Perceived social discrimination	0.020 (0.063)	-0.081 (0.052)	-0.206*** (0.064)	-0.082 (0.065)	-0.162*** (0.052)	-0.108* (0.058)	-0.144*** (0.054)	-0.154** (0.065)	-0.056 (0.072)
Constant	-1.834** (0.845)	0.231 (0.307)	-0.538 (0.540)	-1.100*** (0.140)	-0.424 (0.397)	-1.196*** (0.247)	-0.690*** (0.183)	-1.248*** (0.454)	-0.955*** (0.235)
Observations	1,337	1,369	1,372	1,361	1,371	1,332	1,320	1,336	1,312
R-squared	0.278	0.293	0.311	0.209	0.359	0.309	0.263	0.352	0.203
SES controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes- Standard errors are adjusted for clustering at community level. All regressions control for location fixed effects. * Indicates statistical significance at 10%. ** Indicates statistical significance at 5%. *** Indicates statistical significance at 1%.

Table 12: Parental investment within lower Hindu castes

Table 12a: Differences in parental investment across SCs, STs and OBCs

VARIABLES	Expenditure on education				School Fees	
	Age 5	Age 8	Age 12	Age 15	Age 12	Age 15
	(1)	(2)	(3)	(4)	(5)	(6)
Lower Caste (Base- OBC)						
SC Hindu	-0.104*	-0.209***	-0.068	-0.063	-0.163***	-0.163***
	(0.059)	(0.057)	(0.089)	(0.058)	(0.056)	(0.049)
ST Hindu	-0.106	-0.171**	0.020	0.209	-0.019	-0.052
	(0.078)	(0.081)	(0.080)	(0.199)	(0.078)	(0.058)
Constant	-0.393	-0.426**	-0.574***	-1.013***	-0.711***	-0.713***
	(0.366)	(0.182)	(0.146)	(0.172)	(0.246)	(0.135)
Observations	1,082	1,370	1,299	1,263	1,329	1,178
R-squared	0.426	0.291	0.275	0.217	0.263	0.322
Controls	Yes	Yes	Yes	Yes	Yes	Yes

VARIABLES	Enrolment at school				Private School			
	Age 5	Age 8	Age 12	Age 15	Age 5	Age 8	Age 12	Age 15
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Lower Caste (Base- OBC)								
SC Hindu	-0.033	0.053**	0.005	0.042	-0.124*	-0.073**	-0.129***	-0.175***
	(0.034)	(0.025)	(0.017)	(0.030)	(0.063)	(0.034)	(0.030)	(0.039)
ST Hindu	-0.021	-0.016	-0.005	-0.018	0.019	-0.094	-0.049	-0.104*
	(0.045)	(0.024)	(0.025)	(0.033)	(0.123)	(0.058)	(0.039)	(0.055)
Constant	-0.209***	0.830***	0.946***	0.484**	0.860***	1.323***	1.272***	1.523***
	(0.052)	(0.038)	(0.061)	(0.206)	(0.066)	(0.056)	(0.110)	(0.077)
Observations	1,404	1,404	1,397	1,381	313	1,302	1,329	1,179
R-squared	0.157	0.129	0.110	0.171	0.571	0.434	0.331	0.284
SES controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes- Standard errors are adjusted for clustering at community level. All regressions control for location fixed effects and SES. * Indicates statistical significance at 10%. ** Indicates statistical significance at 5%. *** Indicates statistical significance at 1%.

Table 12b: Effect of discrimination on parental investment for lower caste Hindus

VARIABLES	Expenditure on education				School Fees	
	Age 5	Age 8	Age 12	Age 15	Age 12	Age 15
	(1)	(2)	(3)	(4)	(5)	(6)
Lower Caste (Base- OBC)						
SC Hindu	-0.106*	-0.217***	-0.068	-0.060	-0.166***	-0.160***
	(0.058)	(0.057)	(0.086)	(0.060)	(0.057)	(0.050)
ST Hindu	-0.102	-0.154*	0.034	0.211	-0.017	-0.051
	(0.077)	(0.081)	(0.082)	(0.205)	(0.083)	(0.057)
Perceived social descrimination	-0.136***	-0.088*	-0.189***	-0.079	-0.075	-0.078
	(0.050)	(0.051)	(0.058)	(0.049)	(0.059)	(0.051)
Constant	-0.369	-0.423**	-0.591***	-1.017***	-0.712***	-0.713***
	(0.363)	(0.187)	(0.149)	(0.173)	(0.247)	(0.135)
Observations	1,071	1,358	1,289	1,253	1,317	1,169
R-squared	0.430	0.299	0.286	0.219	0.266	0.325
SES controls	Yes	Yes	Yes	Yes	Yes	Yes

