Educational Investments in Low-Income Households: The Role of Parental Occupational Identity and Substitutability *

Aparna Anand †

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Abstract

Poor parents face difficult trade-offs when investing in their children's education. This paper studies how low-income urban households in Southern India, where child labor is a concern, make educational investments for their children. First, I build a model that shows how educational investments are shaped by the possibility of children substituting labor for their parents. Second, I collect parent surveys, child surveys, and student-level administrative data from schools and construct a linked dataset. Third, I examine the relationship between educational investments and several pertinent factors, with an emphasis on child labor substitution and the strength of occupational identity. I find that monetary and time investments in education are negatively correlated with both child substitution and the strength of a parent's occupational identity. Parents who have high aspirations for their children invest significantly more time in their children's education. Children who are highly motivated spend more time in school-and study-related activities. Also, children for whom occupation is important for their own identity perform better at school. I propose plausible mechanisms underlying these patterns. My findings highlight the role these unconventional variables play in understanding barriers to educational investments by low-income households.

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†Email: aanand@gradcenter.cuny.edu

1 INTRODUCTION

"...[Education] can add to the value of production in the economy and also to the income of the person who has been educated. But even with the same level of income, a person may benefit from education—in reading, communicating, arguing, in being able to choose in a more informed way, in being taken more seriously by others and so on."

- Nobel Laureate Amartya Sen, Development as Freedom, 1999

"If your plan is for one year, plant rice. If your plan is for ten years, plant trees. If your plan is for one hundred years, educate children."

-Kuan Chung, 7th Century BC

In this paper, I investigate whether low-income parents identify themselves by their occupation, whether parents substitute their children's labor for their own, and how these occurrences impact parents' educational investments for their children. Education is an investment with enduring benefits. Various reports on "quality education" (which is Goal 4 of the sustainable development goals adopted by the United Nations [2015]) state that despite major progress made in the past decade, challenges in making education a basic human right remain. The United Nations projects that the world is not on track to meet its 2030 education targets, with 200 million children expected to be out of school and only 60% of young people completing upper-secondary education in 2030.[1] The UNESCO Institute for Statistics (UIS) reports that 258 million children and youth, mostly from sub-Saharan Africa and Southern Asia, were out of school in 2018.[2] Thus, improving education and reducing barriers to education is a critical research and policy focus. Central to this is the understanding that education is a multifaceted product and that there are many determinants of educational investments. Some of the economics of education literature addresses demand side determinants, such as child labor (Basu and Tzanaatos, 2003; Edmonds et al., 2009; Dammert et al., 2017), conditional cash transfers (Behrman et al., 2011, Parker and Todd, 2017), and perceptions about returns to education (Jensen, 2010), while other literature focuses on supply side determinants, such as school infrastructure (Muralidharan et al., 2013), teachers effort and remedial education (Kremer et al., 2005; Duflo et al., 2007 & 2010; Banerjee et al., 2010; Hanna et al., 2012; Muralidharan, 2012). In this paper, I focus on less-studied determinants, namely, *child labor substitution*, the extent to which children of parents in certain occupations help their parents at work, and *occupational identity*, the extent to which occupation matters for self-image/identity of an individual.

[1] https://unstats.un.org/sdgs/report/2020/Goal-04

[2] http://uis.unesco.org/en/topic/out-school-children-and-youth#slideoutsearch

This paper addresses how the educational investment choices, monetary and time (both qualitative and quantitative), are made in low-income urban households in Chennai, Tamil Nadu, India. I built a model to set up a conventional framework for analyzing these investment choices in light of trade-offs particular to the setting of child labor. Using the model as a guiding framework, I narrowed my empirical focus to two novel variables, child labor substitution and occupational identity. For the empirical analysis, using the population of marginalized households engaged in domestic work, daily-wage jobs, and small self-employment, I built a dataset by combining household survey data and school administrative data; I collected this data from households and schools located in Ambattur, a town in the city of Chennai. Using this dataset, I establish a link between the exogenous variation in occupation as an identity choice and child labor substitution on the parental educational investment decisions.

India has the largest youth population in the world. According to projections by United Nations Funding For Population Activities (UNFPA), India is experiencing a demographic window of opportunity–a "Youth Bulge" that is expected to last until 2025.[3] India made huge advances during the past decade through a World Bank supported program "Sarva Shiksha Abhiyan" (Education for all), which brought 20 million children into primary school. Though this mitigated the issue of non-enrollment, the low retention rates of students continue to persist. While more than 95% of Indian children attend primary school, less than 44% complete grade 10, and the percentage drops further for the higher-secondary grades (11th and 12th).[4] While there can be many explanations for these low retention rates, such as school governance, access, equity, and teacher quality (as has been addressed widely in the literature),[5] the main cause of concern is that the school attrition rate is high in marginalized social groups where child labor is also high.

The International Labour Organization's (ILO) report on child labor among South Asian countries shows that in absolute terms, child labor among 5-17-year-olds is highest in India, amounting to about 5.8 million (Khan and Lyon, 2015). Further, this report shows that in India 0.3% of 7-14-year-olds and 1.7% of 15-17-year-olds are represented in the category of "both in employment and in school." International organizations such as the ILO, World Bank and UNICEF identify child labor among 5-17-year-olds if children are involved in: i) hazardous occupations; ii) non-hazardous occupations but long hours of labor (as per the ILO, long hours are defined as more than 43 hours in a given reference week); and iii) employed below the minimum age of 15 years old. Further, the provisions in the ILO's convention of minimum age, (1973 [No. 138]) allow light permissible work for children above 12 years old.[6] In the context of India, this provision of light permissible work is reflected in the amendment passed by the Indian Government on Child Labor in 2016,

[3] https://india.unfpa.org/en/topics/young-people-12
[4] "Education in India"- World Bank Report, 2011.
[5] For detailed review of India's primary education policy see Muralidharan, 2013.
[6] see Edmonds and Shrestha, 2012, for a discussion of the impact of minimum age regulation on child labor and schooling.

which allows children to work in family enterprises after school hours.[7] These provisions are based on the condition that children can be involved in light work in a way that does not prejudice either their school attendance or school work. But there is insufficient data on children providing their own labor in the form of substituting for their parents' labor, and/or assisting parents at their work after school. Specifically, it is not clear whether this labor affects student effort and/or schooling outcomes. In essence, trade-offs faced by households when they engage their children in such market work is not well understood.[8] This paper addresses this gap in the economics of education literature and presents findings based on a "case study" approach. The results show that occupational identity, as well as child labor that takes place in the form of substitution whereby children help the parent(s) at work, uniquely affect the educational investment decisions made by the parents.

The empirical data of this study comes from household surveys–parent surveys and child surveys–as well as school administrative data. The household survey was administered with households and children chosen from two public schools— Kamarajar Girls Higher Secondary School (hereby School 1) and Sir Ramaswami Mudaliar Higher Secondary School (hereby School 2)—both of which are located in Ambattur, Chennai. A randomized stratified sample of students was chosen from these two schools, and the chosen students and the mother of the chosen students were surveyed. In the parent survey, the mothers were surveyed for household characteristics: i) occupation substitutability (whether the mother and father are substitutable at their work), ii) frequency of substitution for the mother's or father's work by their children in the past three months, iii) household spending on the chosen child's education, and iv) time investment of the mother in the chosen child's education. The children were surveyed about the time spent in school- and study-related activities, labor force participation, and substitution for the parent(s) at their workplace. In addition, both parent and child surveys included questions on school performance, school absences, and behavioral variables (such as role models, aspiration and motivation). The children's school performance data, as measured by the total points they received on a recent exam and the number of absences, were collected from the respective schools.

Though studying identity is interesting, it is difficult to measure. While a simple survey question, such as asking a respondent to make a choice from a set of factors to represent her identity, can appear to be straightforward, such self-reported choice may not capture identity satisfactorily (see Atkins et al., 2019). My approach entails a method of validating such that identity is conceptualized through preferences. I construct

[7] See The Child Labour (Prohibition and Regulation) Amendment Bill, 2016. (As passed by the Rajya Sabha)

[8] According to Bharati Pflug "Children from families where the mother is a domestic worker can be found to regularly accompany and help their mothers at work and so get pulled into domestic work. This is often the case in a city like Mumbai, India, where both the adult domestic worker and CDWs can come from a poor urban slum area." (An Overview of Child Domestic Workers in Asia: ILO/Japan/Korea Asian Meeting on Action to Combat Child Domestic Labour, Chiang Mai, Thailand, 2-4 October 2002, pp 15.)

an "identity game," which is played by the mother and child at the time of their surveys. The game is played in three rounds. Through a specific elimination process and in an order of preference, the mother and the child elicit their identity from the choice of four factors: occupation, mother tongue, relationship or birthplace. The outcome of the identity game is measured by: i) occupational identity strength capturing the relative significance of occupation in each round of the game for the mother and the child, and ii) occupational identity defined as a binary variable which takes the value 1 if occupation is chosen as the prime factor to represent identity. I borrow from the occupational science literature the concept that identity is closely tied to what we do, is developed largely by society, and gets refined at the individual level as a result of those social negotiations (Christiansen, 1999; Kielhofner, 2002). In the context of India, economically poorer households are highly represented in the casual labor market.[9] Incorporating this behavioral perspective of occupation as identity in studying the decision-making of poor parents can motivate the economic reasoning behind the behavior of such a population that is beyond what the standard resource constraints can explain.

The impact of social perception/social image on behavior has been studied in a range of economic literatures and over time with a focus on the role of self-image/identity in explaining the behavior.[10] The economics literature on identity shows how a person's sense of self depends on their social category, how identity influences their choices (Akerlof and Kranton, 2000), and how self-image can induce certain norms and pro-social behavior (Benabou and Tirole, 2006 & 2011). Recent literature on identity explores the role of identity in labor supply in an experimental setting (Suanna Oh, 2020), how ethnic and religious identity can be revealed using food consumption (Atkins et al., 2019), and the link between self-image and behavior under stigma (Ghosal et al., 2019). Further, social image concerns on behavior are shown in voting (Gerber et al., 2008, Funk, 2010, Della Vigna et al., 2016), education (Bursztyn and Jensen, 2015), and charitable giving (Della Vigna et al., 2012). However, which factors matter for self-image/identity and how/whether these factors impact the decision-making of the poor have not been addressed in the literature. While virtually all economic studies of education consider parent occupation when helping to explain parental decision-making, the empirical question not yet understood is: Will how people feel about their occupation impact the choices they make for the children?

The economic literature on the determinants of children's attainments is quite extensive. The most prevalent earlier economic models are Becker-type models (household collective choice under interdependent preferences) of family behavior. The literature that followed shows that parent IQ, demographic characteristics, whether the child is born out of wedlock and parent separations determine home investments in education (Leibowtiz, 1974; Haveman and Wolfe, 1994). More recent studies have detailed how the avail-

[9] "India Wage Report," ILO 2018.

[10] See Bursztyn and Jensen, 2016, for a more detailed review of the literature on social image concerns and social pressure.

ability of information and frictions relating to understanding such information can affect parental decision-making (Nguyen, 2008; Banerjee et al., 2010; Jensen, 2010; Dizon-Ross, 2019). In contrast to these studies, I study the educational investments of both money and time. A literature review on parental involvement by Avvisati et al. (2010) points out that economic research is largely silent on parental time involvement, citing data availability as a major limitation. Among researchers, the use of time use data is seen as a means not just to understand economic activity but also to understand poverty and human development (Hirway, 2009). Though many developing countries conduct time use surveys, the utilization of such data is not fully established (Hirway, 2010).

India administered the pilot survey on time use in 1998-99 in six major states and conducted the first time use survey during the 2019 calendar year. Time use studies (Hoover-Dempsey et al., 2005, Guryan et al., 2008, Thomsen, 2015) show that those parents with higher earnings potential and those with more education spend more time with their children. In an economic development context, the literature on the implications of time spent by parents on children's learning is limited. Specifically, studies that target the qualitative time involvement of parents are scarce, including participation in parent-teacher meetings, whether parents know their child's difficult subject(s), whether parent converse with children regarding their school, and parental involvement in school activities. This study helps to fill that gap in the literature by measuring the time involvement of parents both in terms of time spent helping the child with learning and also in terms of the engagement of parents in school- and study-related activities. This study on educational investments is important not just because investments are costly for such low-income households but because these investments yield returns later on. Focusing on time investments in addition to monetary investments provides a channel to understand how optimization of education investment decisions of parents in certain occupations can be uniquely affected.

The empirical analysis is on a linked dataset that I construct using parent surveys, child surveys and student-level administrative data from School 1 and School 2. I report five sets of main results: first, the households in which mothers have higher occupational identity strength, that is, who value occupation relatively more as compared to other factors, invest less money and time on their child's education. This negative impact is significant for monetary investments. Similar to occupational identity strength, the impact of binary occupational identity (the households in which mothers choose occupation as the prime factor of their identity over mother tongue, relationship or birthplace) is negative for both monetary and time investments. In addition to monetary investments, the negative impact of binary occupational identity is also significant on the qualitative measurement of time investment. In other words, mothers who chose occupation to represent their identity seem to know less about their child's learning. The second main result is that in households where there is child labor substitution, households invest less money and mothers spend less

time quantitatively in their child's education as compared to households where there is no such substitution. The negative impact of child substitution is significant for monetary investments. The coefficient of child substitution is positive for qualitative time investment. Though the effect is not significant, the positive impact on the qualitative measurement of time investment says that in households where the child helps, the mothers are more informed about their child's learning.

My third main finding is that the inclusion of behavioral variables, such as parental aspiration (hopes the mother has about their child's future educational attainment), child motivation (measured in a four point Likert scale), and whether the mother has a role model for occupation reasons, does not change the sign and significance of both identity and substitution variables for monetary investments of the household and time investments in the child. The effect of binary occupational identity on the quantitative measure of time investment flips sign from negative to positive, and the magnitude of the negative impact on the qualitative time investment decreases with the inclusion of behavioral variables, indicating that some of the variation in time investments are explained by the aspirations of the mother and the motivation of the child. Parental aspiration positively impacts time investments of the mother, and the effect is significant. Also, the mothers of highly motivated children invest more time quantitatively on their child's education, and children with a high motivation score invest more time in study-related activities. Both these effects are significant, in particular the significance is higher for the time investment on the child. My fourth main finding is that the children who have higher occupation identity strength and chose occupation as their primary identity factor invest more time in their education. Though the effect is not significant, the positive sign of child's occupational identity on the time spent by the child is an indication of the relationship between the identity formation and the effort level of students. My final main finding is that school performance of the children is positively affected by their occupational identity strength, and the effect is significant. This indicates that the children who value occupation more and who chose occupation as their primary identity score significantly more points in their exams as compared to children who chose other factors and value occupation less towards their identity.

A set of simple regressions show the underlying mechanisms behind formation of occupational identity and child labor substitution. Among mothers who chose occupation as a primary factor that matters towards their identity, 83% are working mothers. At the same time, the percentage distribution of the identity choice of occupation among those employed shows that 16% of employed mothers eliminated occupation in the first round of the game, 25% in the second round and 43% in the final round. This indicates that about 146 employed mothers out of a total of 228 employed mothers did not value occupation as a primary factor in their identity. The construct of occupational identity under which occupation becomes a unique identity is when it is chosen, controlled and goal directed (Christiansen, 1999). As discussed in detail in Section

5, occupations such as daily-wage work, domestic work and small self-employment that are represented in the sample may have been circumstantial for these households and, thus, not a result of a decision-making process. The "circumstantial" characteristic of these occupations could mean that the 36% of employed mothers that opted for occupation in the survey as their primary choice of identity may not have selected occupation due to the importance they placed on their jobs but because of deprived opportunities towards that choice.

The mothers who reported that their occupations are substitutable have higher occupational identity strength. In addition, mothers who responded that it is common in their occupation for their fellow workers to bring their own children to help them at work have higher occupational identity strength. Although it could be argued that these observations could be specific to the occupations represented in this particular sample, it is also true that the categories of self-employed and casual labor are highly prevalent among lower-income populations in many developing countries. This study presents the idea that certain attributes of occupation lead to occupational identity strength, which in turn impacts educational investments. The interlink of child labor substitution and occupational identity is observed from the positive relationship of occupational identity strength on substitution. Although the effect is not significant, the positive relationship suggests correlation between these two seemingly unrelated variables. Child substitution is particularly high for the self-employed category. The second most important category where substitution occurs is in the case of mothers that do domestic work. The frequency of substitution is determined by how familiar a child is in doing their parents' work and whether earning potential of parent(s) will increase if the child helps. Both are highly significant in determining substitution.

In summary, this paper investigates the implications of child labor substitution and occupation identity—largely disconnected variables—on educational investments. The findings of this study are based on a descriptive approach that shows how occupational identity and child labor substitution uniquely affect the educational investment decisions made by parents. Under this approach, this study brings a new perspective on the importance of occupation and identity in studying parental decision-making concerning education investments. The inclusion of disjoined variables, such as occupation identity and substitution, can expand our understanding of trade-offs faced by poor parents. Behavioral studies have shown that costly identity-affirming behaviors can result when people are insecure about "who they are" (Benabou and Tirole, 2011) and how psychological interventions can mitigate the effects of stigma brought on by being poor and marginalized on individual choices (Ghosal et al., 2019). Though whether certain occupations are stigmatic is debatable, understanding whether the choices of the poor and marginalized are affected not just by being in a certain occupation but by "how that occupation is perceived" is a starting point. On this aspect, this study makes a distinct contribution to the literature of poverty, child labor and educational investments. The ILO report

(2015) highlights the child labor problem in South Asia and the need to study the correlation of children in school and their employment, especially when they participate in both. My study shows that children provide their labor to help their parents at work when parents are engaged in certain occupations and are self-employed. Though child labor laws (both ILO and Indian Child Labor Law) allow for light permissible work if school attendance/school work is not predisposed, to the best of my knowledge there is no data available to understand the schooling decisions of children who provide their labor for their parents' jobs. The cause of concern is not the enrollment rate at school but the underestimation of the opportunity cost of engagement of children in school- and study-related activities. To this end, in the future child labor surveys should consider including questions to uncover this particular type of labor that will pave the way to understand the labor market decisions and trade-offs faced by children who are in school and also help their parents at work. Finally, this study ties the economics literature on educational investments with the literature on psychology, sociology and anthropology by showing that variations in investment levels are influenced by parental aspirations and child motivation.

The rest of the paper is organized as follows. Section 2 outlines the conceptual framework. Section 3 describes the data collection, variables and estimation method. Section 4 and 5 present the empirical findings and discussion. Section 6 concludes.

2 A MODEL OF EDUCATIONAL INVESTMENTS AND CHILD LABOR

In this section I build a model to set up a conventional framework for analyzing educational investment choices in light of trade-offs particular to a child labor setting. I use the model to guide the understanding of the basic trade-offs faced by the household. Furthermore, the empirical analysis introduces additional considerations that could then easily be interpreted as natural extensions to the model.

Assume a two-period model of a household that has one parent and one child. In period 1, the parent works and helps the child with education and in period 2 the parent retires. The child can supply labor and study in period 1 and work in period 2. The household monetizes all assets and a maximum potential labor income to make a budget. The household consumes part of the budget as period 1 consumption and saves some for the next time period. The savings happens through the educational investments: monetary investments made by the household on child's education I, time investment made by the parent on child's education, E_A and time investment of the child on the education, E_C. The educational investments raise the child's earning power in the next period given by $C_2 = f(E_A, E_C, I)$. That is, there is some combination of these investments that most efficiently delivers any level of consumption in the second period. This gives us a "cost" of delivering period 2 consumption in terms of the period 1 sacrifice, that is, the cost of these investments say $g(C_2)$ is given by $I + W_A E_A + W_C E_C$ where the wages of parent is W_A and W_C is the child's wages. Knowing this cost, the household solves a simple two-period utility maximization problem. Under this setting, the household decides not just on consumption in period 1 but also on educational investments. Thus, the model setup involves solving for optimal cost of investments first and then the bigger problem of utility maximization, but the general intuition from the standard model remains. The model abstracts away from pure savings and borrowings.