VARIABLES	Enrolment at school				Private School			
	Age 5	Age 8	Age 12	Age 15	Age 5	Age 8	Age 12	Age 15
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Lower Caste (Base- OBC)								
SC Hindu	-0.034	0.050**	0.008	0.040	-0.113**	-0.072**	-0.131***	-0.176***
	(0.034)	(0.025)	(0.017)	(0.029)	(0.056)	(0.035)	(0.030)	(0.039)
ST Hindu	-0.025	-0.027	0.006	-0.013	0.023	-0.091	-0.050	-0.100*
	(0.042)	(0.026)	(0.021)	(0.032)	(0.123)	(0.062)	(0.044)	(0.053)
Perceived social descrimination	-0.054*	0.006	-0.026	-0.055**	-0.120*	-0.061**	-0.018	-0.055*
	(0.029)	(0.018)	(0.017)	(0.024)	(0.061)	(0.025)	(0.027)	(0.030)
Constant	-0.206***	0.829***	0.950***	0.491**	0.819***	1.329***	1.268***	1.529***
	(0.052)	(0.037)	(0.057)	(0.211)	(0.080)	(0.057)	(0.108)	(0.075)
Observations	1,391	1,391	1,384	1,369	310	1,292	1,317	1,170
R-squared	0.162	0.126	0.113	0.173	0.587	0.440	0.334	0.289
SES controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes- Standard errors are adjusted for clustering at community level. All regressions control for location fixed effects and SES. * Indicates statistical significance at 10%. ** Indicates statistical significance at 5%. *** Indicates statistical significance at 1%.

Table 13: Analysis on the sub-sample of children who did not migrate over time

Table 13a: Gaps in test scores across castes

VARIABLES	Standardized PPVT percentiles							
	Age 5 (Round 2)		Age 8 (Round 3)		Age 12 (Round 4)		Age 15 (Round 5)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Caste (Base- Upper Hindu)								
SC/ST/BC Hindu	-0.389*** (0.062)	-0.229*** (0.057)	-0.298*** (0.084)	-0.171** (0.084)	-0.387*** (0.086)	-0.199** (0.079)	-0.403*** (0.087)	-0.273*** (0.087)
Muslim	-0.243** (0.121)	-0.048 (0.114)	-0.350* (0.178)	-0.237 (0.166)	-0.756*** (0.155)	-0.581*** (0.161)	-0.505*** (0.168)	-0.349** (0.169)
Other religion	-0.195* (0.115)	-0.063 (0.112)	-0.179 (0.127)	-0.065 (0.118)	-0.278** (0.135)	-0.097 (0.124)	-0.442*** (0.124)	-0.313** (0.120)
Constant	1.412*** (0.052)	0.836*** (0.133)	0.700*** (0.064)	0.591*** (0.156)	0.801*** (0.135)	0.287 (0.202)	0.321*** (0.061)	0.003 (0.209)
Observations	1,479	1,464	1,531	1,514	1,548	1,531	1,543	1,526
R-squared	0.238	0.289	0.206	0.246	0.195	0.254	0.149	0.185
SES controls	No	Yes	No	Yes	No	Yes	No	Yes

VARIABLES	Standardized Percentiles		Maths				English		Reading	
	Age 8 (Round 3)		Age 12 (Round 4)		Age 15 (Round 5)		Age 12 (Round 4)		Age 15 (Round 5)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Caste (Base- Upper Hindu)										
SC/ST/BC Hindu	-0.413*** (0.066)	-0.231*** (0.065)	-0.441*** (0.075)	-0.245*** (0.075)	-0.496*** (0.084)	-0.336*** (0.082)	-0.491*** (0.080)	-0.270*** (0.070)	-0.382*** (0.079)	-0.244*** (0.077)
Muslim	-0.595*** (0.118)	-0.406*** (0.113)	-0.705*** (0.115)	-0.497*** (0.114)	-0.667*** (0.147)	-0.513*** (0.133)	-0.628*** (0.144)	-0.392*** (0.127)	-0.670*** (0.134)	-0.529*** (0.127)
Other religion	-0.356** (0.137)	-0.204* (0.117)	-0.346*** (0.128)	-0.176 (0.108)	-0.410*** (0.127)	-0.263** (0.118)	-0.371*** (0.123)	-0.185 (0.111)	-0.401*** (0.123)	-0.290** (0.117)
Constant	0.506*** (0.082)	-0.175 (0.189)	0.648*** (0.111)	-0.243 (0.208)	0.718*** (0.110)	0.223 (0.202)	1.009*** (0.100)	0.150 (0.195)	0.562*** (0.126)	-0.029 (0.202)
Observations	1,536	1,519	1,510	1,493	1,503	1,486	1,514	1,497	1,498	1,482
R-squared	0.255	0.313	0.180	0.249	0.173	0.231	0.233	0.323	0.116	0.153

Notes- Standard errors are adjusted for clustering at community level. All regressions control for location fixed effects. * Indicates statistical significance at 10%. ** Indicates statistical significance at 5%. *** Indicates statistical significance at 1%.

Table 13b: Gaps in parental investment across castes

VARIABLES	Expenditure on Education							
	Age 5 (Round 2)		Age 8 (Round 3)		Age 12 (Round 4)		Age 15 (Round 5)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Caste (Base- Upper Hindu)								
SC/ST/BC Hindu	-0.387*** (0.103)	-0.211* (0.108)	-0.561*** (0.124)	-0.409*** (0.114)	-0.307** (0.122)	-0.187 (0.122)	-0.348*** (0.093)	-0.262*** (0.096)
Muslim	-0.592*** (0.149)	-0.467*** (0.133)	-0.720*** (0.149)	-0.592*** (0.132)	-0.338* (0.182)	-0.248 (0.169)	-0.521*** (0.143)	-0.455*** (0.137)
Other religion	-0.380*** (0.128)	-0.193 (0.127)	-0.564*** (0.129)	-0.407*** (0.120)	-0.183 (0.237)	-0.052 (0.236)	-0.325*** (0.110)	-0.218* (0.116)
Constant	-0.039 (0.109)	-0.482*** (0.164)	0.098 (0.125)	-0.225 (0.146)	-0.001 (0.123)	-0.337** (0.170)	0.251*** (0.093)	-0.434** (0.195)
Observations	1,202	1,185	1,531	1,513	1,460	1,442	1,449	1,431
R-squared	0.351	0.404	0.252	0.304	0.253	0.285	0.180	0.235
SES controls	No	Yes	No	Yes	No	Yes	No	Yes

VARIABLES	School Fees				Enrolment at school							
	Age 12 (Round 4)		Age 15 (Round 5)		Age 5 (Round 2)		Age 8 (Round 3)		Age 12 (Round 4)		Age 15 (Round 5)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)		
Caste (Base- Upper Hindu)												
SC/ST/BC Hindu	-0.407*** (0.135)	-0.246* (0.135)	-0.412*** (0.099)	-0.306*** (0.098)	0.022 (0.037)	0.024 (0.038)	0.002 (0.018)	-0.007 (0.019)	-0.023 (0.016)	-0.017 (0.017)	-0.095*** (0.028)	-0.069** (0.029)
Muslim	-0.537*** (0.150)	-0.402*** (0.142)	-0.235 (0.277)	-0.158 (0.280)	0.002 (0.055)	-0.002 (0.053)	-0.009 (0.025)	-0.022 (0.031)	-0.005 (0.024)	0.002 (0.025)	-0.132** (0.051)	-0.111** (0.051)
Other religion	-0.549*** (0.116)	-0.378*** (0.114)	-0.386*** (0.102)	-0.270*** (0.103)	-0.024 (0.056)	-0.032 (0.059)	0.029 (0.025)	0.017 (0.024)	-0.008 (0.016)	-0.002 (0.017)	-0.031 (0.034)	-0.009 (0.035)
Constant	-0.008 (0.141)	-0.170 (0.231)	0.155 (0.099)	-0.023 (0.129)	-0.149*** (0.038)	-0.206*** (0.062)	0.901*** (0.019)	0.870*** (0.029)	1.036*** (0.016)	1.028*** (0.025)	0.236*** (0.030)	0.230*** (0.051)
Observations	1,496	1,478	1,360	1,345	1,559	1,541	1,559	1,541	1,559	1,541	1,553	1,535
R-squared	0.252	0.300	0.290	0.336	0.170	0.181	0.115	0.125	0.105	0.110	0.137	0.156
SES conrols	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes

Type of School (Private School)								
VARIABLES	Age 5 (Round 2)		Age 8 (Round 3)		Age 12 (Round 4)		Age 15 (Round 5)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Caste (Base- Upper Hindu)								
SC/ST/BC Hindu	-0.270*** (0.087)	-0.233*** (0.080)	-0.269*** (0.054)	-0.180*** (0.048)	-0.253*** (0.050)	-0.183*** (0.046)	-0.279*** (0.045)	-0.209*** (0.041)
Muslim	-0.414** (0.188)	-0.414** (0.198)	-0.298*** (0.072)	-0.220*** (0.068)	-0.336*** (0.067)	-0.277*** (0.059)	-0.260*** (0.084)	-0.222** (0.089)
Other religion	-0.357*** (0.095)	-0.315*** (0.086)	-0.274*** (0.079)	-0.182*** (0.067)	-0.280*** (0.065)	-0.200*** (0.053)	-0.257*** (0.063)	-0.184*** (0.059)
Constant	1.270*** (0.087)	1.249*** (0.130)	1.490*** (0.056)	1.508*** (0.066)	1.360*** (0.051)	1.336*** (0.061)	1.404*** (0.045)	1.320*** (0.073)
Observations	344	338	1,465	1,448	1,496	1,478	1,361	1,346
R-squared	0.637	0.655	0.428	0.500	0.349	0.407	0.317	0.366
SES controls	No	Yes	No	Yes	No	Yes	No	Yes

Notes- Standard errors are adjusted for clustering at community level. All regressions control for location fixed effects. * Indicates statistical significance at 10%. ** Indicates statistical significance at 5%. *** Indicates statistical significance at 1%.

Table 14: Jeffrey Penney

Table 14a: Effect of discrimination on enrolment in private school

PPVT						
	z-OLS	z-UQR	Normalized	z-OLS	z-UQR	Normalized
Round 2	-0.321*** (0.066)	-0.576*** (0.119)	-0.374*** (0.069)	-0.178*** (0.061)	-0.381*** (0.099)	-0.251*** (0.063)
Round 3	-0.278*** (0.086)	-0.372** (0.146)	-0.224*** (0.085)	-0.158* (0.084)	-0.190 (0.151)	-0.116 (0.089)
Round 4	-0.368*** (0.070)	-0.455*** (0.129)	-0.285*** (0.078)	-0.218*** (0.066)	-0.246* (0.126)	-0.158** (0.078)
Round 5	-0.381*** (0.086)	-0.390*** (0.123)	-0.248*** (0.076)	-0.267*** (0.084)	-0.240* (0.125)	-0.155** (0.078)
Maths						
Round 3	-0.373*** (0.057)	-0.514*** (0.100)	-0.332*** (0.063)	-0.213*** (0.053)	-0.274*** (0.097)	-0.182*** (0.062)
Round 4	-0.454*** (0.073)	-0.678*** (0.124)	-0.422*** (0.075)	-0.277*** (0.076)	-0.436*** (0.131)	-0.277*** (0.081)
Round 5	-0.548*** (0.093)	-0.715*** (0.162)	-0.429*** (0.095)	-0.401*** (0.093)	-0.521*** (0.166)	-0.315*** (0.098)
English						
Round 4	-0.476*** (0.084)	-0.682*** (0.134)	-0.430*** (0.082)	-0.274*** (0.079)	-0.367*** (0.134)	-0.241*** (0.086)
Reading						
Round 5	-0.349*** (0.079)	-0.437*** (0.117)	-0.273*** (0.071)	-0.235*** (0.077)	-0.293** (0.121)	-0.185** (0.074)
SES controls	No	No		Yes	Yes	

Notes- Standard errors are adjusted for clustering at community level. All regressions control for location fixed effects. * Indicates statistical significance at 10%. ** Indicates statistical significance at 5%. *** Indicates statistical significance at 1%.