2.1 Model Setup

Households maximize utility from consumption:

$$\underset{E_A, E_C, I}{Max}\, U(C_1) + \delta U(C_2)$$

where C is consumption and δ is a constant parameter. Consumption goods are purchased from adult labor, child labor and household assets, A. The consumption in period 1 satisfies the following constraint:

$$C_1 = W_A(T_A - E_A) + W_C(T_C - E_C) + A - I \tag{1}$$

The parent, out of total time T_A , works for L_A hours and spends E_A hours helping the child with school work. The child spends L_C hours in supplying labor and E_C hours studying out of the total time T_C. The consumption in period 2 satisfies,

$$C_2 = f(E_A, E_C, I) \tag{2}$$

I also assume the time constraints $T_A = E_A + L_A$, $T_C = E_C + L_C$ and various other ($>> 0$) constraints are satisfied. The household's decision on child labor and investments become clearer from the first order conditions. The first order conditions are:

$$W_A U^{'}(C_1) = \delta U^{'}(C_2) \frac{df}{dE_A} \tag{3}$$

$$W_C U^{'}(C_1) = \delta U^{'}(C_2) \frac{df}{dE_C} \tag{4}$$

$$U^{'}(C_1) = \delta U^{'}(C_2) \frac{df}{dI} \tag{5}$$

The first order conditions above characterize the trade-offs involved in the household's decision on investments and its return. If for example, $W_A U^{'}(C_1) > \delta U^{'}(C_2) \frac{df}{dE_A}$, the marginal gain of investments is less than cost of the investments, so the parent works more and the parental time investment is less. If $W_A U^{'}(C_1) < \delta U^{'}(C_2) \frac{df}{dE_A}$, the marginal gain is higher the cost and the time investment of parent in child's education is high. If $W_A U^{'}(C_1) = \delta U^{'}(C_2) \frac{df}{dE_A}$, the marginal gain is equal to the cost, so the parent divides the time between labor supply and help the child with school work.

2.2 Discussion

The model provides a conceptual framework for household decision making on educational investments of the children. The model set up is in the perspective of the trade-off faced by the low income households between consumption and the investments in their children's education. It generates interesting empirical questions while pointing out the underlying complexities. The empirical analysis will consider variations in the type of occupation, household wealth, total time of parent and child, time preferences and school characteristics. The first order conditions described above link the exogenous variations of these variables to the changes in investments and the consumptions. The model shows the several channels through which the investment level and consumption are affected. For example, if household wealth, A, increases, the investments rise. This is also the outcome if the discount factor δ increases. But an increase in child's wage, W_C is counterintuitive. The direct effects of the increase in W_C are the income and the substitution effect. The standard model

will predict that an increase in W_C, the child wage, is associated with the increase in the opportunity cost of studying and therefore, a higher chance of child working more and causing consumption in period 2 to decrease (the pure substitution effect). Under this, the level of investments decrease. But an increase in W_C expands the family income, causing the consumption in both periods to go up, that is, the investments increase as a result of total income. These direct effects are as predicted by the standard model. Under this model, there is another potential indirect effect whereby consumption in period 2 can be increase under the case of higher wages for the child. The educational investments/consumption in period 2 can also be bought using monetary investments of household I and the time investment by the parent, E_A**.** So this dampens the effect of a price increase, that is, the substitution effect. Both the income and substitution effect are in the same direction thus predicting higher level of investments. Thus the budget constraint is not severely flattened as in the case of the standard model. I refer to this as the "reallocation effect".

The goal of the paper is not to try fit the empirical data into this conventional choice model but rather to use the model as a general framework to understand how the households decide on educational investments. Taking this model as an outline, in the empirical part of the study I focus on the behavioral aspect of the occupation, that is "occupational identity" and "'child labor substitution"– child helping the parent at work– . Identity is an overarching concept that can shape the choices individuals make. To avoid the theoretical ambiguous effects this may produce, I devise a separate experiment of an identity game through which I infer whether occupation matters for identity. Using empirical evidence, I demonstrate whether educational investments made by parents vary if occupation matters the most towards their identity. In the context of the model, the child wages W_C can be interepreted as substitution and occupational identity is beyond the model and can be perceived as a variable that affect the level of investments directly, which inturn cause changes in period 2 consumption.

Educational investments will have a different impact on children depending on whether the child is exclusively in school. In the paper, I focus on a particular setting of child labor in which the child substitutes for parents at work and/or works alongside the parent at their workplace, that is, a school-going child providing labor to help the parent. As this is central from a development perspective, the empirical data focuses on low-income households engaged in occupations such as domestic work, daily-wage work and small self-employment, where the parent-child labor substitution is highly likely. The sections that follow will explore:

1. Do parents that engage in certain occupations identify themselves through their occupation? How does this "occupational identity" impact their choices of educational investments they make for their children?

2. To what extent do children of parents in certain occupations help their parents at work? How does this " child labor substitution" impact household choices of educational investments?

2.3 An Example with Functional Forms

The Household's problem is to maximize

$$ln(C_1) + \delta ln(C_2)$$

subject to the full income constraint

$$C_1 + g(C_2) = A + W_A T_A + W_C T_C$$

Step 1: Cost Minimization Problem: Household minimize:

$$I + W_A E_A + W_C E_C \tag{6}$$

subject to

$$C_2 = Q E_A^{\alpha} E_C^{\beta} I^{\gamma} \tag{7}$$

The FOCs are given by:

$$W_A = \lambda Q \alpha E_A^{\alpha-1} E_C^{\beta} I^{\gamma} \tag{8}$$

$$W_C = \lambda Q \beta E_A^{\alpha} E_C^{\beta-1} I^{\gamma} \tag{9}$$

$$1 = \lambda Q \gamma E_A^{\alpha} E_C^{\beta} I^{\gamma-1} \tag{10}$$

This gives the cost of second period consumption, that is, $g(C_2) = \frac{C_2}{\gamma\theta}$, where $\theta = Q(\frac{\alpha}{(\gamma W_A}})^{\alpha}(\frac{\beta}{(\gamma W_C}})^{\beta}$

Step 2: Utility Maximization Problem: Household maximize

$$ln(C_1) + \delta ln(C_2) \tag{11}$$

subject to

$$C_1 + \frac{C_2}{\gamma\theta} = A + W_A T_A + W_C T_C \tag{12}$$

The FOCs are given by:

$$\frac{1}{C_1} = \lambda \tag{13}$$

$$\frac{\delta}{C_2} = \frac{\lambda}{\gamma\theta} \tag{14}$$

$$C_2 = \delta C_1 \gamma\theta \tag{15}$$

Substituting the full income,

$$C_2 = \frac{\delta}{1+\delta}(A + W_A T_A + W_C T_C)\gamma\theta$$

Substituting for θ and using natural logarithms:

$$lnC_2 = ln(\frac{\delta}{1+\delta}) + ln(A + W_A T_A + W_C T_C) + ln(\gamma) + ln(Q) + \alpha ln(\alpha) - \alpha ln\gamma W_A + \beta ln\beta - \beta ln\gamma W_C \quad (16)$$

Under this formulation, lnW_C represents the pure substitution effect and the full income, $ln(A+W_A T_A + W_C T_C)$ represents the pure income effect. A higher child wage causes consumption in period 2 to be costly interms of period i consumption, that is, everytime the household tries to buy C_2 using E_C, it costs more with higher W_C interms of C_1. An higher child wage income expand the family budget which lead to more consumption for both periods. But, C_2 is also a function of I and E_A. This reallocation mitigates the effect of the price rise, that is, the substitution effect.

3 Data, Variables and Estimation

3.1 Study Sample

In this paper, I study how parents of low-income households in Chennai, Tamil Nadu make educational investments for their children in terms of money and time. Specifically, I focus empirically on the variables "child labor substitution" (whether the children of the household provide their labor to help the parents at work) and "occupational identity" (whether occupation drives parental self-image). Given this focus, I deliberately narrow in on the population engaged in occupations such as domestic work, daily-wage work and small self-employment. The empirical data for the study is derived from field work that involves the use of household survey data and school administrative data from households and schools located in the town of Ambattur in the state Tamil Nadu in India. Ambattur is part of a major metropolitan city Chennai, which is well known as one of the oldest industrial belts of the state. Ambattur has the largest small-scale industrial zone in South Asia, comprising automobile component, garment export and engineering product manufacturers.

Generally speaking, the Indian workforce is categorized into either agricultural workers, household industry workers (include workers engaged in family-run enterprises) and other workers. The labor market of Ambattur is skewed towards the "other workers" category. More than 95% of the labor force in Ambattur belongs to this non-agriculture and non-household industry.[11] The employment rate of women in Ambattur is about 20%.[12] Much of the labor force in Ambattur with less education is employed at these various small-scale industries located in the industrial zone. The concentration of female employment in Ambattur is especially high in these sectors. Notably, this work is highly volatile; Girls are withdrawn from school and enter into this labor market at the early age of 19 and stay for just a short span of time (Kalpagam, 1981; Swaminathan and Jeyaranjan, 1999). This high turnover in female employment in Ambattur, which is not explained by marriage and migration (Swaminathan and Jeyaranjan, 1999), when combined with low labor force participation rates in the town, leads to a reasonable conjecture that women of low-income households resolve to the other types of informal employment, such as domestic work, small self-employed and daily-wage work.

The study sample consists of households and children chosen from two public schools located in Ambattur. The schools that participated in the study are Kamarajar Girls Higher Secondary School (hereby School 1) and Sir Ramaswami Mudaliar Higher Secondary School (hereby School 2). These two schools were chosen to control for neighborhood characteristics and to allow for some heterogeneity in the population. School 1 is an all-girls school and School 2 has a co-educational structure. Both schools have grade levels from 6th

[11] Census of India, 2011.
[12] Census of India (2011). District Census Handbook: Thiruvallur.

to 12th, with many sections of classes for each grade. Both schools administer the medium of instruction in both English and in the regional language, Tamil. The total enrollment in School 1 is 2,795 students and in School 2 is 1,831 students. The study sample consists of a stratified random sample of 160 students from each of these schools. To arrive at this random sample for School 1, from the student roster (which is a handwritten record of students), I stratified the school population by medium of instruction, and for School 2, I stratified by medium of instruction and then by gender. The total number of students from each section of a class in the sample was based on the section's proportion to the total in the respective stratum. The actual participants for the study from each section were then chosen by using a random number generator. The home addresses of the chosen students were provided by the schools, and the student and parent were approached for the surveys. Out of the chosen 160 households, 152 households from School 1 and 153 from School 2 were surveyed.[13]

Data collection in this study included: i) the implementation of two survey instruments, and ii) collection of school performance and absences data on the chosen students from the respective schools. The survey instruments included a parent survey by which the mother of the chosen child was surveyed and a child survey by which the chosen child was surveyed. The choice to survey the mother is twofold: survey-based literature of parental involvement in children's education shows a higher participation of mothers as respondents (Nguyen, 2008; Dizon-Ross, 2018) and secondly, the study focuses on occupations of parents that tend to be gendered toward females in India, such as domestic work and small self-employment, such as garland making and food catering. In the parent survey, the mother is questioned about household characteristics, occupation substitutability, whether the children of the household substitute for their parent's work, household monetary spending on the chosen child's education, time investment of the mother in the chosen child's education, and mother's preference of factors affecting her identity. The chosen child is surveyed about the time spent in school and study-related activities, labor force participation, substitution for parents at their workplace, and preference of factors that matter to child's identity. In addition, both parent and child surveys included questions on school performance on the recent exam, number of absences at school, and behavioral variables such as role models, aspiration and motivation. The data received from schools included the total test points received in the recent exam by the chosen children and their total days of absences for the months of June - November 2018.

Household and Respondent Characteristics

Table 1a, 1b and 1c present the descriptive evidence on the mother and household characteristics. Table 1a shows the distribution of empowerment of the mothers in various household decision-making related-activities. The empowerment of the mother is verified in the parent survey by questions such as whether

[13]The households that were not surveyed resulted from a wrong address or unavailability of the respondent.

the mother would seek healthcare by herself in the event of her sickness or her children's sickness; whether she has a bank account in her name; and her involvement in decisions regarding children's education, health and household finances. About 88% of the mothers said they would seek healthcare by themselves if they get sick and 93% of mothers said they would seek healthcare without a spouse's help if their child gets sick. About 90% of the mothers said they have a bank account for themselves; 40% of the mothers make decisions about their children's education; and 56% decide on household finances. In all categories of decision-making, the percentage of mother's decision-making by herself exceeded her spouse's share. The average size of the household is 4.49 persons, and the average age of the mother is 38 years-old. About 58% of mothers have less than a high school education; 38% have completed anywhere between the 9th and 12th grade; and the remaining 4% have a college degree. Over 92% of the mothers said they wished they had completed more education. The financial difficulty was cited by 48% of the mothers for not completing more education, followed by the reasons of child labor, early marriage, and academic difficulty. About 16% of the mothers in the sample had worked as a child either for pay or had helped their parents at work.

Of the total sample, 75% of the mothers said they were employed. Fifty percent of the total employed in the sample are represented under a daily-wage occupation, which represented the highest occupation category. Other categories of occupation include 18% in domestic work, 14% in self-employment and 18% in private and government organizations. One person among the employed is an agricultural worker. About 83% of mothers with less than or equal to a high school education are represented in the private and government occupation category. Much of this group is employed in the small-scale industries/factories located in the industrial zone. About 86% of employed mothers said their monthly pay would decrease if they miss a workday. This pay decrease is highly reported by mothers who earn daily wages at 92% followed by both self-employed and private/government employed at 88%. Among the occupation categories, domestic workers reported the lowest likelihood of pay decrease at 63%. A possible reason for this lower percentage could be the complex employer-employee relationship as the work takes place in the unconventional work place setting, the "household." Thus reducing the pay for absence may not be strictly enforced.

Out of the total sample of 305 households, 269 respondents reported on their spouse's occupation details.[14] The occupation distribution for the spouse shows that 61% are in daily-wage jobs, 20% are self-employed, 18% are in private and government employment, and 1% are in agriculture. The pay decrease for missing a workday is highly reported for self-employed workers at 98%, followed by daily-wage workers at 94%, private and government at 90%, and 67% among agricultural workers. The average monthly total income of both mother and father in the sample is Rs 13,886, which is approximately equivalent to US $662 adjusted for

[14]The decrease in responses for "spouse occupation" is in some cases because the respondents were single mothers and in some cases the respondents refused to talk about their spouses.

purchasing power parity.[15] Household wealth is calculated by principal component analysis of the various asset variables, such as the type of durable assets the households possess, whether the household owns their home, the type of home, access to electricity, type of fuel, sources of water, access to sanitation facilities and other financial resources. The distribution in the sample for basic infrastructure of sanitation, water and access to electricity shows that 88% of the sample have own sanitation facilities, 43% have own water sources and everyone in the sample has access to electricity. The survey question on financial stability showed that for 67% of the households, their children's income is the only source of financial resource for the future.

Chosen Child Characteristics

The sampled children were 14 years of age on average and primarily aged between 11 and 18. In the overall sample, 74% are girls and within School 2, which has co-educational structure, 48% are girls and 52% are boys. About 46% of the chosen children are first born and the average grade level is 9th grade. For a multiple response question, 60% of mothers in the sample chose school quality as the reason for their choice of school. Within School 1, 59% of mothers cited the single-sex school as the reason for their school choice. Overall, about 57% of the chosen children are taught in English as the medium of instruction. The proportion of enrollment in the English medium is higher for School 1 at 68% compared to 47% for School 2. Within School 2, girls enrollment in the English medium is marginally higher (3% more) than for boys. Of the total sample, 30% of the children go for tutoring. The percentage of children getting tutoring help at School 2 is higher at 35% as compared to 25% at School 1. The academic difficulty and lack of help at home are the most cited reasons to get the extra help through tutoring. In about 12% of the sample, the households had other kids who had dropped out of school. The most cited reasons for dropping out of school were that the kids were not interested in attending school, financial difficulty, and labor force participation, either for pay or to help their parents at work. The chosen children were asked to report the intensity of parental involvement in their study-related activities as measured on a scale of 1-4 for four questions. A maximum score of 16 signifies the highest level of parental engagement. The average of parental involvement for the entire sample is 10.84. The School 2 parents are engaged more with a score of 11.31 as compared to 10.38 for School 1 parents; the difference is statistically significant at a 1% level. When asked about their preference to accept a similar occupation as their parents, about 10% of the chosen children responded that they would assume the same occupation as their parents, citing that they like their parents occupation. The majority of chosen children who had responded "no" cited parents low earnings as a reason.

[15] OECD data on PPP (2018).

3.2 Variables

The key set of independent variables that are of primary focus for the study are substitution and identity variables.

Substitution Variables

In this study, labor substitution refers to a specific type of child labor substitution whereby children provide their labor to help the parents at their workplace. In the context of this sample, examples of such child labor substitution include: children accompanying their mother who is a domestic worker to help her; children helping the parent/s who are self-employed; and children performing work- related tasks for parents who are daily-wage workers. The substitution decision of the parent is captured by the following questions in the survey. In the parent survey, first I asked the mother i) whether her occupation or her spouse's occupation are substitutable, that is, if they do not show up for work, can anyone substitute for them; ii) whether the children have ever done the work that the mother or father does; iii) in general, have the parents taken any of the children to work with them or have they sent them instead; and iv) how many times have they taken or sent their children to help in the past three months.

The responses for the qualitative question in (iii) above are coded as 1 if the parent took or sent the children to work, and 0 if not. The responses for the quantitative variable in (iv) are coded as 1 if the parent took or sent the child instead of them for 1 to 2 times, 2 if 3 to 5 times, 3 if more than 5 times, and 0 if never. I define the frequency of substitution as the average of the number of times the child substituted for the mother and/or father. Since the focus is to study variations in educational investments between households where there is labor substitution and households where there is no such substitution, I define a binary variable for substitution that takes a value of 1 for any non-zero value of frequency of substitution variable defined above and this binary substitution variable is the independent variable in the regression analysis. Given the study's objectives, I also do not differentiate between children working alongside the parent and those entirely substituting for their parent.

The substitution variable captures the substitution by any of the children in the household and not just by the chosen child. The rationale is twofold: i) the purpose is to study how child labor impacts the spending decisions of the household and labor substitution by any of the children in the household will affect the resources available and hence the spending decisions of the household; ii) secondly, for a household that employs its children, it is difficult to argue that only a certain child helps, and this could particularly be true if a parent is self-employed. The chosen child's high participation in labor substitution of the household is captured and justified in a couple of ways. I ask in the survey, which of the children in the household typically help the parent at work, and in 85% of the positive substitution responses, the chosen children have substituted. A similar set of qualitative and quantitative questions of substitution are asked of the

chosen child as part of the child survey, and the independence between responses of the parents and the chosen child is rejected at a 1% level. In addition, the independence of the binary variable that measures whether a chosen child has substituted and the binary substitution variable of parent responses is rejected at a 1% level. Further, I check the independence of whether the chosen child has substituted and the binary substitution variable for mother and father, and the independence is rejected at a 1% level.

Table 2a, 2b and 2c present the summary statistics of substitution variables. About 84% of employed mothers said their occupation is substitutable and among the mothers who have employed spouses, 74% reported that their spouse's occupation is substitutable. Table 2a shows the percentage distribution of substitutability across occupation categories of the mother and father in the sample. The substitutable attribute is highly reported by the daily-wage category for both mother and father. From the parent survey, 7% of households had substituted their children's labor for their parent's labor. Out of that, 60% of child substitution happened only for the mother's work and 20% is for the father's work exclusively, and the remaining 20% substituted for both the mother and father. Table 2c presents the distribution of substitution for the mother and father. Among the children who substituted for the mother, 67% of the children substituted for mothers who are self-employed, 25% substituted for mothers who are domestic workers and 8% substituted for mothers who are daily-wage workers. Among children who substituted father's work exclusively, 75% of children substituted for fathers who are self-employed and in 25% the father was a daily-wage worker. In the case where children substituted for both the mother and father, in 75% the parents are self-employed and in 25% the parents are daily-wage workers.

In the overall sample, 65% of the substitution is by female children, and within School 2, which is a co-educational school, boys substitute marginally more than girls at 58%. There is no strong association between gender and labor substitution for the mother/father. The responses for substitution from the children are marginally higher at 9% as compared to parent responses. In summary, less number of households reported this sort of labor substitution, it shows that this type of child labor prevails and it is high among self-employed parents. There are 69 households in the sample that are in self-employed work and 22% of those reported that they employ their own child. Given that the reported substitution is highest for the self-employed category, there is a reasonable conjecture of possible under-reporting.[16]

The substitution variables are negatively correlated with monetary educational investments and quantitative measure of time investment (time spent by the mother on the child's education). Child substitution is positively correlated with the qualitative measure of time investment, which measures the involvement of parents in child's education from socio-behavioral perspectives. Further, child substitution is more likely to happen if the mother had worked as a child either for pay or to help her parent. The association between

[16]see discussion in Panel 2 of Khan and Lyon (2015) ILO report on the possibility of under-reporting by parents.