Table 14b: Effect of discrimination on enrolment in private school

PPVT						
Discrimination	z-OLS	z-UQR	Normalized	z-OLS	z-UQR	Normalized
Round 2	0.002 (0.055)	0.125 (0.086)	0.081 (0.055)	0.029 (0.055)	0.164* (0.090)	0.108* (0.058)
Round 3	-0.058 (0.046)	-0.055 (0.084)	-0.033 (0.049)	-0.035 (0.044)	-0.018 (0.081)	-0.011 (0.048)
Round 4	-0.193*** (0.060)	-0.294*** (0.097)	-0.186*** (0.060)	-0.178*** (0.058)	-0.266*** (0.097)	-0.173*** (0.061)
Round 5	-0.112* (0.062)	-0.119 (0.092)	-0.076 (0.057)	-0.094 (0.062)	-0.099 (0.090)	-0.064 (0.057)
Maths						
Round 3	-0.141*** (0.049)	-0.262*** (0.079)	-0.170*** (0.050)	-0.105** (0.047)	-0.211*** (0.080)	-0.140*** (0.051)
Round 4	-0.118* (0.065)	-0.105 (0.104)	-0.065 (0.062)	-0.078 (0.059)	-0.039 (0.096)	-0.024 (0.059)
Round 5	-0.149** (0.057)	-0.182** (0.082)	-0.110** (0.048)	-0.126** (0.054)	-0.168** (0.078)	-0.103** (0.046)
English R4						
Round 4	-0.186*** (0.061)	-0.231** (0.092)	-0.146** (0.057)	-0.145** (0.056)	-0.168* (0.089)	-0.111* (0.057)
Reading R5						
Round 5	-0.087 (0.066)	-0.098 (0.104)	-0.061 (0.063)	-0.068 (0.065)	-0.077 (0.105)	-0.048 (0.064)
SES controls	No	No		Yes	Yes	

Notes- Standard errors are adjusted for clustering at community level. All regressions control for location fixed effects.
 * Indicates statistical significance at 10%. ** Indicates statistical significance at 5%. *** Indicates statistical significance at 1%.

Table 15: Oster test

Table 15a: Effect of caste

Treatment variable- Upper caste Hindu; Rmax=1.3 ~ R; delta=0.8				
Dependent variable	Baseline effect (std dev), [R2]	Controlled effect (std dev), [R2]	Bias adjusted β	$\tilde{\delta}$ for $\beta=0$ given R_{max}
Test Scores				
z-score PPVT pctl-R2	0.264*** (0.065) [0.266]	0.156** (0.061) [0.300]	-0.049	0.61
z-score PPVT pctl-R3	0.223*** (0.082) [0.263]	0.142* (0.080) [0.283]	-0.137	0.41
z-score PPVT pctl-R4	0.352*** (0.063) [0.257]	0.236*** (0.059) [0.291]	0.034	0.92
z-score PPVT pctl-R5	0.357*** (0.079) [0.203]	0.283*** (0.080) [0.223]	0.069	1.03
z-score Maths pctl-R3	0.344*** (0.056) [0.301]	0.273*** (0.057) [0.289]	0.004	0.78
z-score Maths pctl-R4	0.414*** (0.062) [0.241]	0.277*** (0.066) [0.291]	0.105	1.26
z-score Maths pctl-R5	0.454*** (0.085) [0.225]	0.355*** (0.087) [0.261]	0.167	1.43
z-score English pctl-R4	0.445*** (0.078) [0.265]	0.281*** (0.073) [0.340]	0.113	1.31
z-score Reading pctl-R5	0.352*** (0.072) [0.190]	0.256*** (0.071) [0.216]	0.088	1.18
Parental Investment				
z-Investment R2	0.517*** (0.093) [0.293]	0.360*** (0.098) [0.341]	0.098	1.07
z-Investment R3	0.591*** (0.107) [0.209]	0.463*** (0.100) [0.261]	0.312	2.14
z-Investment R4	0.406*** (0.116) [0.229]	0.305*** (0.110) [0.263]	0.124	1.30
z-Investment R5	0.404*** (0.083) [0.186]	0.311*** (0.083) [0.221]	0.163	1.58
z-School Fees R4	0.512*** (0.104) [0.234]	0.395*** (0.106) [0.274]	0.216	1.64
z-School Fees R5	0.488*** (0.088) [0.257]	0.390*** (0.085) [0.290]	0.187	1.44
School Enrolment R2	-0.005 (0.033) [0.124]	-0.005 (0.035) [0.129]	0.008	0.34
School Enrolment R3	0.007 (0.017) [0.104]	0.008 (0.016) [0.106]	-0.050	0.14
School Enrolment R4	0.022* (0.012) [0.093]	0.016 (0.013) [0.095]	-0.027	0.30
School Enrolment R5	0.081*** (0.021) [0.133]	0.063*** (0.023) [0.143]	-0.002	0.78
Private School R2	0.284*** (0.090) [0.544]	0.058(0.051) [0.106]	0.016	1.02
Private School R3	0.251*** (0.045) [0.384]	0.183*** (0.048) [0.320]	0.054	1.11
Private School R4	0.266*** (0.042) [0.306]	0.225*** (0.041) [0.317]	0.127	1.68
Private School R5	0.246*** (0.040) [0.262]	0.269*** (0.053) [0.275]	0.155	1.73