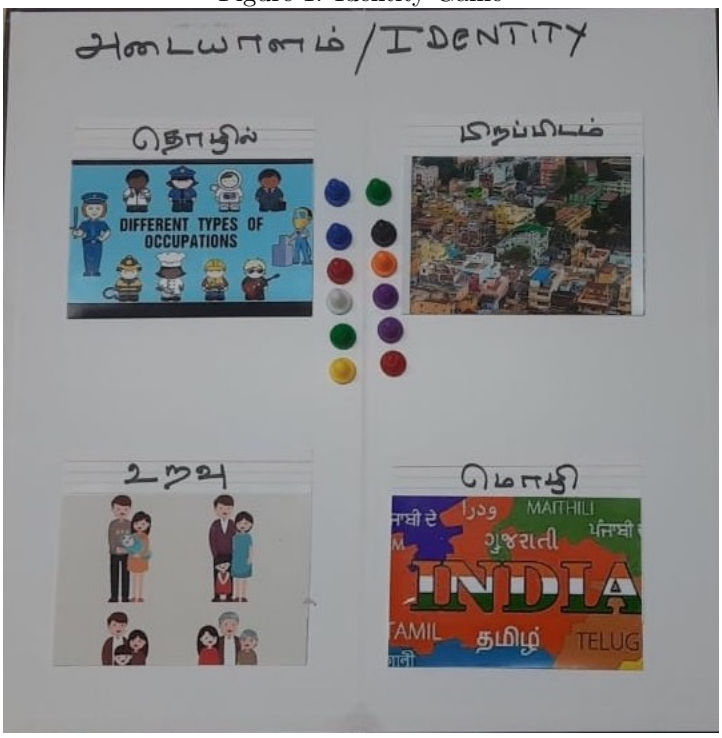
own-child substitution and mother working is strong and significant at a 5% level. The substitutable attribute of the occupation—whether the occupation is substitutable by others—is negatively correlated with the actual substitution. As shown in Table 2a, the self-employed category for which children substituted more for their parents, reported that their work is less substitutable. As part of the parent survey, few other variables that motivate child substitution are measured such as: i) whether the children have ever done the work of the mother/father; ii) whether the earnings potential of the mother/father increases if children help, and iii) whether the mother has observed her coworkers bringing their children to help at work. All these variables are coded as binary and the summary statistics are presented in Table 2b. All three variables are statistically significantly associated with both the overall quantitative measure of substitution that include both mother and father's substitution and also with the variables that measure the substitution for the mother and father separately. The correlation is significant at a 1% level. Finally, it is worth noting the approach of not using the "substitutability" attribute of occupation which may have arguably more exogenous variation in capturing the effect of substitution on investments. First, the intention is to study the effect of own child substitution in the educational investments made by the households. Secondly, occupation being substitutable in general may not imply actual substitution. In this sample, as noted earlier, child labor substitution happens higher for parents who are self-employed and that occupation category is least reported to be substitutable.

Identity Variables

Identity or self-image of an individual can be measured in more than one dimension. In this paper, I study whether "what one does as an occupation" is a principal means through which people express their identity. For this, I construct an "Identity Game," which is played by the mother and the chosen child as part of their surveys. In the game, by a specific elimination process and in an order of preference, the mother and child elicit a factor as their identity from a choice of four factors. The primary objective is to study whether the parents who chose occupation as their identity make educational investments more or less as compared to parents who chose other factors. The case for occupation to represent one's identity is widely supported in the identity literature in economics, sociology and anthropology (Becker and Carper, 1956; Christiansen, 1999; Akerlof and Kranton, 2000). In addition to occupation, the other choices presented in the identity game are the birthplace, mother tongue/language and relationships (Mother of, wife of, daughter/son of). Though these three other choices can be perceived to be identity-related for any population of interest, they are highly relevant in the context of India. The diversity in India is measured through caste, language, religion, and class and historians refer to these as "axes of conflict."[17] According to Sengupta,[18] " language

[17]Guha Ramachandra, "India After Gandhi." Harper Collins, 2007.
[18]Sengupta Papia, "Language as Identity in Colonial India: Policies and Politics." Macmillan. 2017.

Figure 1: Identity Game



is not just an academic endeavor that needs to be studied, probed, and analyzed, but it is a way of life." The society's dynamics are highly dependent on migration, especially internal migration (Indian Census, 2011). The place of birth is highly linked with all the dimensions of caste, religion, language and social class. Further, Indian society is collectivistic and various relationships signal the cultural importance towards this collectivism.[19] So, the rationale to choose these other three factors is that they are comparable to occupation in both personal and cultural perspectives.

The identity game is set up as a board game whereby the factors of interest are depicted in pictorial form and were also described in words as shown in Figure 1. The game is played in three rounds. In the first round, the player received seven pawns and was asked to make an allocation among the four factors as follows: they should place two pawns in the factors that mattered to them the most and one pawn in the factor that did not. The factor that received one pawn is eliminated from the game. In the second round, the player is given five pawns to make a similar allocation among three factors, and in round three, the player gets three pawns to choose among two remaining factors. The factor that receives two pawns in round 3 is the principal factor that represents the player's identity. Before the actual game, for practice, players are asked to do the allocation of pawns among four cards marked A, B, C and D. After the practice round, the actual game was administered with the factors– occupation, mother tongue/language, relationships, birthplace—

[19]Chadha, N.K., Intergenerational Relationships: An Indian Perspective. 2012.

and the players were asked to make a careful selection as the factor that will stand out at the end of the elimination rounds will represent their identity.

The outcome of the identity game is measured by the variables "occupational identity strength" and "binary occupational identity." The occupational identity strength captures the relative significance of occupation as a factor for each round of the game. It takes a value of 1 if occupation is deleted in round one, 2 if deleted in round two, 3 if deleted in round 3, and 4 when occupation is never deleted. The binary variable of occupational identity takes a value of 1 if occupation is chosen as the primary factor to represent identity. Tables 3a, 3b, and 3c show the summary statistics of the outcome of the game. The order of preference of most chosen to least chosen factors by mothers are: relationship, occupation, mother tongue and birthplace. Overall, in the sample, the relationship factor is the most preferred choice of mothers towards identity at 41% as opposed to 32% of the choices were for occupation. The least preferred choice was birthplace at 12%. Table 3a presents the distribution of occupation status and the choice of identity of the mother. The domestic workers made the highest choice of occupation as their identity, that is, 43% of domestic workers chose occupation as their prime identity factor; 39% among private and government employed; 31% among self-employed; and 34% among daily-wage workers. The unemployed mothers had the lowest selection of occupation as identity at 22% and had the highest choice towards relationship at 54%. The choice of occupation as identity is higher for School 1 mothers as compared to School 2 mothers, and the difference is significant at a 10% level. There is no significant relationship between the gender of the chosen child and the mother's choice of occupation as their identity.

Table 3b presents the distribution of identity choices for children and their mothers occupation status. The children of domestic workers had the highest choice of occupation as their identity at 68%. The children of unemployed mothers had the lowest choice of occupation as their identity at 58%. The order of preference of most chosen to least chosen factors for children are: occupation, relationship, mother tongue and birthplace. In the overall sample, 61% of the choices were for occupation. The least chosen factor is birthplace at 5%. The choice of occupation was highest among girls as compared to boys. Within School 2, which has co-educational structure, 48% of boys chose occupation as opposed to 71% of girls. This difference is statistically significant at a 5% level. The boys chose both relationship and birthplace at a higher rate as compared to girls. The least chosen factor by both mothers and children is birthplace. The correlation between the mother's identity choice and the child's identity choice is positive for all factors except for relationship, which is the most popular selection for mothers. The correlation is particularly significant for the choices of mother tongue and birthplace.

The occupational identity strength of the mother is negatively correlated with both monetary and time investments of the household. The correlation is significant for both monetary and qualitative time invest-

ments. The occupational identity strength of the child is positively and significantly correlated with both the time investment in education made by the child and school performance. The correlation is negative and significant with the total missed days at school as measured by total absence. The occupational identity strength of the mother is positively correlated with the binary substitution variable indicating that mothers who value occupation more tend to substitute child labor for their labor more. The occupational identity strength of the mother is positively and significantly correlated with the substitutable attribute of the occupation. In other words, if the mother responded that her occupation is substitutable, she is likely to value occupation more towards her identity as compared to occupations that are not substitutable. The occupational identity strength of the child is negatively correlated with the substitution but not in a significant way. Table 3c shows the distribution of occupational identity strength of the mother and the chosen child. The percentage values shows that children have retained occupation factor much longer as compared to their mothers. Statistically, the occupational identity choice pattern of the children is independent of the choice pattern of mothers.

Key Dependent Variables

The dependent variables that I focus on in this paper are investments made by the household on the child's education, including monetary investments of the household, time investment of the mother in the child's education, and time investment of the child in their education. These variables are constructed based on questions in the context of the chosen child in the household survey.

Monetary Investment of the Household

This variable measures the total household spending on the chosen child's school fees, school supplies, tutoring, and other school-related purchases for the academic year 2018-2019. Table 4 presents the summary statistics on the dependent variables. On average, annual households' monetary spending on the chosen child's education is Rs 6,760 (US $324 at PPP). On average parents of School 2 children spend more at Rs 8,358 (US $398 at PPP) as compared to parents of School 1 children, whose average monetary spending is Rs 5,150 (US $245 at PPP); the difference is statistically significant. Tables 5a and 5b show the summary statistics for separate categories of spending by occupation categories of the mother. The spending of School 2 parents on school-related purchases exceeds the spending by School 1 parents in most categories, the biggest difference being expenditures on school fees and tutoring cost. School 2 is a government-aided school as opposed to School 1, which is purely a government school so the former one involves higher school fees than the latter. If school fees are excluded, the difference in monetary spending gets smaller but still the spending of School 2 parents is significantly higher than that of School 1 parents. Within School 2, parents of male children invest statistically significantly more than the parents of girl children. The monetary investment is negatively correlated with both key independent variables of child substitution and occupational identity

strength. In the Appendix, the Tables A.31 and A.32 show the statistical difference in dependent and other few variables between two schools and between genders for School 2.

Time Investment of Parent- Quantitative Measure

The integration of the time budget with the money budget is necessary to understand the accurate allocation of full income of households (Becker, 1965). Along with monetary investments, I study the impact of time investments of the household in the children's education. I measure time investment of the parent in their child's education in two ways — a quantitative measure of time spent by the mother on the child's study-related activities and a qualitative measure of parental involvement in school related-activities and in their child's learning. The time investment quantitative variable measures the actual time spent by the mother on a typical school day on their child's school-and study-related activities. This variable is constructed based on the standard measure of a 24-hour recall of previous day activities adopted by many time use surveys.[20] I vary from the standard measure by asking the following question in the parent survey: "How much time do you spend on a typical school day helping the child with school related work"? On average, mothers spend 24 minutes of their time in a day helping their child with school-and study-related activities. The time use survey conducted during 2019 for India show, on average, women spend 134 minutes a day caring for the children, teaching their own children and accompanying children to places.[21]

Table 6a shows the distribution of time spent by mothers of different occupational status. On average, the unemployed mothers spend the highest time of 30 minutes per day as compared to employed mothers. Among employed, mothers doing daily-wage work spend more time (26 minutes) as compared to mothers in other occupations. The self-employed mothers spend the least amount of time (14 minutes per day). The mothers of School 2 children spend, on average, 10 minutes more than the mothers of School 1 children, and the difference is statistically significant. Within School 2, mothers of girls spend, on average, 34 minutes daily as compared to mothers of boys, who spend 26 minutes, and this difference in the time spent between the genders is statistically significant. The correlation between grade level and the time spent by the mother is negative, indicating children at higher grade level receive less time investment and the correlation is significant. The quantitative time measurement is correlated negatively with both the occupational identity strength and the substitution variables.

Table 6b show the distribution of allocation of time in a typical workday on various activities such as time spent on work, household management, leisure, personal hygiene, household-related shopping, being idle and other categories. Among the employed, the average time spent on work is 7.5 hours. The women in the sample spend on average 3.6 hours on cooking and cleaning and reported 1.9 hours of leisure and

[20] American Time Use Survey.

[21] For a detailed review see: Time Use in India-2019, Ministry of Statistics and Programme Implementation, National Statistical Office (New Delhi: Government of lndia).

entertainment activities. About 43% of the women reported an average idle time of 1.7 hours a day. In Appendix, in Table A.33, I have provided the comparisons of time allocation of women in India and the US on major activities such as household management, care for household members and leisure and recreational activities using the time use data for India and US for 2019. The time use data for 2019 for US was collected for 9400 individuals. The time use data for 2019 in India was collected for 138,799 households (447,250 individuals) during January 2019-December 2019. It covered all of Indian union excluding Andaman and Nicobar Islands. The average total time spent on household activities per day by women in the US is 2.54 hours as opposed to 4.98 hours by women in India. The total time spent in leisure and recreation by women in the US is 5.12 hours per day as opposed to 2.75 hours by women in India. The women in the US spend 2.37 hours per day on caring for household members as opposed to 2.23 hours by women in India. Though the comparison and the numbers have to be interpreted carefully as the data represent different populations, it does give an overall picture of the time allocation of developed and developing country and more importantly, it shows the significance of such data on time dispositions from both the global and development perspectives.

Time Investment of Parent- Qualitative Measure

In addition to quantitative measures, I study the impact of qualitative time investment, which measures the parental involvement in the child's education in a socio-behavioral sense. The measure is constructed based on the survey questions: i) how often does the mother ask the child about what they are learning at school; ii) does the mother know the child's favorite subject and most difficult subject; iii) were any measures taken to address the difficulties; iv) did the parents go to the recent parent-teacher meeting; and v) given six categories of school-related conversations, can the mother recall those. For each question, a binary variable was created that equals 1 if the answer is yes, 0 if it is no, except for the first question, where the answer choices were coded as 0 if never asked, 1 if asked once a month, 2 if asked every week and 3 if asked every day. The coded variables for these 11 questions were added to generate a qualitative score between 0-13, and then converted into a standardized z-score by subtracting the mean and dividing by the standard deviation. The average of the qualitative time investment measure is 0.

Table 7a shows the distribution of qualitative time investment by occupational status. Except for domestic workers, all of the other occupation categories have positive z-score for the qualitative time investment. The mothers who are private and government employed have the highest z-score followed by the self-employed and unemployed. The correlation between the qualitative time investment and occupational identity strength of the mother is negative and significant. The correlation with the substitution variable is positive, indicating the mothers of children who substituted for their parents are more involved in their child's education in a qualitative sense. Among households in which child substitution happens, about 95% attended parent teacher conferences as opposed to 82% of households where there is no substitution. In addition, mothers of the

children who help the parent at work can recall school-related conversations at a higher percentage compared to mothers whose children do not substitute. The qualitative time investment measure is higher for School 2 than for School 1, and within School 2, parents of girl children have a higher qualitative score than parents of boys; both differences are statistically significant. Table 7b and Table 7c show the descriptive statistics for all individual components used to construct the z-score of qualitative time investment for different occupation categories of the mother.

Time Investment of Child

This is a quantitative measure, which I construct on the basis of the following question in the child survey: "How much time is spent on a regular school day at school, at tutoring, doing homework and reading other than school materials?" The sum of the total time for all these categories is the educational time investment of the child. On average, chosen students spend 11.07 hours in school-and study-related activities in a typical school day. The difference between the two schools is not significant and the difference in the time investment between the genders within School 2 is also not significant. Table 8a shows the distribution of time investment of the child for different occupational status categories of the mother. The children of self-employed mothers who had the highest child substitution reported the least time investment in education. Table 8b presents the descriptive statistics of time spent by the chosen child on various activities in a typical school day. The top three activities in terms of higher time engagement are school, homework and entertainment/play time. In the overall sample, girls statistically spend more time performing household chores, and within School 2, girls spend more time, on average, on household chores and less time on entertainment/playtime as compared to boys; the difference is statistically significant. The time investment of the child is negatively correlated with both the child substitution variable and the occupational identity strength of the mother. The correlation is positive and significant with the occupational identity strength of the child, indicating that children who value occupation more as a factor towards their identity spend more time on the study-related activities.

3.3 Schooling Outcomes

The school administrative data included the chosen student's days of absence and performance in a recent examination. A set of forms were issued to the class teachers at both schools, and they were asked to enter this administrative data of absence and performance in the respective forms for the chosen students. School performance is measured by the test scores received by the chosen students. For School 1, the scores were received for the first-term examination and for School 2, for the second-term examination. Students in grade levels 6th to 10th take exams in the subject areas of Tamil (regional language), English, math,

science and social science. The students in 11th and 12th grade levels are tested, in addition to Tamil and English, in their core subject specializations. The core subjects specialization are referred as "groups". The science group involve the subjects math, physics, chemistry and biology. The computer science group is similar to science except biology is replaced by computer science. The commerce group specialization involve accountancy, commerce and economics. In School 1, test grades for grade levels from 6th to 9th are recorded as letter grades, which were converted to numerical values as per the conversion scale provided in the State Education Department's guidelines. The test scores were then calculated as absolute total points received in all the respective subject areas.

Table 9a and 9b presents the descriptive evidence of schooling outcomes by grade level, school and gender. The total points are significantly higher for chosen students of School 1 and students who's medium of instruction is English, as compared to students who receive instruction in the regional language. Within School 2, girls received significantly higher test scores than boys. In the overall sample, students who go for tutoring score significantly higher on average than non-tutored students. The total test scores are negatively correlated with the substitution variable but not in a statistically significant way. The total test scores are positively and significantly correlated with the occupational identity strength of the child, and the children who chose occupation as their primary factor of identity score significantly higher than students who chose other factors. Especially the preference towards occupation increases for students who scored equal to and above the average of the total points. For the overall sample, the average of total points is 263.43. The average occupational identity strength value is 3.2 for children who scored below average total points and for those who scored equal and above the mean total points, the average occupational identity strength increases to 3.5. The total test scores are negatively correlated with the occupational identity strength of the mother. A possible explanation could be, among the employed, domestic workers had the highest identity strength towards occupation, and their children received lower test scores than the average test scores in the overall sample as noted by Table 9c. When the average total points is considered separately for both schools, the children of domestic workers at School 1 scored higher than the school average. Since 63% of domestic workers in the sample belong to School 2, in the overall sample the average test scores of children of domestic workers who also has the highest occupational identity strength is low.

The data for absences were received for the months of June to November of 2018 for both schools and was calculated as the difference between the total working days of the schools and the number of days the student was present. Both schools worked a total of 121 days from June to November. On average, students were absent for 18 days, and there is no significant difference in the total absence between the two schools. But within School 2, boys were significantly more absent than girls. Total absences are positively correlated with the substitution variable, that is, children who substitute more also had more absences. The children

who had the highest occupational identity strength had a significantly lower number of absences. Total absences are significantly negatively correlated with total points, indicating children who had the higher test scores also had lower absences.

In the context of school performance, I measure a behavioral variable "parent-child disagreement" in the parent survey that captures how frequently the mother and child disagree about the time spent in study-related activities. The variable takes the value of 4 if disagreement happens every day, 3 if they disagree a few times a week, 2 if once a week, 1 if very rarely, and 0 if never. The correlation between parent-child disagreement and total test scores is negative and significant at the 1% level. The disagreement is higher for School 2 children and their parents as compared to School 1, and the difference is statistically significant. Within School 2, boys disagree with their parents at a significantly higher rate as compared to girls, and the difference between the two schools is due to this higher disagreement rate for boys. As the children start to value occupation as a factor more towards their identity, they tend to disagree less with their parents.

Other Behavioral Variables

The surveys capture a few other behavioral and psychological variables such as role models, aspiration and motivation for both the mother and the chosen child. The existing literature shows how the information gap in educational benefits of households is reduced through "role model" intervention, how child's motivation as measured by the child's belief about why schooling is important for their future, and parental aspiration as measured by what they hope to happen in their children's future impact the child's educational attainment (Nguyen, 2008; Gorard et al., 2012).