Notes- Standard errors are adjusted for clustering at community level. All regressions control for location fixed effects. * Indicates statistical significance at 10%. ** Indicates statistical significance at 5%. *** Indicates statistical significance at 1%.

Table 15b: Effect of discrimination

Treatment variable- Discrimination; Rmax=1.3*R; delta=0.8				
Dependent variable	Baseline effect (std dev), [R2]	Controlled effect (std dev), [R2]	Bias adjusted β	$\tilde{\delta}$ for $\beta=0$ given R_{max}
Test Scores				
z-score PPVT pctile-R2	0.009 (0.055) [0.262]	0.029 (0.055) [0.303]	0.094	-0.36
z-score PPVT pctile-R3	-0.078* (0.045) [0.261]	-0.045 (0.043) [0.286]	0.047	0.40
z-score PPVT pctile-R4	-0.211*** (0.061) [0.255]	-0.178*** (0.059) [0.303]	-0.012	2.21
z-score PPVT pctile-R5	-0.136*** (0.060) [0.193]	-0.098 (0.061) [0.225]	-0.025	1.07
z-score Maths pctile-R3	-0.161*** (0.047) [0.293]	-0.112** (0.047) [0.346]	-0.036	1.17
z-score Maths pctile-R4	-0.155** (0.062) [0.228]	-0.091 (0.058) [0.293]	-0.026	1.12
z-score Maths pctile-R5	-0.195*** (0.054) [0.212]	-0.145*** (0.051) [0.264]	-0.071	1.52
z-score English pctile-R4	-0.222*** (0.058) [0.257]	-0.153*** (0.054) [0.295]	-0.084	1.74
z-score Reading pctile-R5	-0.107 (0.065) [0.177]	-0.069 (0.063) [0.213]	-0.010	0.93
Parental Investment				
z-Investment R2	-0.212*** (0.060) [0.281]	-0.161*** (0.053) [0.351]	-0.093	1.86
z-Investment R3	-0.127** (0.054) [0.181]	-0.052 (0.052) [0.267]	0.003	0.75
z-Investment R4	-0.289*** (0.053) [0.217]	-0.233*** (0.051) [0.263]	-0.159	2.33
z-Investment R5	-0.141*** (0.039) [0.169]	-0.092** (0.038) [0.222]	-0.044	1.52
z-School Fees R4	-0.175*** (0.048) [0.207]	-0.105** (0.045) [0.268]	-0.038	1.24
z-School Fees R5	-0.151*** (0.050) [0.221]	-0.095** (0.047) [0.283]	-0.038	1.33
School Enrolment R2	-0.032 (0.024) [0.125]	-0.033 (0.024) [0.130]	-0.054	-1.47
School Enrolment R3	0.013 (0.013) [0.103]	-0.014 (0.014) [0.106]	0.018	-4.12
School Enrolment R4	-0.020 (0.013) [0.096]	-0.016 (0.014) [0.098]	0.000	0.80
School Enrolment R5	-0.054*** (0.020) [0.131]	-0.045** (0.020) [0.147]	-0.024	1.61
Private School R2	-0.153*** (0.053) [0.521]	-0.150*** (0.055) [0.602]	-0.136	3.90
Private School R3	-0.108** (0.023) [0.369]	-0.068*** (0.023) [0.448]	-0.015	1.03
Private School R4	-0.088*** (0.025) [0.283]	-0.048* (0.026) [0.357]	-0.007	0.94
Private School R5	-0.102*** (0.027) [0.248]	-0.072*** (0.027) [0.310]	-0.034	1.51

Notes- Standard errors are adjusted for clustering at community level. All regressions control for location fixed effects. * Indicates statistical significance at 10%. ** Indicates statistical significance at 5%. *** Indicates statistical significance at 1%.