Role Model Choices

In both the parent and child surveys, I asked the respondents to identify a person who they perceive as their role model and to choose a reason for that from a set of given choices. Tables 10a and 10b show the distribution of such choices for the mother and child, respectively. The reasons for a role model for the mother include occupation, inspiration for own children, successful family, better spouse, education, famous celebrity, kindness and the person helps the mother in the time of need. The choices for the children include occupation, caring, beauty, a motivating teacher, education and a famous celebrity. Over 30% of mothers cannot name anyone as their role model as opposed to 2% of the chosen children. The top three reasons for a role model for mothers are kindness (27%), occupation(18%), and being famous (15%), and for the children it was occupation (26%), being famous (25%), and education (20%). Among mothers, the self-employed category had the highest choice for role model due to occupation trait and for children of daily-wage mothers, occupation trait mattered the most in a role model. Out of two schools, 53% of children at School 1 had chosen a teacher to be their role model as compared to 47% of children at School 2. A binary variable for mother and child is defined that takes value 1 if occupation trait was a reason to choose a role

model. The correlation of role model binary variable with occupational identity strength for mother is weakly negative and for the child the relationship is weakly positive with the child's occupational identity strength. The correlation of mother's role model binary with the substitution variable is positive and significant. If the mother made a choice for a role model due to occupation trait, the total points of the child is higher, and the correlation is significant.

Parental Aspiration

Parental aspiration measures the future hopes of the mother on educational attainment of the children. This is captured by the survey question: "Is there a level of education that the parent wants the children to absolutely achieve?" The variable takes a value of 1 if the expectation of the mother is elementary level of education, 2 if high school, 3 if college, and 4 if graduate degree. Three percent of the mothers chose high school level of education, 79% chose college degree as the minimum educational attainment and 18% chose graduate degrees. Table 11 present the distribution of aspiration levels for different occupational categories of the mother. The mothers who are daily-wage earners have the highest percentage of aspiration (level 4). Self-employed mothers had the lowest aspiration level of 2. The correlation of parental aspiration with both the substitution and the identity strength variables are weakly positive. Yet parental aspiration is positively correlated with the test scores of the child at a 1% significance level. The average test scores of the children that have a parent with a aspiration level of 2 is 178.1, which is below the mean of the total points of 263.43. For parent with a aspiration level of 3, the mean test scores of the children are 261.22, which is little less than the overall mean of the test scores. For the parent with an aspiration level of 4, the average test scores are 289.06. Overall, the School 1 parents have marginally higher aspiration levels than School 2 parents, and the difference is significant at a 10% level. There is no significant variation in the aspiration of parents with respect to the gender of the child.

Child Motivation

Motivation measures the child's decisions about education and indicates how the child carries out such decisions. From the child survey, the motivation is measured from the statements: "I study so my future will be financially secure; I work hard at school to get into a good college/university; I want to be in a better occupation than my parents." For each of these statements, the responses are coded in a Likert scale: " 1-Strongly disagree, 2-Disagree, 3-Agree, 4-Strongly Agree." The motivation indicator is the sum of the responses. For the overall sample, the average motivation is 11.14. The School 1 has a higher mean of 11.24 as compared to 11.04 for School 2 children, and the difference is statistically significant. There is no significant variation in motivation between genders in School 2. Child motivation is significantly and positively correlated with both the child's occupational identity strength and total test scores, indicating children with high levels of motivation value occupation more as a factor towards their identity and perform

well in exams. As presented in Table 12, 61% of children of the private and government employed have the highest motivation score of 12, followed by children of mothers engaged in daily-wage work at 53% and children of unemployed mothers at 44%. Child motivation and parental aspiration levels are positively and significantly correlated.

3.4 Estimation

To evaluate the impact of substitution and identity variables on educational investments, I estimate the following regression specification:

$$Y_{ilj} = \beta_o + \beta_1 I_i + \beta_2 S_i + \beta_3 J_{ji} + \beta_4 T_{li} + \beta_5 K_i + \beta_6 H_{li} + \varepsilon_{ijl} \tag{17}$$

where Y_{ilj} indicates the dependent variables of interest of respondent l, chosen child j at household i, such as monetary investment of the household on chosen child's education, quantitative time investment of mother on chosen child's education, qualitative time investment of mother on chosen child's education and time investment of child in school- and study-related activities. The coefficients $\beta_1$and β_2 capture the effect of valuing occupation relatively more as compared to other factors of the identity game and the effect of the child substituting for parents at work on educational investments respectively. J_{ji} controls for child specific characteristics such as type of school, birth order and gender of the chosen child. T_{li} controls for mother's characteristics of occupation, age and education. K_i represents the income and wealth level of the household $i$and H_{li} represent the father's occupation. I also estimate the above specification with the binary versions of identity. The coefficient on binary occupational identity captures the relative difference in investments between households that choose occupation as the primary factor of their identity and households that choose one of the other factors: mother tongue, birthplace or relationships.

I estimate additional specifications that include chosen child occupational identity as control variables along with other exogenous variables described above, and I test scores of the chosen children as a dependent variable with similar controls as the above specification. Finally, I estimate a few other regressions that involve studying the impact of the behavioral variables, such as parental aspiration, role model and child motivation along with similar controls described above on educational investment variables.

Table 1a: Distribution of Empowerment of Respondents

	Obs	Mean	Standard Deviation
Will seek healthcare if sick (0/1)	305	.88	.32
Will seek healthcare if child is sick (0/1)	305	.93	.25
Have bank a/c (0/1)	305	.90	.30
Empowerment			
- On Children's Education(1-6)[a]	305	2.03	.95
- On Children's Health(1-6)[a]	305	1.79	.95
- On Children's Discipline(1-6)[a]	305	1.96	.98
-On Food-Related Purchases(1-4)[b]	305	1.37	.75
-On Managing Finances(1-4)[b]	305	1.60	.77
-On Major Purchases(1-4)[b]	305	1.90	.82

Notes: Data source is the Household Parent Survey.
[a] 1=Respondent, 2=Respondent's Spouse, 3= Jointly, 4=Other HH Members, 5=Outside Family, 6= Doesn't Happen.
[b]1=Respondent, 2=Respondent's Spouse, 3= Jointly, 4=Other Family Member.

Table 1b: Descriptive Statistics of Household and Chosen Child Characteristics

	Obs	Mean	Standard Deviation
Panel A. *Respondent Background*			
Age (in years)	305	38	5.87
Education	305	3.79	1.49
Education (in years)[a]	305	6.9	4.03
Occupation			
- is a domestic worker (0/1)	305	.13	.34
-is private/government employed (0/1)	305	.13	.34
-is self-employed (0/1)	305	.10	.31
-is a daily-wage worker (0/1)	305	.37	.48
-is an agricultural worker (0/1)	305	.00	.06
Occupation Severity (0/1)	227	.86	.35
Time Preference (0-6)[b]	305	1.25	1.6
Had worked as a child (0/1)	305	.16	.36
Panel B. *Household Background*			
HH size	305	4.49	.94
Respondent's Spouse Age	278	44	6.06
Spouse Education	276	4.02	1.41
Spouse Occupation			
-is private/government employed(0/1)	305	.16	.37
-is self-employed (0/1)	305	.18	.38
-is a daily-wage worker (0/1)	305	.53	.50
-is an agricultural worker (0/1)	305	.01	.1
Assets- Basic Infrastructure			
-Lighting Sources(1-2)[c]	305	2	0
-Water Sources(1-3)[d]	305	2.26	.74
-Sanitation Sources(0-2)[e]	305	1.88	.35
Total Assets[f]	305	2.26e-09	1.51
Total Income (in Rs)	305	13887	6314
Panel C. *Student/Chosen Child Background*			
Age (in years)	305	14	1.93
Grade Level	305	9	1.99
Medium of Instruction(0/1)[g]	305	.57	.50
Is a Male (0/1)	305	.26	.44
Birth Order	305	1.7	.77
Goes to Tutoring (0/1)	305	.30	.46

Notes: Data Source is the Household Parent Survey.
[a] 0 if less than Primary, 2 if Primary, 4.5 if Elementary, 7 if Upper Elementary, 10 if High School, 16 if College and 18 if Graduate.
[b] 0=never switched to higher future amount; 1-6 = denote the switching point in the given six choices to higher future amount.
[c]1=Kerosene; 2= Electricity.
*d*1=Water delivered by local corporation; 2= Shared Faucet/Well; 3= Own Faucet/Well.
[e]0=No Sanitation Facility; 1= Shared Sanitation Facility; 2= Own Sanitation Facility.
f Principal Component Analysis of Total Assets.
[g]0= Regional Medium of Instruction; 1= English Medium of Instruction.

Table 1c: Percentage Distribution of Occupations of Respondents and Spouses

Respondent	Total No of Households	% Among Employed
-Domestic Work	40	17.5
-Private/Government	41	18
-Self-Employed	32	14
-Daily-Wage	114	50
-Agriculture	1	.5
Respondent's Spouse		
-Private/Government	49	18
-Self-Employed	54	20
-Daily-Wage	163	61
-Agriculture	3	1

Notes: Data Source is the Household Parent Survey. Out of a total sample of 305, 228 are employed respondents and 269 of spouses of respondents are employed

Table 2a: Percentage Distribution of Substitutable Attributes and Occupations

	Domestic Work	Private/Government	Self-Employed	Daily-Wage	Agriculture
Occupation Substitutable- Mother's Occupation (%)	90	80	38	96	100
Occupation Substitutable- Father's Occupation (%)	-	82	26	88	100

Notes: Data Source is the Household Parent Survey. There was only one agricultural worker among mothers and three among fathers.

Table 2b: Summary Statistics for Substitution Variables

	Obs	Mean	Standard Deviation
Respondent Occupation Substitutable(0/1)	305	.63	.48
Spouse Occupation Substitutable (0/1)	305	.66	.48
Child Substitution - Qualitative(0/1)[a]	305	.08	.27
Child Substitution - Quantitative (0/1)[a]	305	.07	.25
Children have done mother's work (0/1)	305	.16	.37
Children have done father's work (0/1)	305	.04	.19
Earning potential of mother increases if children help (0/1)	305	.07	.26
Earning potential of father increases if children help (0/1)	305	.03	.18
Substitution Common-Mother's Occupation (0/1)	305	.04	.19

Notes: Data Sources is the Household Survey. [a] The continuous qualitative and quantitative substitution variables are measured as average of intensity of substitution for the respondent (mother) and her spouse (father).

The binary substitution is coded 1 for non-zero values of those averages.

Table 2c: Percentage Distribution of Substitution for Mother's Occupation and Father's Occupation

	Domestic Work	Private/Government	Self-Employed	Daily-Wage	Agriculture
Substitution for Mother's Occupation (%)	25	-	67	8	-
Substitution for Father's Occupation (%)	-	-	75	25	-
Substitution for Mother's and Father's Occupation (%)	-	-	75	25	-

Notes: Data Source is the Household Parent Survey.

Table 3a: Distribution of Identity Choices and Occupation of the Mother

	Occupation	Mother Tongue	Relationship	Birthplace
Domestic Work (%)	43	15	30	12
Private/Government (%)	39	10	29	22
Self-Employed (%)	31	25	41	3
Daily-Wage (%)	35	11	42	12
Agriculture (%)				100
Unemployed (%)	22	15	54	9

Notes: Data Source is the Household Survey. There was only one agricultural worker in the sample. The numbers represent the distribution of choices within an occupation category.

Table 3b: Distribution of Identity Choices of Chosen Child Across Occupations of Mother

	Occupation	Mother Tongue	Relationship	Birthplace
Domestic Work (%)	68	10	15	8
Private/Government (%)	61	12	25	2
Self-Employed (%)	59	13	22	6
Daily-Wage (%)	63	13	19	5
Agriculture (%)	100			
Unemployed (%)	58	17	20	5

Notes: Data Source is the Household Parent Survey. There was only one agricultural worker in the sample. The numbers represent the distribution of choices of the chosen child within an occupation category of the mother.

Table 3c: Distribution of Occupational Identity Strength: Chosen Child and Mother

	Child's Occupational Identity Strength			
Mother's Occupational Identity Strength	1	2	3	4
1	5	14	27	54
2	10	7	28	55
3	3	15	16	66
4	6	9	18	67

Notes: Data Source is the Household Parent Survey. Identity strength takes value 1 when occupation is deleted in round 1; 2 when deleted in round 2; 3 when deleted in round 3; and 4 when never deleted.

Table 4: Summary Statistics of Education Investments

	Obs	Mean	SD
Monetary Expenditures (in Rs)	305	6760	3833
Monetary Expenditures Alternate (in Rs)	305	4838	3231
Time Investment - Quantitative (in hrs.)	304	.40	.62
Time Investment - Qualitative (z-Score)	305	0	1
Time Investment - Child (in hrs.)	305	11.07	1.51

Notes: : Data Source is the Household Parent Survey. The monetary investments alternate is total monetary spending by the households, excluding the school fees component.

Table 5a: Summary Statistics of Monetary Investments

	Obs	Mean	Standard Deviation
Monetary Spending on School Supplies, Fees, Transportation (in Rs)	305	5653	2749
Monetary Spending on Tutoring and Other Special Classes (in Rs)	305	1090	2307
Monetary Spending on Other Study-Related Purchases (in Rs)	305	16	287

Notes: Data Source is the Household Parent Survey.

Table 5b: Summary Statistics of Monetary Investment by Mother's Occupation Categories

	Obs	Mean	Standard Deviation
Domestic Work (in Rs)	40	6485	3789
Private/Government (in Rs)	41	6398	3172
Self-Employed (in Rs)	32	6936	3259
Daily-Wage (in Rs)	114	7024	3699
Agriculture (in Rs)	1	3300	-
Unemployed (in Rs)	77	6676	4589

Notes: Data Source is the Household Parent Survey.

Table 6a: Distribution of Time Investment: Quantitative, by Occupation Status of Mother

	Mean	Standard Deviation
Domestic Work (in hrs.)	.31	.65
Private/Government (in hrs.)	.36	.46
Self-Employed (in hrs.)	.24	.42
Daily-Wage (in hrs.)	.44	.64
Agriculture (in hrs.)	0	0
Unemployed (in hrs.)	.48	.71

Notes: Data Source is the Household Parent Survey.

Table 6b: Distribution of Time of Mother on Various Activities in a Typical Day

	Obs	Mean	Standard Deviation
Work (in hrs.)	228	7.5	2.9
Cooking and Cleaning (in hrs.)	305	3.6	1.5
Leisure and Entertainment(in hrs.)	305	1.9	1.4
Personal Things (in hrs.)	305	1.1	.63
Running Errands (in hrs.)	305	.60	.62
Idle (in hrs.)	305	.74	1.2
Other Things (in hrs.)	305	.04	.26

Notes: Data Source is the Household Parent Survey.

Table 7a: Distribution of Time Investment: Qualitative Z-Score, by Occupation Categories

	Mean	Standard Deviation
Domestic Work	-.53	1.2
Private/Government	.24	.86
Self-Employed	.09	.80
Daily-Wage	.01	1.0
Agriculture	.48	-
Unemployed	.08	.90

Notes: Data Source is the Household Parent Survey.

Table 7b: Summary of Time Investments: Qualitative - Individual Components

	Overall Mean	Domestic Workers	Private /Govt	Self-Employed
How often mother asks the child about learning (0-3)	2.38	2.2	2.4	2.3
		(1.1)	(.92)	(.78)
Does the mother know child's favorite subject (0/1)	.75	.60	.93	.63
		(.50)	(.26)	(.49)
Does the mother know child's difficult subject (0/1)	.83	.65	.90	.84
		(.48)	(.30)	(.37)
-Did the parent/s take any measures to address any difficulty in academics of the child (0/1)	.59	.33	.68	.59
		(.47)	(.47)	(.50)
Did parent/s go to parent-teacher meetings (0/1)	.83	.85	.76	.78
		(.36)	(.43)	(.42)
Can mother recall conversation - About a Class (0/1)	.83	.83	.88	.81
		(.38)	(.33)	(.40)
-About Teacher (0/1)	.85	.80	.88	.88
		(.41)	(.33)	(.34)
-About Exams/Class Tests (0/1)	.82	.75	.85	.97
		(.44)	(.36)	(.18)
-About Homework (0/1)	.83	.68	.90	.88
		(.47)	(.30)	(.34)
-About Classmates/School Friends (0/1)	.88	.78	.88	.88
		(.42)	(.33)	(.34)
-About other School Related Topics (0/1)	.28	.18	.34	.50
		(.38)	(.48)	(.51)

Notes: Data Source is the Household Parent Survey.

Table 7c: Summary of Time Investments: Qualitative - Individual Components

	Overall Mean	Daily-Wage	Agriculture	Unemployed
How often mother asks the child about learning (0-3)	2.38	2.32	3	2.57
		(.92)		(.68)
Does the mother know child's favorite subject (0/1)	.75	.78	0	.77
		(.42)		(.43)
Does the mother know child's difficult subject (0/1)	.83	.86	1	.84
		(.35)		(.37)
-Did the parent/s take any measures to address any difficulty in academics of the child (0/1)	.59	.58	1	.68
		(.50)		(.47)
Did parent/s go to parent-teacher meetings (0/1)	.83	.83	0	.87
		(.37)		(.34)
Can mother recall conversation - About a Class (0/1)	.83	.86	1	.77
		(.35)		(.43)
-About Teacher (0/1)	.85	.83	1	.86
		(.37)		(.35)
-About Exams/Class Tests (0/1)	.82	.79	1	.81
		(.41)		(.40)
-About Homework (0/1)	.83	.83	1	.84
		(.37)		(.37)
-About Classmates/School Friends (0/1)	.88	.91	1	.88
		(.28)		(.32)
-About other School Related Topics (0/1)	.28	.28	1	.18
		(.45)		(.39)

Notes: Data Source is the Household Parent Survey.

Table 8a: Summary Statistics of Time Investment of Chosen Child by Mother's Occupation

	Obs	Mean	Standard Deviation
Domestic Work	40	11.03	1.5
Private/Government	41	11.18	1.4
Self-Employed	32	10.98	1.6
Daily-Wage	114	11.04	1.4
Agriculture	1	11	-
Unemployed	77	11.13	1.7

Notes: Data Source is the Household Parent Survey.

Table 8b: Distribution of Time of Chosen Child: Various Activities in a Typical Day

	Obs	Mean	Standard Deviation
Household Chores (in hrs.)	305	.43	.54
School (in hrs.)	305	8.6	.58
Tutoring (in hrs.)	305	.67	1.1
Homework (in hrs.)	305	1.7	1.2
General Reading (in hrs.)	305	.08	.26
Help Siblings with School Work (in hrs.)	305	.16	.33
Entertainment/Play (in hrs.)	305	1.6	1.1
Work for Pay (in hrs.)	305	.01	.23
Help Parents at Work (in hrs.)	305	.06	.27
Help Parent at Petty Shop/Small Business (in hrs.)	305	.06	.36

Notes: Data Source is the Child Survey. The numbers denote the allocation of time in a typical school day.

Table 9a: Summary Statistics of School Performance by Grade Level and School

Grade Level	Overall Mean	SD	School 1			School 2		
			Obs	Mean	SD	Obs	Mean	SD
6	229.89	88.20	12	304.75	61.94	24	192.46	74.95
7	231.79	85.34	16	279.06	50.84	22	197.41	89.69
8	267.62	99.34	14	302.14	80.14	15	235.40	107.09
9	234.17	89.49	19	227.34	61.12	32	238.22	103.45
10	256.94	76.64	26	257.23	97.24	22	256.59	43.49
11	306.67	94.48	34	280.62	83.70	14	369.93	91.68
12	300.78	87.87	30	294	87.25	24	309.25	89.77

Notes: Data Source is the School Performance Data from schools. SD= Standard Deviation. The numbers above are the absolute total of total test scores received by the chosen children.

Table 9b: Summary Statistics of School Performance by Grade Level and Gender- School 2

Grade Level	Boys			Girls		
	Obs	Mean	SD	Obs	Mean	SD
6	9	170.44	85.43	15	205.67	67.53
7	12	170.83	75.56	10	229.30	98.59
8	9	219	103.06	6	260	117.94
9	19	216.32	101.90	13	270.23	100.99
10	11	250.36	30.74	11	262.82	54.24
11	7	358.57	99.65	7	381.29	89.33
12	13	294.38	104.96	11	326.82	68.46

Notes: Data Source is the School Performance Data from schools. SD= Standard Deviation. The numbers above are the absolute total of total test scores received by the chosen children.

Table 9c: Distribution of Total Points by Mother's Occupation Category

	Obs	Mean	SD
Domestic Work	40	250.95	94.43
Private/Government	41	287.60	83.50
Self-Employed	32	250.72	98.25
Daily-Wage	114	260.41	92.14
Agriculture	1	297.50	-
Unemployed	76	266.39	95.89

Notes: Data Sources are the Household Parent Survey and School Performance Data.

Table 10a: Distribution of Role Model Choices of Mother by Occupation Categories of Mother

Reasons	Domestic Work	Private/Government	Self-Employed	Daily-Wage	Agriculture	Unemployed
Occupation (%)	23	22	29	14	-	14
Inspiration for Own Children (%)	4	9	19	8	-	6
Successful Family (%)	12	6	14	6	100	2
Better Spouse (%)	-	-	-	-	-	-
Education (%)	19	-	10	10	-	16
Famous Celebrity (%)	12	16	10	14	-	22
Kindness (%)	23	38	14	29	-	25
Helped the Respondent (%)	8	9	5	18	-	16

Notes: Data Source is the Household Parent Survey. The percentage distribution is calculated based on total responses of 208 responses. In the total sample, there is one agricultural worker.

Table 10b: Distribution of Role Model Choices of Chosen Child by Occupation Categories of Mother

Reasons	Domestic Work	Private/Government	Self-Employed	Daily-Wage	Agriculture	Unemployed
Occupation (%)	29	15	23	32	100	22
Caring (%)	18	25	19	14		16
Beauty (%)	-	3				1
Motivating Teacher (%)	5	13	6	10		19
Education (%)	16	20	29	20		18
Famous Celebrity (%)	32	25	23	24		24

Notes: Data Source is the Household Child Survey. The percentage distribution is calculated based on total responses of 298 responses. In the total sample, there is one agricultural worker.

Table 11: Distribution of Parental Aspiration Levels by Occupation Categories of Mother

	Domestic Work	Private/Government	Self-Employed	Daily-Wage	Agriculture	Unemployed
Parental Aspiration-High School (%)	2	-	9	3		4
-College (%)	88	83	72	74	100	82
-Graduate (%)	10	17	19	23	-	14

Notes: Data Source is the Household Parent Survey.

Table 12: Distribution of Child Motivation Levels by Occupation Categories of Mother

	Domestic Work	Private/Government	Self-Employed	Daily-Wage	Agriculture	Unemployed
Child Motivation-5 (%)						1
8 (%)	2	3				
9 (%)	18	2	6	9		3
10 (%)	10	7	15	17		21
11 (%)	30	27	38	21	100	31
12 (%)	40	61	41	53		44

Notes: Data Source is the Household Parent and Child Survey.

4 RESULTS

4.1 Impact of Identity and Substitution on Monetary Investments

The estimation specified in equation (1) in the data collection section is estimated by ordinary least squares. The tables presented in this section capture the main results. In the Appendix, I present the same results as blockwise regressions, where the controls variables are added as blocks. The household characteristic block represents the mother's age, education, occupation and father's occupation; the socioeconomic block represents the asset level and total income; the child block represents the gender and the birth order, and the last block is the school effect.

Tables 1-4 present the estimates of the substitution and identity variables impact on the investments made by the household, both - monetary and time investments. All specifications are controlled for total income, wealth, father's occupation, and respondent characteristics such as occupation, age, and education; and child-specific characteristics, such as type of school, gender, and birth order. In each of these tables, column 1 shows the effect of child substitution on the respective investment variable with the set of controls mentioned above; the column 2 shows the effect of occupational identity strength, column 3 shows the effect of binary occupational identity and finally column 4 shows the effect on investments, including both substitution and binary identity with other controls. Child substitution for the parent is measured by averaging the number of times the child substituted for their mother and father in the past three months. Since the purpose is to study the impact on educational investments for child substituting households as compared to households that does not let the child substitute for parent labor, the substitution variable is coded binary, which takes the value of 1 for any non-zero values of the average. The coefficient of this binary variable of substitution, "child substitution," is interpreted as changes in investments between households that substitute the child's labor for parent labor and households where there is no such substitution.

Column 1 of Table 1 shows the effect of substitution on monetary investments controlling for household and child characteristics. The coefficient on substitution suggests that the children in households in which the child has substituted spend less on school- and school-related purchases. The coefficient of substitution has a larger magnitude and a significant at 10% level in all specifications. In the columns 1 and 4, which show the effect of child substitution on monetary investments, the mothers who are in daily-wage occupations spend less as compared to other households. As the education level of the mother increases, households make less monetary investment. Part of this is explained by the grade level of the children, which is positively correlated with the total monetary educational spending of the household, and mothers of children in higher grade levels (10th - 12th) have lower levels of education. The mothers of children at lower grade levels (from 6th - 9th grade) spend less than the overall mean of monetary spending in the sample. Including the grade

level as independent variable changes the sign of the effect of mother's education but not in a significant way.

The households with older mothers spend more on their child's education, and the effect is significant. The total income and wealth level of the household has a positive effect on monetary investments and is significant in all specifications at the 5% level. The households of School 1 children, that is, the all-girls school, significantly invests less than the households of the School 2 children. As noted in the previous section in descriptive statistics, the households of School 2 spend more in all categories of monetary spending.[22] This result is consistent with the gender variable, indicating parents of male children spend significantly more. The children of higher birth order receive less investment, and the effect is significant. The Table A.2 in the Appendix presents the block regressions to evaluate the change in the estimates of child substitution, where the control variables are added as blocks. The negative impact on monetary investments due to child substitution is consistent for all blocks and substitution is significantly affected when the school fixed effect is added. Out of the total child substitution, 40% is represented by School 1 children and 60% is from School 2, which has higher monetary spending as compared to School 1. Hence, the overall decrease in monetary investments due to substitution is also higher.

To study the impact of occupational identity choice on educational investments, I define two measures of occupational identity for the regression analysis: occupational identity strength and binary occupational identity . The occupational identity strength measures the relative importance of "occupation" as a factor to represent one's identity as compared to other factors in each round of the identity game. The binary identity variable takes the value 1 if occupation is chosen to be the primary source of identity and 0 if any of the other factor that is, mother tongue, relationships or birthplace is chosen. Identity is a multi-dimensional concept here. I attempt to capture the impact on investments not just when occupation is chosen as a primary factor of identity but also the effect on investments if the factor occupation is valued marginally more in a given round of the game. The coefficient of identity strength measures the impact of retaining occupation for one more round in the game on the monetary investments made by the household. The coefficient on the binary identity variable captures the relative difference in investments between households where the mothers chose occupation as the primary source of identity and mothers who chose other factors (mother tongue, relationships or birthplace).

Column 2 of Table 1 shows the impact of occupational identity strength on monetary investments. The coefficient shows as occupation becomes a stronger choice to represent identity, the households spend less on the child's education, and the effect is significant at a 5% level. This negative impact is after controlling

[22]Specifically, the biggest component of spending difference is due to school fees. School 1 is a government school and school 2 is a government-aided school. In the appendix, in Table A.17 I have produced the same results for the monetary investment excluding the school fees. The significance of the main variables such as substitution and identity do not change.

for household characteristics of wealth, income and father's occupation, mother's characteristics of age, education, occupation, and child characteristics of school, gender and birth order. Of the total number of mothers who had the highest occupation strength value of 4, that is, the mothers who consistently valued the occupation factor more, about 83% of these mothers are employed with the distribution of occupation categories of: 21% in domestic work, 20% in private/government, 12% in self-employment, and 48% in daily-wage work. But within each category of employment, domestic workers had the highest value of occupational identity strength of 4 at 43% as compared to other categories of work. The monetary investments are the sum of 12 categories of spending towards school, school- and study-related supplies and outside learning opportunities. The comparison of spending between the two extreme values— occupational identity strength of 1 (occupation deleted in round 1 of the game) and 4 (occupation never got deleted)—shows that the households in which the mothers had the lowest identity strength of value 1 exceeded the households in which the mothers had the highest identity strength of value 4 in about 7 categories out of 12.

I repeat the specification in column 3 with the identity binary variable. The coefficient of binary identity variable is consistent with the negative sign of the identity strength variable and is significant at a 5% level. But the magnitude of the coefficient is almost double the coefficient of the identity strength variable. Thus, the binary measure of occupational identity predicts a larger decrease in monetary investments. Finally, I also check the effect on monetary investments with both substitution and binary identity variables given by the specification in column 4, because in about 40% of households where children substitute for their parents, mothers also valued occupation as a factor more as compared to other factors. The sign and significance for both coefficients remain the same, but the magnitude of both variables decrease by a small amount as compared to the magnitude in the regressions, which does not control for both. Table A.1 provides the estimates for the block regressions for occupational identity, and the sign and significance of identity strength remain consistent in all specifications. This indicates that the magnitude of negative impact is high when socio economic characteristics is controlled and this magnitude is reduced a bit when the school fixed effect is added. But the significance of identity strength variable on monetary investments is consistent at 5% with all blocks. Further, in the appendix, in tables A.20 and A.21, I present the results of these regressions under the two variations of mother's education: education measured in years and categories of education levels included as binary variables. The sign and significance of both identity and substitution variables do not change under these both variations and consistent with Table 1, mother's education is not a significant determinant of monetary investments.

4.2 Impact of Identity and Substitution on Time Investments

4.2.1 Time Investment - Quantitative Measure

Next, I turn to Table 2 which reports the impact of substitution and identity on the time spent by the mother on the child's education-related activities in a typical school day. The dependent variable is a daily measure of the total time spent in hours by the mother in helping the child with school- and study-related activities. As described in the data collection section, this measure is developed along the lines of 24-hour recall of the previous day activities adopted by most of the time use surveys. I vary from this by asking the mother, in a typical school day routine, how much time of the day is spent with the child on school related-activities. I also include time spent as passive care towards education-related activity, such as, "sitting next to the child while the child is involved in doing homework or reading."[23]. Column 1 of Table 2 indicates the negative impact of the substitution variable on time investment, that is, in the households where there is child substitution, the mothers spend less time in the child's education. Among the occupation categories, mothers who are daily-wage earners spend more time helping their children with school- and study-related activities as compared to other households, but not in a significant way.

A notable characteristic is, in the sample, about 54% of the mothers reported that they do not spend any time helping the child with education-related activities. The effects of both the occupational identity strength and binary identity variables are also negatively related to the time investment of the mother as shown in columns 2 and 3 of Table 2. The magnitude and sign of both substitution and identity binary variables are of similar order in the one in which both variables are controlled as given in column 4. Although the estimated coefficients of both identity and substitution variables are not significant for the quantitative time investment measure, the finding that both occupation identity and child substitution result in decreased monetary investments discussed above is intact for time investment as well. Among household characteristics, both income and wealth have a positive impact. The mother's age has a negative impact for time investment, indicating younger mothers spend more time on their child's education as compared to older mothers. The only respondent characteristic that is statistically significant is the education level of the mothers. The mother's education has a positive impact, indicating more educated mothers spend more time helping their children with study-related activities. The above result is consistent with the significant negative correlation between mother's education and age. The mothers of School 1 children invest significantly less time as compared to mothers of School 2 children. A plausible reason is the average grade level of chosen students from School 1 is 9.68 as opposed to 8.94 at School 2. The grade level and the time spent by mothers are significantly negatively correlated. The difference in the mean time investment between the schools is

[23] American Time Use Survey.

statistically significant at a 1% level.

The impact of the gender variable is negative, indicating male children receive less time investment. Although the coefficient is not statistically significant, the result is consistent with the literature that child sex affects parental investment. What is especially notable is that parents exhibit a pattern of favoritism towards the same sex (Lilliard and Willis, 1994; Durante et al., 2017). Mothers spend significantly less time as the birth order of the child goes up. Studies show that parental investment depends on the birth order of the child; Specifically parents tend to favor the firstborns and last borns relative to middle borns (Salmon et al., 2011). Table A.4 presents the respective blockwise estimates. The negative impact becomes smaller when mother's education is controlled. With the school fixed effect, the magnitude of decrease becomes larger, which is reflected in the negative and significant coefficient of School 1, indicating mothers of School 1 children spend significantly less time helping their children with study-related activities as compared to mothers of School 2 children. Table A.3 presents the blockwise estimates of occupational identity, and none of the blocks seem to change the sign and magnitude of the negative impact of identity on time investment. Though I focus on substitution and identity as the main coefficients, much of the findings on the household and child control variables of the time investment specifications embrace the existing literature. Tables A.22 and A.23 presents the results of these regressions under the two variations of mother's education. The sign and significance of both identity and substitution variables do not change under these both variations and consistent to results presented in this section in Table 2, mother's education measured in years is positive and significant at 1% level. Among different categories of mother's education, except for primary level, the remaining categories has positive impact on time investment, especially, the mothers with high school level of education significantly invests more time in child's education.

4.2.2 Time Investment - Qualitative Measure

Table 3 shows the estimates of the qualitative time investment, which is a measure of parental involvement in their child's education in a socio-behavioral sense. The dependent variable is a Z-score measure of different parent - child interconnections in school- and learning-related activities, such as how much does the parents know about the child's learning; whether the parent(s) attend meetings at the child's school; and do parent-child conversations involve the school and the child's learning. Column 1 shows the impact of the substitution variable and the coefficient is positive, indicating that mothers who have their children substitute for their work are involve more in the child's learning in a qualitative sense. The coefficient is not significant in a statistical sense, but this is the only investment variable in which substitution has a positive impact. Among

households in which child substitution occurs, about 95% attended parent-teacher conferences as opposed to 82% of households where there is no substitution. In addition, mothers whose children help them at work can recall school -related conversations at a higher percentage compared to mothers whose children do not substitute. Studies have noted increases in scientific thinking and higher test scores among children as a result of more parent-child conversations (Callanan and Braswell, 2006 and Mantzicopoulos et al., 2011). But the impact of socio-behavioral interactions between the parent and child on educational investments is much less explored in the field of economics of education.

All occupation categories have positive Z-score values for the qualitative time investment except for domestic workers. Notably, self-employed mothers spend less time helping their children with study-related activities quantitatively as compared to other categories but more in a qualitative sense. Self-employment is a leading occupation category to employ child labor in this sample, and that explains the positive coefficient on child substitution. This is thought provoking in the sense that when the child helps, it also opens up the possibility of more parent-child interactions and therefore increased qualitative time. Both the identity strength and binary identity variables have negative coefficients, that is, mothers who value occupation more as a factor towards their identity are less involved in their child's education. Particularly, the negative impact of binary occupational identity is significant at a 5% level. The mother's age has a negative impact for this measure of time investment, indicating that younger mothers know more about their child's education and learning as compared to older mothers. Also, the more-educated mothers are involved more in their child's learning compared with less-educated mothers, and the coefficient is statistically significant. Both the income and wealth level have a positive impact, and the impact of the wealth level is significant. The coefficient on School 1 and gender are both negative, indicating mothers of School 1 children make less qualitative time investment, and mothers of girls are involved more than mothers of boys. Both these variables are significant, especially that School 1 is more significant for qualitative measures of time investment than quantitative measures. From Table A.6, it is evident that the magnitude of the impact of substitution is highly influenced by the household characteristics block. Table A.5 shows that sign and magnitude of identity strength does not change when the controls are added in blocks; In other words, none of the blocks seem to have a bigger impact on the coefficient of identity strength. The differential impact on both measures of time investment ascertain the importance of different dimensions of qualitative and quantitative measures of parental time investment in the child's education. Tables A.24 and A.25 presents the results of these regressions under the two variations of mother's education. The education measured in years has the same sign and significance as shown in Table 3 in this section. All categories of education has positive impact on qualitative time investment. In specific, the mothers with elementary, upper-elementary, high school and college levels of education significantly spend more qualitative time in child's education. Further, the sign and significance

of both identity and substitution variables do not change under these both variations.

4.3 Time Investment - Child

Table 4 reports the estimates for the regressions of time investment made by the chosen child in his/her education. Column 1 shows that substitution has a negative impact on the time investment. The children who help their parents at work spend less time in their school-related activities. Though the coefficient does not have significance from a statistical point of view, the negative sign is crucial. Child labor laws in India were amended in 2016 to allow school-going children to help with family enterprises after school. This makes a strong case as to why the correlation between child labor, in which the child helps the parent, and the time commitment of the child in study-related activities are important and should be understood well. The identity strength variable of the mother has positive effect on the time spent by the child as given in column 2. That is, the children of the mothers who keep the occupation factor for one more round of the identity game tend to invest more time in their education. The coefficient of the binary identity variable, which measures the impact of choosing occupation as the prime factor of identity relative to other factors, also shows a positive effect on the time investment as shown in column 3. Though both coefficients are not significant, this is the only investment that has a positive impact from mother's occupational identity, indicating children of such mothers invest more time in study-related activities.

Among mother's characteristics, children of mothers who are older spend more time in study-related activities and the coefficient is significant at a 1% level. Part of this effect can be explained by the grade level of the children, which is significantly correlated with the time investment of the child. On average, children at the grade levels 10 and above spend an hour more than the children in 6th to 9th grades, and the children at higher grades have older mothers. The coefficient on income predicts negative impacts on the time investment of the child, indicating children of households with higher income level invests less time in their education. The wealth level of households has positive and significant impacts on the time investment of the child in their education. The School 1 children spend less time on their education-related activities, and boys spend less time as compared to girls. The coefficient on birth order shows significant effects, indicating that children of higher birth order invest less time in their education. The block regression presented in Table A.8 shows the coefficient of substitution changes by a larger magnitude with the gender and birth order inclusion. Table A.7 shows the change in the identity strength in the respective block regression. A simple regression of occupation identity strength on the time investment of children shows negative impacts, and the sign changes when household characteristics are controlled. The positive impact of both mother's age and

education on the children's time commitment explains this. Tables A.26 and A.27 shows these regressions with mother's education measured in years and categories of education included as binary variables. Both variations of education are not significant in determining the time investment of the child. Among categories, primary and elementary levels have negative impact on the time investment of the child.

4.4 Other Regressions

In Table 5, I present additional specifications for time investment with chosen children's identity variables along with household characteristics and mother's occupational identity. The sign of the substitution variable does not change with the inclusion of the child's binary occupational identity variable as given in column 6. Both the occupational identity strength and binary occupational identity of the chosen child predict a positive impact on the time invested by the child, indicating that children who value the occupation factor more towards their identity spend more time in study-related activities. Although that positive effect is not significant, the sign itself should be taken seriously. The study by Akerlof and Kranton (2002) on identity and schooling shows how incorporating the sociological perspectives of social categories can explain educational outcomes that puzzle education economists. This positive association of occupation as identity with the time allocation decisions of children can explain student behavior in a different perspective as compared to standard education models. As shown specifications 3 and 5 of Table 5, the sign of the child occupational identity variable does not change when the mother's occupational identity is included.

The sign and significance of the mother's age, wealth level and birth order are all consistent with the results presented in Table 4. Table A.10 shows the changes in substitution and the child's binary identity variable when controls are added as blocks. The change in magnitude of substitution with the inclusion of gender and birth order is previously noted. In a similar way, the binary occupational identity of the child changes when gender and birth order are included. Among girls, 66% chose occupation as their prime identity as compared to 48% of boys. Table A.9 shows that the occupational identity strength is both positive and significant for the time investment of the child until gender and birth order of the child are included, indicating the negative relationship of both with respect to the identity choice of the children.

Table 6 presents the estimates of identity and substitution along with household and chosen child characteristics on school performance. School performance measures the total points received by the chosen children in a recent exam, and the coefficients of the variables should be interpreted as the increase /decrease in the total points received on the test in absolute sense. Substitution has a positive impact on school performance. Table A.12, which considers the control variables in blocks, can shed more light on this. The coefficient of

substitution is negative until gender and birth order are included, both of which have significant negative impacts on the total points. When considered within a given gender, boys substitute more than girls, and combined with the effect that boys earn many fewer points than girls, the coefficient of substitution changes sign when gender is included. The birth order effect is similar to gender, but the negative correlation with total points is a smaller magnitude and significance than in the case of gender. The children who valued occupation factor relatively more for the next round in the game, significantly receive higher test scores as compared to children who deleted occupation in the game more quickly.

Table A.11 shows that both the occupational identity strength and binary occupational identity of the child is consistently positive and significant in all of the models. The inclusion of gender and birth order reduce the significance from 1% to 5%. The children of mothers who valued occupation for one more round in the game perform less at school. One possible explanation is that the total points and monetary investment made by the households are positively correlated, and as previously noted, mothers who "value occupation more" also invest less. The coefficient is significant at a 10% level. Both the age and the education of the mother significantly increases the test scores. The children of households with higher wealth levels perform significantly more. The occupational science study by Unruh (2004) claims "much of development and maturation during adolescence and early adulthood is about constructing an occupational identity based on achieving meaningful work". Much of the productivity in individuals in general is driven by ambitions and motivation. This school performance specification and the significant effect of how the child feels about occupation on the test scores show that the above claim can be extended to the notion of productivity of the school children and the importance of considering such variables in studying educational outcomes.