9. Appendix

Parents' perceived discrimination by caste-

- a. **RESPECT:** When I am at shops/market I am usually treated by others with fairness and with respect (Round 2, asked to parents).

RESPECT	Freq.	Percent	Cum.
strongly agree	1,438	76.73	76.73
agree	367	19.58	96.32
disagree	35	1.87	98.19
strongly disagree	34	1.81	100
Total	1,874	100	

CASTE	RESPECT	strongly agree	agree	disagree	strongly disagree	Total
SC/ST/BC Hindu		1,064	301	29	26	1,420
		0.749	0.212	0.020	0.018	
Other Hindu		226	35	3	6	270
		0.837	0.130	0.011	0.022	
Muslim		106	26	2	1	135
		0.785	0.193	0.015	0.007	
Other religion		81	19	3	3	106
		0.764	0.179	0.028	0.028	
Total		1,438	367	35	34	1,874

For this analysis, I have merged agree, disagree and strongly disagree into one category and code it as 0. And parents reporting strongly agree are coded as 1.

caste	RESPECT	0	1	Total
SC/ST/BC Hindu		356	1,064	1,420
		0.251	0.749	
Other Hindu		44	226	270
		0.163	0.837	
Muslim		29	106	135
		0.215	0.785	
Other religion		25	81	106
		0.236	0.764	
Total		454	1,477	1,931

Table A1: Descriptive statistics of RESPECT

- b. **LOOKED DOWN:** Other people in my STREET/VILLAGE look down on me and my family (Round 2, asked to parents)

LOOKED DOWN	Freq.	Percent	Cum.
strongly agree	81	4.29	4.29
agree	121	6.42	10.71
disagree	141	7.48	18.19
strongly disagree	1,543	81.81	100
Total	1,886	100	

LOOKED DOWN caste	strongly agree	agree	disagree	strongly disagree	Total
SC/ST/BC Hindu	62	100	118	1,145	1,425
	0.044	0.070	0.083	0.804	
Other Hindu	6	11	13	244	274
	0.022	0.040	0.047	0.891	
Muslim	6	8	4	119	137
	0.044	0.058	0.029	0.869	
Other religion	7	6	10	84	107
	0.065	0.056	0.093	0.785	
Total	81	121	141	1,543	1,886

For this analysis, I have merge strongly agree, agree and disagree into one category and code it as 1. Parents reporting strongly disagree to being looked down are coded as 0.

LOOKED DOWN caste	0	1	Total
SC/ST/BC Hindu	1,145	280	1,425
	0.804	0.196	
Other Hindu	244	30	274
	0.891	0.109	
Muslim	119	18	137
	0.869	0.131	
Other religion	84	23	107
	0.785	0.215	
Total	454	1,477	1,931

Table A2: Descriptive statistics of LOOKED DOWN

- c. **DISCR:** Index combining LOOKED DOWN and RESPECT. Takes a value 0, if parents perceive no manifestation of discrimination and 1, if parents perceive any manifestation of discrimination.

DISCR caste	0	1	Total
SC/ST/BC Hindu	923	494	1,417
	0.651	0.349	
Other Hindu	206	64	270
	0.763	0.237	
Muslim	95	40	135

	0.704	0.296	
Other religion	70	36	106
	0.660	0.340	
Total	1,294	634	1,928

Table A3: Descriptive statistics of DISCR

Investment	Wealth Index R1	Income R2
RESPECT		
0- No	0.384	23774.53
1- Yes	0.412	35458.97
LOOKED DOWN		
0- No	0.419	35070.50
1- Yes	0.347	22457.77
DISCR		
0	0.421	36048.35
1	0.374	25997.23

Table A4: Socioeconomic status and perceived discrimination. Parents with higher wealth and income are less likely to perceive discrimination.