Finally, I turn to Tables 7 - 10, in which I repeat the specifications presented in Tables 1, 2 , 3 & 4 with the inclusion of behavioral variables such as role model choice of the mother; parental aspiration towards the education level of the child; and child motivation towards education to evaluate both the impact of these behavioral variables on the educational investment levels and also whether the effect of either substitution or identity change. Table 7 shows the effect on monetary investments. If mothers have their role model due to the occupation factor, the monetary investment is more, but not in a statistically significant way. Parental aspiration has the expected positive sign for monetary investments. Child motivation is measured on a Likert scale and has a negative effect on monetary investments. The sign and significance of both identity and substitution variables do not change in these specifications of behavioral variables.

Table 8 present the estimates of behavioral variables on the quantitative time investment measure. The circumstance where mothers have role models because of occupation trait has a positive impact on quantitative time investment. The mothers with high aspirations for their children spend significantly more time quantitatively. When behavioral variables are included, the sign of binary occupational identity for quanti-

tative time investment changes from negative to positive. A higher motivation score for the children result in a higher investment of time by the mothers. Table 9 present the estimates for qualitative time investments. The parental aspiration in consistent with quantitative measure continues to be positive and significant for qualitative time investment as well. The behavior of both substitution and identity variables do not change for qualitative time investments with the inclusion of behavioral variables.

Table 10 present the estimates for the time investment of the child. Among the three behavioral variables, child motivation is significant at a 1% level in determining the time commitment of the children in education-related activities. This result is in synthesis with sociology that translates to the economic reasoning behind the investment decisions of parents. Motivation is recognized as the reason why individuals makes a decision and have the strength to carry out the decisions made (Gorard et al., 2012).[24] I also present the blockwise regressions for the behavioral variables in the Appendix. In these block regressions, I consider the behavioral variables as one block and show the effect of that block, that is, whether the coefficient of behavioral variables change as other controls are added. Table A.13 shows that parental aspiration is significant but when controlled for household and socioeconomic status and child characteristics, the effect becomes small. Table A.14 shows the behavioral variables as a block are consistent with the sign and significance in all the specifications. Table A.15 shows that mother spends more time qualitatively if she have a role model due to an occupation factor, but the positive effect gets smaller when controlled for household, socio economic and the child characteristics. This indicates the perception of mothers towards occupation as a trait is influenced by other characteristics of the household. Table A.16 shows parental aspiration is significant and a positive determinant of the time investment of the child in their education. But when household and socioeconomic status and child characteristics are controlled, the effect becomes smaller and insignificant.

In summary, the above analysis shows that mothers who value occupation more towards their identity as opposed to mother tongue, relationship or birthplace invest less money and time on the chosen child's education. The households in which children help the parent at work, that is, in households where this type of child labor prevail, invest less money and less quantitative time but more qualitative time in the chosen child's education. If occupational identity of the child is strong then the child invests more time in his/her education and school performance is also higher. The other behavioral variables, such as parental aspiration and child motivation do not impact the monetary investments but positively and significantly increase the time investments of the child and mother in the child's educational pursuits.

[24]See Gorard et al., 2012 for a detailed review of causal links between attitudes and aspirations and educational attainment.

Table 1: Models of Monetary Investments

	(1)	(2)	(3)	(4)
Dependent Variable: Monetary Investments				
Child Substitution (0/1)	-1509.1^{+}			-1410.7^{+}
	(805.4)			(801.2)
Occupational Identity Strength of Mother		-426.5*		
		(179.6)		
Occupational Identity of Mother (0/1)			-976.8*	-936.3*
			(419.8)	(418.9)
Whether Mother is a Daily-Wage Worker (0/1)	-75.40	28.41	56.75	-56.45
	(424.5)	(418.2)	(418.3)	(421.8)
Mother's Age	82.80*	82.91*	85.35*	83.00*
	(35.71)	(35.57)	(35.57)	(35.47)
Mother's Education	-2.957	-23.12	-2.669	-17.15
	(134.6)	(134.8)	(134.1)	(133.9)
Total Income	69.57*	81.86*	78.44*	79.75*
	(32.82)	(33.22)	(33.02)	(32.91)
Assets	296.7*	290.7*	284.9*	272.6*
	(134.8)	(134.4)	(134.6)	(134.3)
School 1	-2714.1**	-2593.2**	-2548.9**	-2612.4**
	(498.5)	(496.2)	(497.7)	(497.2)
Gender	1226.1*	1156.8*	1238.5*	1262.1*
	(549.7)	(547.8)	(548.0)	(546.2)
Birth Order	-659.3*	-759.4**	-765.6**	-703.5*
	(276.0)	(273.3)	(273.5)	(274.9)
Whether Father is a Daily-Wage Worker (0/1)	-235.2	-154.3	-136.6	-233.7
	(418.6)	(413.5)	(413.6)	(415.8)
Constant	5069.0**	6079.4**	5059.0**	5278.3**
	(1617.4)	(1691.1)	(1610.1)	(1609.2)
R^2	0.252	0.258	0.257	0.265
N	305	305	305	305

Standard errors in parentheses

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table 2: Models of Quantitative Time Investment

	(1)	(2)	(3)	(4)
Dependent Variable: Quantitative Time Investment of Mother				
Child Substitution (0/1)	-0.0303			-0.0296
	(0.144)			(0.145)
Occupational Identity Strength of Mother		-0.0108		
		(0.0324)		
Occupational Identity of Mother (0/1)			-0.00708	-0.00619
			(0.0758)	(0.0760)
Whether Mother is a Daily-Wage Worker (0/1)	0.0637	0.0657	0.0662	0.0638
	(0.0762)	(0.0753)	(0.0753)	(0.0763)
Mother's Age	-0.00579	-0.00581	-0.00575	-0.00579
	(0.00641)	(0.00641)	(0.00641)	(0.00642)
Mother's Education	0.0643**	0.0637**	0.0645**	0.0642**
	(0.0242)	(0.0243)	(0.0242)	(0.0242)
Total Income	0.000397	0.000702	0.000428	0.000459
	(0.00592)	(0.00601)	(0.00597)	(0.00598)
Assets	0.0237	0.0234	0.0237	0.0235
	(0.0242)	(0.0242)	(0.0242)	(0.0243)
School 1	-0.227*	-0.224*	-0.225*	-0.226*
	(0.0900)	(0.0900)	(0.0903)	(0.0907)
Gender	-0.128	-0.130	-0.128	-0.128
	(0.0990)	(0.0990)	(0.0990)	(0.0992)
Birth Order	-0.0860^{+}	-0.0881^{+}	-0.0875^{+}	-0.0862^{+}
	(0.0495)	(0.0492)	(0.0492)	(0.0497)
Whether Father is a Daily-Wage Worker (0/1)	0.0358	0.0374	0.0379	0.0358
	(0.0752)	(0.0745)	(0.0745)	(0.0753)
Constant	0.622*	0.649*	0.619*	0.623*
	(0.290)	(0.305)	(0.290)	(0.291)
R^2	.08	.08	.08	.08
N	304	304	304	304

Standard errors in parentheses

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table 3: Models of Qualitative Time Investment

	(1)	(2)	(3)	(4)
Dependent Variable: Qualitative Time Investment of Mother Z score				
Child Substitution (0/1)	0.200			0.224
	(0.219)			(0.218)
Occupational Identity Strength of Mother		-0.0623		
		(0.0489)		
Occupational Identity of Mother (0/1)			-0.225*	-0.231*
			(0.114)	(0.114)
Whether Mother is a Daily-Wage Worker (0/1)	0.0859	0.0675	0.0726	0.0906
	(0.115)	(0.114)	(0.113)	(0.115)
Mother's Age	-0.00547	-0.00615	-0.00579	-0.00542
	(0.00970)	(0.00969)	(0.00965)	(0.00965)
Mother's Education	0.245**	0.238**	0.239**	0.242**
	(0.0366)	(0.0367)	(0.0364)	(0.0364)
Total Income	0.00759	0.00991	0.0103	0.0101
	(0.00892)	(0.00905)	(0.00896)	(0.00896)
Assets	0.0699+	0.0651+	0.0620+	0.0640+
	(0.0366)	(0.0366)	(0.0365)	(0.0366)
School 1	-0.411**	-0.411**	-0.396**	-0.386**
	(0.135)	(0.135)	(0.135)	(0.135)
Gender	-0.260+	-0.262+	-0.247+	-0.251+
	(0.149)	(0.149)	(0.149)	(0.149)
Birth Order	0.0107	0.0141	0.00965	-0.000234
	(0.0750)	(0.0744)	(0.0742)	(0.0748)
Whether Father is a Daily-Wage Worker (0/1)	-0.0695	-0.0867	-0.0846	-0.0691
	(0.114)	(0.113)	(0.112)	(0.113)
Constant	-0.580	-0.364	-0.494	-0.529
	(0.439)	(0.461)	(0.437)	(0.438)
R^2	0.19	0.19	0.20	0.20
N	305	305	305	305

Standard errors in parentheses

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table 4: Models of Time Investment by the Child

	(1)	(2)	(3)	(4)
Dependent Variable: Time Investment of Child				
Child Substitution (0/1)	-0.379			-0.385
	(0.352)			(0.353)
Occupational Identity Strength of Mother		0.00721		
		(0.0790)		
Occupational Identity of Mother (0/1)			0.0402	0.0513
			(0.185)	(0.185)
Whether Mother is a Daily-Wage Worker (0/1)	0.0228	0.0533	0.0526	0.0217
	(0.186)	(0.184)	(0.184)	(0.186)
Mother's Age	0.0538**	0.0544**	0.0544**	0.0538**
	(0.0156)	(0.0157)	(0.0156)	(0.0157)
Mother's Education	0.0000715	0.00475	0.00480	0.000849
	(0.0589)	(0.0593)	(0.0590)	(0.0591)
Total Income	-0.00743	-0.00814	-0.00834	-0.00798
	(0.0144)	(0.0146)	(0.0145)	(0.0145)
Assets	0.112+	0.116+	0.116+	0.113+
	(0.0590)	(0.0591)	(0.0592)	(0.0593)
School 1	-0.0215	-0.00653	-0.00975	-0.0271
	(0.218)	(0.218)	(0.219)	(0.219)
Gender	-0.208	-0.214	-0.216	-0.210
	(0.241)	(0.241)	(0.241)	(0.241)
Birth Order	-0.426**	-0.442**	-0.440**	-0.423**
	(0.121)	(0.120)	(0.120)	(0.121)
Whether Father is a Daily-Wage Worker (0/1)	0.0231	0.0496	0.0495	0.0230
	(0.183)	(0.182)	(0.182)	(0.183)
Constant	9.931**	9.848**	9.859**	9.919**
	(0.708)	(0.744)	(0.708)	(0.710)
R^2	.08	.08	.08	.08
N	305	305	305	305

Standard errors in parentheses

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table 5: Impact of Child Identity on Time Investment by the Child

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent Variable: Time Investment of Child						
Child Substitution (0/1)	-0.379					-0.388
	(0.352)					(0.354)
Occupational Identity Strength of Child		0.117	0.117			
		(0.0960)	(0.0964)			
Occupational Identity of Child (0/1)				0.0739	0.0713	0.0759
				(0.178)	(0.179)	(0.179)
Occupational Identity Strength of Mother			0.000209			
			(0.0792)			
Occupational Identity of Mother (0/1)					0.0344	0.0451
					(0.185)	(0.186)
Whether Mother is a Daily-Wage Worker (0/1)	0.0228	0.0405	0.0405	0.0514	0.0510	0.0198
	(0.186)	(0.184)	(0.184)	(0.184)	(0.184)	(0.186)
Mother's Age	0.0538**	0.0534**	0.0534**	0.0541**	0.0541**	0.0535**
	(0.0156)	(0.0156)	(0.0157)	(0.0157)	(0.0157)	(0.0157)
Mother's Education	0.0000715	0.00497	0.00498	0.00457	0.00511	0.00115
	(0.0589)	(0.0588)	(0.0592)	(0.0589)	(0.0591)	(0.0592)
Total Income	-0.00743	-0.00794	-0.00795	-0.00777	-0.00816	-0.00778
	(0.0144)	(0.0143)	(0.0146)	(0.0144)	(0.0145)	(0.0145)
Assets	0.112+	0.111+	0.112+	0.114+	0.115+	0.111+
	(0.0590)	(0.0589)	(0.0592)	(0.0591)	(0.0594)	(0.0595)
School 1	-0.0215	-0.00905	-0.00908	-0.00178	-0.00550	-0.0227
	(0.218)	(0.218)	(0.218)	(0.218)	(0.219)	(0.220)
Gender	-0.208	-0.173	-0.173	-0.197	-0.199	-0.191
	(0.241)	(0.243)	(0.243)	(0.245)	(0.245)	(0.245)
Birth Order	-0.426**	-0.424**	-0.424**	-0.436**	-0.435**	-0.418**
	(0.121)	(0.121)	(0.121)	(0.121)	(0.121)	(0.122)
Whether Father is a Daily-Wage Worker (0/1)	0.0231	0.0331	0.0331	0.0432	0.0436	0.0165
	(0.183)	(0.182)	(0.182)	(0.182)	(0.183)	(0.184)
Constant	9.931**	9.481**	9.480**	9.818**	9.811**	9.869**
	(0.708)	(0.773)	(0.802)	(0.717)	(0.719)	(0.721)
R^2	.08	.08	.08	.08	.08	.08
N	305	305	305	305	305	305

Standard errors in parentheses

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table 6: Models of School Performance

	(1)	(2)	(3)	(4)	(5)
Dependent Variable: Total Points					
Child Substitution (0/1)		10.16			10.98
		(20.89)			(20.75)
Occupational Identity Strength of Child			12.92*		
			(5.668)		
Occupational Identity of Child (0/1)				22.35*	22.23*
				(10.52)	(10.54)
Occupational Identity Strength of Mother			-4.008		
			(4.657)		
Occupational Identity of Mother (0/1)				-18.92+	-19.23+
				(10.85)	(10.88)
Whether Mother is a Daily-Wage Worker (0/1)	6.407	7.221	4.901	6.170	7.056
	(10.88)	(11.02)	(10.83)	(10.79)	(10.93)
Mother's Age	3.563**	3.580**	3.434**	3.489**	3.508**
	(0.926)	(0.928)	(0.922)	(0.919)	(0.921)
Mother's Education	8.600*	8.709*	8.342*	8.412*	8.523*
	(3.482)	(3.494)	(3.483)	(3.457)	(3.468)
Total Income	-0.388	-0.400	-0.248	-0.126	-0.136
	(0.859)	(0.860)	(0.868)	(0.860)	(0.862)
Assets	9.662**	9.759**	9.038**	8.698*	8.797*
	(3.488)	(3.498)	(3.480)	(3.479)	(3.488)
School 1	2.499	2.922	2.564	5.489	5.973
	(12.92)	(12.97)	(12.85)	(12.87)	(12.92)
Gender	-37.32**	-37.51**	-33.18*	-31.22*	-31.44*
	(14.24)	(14.26)	(14.29)	(14.35)	(14.38)
Birth Order	-23.13**	-23.57**	-21.49**	-22.19**	-22.68**
	(7.097)	(7.162)	(7.114)	(7.095)	(7.165)
Whether Father is a Daily-Wage Worker (0/1)	0.278	0.975	-1.814	-1.777	-1.014
	(10.79)	(10.90)	(10.76)	(10.74)	(10.85)
Constant	146.4**	144.7**	115.3*	135.2**	133.6**
	(41.85)	(42.05)	(47.24)	(42.22)	(42.38)
R^2	.14	.14	.16	.16	.16
N	304	304	304	304	304

Standard errors in parentheses

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table 7: Impact of Behavioral Variables on Monetary Investments

	(1)	(2)	(3)	(4)
Dependent Variable: Monetary Investments				
Parental Aspiration	480.6	487.2	406.1	435.5
	(476.5)	(474.6)	(475.3)	(473.6)
Child Motivation	-282.3	-309.8	-294.7	-294.3
	(188.6)	(188.2)	(188.2)	(187.4)
Role Model of Mother due to Occupation	265.2	50.54	69.26	244.3
	(610.7)	(600.9)	(601.5)	(606.6)
Child Substitution (0/1)	-1598.5^{+}			-1493.8^{+}
	(815.5)			(811.3)
Occupational Identity Strength of Mother		-447.0*		
		(179.9)		
Occupational Identity of Mother (0/1)			-982.7*	-938.2*
			(420.4)	(419.4)
Whether Mother is a Daily-Wage Worker (0/1)	-120.7	-15.63	23.70	-95.27
	(429.1)	(422.6)	(423.1)	(426.3)
Mother's Age	79.60*	79.46*	82.69*	80.18*
	(35.92)	(35.77)	(35.80)	(35.68)
Mother's Education	-29.31	-44.51	-18.65	-39.96
	(138.5)	(138.3)	(137.7)	(137.6)
Total Income	68.97*	82.66*	78.83*	79.54*
	(32.95)	(33.37)	(33.20)	(33.07)
Assets	285.7*	281.1*	278.6*	263.7^{+}
	(136.0)	(135.5)	(135.7)	(135.4)
School 1	-2580.6**	-2444.5**	-2416.1**	-2480.2**
	(504.9)	(502.8)	(504.4)	(503.5)
Gender	1294.8*	1208.8*	1289.1*	1328.3*
	(552.2)	(549.8)	(550.5)	(548.7)
Birth Order	-669.3*	-778.1**	-784.5**	-717.2**
	(277.5)	(274.6)	(275.1)	(276.4)
Whether Father is a Daily-Wage Worker (0/1)	-149.2	-64.79	-57.01	-152.1
	(423.0)	(418.2)	(418.6)	(420.1)
Constant	6810.2*	8162.4**	7137.4*	7271.2**
	(2789.4)	(2843.7)	(2788.5)	(2778.1)
R^2	.26	.27	.27	.27
N	305	305	305	305

Standard errors in parentheses

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table 8: Impact of Behavioral Variables on Quantitative Time Investment

	(1)	(2)	(3)	(4)
Dependent Variable: Quantitative Time Investment of Mother				
Parental Aspiration	0.267**	0.267**	0.267**	0.268**
	(0.0837)	(0.0837)	(0.0837)	(0.0839)
Child Motivation	0.0724*	0.0717*	0.0725*	0.0725*
	(0.0331)	(0.0332)	(0.0331)	(0.0332)
Role Model of Mother due to Occupation (0/1)	0.0106	0.00448	0.00563	0.0110
	(0.108)	(0.107)	(0.107)	(0.108)
Child Substitution (0/1)	-0.0427			-0.0438
	(0.143)			(0.143)
Occupational Identity Strength of Mother		-0.00971		
		(0.0317)		
Occupational Identity of Mother (0/1)			0.00818	0.00958
			(0.0741)	(0.0744)
Whether Mother is a Daily-Wage Worker (0/1)	0.0244	0.0274	0.0277	0.0242
	(0.0752)	(0.0743)	(0.0744)	(0.0754)
Mother's Age	-0.00823	-0.00824	-0.00817	-0.00823
	(0.00631)	(0.00631)	(0.00631)	(0.00632)
Mother's Education	0.0459+	0.0457+	0.0467+	0.0461+
	(0.0243)	(0.0244)	(0.0242)	(0.0243)
Total Income	-0.00156	-0.00129	-0.00169	-0.00166
	(0.00581)	(0.00590)	(0.00586)	(0.00587)
Assets	0.0116	0.0116	0.0123	0.0119
	(0.0238)	(0.0239)	(0.0239)	(0.0240)
School 1	-0.216*	-0.212*	-0.215*	-0.217*
	(0.0893)	(0.0893)	(0.0896)	(0.0900)
Gender	-0.121	-0.122	-0.122	-0.121
	(0.0971)	(0.0971)	(0.0971)	(0.0974)
Birth Order	-0.0652	-0.0678	-0.0667	-0.0647
	(0.0486)	(0.0483)	(0.0484)	(0.0489)
Whether Father is a Daily-Wage Worker (0/1)	0.0620	0.0645	0.0648	0.0619
	(0.0743)	(0.0737)	(0.0738)	(0.0745)
Constant	-0.878+	-0.849+	-0.886+	-0.883+
	(0.489)	(0.501)	(0.490)	(0.491)
R^2	.13	.13	.13	.13
N	304	304	304	304

Standard errors in parentheses

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table 9: Impact of Behavioral Variables on Qualitative Time Investment

	(1)	(2)	(3)	(4)
Dependent Variables: Qualitative Time Investment of Mother Z score				
Parental Aspiration	0.360**	0.368**	0.353**	0.350**
	(0.128)	(0.128)	(0.127)	(0.128)
Child Motivation	0.0423	0.0384	0.0396	0.0396
	(0.0507)	(0.0507)	(0.0505)	(0.0505)
Role Model of Mother due to Occupation (0/1)	0.145	0.159	0.161	0.140
	(0.164)	(0.162)	(0.161)	(0.163)
Child Substitution (0/1)	0.153			0.177
	(0.219)			(0.219)
Occupational Identity Strength of Mother		-0.0629		
		(0.0484)		
Occupational Identity of Mother (0/1)			-0.208+	-0.213+
			(0.113)	(0.113)
Whether Mother is a Daily-Wage Worker (0/1)	0.0369	0.0218	0.0286	0.0427
	(0.115)	(0.114)	(0.113)	(0.115)
Mother's Age	-0.00845	-0.00910	-0.00861	-0.00831
	(0.00965)	(0.00963)	(0.00960)	(0.00961)
Mother's Education	0.219**	0.211**	0.214**	0.216**
	(0.0372)	(0.0372)	(0.0369)	(0.0371)
Total Income	0.00518	0.00741	0.00766	0.00758
	(0.00885)	(0.00898)	(0.00890)	(0.00891)
Assets	0.0547	0.0500	0.0479	0.0497
	(0.0365)	(0.0365)	(0.0364)	(0.0365)
School 1	-0.383**	-0.379**	-0.368**	-0.360**
	(0.136)	(0.135)	(0.135)	(0.136)
Gender	-0.236	-0.238	-0.224	-0.228
	(0.148)	(0.148)	(0.148)	(0.148)
Birth Order	0.0329	0.0341	0.0300	0.0221
	(0.0746)	(0.0739)	(0.0738)	(0.0745)
Whether Father is a Daily-Wage Worker (0/1)	-0.0289	-0.0412	-0.0408	-0.0295
	(0.114)	(0.113)	(0.112)	(0.113)
Constant	-2.014**	-1.784*	-1.893*	-1.909*
	(0.749)	(0.766)	(0.748)	(0.748)
R^2	.22	.22	.22	.23
N	305	305	305	305

Standard errors in parentheses

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table 10: Impact of Behavioral Variables on Time Investment by the Child

	(1)	(2)	(3)	(4)
Dependent Variables: Time Investment of Child				
Parental Aspiration	0.253	0.244	0.249	0.256
	(0.205)	(0.205)	(0.205)	(0.205)
Child Motivation	0.271**	0.272**	0.272**	0.272**
	(0.0811)	(0.0814)	(0.0812)	(0.0812)
Role Model of Mother due to Occupation (0/1)	-0.0160	-0.0590	-0.0596	-0.0142
	(0.262)	(0.260)	(0.260)	(0.263)
Child Substitution (0/1)	-0.378			-0.388
	(0.350)			(0.352)
Occupational Identity Strength of Mother		0.0191		
		(0.0777)		
Occupational Identity of Mother (0/1)			0.0703	0.0819
			(0.181)	(0.182)
Whether Mother is a Daily-Wage Worker (0/1)	-0.0265	0.00434	0.00214	-0.0287
	(0.184)	(0.183)	(0.183)	(0.185)
Mother's Age	0.0511**	0.0518**	0.0517**	0.0510**
	(0.0154)	(0.0155)	(0.0155)	(0.0155)
Mother's Education	-0.0228	-0.0156	-0.0163	-0.0218
	(0.0595)	(0.0598)	(0.0594)	(0.0596)
Total Income	-0.0108	-0.0117	-0.0119	-0.0117
	(0.0142)	(0.0144)	(0.0143)	(0.0143)
Assets	0.0948	0.0998+	0.101+	0.0967
	(0.0584)	(0.0585)	(0.0586)	(0.0587)
School 1	-0.0706	-0.0586	-0.0627	-0.0794
	(0.217)	(0.217)	(0.218)	(0.218)
Gender	-0.223	-0.232	-0.236	-0.226
	(0.237)	(0.238)	(0.238)	(0.238)
Birth Order	-0.383**	-0.397**	-0.396**	-0.378**
	(0.119)	(0.119)	(0.119)	(0.120)
Whether Father is a Daily-Wage Worker (0/1)	0.0283	0.0533	0.0533	0.0286
	(0.182)	(0.181)	(0.181)	(0.182)
Constant	6.327**	6.222**	6.252**	6.286**
	(1.199)	(1.229)	(1.204)	(1.204)
R^2	.12	.12	.12	.13
N	305	305	305	305

Standard errors in parentheses

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

5 DISCUSSION

This paper presents a different view of how low-income households engaged in certain occupations make educational investments for their children. In particular, contrary to the educational investments literature, I shift focus to the behavioral aspects: "occupational identity", that is, does occupation matter for self-image/identity for parents in certain occupations; and "child labor substitution," that is, do the children of these parents help them at work and establish a link between the exogenous variation in identity and substitutability choices and parental educational investment decisions. This focus is new and important not just because educational investments are costly for such low-income households and they yield returns much later, but also because this focus provides a channel to understand how optimization of investment decisions of parents in certain occupations can be uniquely affected.

5.1 Determinants of Occupational Identity of Mother

The results presented in the previous section show that the two identity variables, that is, i) occupational identity strength (which measures the relative importance of occupation as compared to the other factors: mother tongue, relationship or birthplace) and ii) binary occupational identity (which measures if occupation is chosen as a main factor to represent identity) negatively affect the monetary and time investments made by households. The one exception is that the time investment made by the child is positively affected by the mother's occupational identity strength. Notably, the coefficients of the identity variables are significant in determining the monetary investments and qualitative time investment of the household, indicating that the households in which mothers value occupation more invest less in the children's education. We could ask why the investment levels are not more if the parent chooses occupation as a prime factor of her identity? To explore this question further, I examine several mechanisms behind the choice of occupation to represent identity. These mechanisms include: i) studying the pattern of elimination of occupation in the identity game between working and non-working mothers; ii) examining the relevance of occupation in one's identity formation; iii) exploring the determinants of occupational identity.

About 75% of the mothers in the sample of 305 households are employed. Among the mothers who chose occupation as a primary factor of identity, 83% represent working mothers and 17% are non-working, and the difference in the occupational identity strength between working and non-working mothers is significant at a 1% level. This higher choice of occupation as a factor towards identity by the cohort of working mothers in the overall sample supports the claim in the occupational identity literature that occupations are central "not just to being a person, but being a particular person and thus, creating and maintaining an identity"

(Christiansen, 1999). At the same time, the percentage distribution of the identity choice of occupation within the employed cohort shows that 16% of employed mothers eliminated occupation in the first round, 25% in the second round and 43% in the final round of the game; This indicates that 146 employed mothers out of the total employed of 228 mothers did not value occupation as a primary factor of their identity and this observation warrants attention.

The occupational identity literature reveals "choice" to be one of the theoretical assumptions behind the construct of occupational identity (Christiansen, 1999; Phelan and Kinsella, 2009). According to this, occupation becomes a unique identity "when it is chosen, controlled and goal directed." Though the occupational identity literature acknowledges the role of culture, values, socioeconomic conditions and other obligations in the occupation an individual assumes, these factors are less explored in the construct of occupational identity. So it is plausible that occupations such as daily-wage work, domestic work and small self-employment represented by the sample of this study may have been circumstantial for these households and not a result of a choice-making process. This "circumstantial" characteristic of these occupations could then mean that the 36% of employed mothers that opted for occupation as their primary choice of identity is not due to the importance they place on their occupation but because of deprived opportunities towards that choice.

The notion of occupational identity is less explored in economics, and how behavioral aspects of the poor affect their decision-making are even less addressed in the development literature. The negative impact produced by occupational identity on educational investment decisions prompts the examination of the determinants of occupational identity. I describe such determinants here in a way to understand the nature of its endogenous formation and do not intend to establish causality. Table 11 presents such effects through simple regressions on the occupational identity strength of the mother. The mothers who are in occupations that are highly substitutable value occupation relatively more as compared to mother tongue, relationship or birthplace as presented in the identity game. The correlation between the substitutability attribute of occupation and occupational identity strength is positive and significant at a 5% level. In the sample, 96% of mothers in daily-wage occupations responded that occupation is substitutable followed by 90% of domestic workers, 80% of private and government employed and 38% of self-employed. The significance of all occupations on identity strength shows that occupation is a stronger factor for the employed compared to the unemployed. In particular, occupational identity strength is significantly stronger for domestic workers as that occupation category represent the highest percentage (43%) to choose occupation as their primary factor of identity. The high substitutability attribute of that occupation (90% of domestic workers responded that their occupation is subsitutable) is consistent with the observation that substitutability of an occupation drives the construct of occupation identity among low income occupations. Further, the mothers are more likely to choose occupation as identity if in her occupation she has observed her coworkers bringing their

children to help at work as shown by the variable "Substitution Common-Mother's Occupation".

The mothers of households in which children substitute for the parent(s) at work have higher occupational identity strength. Though the coefficient of child substitution is not significant, the positive sign is important. This collectively adds evidence to the observation that substitutable attributes of the occupation make it a strong factor towards identity among the employed. The higher the income, the higher the identity strength. The wealth level is negatively related to occupational identity. The identity strength is higher for mothers whose children go to School 1, which also has marginally higher amounts of employed mothers as compared to School 2. The child's occupational identity positively affects the mother's occupational identity strength. The mothers who have high hopes for their children's future educational attainment have higher identity strength occupation. While some of the coefficients are not significant from a regression point of view, the focus of this exercise is to understand the factors that contribute to the construct of occupational identity.

5.2 Determinants of Chosen Child's Occupation Identity

The number of children who chose occupation as primary identity is almost double in number as compared to the mothers. In the sample of 305 households, a total of 187 children chose occupation as identity as opposed to 99 mothers. Table 12 presents the estimates of simple regressions of determinants of occupational identity strength of the child. Among the children of employed mothers, children of domestic workers chose occupation as their prime identity at a higher rate as compared to the children of mothers at other occupations. The school performance of the chosen children as measured by the total points received in the recent exam has significant and positive impact on occupational identity. About 66% of the children who chose occupation as their identity are girls, which is indicated by the negative coefficient of gender and the effect is significant. The children who substitute for parents labor value occupation less, especially, as the frequency of substitution goes up as measured by "child substitution frequency," the children are less likely to value occupation more. The children with high motivation score have higher occupational identity strength. There is a small positive correlation between mother's occupational identity and the child's occupational identity.

5.3 Determinants of Child Substitution

The other main finding of the paper is that how a particular form of child labor in which children substitute for their parent's labor at work can prevail in some low-income occupations and how educational investments can vary in the presence of such child substitution of labor. An ILO report based on national household surveys of South Asian countries finds that child labor for the age group of 5-17- year-old is highest in India

in absolute terms of 5.8 million children.[25] The report identifies that 43% of 7-17-year-olds are engaged in unpaid family work. Further, .3% of 7-14-year-olds and 1.7% of 15-17-year-olds are reported to be both in school and employed. The child labor include children involved in hazardous occupations, and/or non-hazardous occupations but engaged for longer hours (more than 43 hours in the given reference week), and/or children who are below minimum age. According to international standards and also in the context of Indian Child Labour Law (amended in 2016), the children are thus allowed to be engaged in light work in non-hazardous occupations after school. Though the laws recognize that light work should not interfere with child's education, it is difficult to verify without data driven evidence that this is infact the case given this sort of labor is highly likely in family run enterprises/when parents are self-employed. The form of child labor addressed in this study – school-going children help their parents at work– needs careful analysis especially because from a development context where marginalized groups of people are often the study of interest and occupations where this type of child labor are commonly prevalent (such as domestic work, daily-wage work and small self-employment) are highly represented among those marginalized groups.

In my sample, the households in which children substitute for their parents labor invest less money and time in the child's education. In particular, monetary investments are significantly less. The children who help the parent(s) at work spend less time in school-and study related activities. The mother is involved more in a qualitative sense in the presence of child substitution. Table 13 presents simple regressions of the determinants of child substitution. Among occupation categories of mother and father, child substitution is highest for the self-employed. Substitution is the second highest for mothers that do domestic work for employment, The households with lower wealth levels and lower total income also substitute more. Since the focus is to study the difference in investments in households with substitution against households with no such child substitution, I define child substitution as a consolidated measure of both substitution for mother and father's work. In absolute terms, among the households where there is such substitution, in 60% of households the child substitutes for the mother alone, in 20% of households the child substitutes for the father alone and the remaining 20%, the substitution happens for both the mother and father. In all three categories, the self-employment occupation dominates in using their own child labor followed by domestic workers and daily- wage earners.

Tables 14 and 15 present the estimates of simple regressions of the substitution for mother and father separately. The dependent variable measures the frequency of substitution for mother and father, respectively. The substitutable attribute of the mother and father's occupation result in the positive relationship with the frequency of substitution. The coefficients are not significant, but the positive sign enhances the support towards the claim that the substitutable nature of the parents occupation triggers child labor. Both

[25]Khan and Lyon, "Measuring Children's Work in South Asia", International Labour Organization, 2015.

the familiarity the child has in doing the mother's and father's work is captured by the variable "child knows how to do fathers'/mother's work" and whether the earnings potential will go up if the child helps are highly significant in determining substitution. The child substitution for mother is more in the households in which mother had worked as a child, either for pay or helping her parents.

The effect of gender of the child on substitution is not significant. Overall, among the children who helped the parent, 65% are girls and 35% are boys. But since in the total sample, girls (225 in sample) outweigh boys (80 in sample) considerably, the proportion of substitution among girls is 6% as compared to 9% among the total number of boys. This explains the small positive coefficient of gender on the substitution regressions. The difference in substitution between genders in either the whole sample, which includes the two schools, or within just School 2, which has both boys and girls is not statistically significant. The substitution for mother is significantly influenced by "Substitution Common-Mother's Occupation," which captures whether it is common in the mother's occupation to bring the child to help at work. The occupational identity strength of the mother has positive impact on the substitution. This indicates that the substitutability and occupational identity are intertwined.

In summary, substitution is high in households engaged in self-employed/family enterprises occupation category. Lower income and wealth contribute to the decision to employ one's own child. Finally, collecting data on a school-going children that help parents at work through surveys is difficult as the numbers are often under-reported due to social disapproval of child labor. The incidence of this form of labor established in the paper could be high because of this possibility of under-reporting. There are 69 households engaged in self-employed, and 22% of those reported child labor. Given that self-employed is the leading category employing child labor, the conjecture of under-reporting is reasonable. This can be further argued from the perspective of the amendment of the Indian Child Labor law in 2016 that allows children to work in family enterprises after school. These provisions as noted earlier, allow children to be engaged in light market work in a way it does not affect attendance at school-and study related activities. But without knowing the implications of light work on the time spent by children on studies, it is not possible to conclude that this type of labor is not harmful. Hence including various types of survey questions at the national and international level on all child labor that targets this specific type of labor in which children help their parents —which could otherwise be deemed as light work— is crucial to understand the cohort of children who work and go to school.

The main finding of the study is that occupational identity and the child substituting for parent's work affects the educational investments in a unique way that matters substantially. The simple regressions presented in this section provide support for the interdependency of substitutability and occupational identity. The variations in educational investments due to occupational identity and a specific form of child labor

as a subject matter becomes highly important for developing countries due to the high incidence of child labor and school drop-out rates. But this finding is not just relevant to developing countries. The Gallup Work and Education Poll of the US (2014)[26] identifies that 55% of US workers get their sense of identity from their jobs, and this identity formation is strong among high-income individuals and college graduates. Thus, both concepts I measure and empirically verify — "occupational identity and substitutability" may very well translate to other developing and developed countries settings, while not in an exact magnitude, sign, or significance.

[26] see https://news.gallup.com/poll/175400/workers-sense-identity-job.aspx for coverage of this Gallup's Poll.

Table 11: Determinants of Occupational Identity of Mother

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Dependent Variable: Occupational Identity Strength of Mother										
Whether Mother is Working (0/1)	0.413**									
	(0.144)									
Whether Mother's Occupation is Substitutable (0/1)		0.331*								
		(0.130)								
Substitution Common-Mother's Occupation (0/1)			0.720*							
			(0.323)							
Child Substitution (0/1)				0.241						
				(0.256)						
Whether Mother is a Daily-Wage Worker (0/1)					0.321*					
					(0.161)					
Whether Mother is a Domestic Worker (0/1)					0.559**					
					(0.212)					
Whether Mother is Self-Employed (0/1)					0.491*					
					(0.229)					
Whether Mother is a Private/Government Employed (0/1)					0.511*					
					(0.211)					
Whether Mother is an Agricultural Worker (0/1)					-1.416					
					(1.097)					
Assets						-0.0433				
						(0.0419)				
Total Income							0.0288**			
							(0.00991)			
School 1								0.169		
								(0.126)		
Parental Aspiration									0.00205	
									(0.146)	
Occupational Identity Strength of Child										0.102
										(0.0700)
Constant	2.416**	2.518**	2.696**	2.709**	2.416**	2.725**	2.324**	2.641**	2.718**	2.381**
	(0.124)	(0.103)	(0.0641)	(0.0654)	(0.124)	(0.0632)	(0.151)	(0.0892)	(0.462)	(0.245)
N	305	305	305	305	305	305	305	305	305	305

Standard errors in parentheses

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table 12: Determinants of Occupational Identity of Child

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent Variable: Occupational Identity Strength of Child								
Total Points	0.00169**							
	(0.000552)							
Gender		-0.334**						
		(0.116)						
School 1			0.166					
			(0.103)					
Whether Mother is a Daily-Wage Worker (0/1)				0.140				
				(0.134)				
Whether Mother is a Domestic Worker (0/1)				0.0513				
				(0.177)				
Whether Mother is Self-Employed (0/1)				0.0450				
				(0.191)				
Whether Mother is a Private/Government Employed Worker (0/1)				0.140				
				(0.176)				
Whether Mother is an Agricultural Worker (0/1)				0.701				
				(0.914)				
Child Substitution (0/1)					-0.196			
					(0.209)			
Frequency of Child Substitution						-0.382+		
						(0.198)		
Occupational Identity Strength of Mother							0.0680	
							(0.0468)	
Child Motivation								0.103*
								(0.0491)
Constant	2.940**	3.471**	3.301**	3.299**	3.396**	3.406**	3.198**	2.236**
	(0.154)	(0.0595)	(0.0728)	(0.103)	(0.0535)	(0.0528)	(0.138)	(0.549)
N	304	305	305	305	305	305	305	305

Standard errors in parentheses

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table 13: Determinants of Child Substitution

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent Variable: Child Substitution (0/1)						
Whether Mother is a Daily-Wage Worker (0/1)	-0.0344					
	(0.0339)					
Whether Mother is a Domestic Worker (0/1)	0.0231					
	(0.0447)					
Whether Mother is Self-Employed (0/1)	0.292**					
	(0.0483)					
Whether Mother is a Private/Government Worker (0/1)	-0.0519					
	(0.0444)					
Whether Mother is an Agriculutural Worker (0/1)	-0.0519					
	(0.231)					
Whether Father is a Private/Government Worker (0/1)		-0.0147				
		(0.0534)				
Whether Father is Self-Employed (0/1)		0.130*				
		(0.0523)				
Whether Father is a Daily-Wage Worker (0/1)		-0.0187				
		(0.0448)				
Whether Father is a Agriculutural Worker (0/1)		-0.0556				
		(0.146)				
Assets			-0.00396			
			(0.00943)			
Total Income				-0.000956		
				(0.00226)		
Gender					0.0297	
					(0.0323)	
School 1						-0.0258
						(0.0284)
Constant	0.0519*	0.0556	0.0656**	0.0788*	0.0578**	0.0784**
	(0.0262)	(0.0405)	(0.0142)	(0.0344)	(0.0165)	(0.0201)
N	305	305	305	305	305	305

Standard errors in parentheses

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table 14: Determinants of Frequency of Child Substitution for Mother's Occupation

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Dependent Variable: Frequency of Child Substitution for Mother's Occupation							
Whether Mother's Occupation is Substitutable (0/1)	0.0548						
	(0.0402)						
Whether Mother had Worked as Child (0/1)		0.135*					
		(0.0529)					
Whether Chosen Child Knows to do Mother's Work (0/1)			0.459**				
			(0.0460)				
Whether Mother's Earning Potential Increases if Child Helps (0/1)				0.582**			
				(0.0675)			
Gender					0.0101		
					(0.0443)		
Substitution Common-Mother's Occupation (0/1)						0.574**	
						(0.0947)	
Occupational Identity Strength of Mother							0.0154
							(0.0176)
Constant	0.0395	0.0525*	2.78e-17	0.0318+	0.0711**	0.0512**	0.0319
	(0.0318)	(0.0210)	(0.0185)	(0.0181)	(0.0227)	(0.0188)	(0.0519)
N	305	305	305	305	305	305	305

Standard errors in parentheses

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table 15: Determinants of Frequency of Child Substitution for Father's Occupation

	(1)	(2)	(3)	(4)
Dependent Variable : Frequency of Child Substitution for Father's Occupation				
Whether Father's Occupation is Substitutable (0/1)	0.00214			
	(0.0340)			
Whether Chosen Child Knows to do Father's Work (0/1)		1.227**		
		(0.0505)		
Whether Father's Earning Potential Increases if Child Helps (0/1)			0.575**	
			(0.0846)	
Gender				0.0163
				(0.0367)
Constant	0.0429	7.08e-16	0.0254^{+}	0.0400*
	(0.0276)	(0.00958)	(0.0153)	(0.0188)
N	305	305	305	305

Standard errors in parentheses

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

6 Conclusion

In this paper, I study the determinants of educational investments of both money and time made by low-income urban households in Chennai, India. Specifically, I highlight the role of two novel variables: child labor substitution and occupational identity. With an innovative dataset built from scratch using household survey and school performance data of households and children chosen from two public schools in Ambattur, Chennai, India, I show how the level of educational investments vary when children substitute for their parents labor and when parents choose occupation to represent her self-image/identity. By implementing a new approach of an identity game to evaluate what matters to one's self image, I document the identity preferences of the mother and the chosen child. I find that the households in which the mother values occupation more towards her identity invest less money and time in her child's education. The households in which children provide their labor to help the parent at work invest less money and spend less time quantitatively but more qualitative time. The children who value occupation as a factor more towards their identity score higher on school exams. The higher aspirational values of the parent affect time investments, positively and significantly. The children with higher motivation levels perform higher on exams.

For mothers, the effect of occupational identity strength appears to come from the substitutable attribute of the occupation. The fact that only 36% of employed mothers chose occupation as their identity reveals that the perception of occupation depends on the type of occupation and whether that occupation is a result of a decision-making process. For children, school performance and motivation seem to drive the occupational identity strength. The effect of occupation towards identity is higher for girls as compared to boys. The self-employed occupation category employs child labor at a higher rate as compared to other occupations in the sample. Further, the results show that this sort of child substitution is more likely to happen if the children are familiar with the mother and father's work; if earnings potential of parents increase; and if it is a common attribute of the occupation observed by the mother that the children substitute for their parents. Both international child labor laws and Indian Child Labor Law allow light permissible work for children after school. But without exploring the tradeoffs faced by school going children when they engage in such labor substitution, presuming that light work do not affect schooling outcomes can be counterfactual. Though the responses towards child labor substitution is small in absolute terms in the sample, the findings are indicative that this type of labor prevails among school-going children and has implications in the educational decisions made by the parents. The broader contribution of the paper is behavioral implications of an occupation should be considered in concurrence with other resource constraints in studying the decision-making of poor households. Especially, when it comes to educational investments made by low-income parents, where there is also child labor, knowing the impact of different attributes of occupation on such investment decisions might

enable us to answer beyond what the standard resource constraints can. Finally, there is less information on the allocation of time of both parents and children in developing countries. Particularly, the information is much scarcer for children who help parents at work and also go to school. To understand this cohort and their parental decisions, in general, labor surveys should include detailed occupation-based survey questions that target both economic and socio-behavioral aspects of occupations.

The findings of the paper should be seen as an outcome of a descriptive case study approach, and it does not intend to establish causality. While the findings may not be generalized to other populations in terms of sign and significance, it provides a new channel of how educational investments can be uniquely affected. There are a few areas that I would like to explore more, which I plan to address in continuing research. One of those is to study whether the relationship observed between occupational identity and investments in this sample hold when there is more heterogeneity in both type of occupation and type of school. Also, a more concrete way to establish the impact of occupational identity strength on educational attainment is to follow the students in my sample to see how many enroll in college and continue to tertiary-level of education. Thus, the paper not only suggests an innovative way to think about educational investments made by low-income households but presents a new avenue that should be explored more from a development perspective.

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A APPENDIX

Table A.1: Models of Monetary Investments - Identity Block Regressions

	(1)	(2)	(3)	(4)	(5)
Dependent Variable: Monetary Investments					
Occupational Identity Strength of Mother	-483.1*	-471.1*	-528.9**	-472.3*	-426.5*
	(197.4)	(199.3)	(200.6)	(187.2)	(179.6)
Whether Mother is a Daily-Wage Worker (0/1)		338.8	212.2	182.5	28.41
		(465.7)	(466.9)	(435.4)	(418.2)
Mother's Age		17.25	24.88	58.16	82.91*
		(37.83)	(38.17)	(36.80)	(35.57)
Mother's Education		52.64	-16.27	-28.83	-23.12
		(149.5)	(149.5)	(140.6)	(134.8)
Whether Father is a Daily-Wage Worker (0/1)		458.5	352.5	224.1	-154.3
		(454.8)	(452.7)	(424.9)	(413.5)
Total Income			77.80*	66.50+	81.86*
			(37.11)	(34.54)	(33.22)
Assets			252.0+	309.2*	290.7*
			(147.8)	(140.2)	(134.4)
Gender				2831.7**	1156.8*
				(463.7)	(547.8)
Birth Order				-841.6**	-759.4**
				(284.7)	(273.3)
School 1					-2593.2**
					(496.2)
Constant	8076.0**	6818.0**	5971.1**	5525.9**	6079.4**
	(580.3)	(1804.5)	(1874.9)	(1761.5)	(1691.1)
R^2	.02	.03	.06	.19	.26
N	305	305	305	305	305

Standard errors in parentheses

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table A.2: Models of Monetary Investments - Child Substitution Block Regressions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent Variable: Monetary Investments								
Child Substitution (0/1)	-1296.1		-1210.6	-1086.0	-1074.9	-1211.2	-1509.1^{+}	-1410.7^{+}
	(885.1)		(879.8)	(905.9)	(898.0)	(841.6)	(805.4)	(801.2)
Occupational Identity of Mother (0/1)		-1086.8*	-1059.4*					-936.3*
		(465.4)	(465.1)					(418.9)
Whether Mother is a Daily-Wage Worker (0/1)				259.1	168.8	111.2	-75.40	-56.45
				(473.1)	(475.3)	(443.2)	(424.5)	(421.8)
Mother's Age				22.95	27.75	57.72	82.80*	83.00*
				(37.99)	(38.50)	(37.09)	(35.71)	(35.47)
Mother's Education				69.26	9.368	-1.654	-2.957	-17.15
				(150.4)	(150.6)	(141.0)	(134.6)	(133.9)
Whether Father is a Daily-Wage Worker (0/1)				428.3	349.8	183.1	-235.2	-233.7
				(460.1)	(458.9)	(431.0)	(418.6)	(415.8)
Total Income					61.01^{+}	51.57	69.57*	79.75*
					(36.83)	(34.20)	(32.82)	(32.91)
Assets					277.9^{+}	321.2*	296.7*	272.6*
					(148.7)	(141.1)	(134.8)	(134.3)
Gender						2974.6**	1226.1*	1262.1*
						(467.2)	(549.7)	(546.2)
Birth Order						-753.9**	-659.3*	-703.5*
						(288.5)	(276.0)	(274.9)
School 1							-2714.1**	-2612.4**
							(498.5)	(497.2)
Constant	6844.7**	7112.5**	7183.0**	5372.6**	4645.4*	4301.8*	5069.0**	5278.3**
	(226.6)	(265.1)	(269.7)	(1681.9)	(1807.5)	(1687.6)	(1617.4)	(1609.2)
R^2	.01	.02	.02	.01	.04	.18	.25	.27
N	305	305	305	305	305	305	305	305

Standard errors in parentheses

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table A.3: Models of Quantitative Time Investment - Identity Block Regressions

	(1)	(2)	(3)	(4)	(5)
Dependent Variable: Quantitative Time Investment of Mother					
Occupational Identity Strength of Mother	-0.0190	-0.0148	-0.0131	-0.0154	-0.0108
	(0.0323)	(0.0319)	(0.0326)	(0.0326)	(0.0324)
Whether Mother is a Daily-Wage Worker (0/1)		0.0686	0.0716	0.0799	0.0657
		(0.0744)	(0.0757)	(0.0757)	(0.0753)
Mother's Age		-0.0109^{+}	-0.0113^{+}	-0.00806	-0.00581
		(0.00605)	(0.00619)	(0.00640)	(0.00641)
Mother's Education		0.0701**	0.0688**	0.0627*	0.0637**
		(0.0240)	(0.0243)	(0.0245)	(0.0243)
Whether Father is a Daily-Wage Worker (0/1)		0.0585	0.0598	0.0712	0.0374
		(0.0727)	(0.0735)	(0.0739)	(0.0745)
Total Income			-0.000695	-0.000805	0.000702
			(0.00604)	(0.00603)	(0.00601)
Assets			0.0156	0.0246	0.0234
			(0.0240)	(0.0244)	(0.0242)
Gender				0.0158	-0.130
				(0.0806)	(0.0990)
Birth Order				-0.0944^{+}	-0.0881^{+}
				(0.0496)	(0.0492)
School 1					-0.224*
					(0.0900)
Constant	0.450**	0.529^{+}	0.555^{+}	0.608*	0.649*
	(0.0947)	(0.289)	(0.305)	(0.307)	(0.305)
R^2	.00	.05	.05	.06	.08
N	304	304	304	304	304

Standard errors in parentheses

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table A.4: Models of Quantitative Time Investment - Child Substitution Block Regressions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent Variable: Quantitative Time Investment of Mother								
Child Substitution (0/1)	-0.0948		-0.0929	-0.0364	-0.0335	-0.00480	-0.0303	-0.0296
	(0.143)		(0.144)	(0.144)	(0.144)	(0.145)	(0.144)	(0.145)
Occupational Identity of Mother (0/1)		-0.0249	-0.0227					-0.00619
		(0.0761)	(0.0762)					(0.0760)
Whether Mother is a Daily-Wage Worker (0/1)				0.0659	0.0699	0.0801	0.0637	0.0638
				(0.0751)	(0.0764)	(0.0766)	(0.0762)	(0.0763)
Mother's Age				-0.0107^{+}	-0.0113^{+}	-0.00799	-0.00579	-0.00579
				(0.00603)	(0.00619)	(0.00641)	(0.00641)	(0.00642)
Mother's Education				0.0707**	0.0694**	0.0640**	0.0643**	0.0642**
				(0.0239)	(0.0242)	(0.0244)	(0.0242)	(0.0242)
Whether Father is a Daily-Wage Worker (0/1)				0.0573	0.0592	0.0719	0.0358	0.0358
				(0.0731)	(0.0738)	(0.0745)	(0.0752)	(0.0753)
Total Income					-0.00109	-0.00131	0.000397	0.000459
					(0.00595)	(0.00594)	(0.00592)	(0.00598)
Assets					0.0162	0.0253	0.0237	0.0235
					(0.0239)	(0.0244)	(0.0242)	(0.0243)
Gender						0.0189	-0.128	-0.128
						(0.0807)	(0.0990)	(0.0992)
Birth Order						-0.0930^{+}	-0.0860^{+}	-0.0862^{+}
						(0.0499)	(0.0495)	(0.0497)
School 1							-0.227*	-0.226*
							(0.0900)	(0.0907)
Constant	0.405**	0.407**	0.412**	0.484^{+}	0.522^{+}	0.563^{+}	0.622*	0.623*
	(0.0368)	(0.0432)	(0.0441)	(0.267)	(0.291)	(0.292)	(0.290)	(0.291)
R^2	.00	.00	.00	.05	.05	.06	.08	.08
N	304	304	304	304	304	304	304	304

Standard errors in parentheses

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table A.5: Models of Qualitative Time Investment - Identity Block Regressions

Dependent Variable: Qualitative Time Investment of Mother Z score	(1)	(2)	(3)	(4)	(5)
Occupational Identity Strength of Mother	-0.0908^{+}	-0.0668	-0.0697	-0.0696	-0.0623
	(0.0518)	(0.0485)	(0.0492)	(0.0495)	(0.0489)
Whether Mother is a Daily-Wage Worker (0/1)		0.0996	0.0921	0.0919	0.0675
		(0.113)	(0.114)	(0.115)	(0.114)
Mother's Age		-0.00981	-0.0100	-0.0101	-0.00615
		(0.00921)	(0.00936)	(0.00974)	(0.00969)
Mother's Education		0.248**	0.237**	0.237**	0.238**
		(0.0364)	(0.0366)	(0.0372)	(0.0367)
Whether Father is a Daily-Wage Worker (0/1)		-0.0172	-0.0263	-0.0267	-0.0867
		(0.111)	(0.111)	(0.112)	(0.113)
Total Income			0.00749	0.00748	0.00991
			(0.00910)	(0.00914)	(0.00905)
Assets			0.0681^{+}	0.0680^{+}	0.0651^{+}
			(0.0362)	(0.0371)	(0.0366)
Gender				0.00313	-0.262^{+}
				(0.123)	(0.149)
Birth Order				0.00105	0.0141
				(0.0753)	(0.0744)
School 1					-0.411**
					(0.135)
Constant	0.247	-0.414	-0.450	-0.452	-0.364
	(0.152)	(0.439)	(0.460)	(0.466)	(0.461)
R^2	.01	.15	.17	.17	.19
N	305	305	305	305	305

Standard errors in parentheses

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table A.6: Models of Qualitative Time Investment - Child Substitution Block Regressions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent Variable: Qualitative Time Investment of Mother Z score								
Child Substitution (0/1)	0.110		0.133	0.236	0.244	0.245	0.200	0.224
	(0.232)		(0.230)	(0.219)	(0.218)	(0.221)	(0.219)	(0.218)
Occupational Identity of Mother (0/1)		-0.275*	-0.278*					-0.231*
		(0.121)	(0.122)					(0.114)
Whether Mother is a Daily-Wage Worker (0/1)				0.115	0.114	0.114	0.0859	0.0906
				(0.115)	(0.116)	(0.117)	(0.115)	(0.115)
Mother's Age				-0.00862	-0.00940	-0.00926	-0.00547	-0.00542
				(0.00920)	(0.00936)	(0.00976)	(0.00970)	(0.00965)
Mother's Education				0.256**	0.245**	0.245**	0.245**	0.242**
				(0.0364)	(0.0366)	(0.0371)	(0.0366)	(0.0364)
Whether Father is a Daily-Wage Worker (0/1)				-0.00142	-0.00628	-0.00618	-0.0695	-0.0691
				(0.111)	(0.112)	(0.113)	(0.114)	(0.113)
Total Income					0.00489	0.00487	0.00759	0.0101
					(0.00896)	(0.00899)	(0.00892)	(0.00896)
Assets					0.0733*	0.0736*	0.0699+	0.0640+
					(0.0362)	(0.0371)	(0.0366)	(0.0366)
Gender						0.00506	-0.260+	-0.251+
						(0.123)	(0.149)	(0.149)
Birth Order						-0.00364	0.0107	-0.000234
						(0.0759)	(0.0750)	(0.0748)
School 1							-0.411**	-0.386**
							(0.135)	(0.135)
Constant	-0.00722	0.0892	0.0815	-0.701+	-0.697	-0.696	-0.580	-0.529
	(0.0593)	(0.0692)	(0.0706)	(0.407)	(0.440)	(0.444)	(0.439)	(0.438)
R^2	.00	.02	.02	.15	.16	.16	.19	.20
N	305	305	305	305	305	305	305	305

Standard errors in parentheses

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table A.7: Models of Time Investment by the Child - Mother Identity Block Regressions

	(1)	(2)	(3)	(4)	(5)
Dependent Variable: Time Investment of Child					
Occupational Identity Strength of Mother	-0.00486	0.0146	0.0269	0.00709	0.00721
	(0.0787)	(0.0786)	(0.0801)	(0.0788)	(0.0790)
Whether Mother is a Daily-Wage Worker (0/1)		-0.0217	0.00257	0.0537	0.0533
		(0.184)	(0.186)	(0.183)	(0.184)
Mother's Age		0.0426**	0.0396**	0.0544**	0.0544**
		(0.0149)	(0.0152)	(0.0155)	(0.0157)
Mother's Education		0.0420	0.0387	0.00474	0.00475
		(0.0589)	(0.0597)	(0.0592)	(0.0593)
Whether Father is a Daily-Wage Worker (0/1)		-0.0430	-0.0292	0.0506	0.0496
		(0.179)	(0.181)	(0.179)	(0.182)
Total Income			-0.00846	-0.00818	-0.00814
			(0.0148)	(0.0145)	(0.0146)
Assets			0.0715	0.116+	0.116+
			(0.0590)	(0.0590)	(0.0591)
Gender				-0.210	-0.214
				(0.195)	(0.241)
Birth Order				-0.442**	-0.442**
				(0.120)	(0.120)
School 1					-0.00653
					(0.218)
Constant	11.09**	9.292**	9.486**	9.846**	9.848**
	(0.231)	(0.712)	(0.749)	(0.741)	(0.744)
R^2	.00	.03	.03	.08	.08
N	305	305	305	305	305

Standard errors in parentheses

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table A.8: Models of Time Investment by the Child - Child Substitution Block Regressions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent Variable: Time Investment of Child								
Child Substitution (0/1)	-0.539		-0.542	-0.560	-0.547	-0.377	-0.379	-0.385
	(0.349)		(0.350)	(0.353)	(0.354)	(0.351)	(0.352)	(0.353)
Occupational Identity of Mother (0/1)		0.0284	0.0406					0.0513
		(0.185)	(0.185)					(0.185)
Whether Mother is a Daily-Wage Worker (0/1)				-0.0602	-0.0382	0.0242	0.0228	0.0217
				(0.185)	(0.187)	(0.185)	(0.186)	(0.186)
Mother's Age				0.0418**	0.0390*	0.0536**	0.0538**	0.0538**
				(0.0148)	(0.0152)	(0.0155)	(0.0156)	(0.0157)
Mother's Education				0.0331	0.0289	0.0000818	0.0000715	0.000849
				(0.0587)	(0.0594)	(0.0588)	(0.0589)	(0.0591)
Whether Father is a Daily-Wage Worker (0/1)				-0.0726	-0.0608	0.0264	0.0231	0.0230
				(0.179)	(0.181)	(0.180)	(0.183)	(0.183)
Total Income					-0.00700	-0.00757	-0.00743	-0.00798
					(0.0145)	(0.0143)	(0.0144)	(0.0145)
Assets					0.0674	0.112+	0.112+	0.113+
					(0.0586)	(0.0589)	(0.0590)	(0.0593)
Gender						-0.194	-0.208	-0.210
						(0.195)	(0.241)	(0.241)
Birth Order						-0.427**	-0.426**	-0.423**
						(0.120)	(0.121)	(0.121)
School 1							-0.0215	-0.0271
							(0.218)	(0.219)
Constant	11.11**	11.06**	11.10**	9.461**	9.666**	9.924**	9.931**	9.919**
	(0.0895)	(0.106)	(0.107)	(0.656)	(0.712)	(0.704)	(0.708)	(0.710)
R^2	.01	.00	.01	.04	.04	.08	.08	.08
N	305	305	305	305	305	305	305	305

Standard errors in parentheses

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table A.9: Models of Time Investment by the Child - Child Identity Block Regressions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent Variable : Time Investment of Child								
Occupational Identity Strength of Child	0.174^{+}		0.176^{+}	0.170^{+}	0.168^{+}	0.117	0.117	0.117
	(0.0957)		(0.0962)	(0.0952)	(0.0953)	(0.0958)	(0.0960)	(0.0964)
Occupational Identity Strength of Mother		-0.00486	-0.0168					0.000209
		(0.0787)	(0.0787)					(0.0792)
Whether Mother is a Daily-Wage Worker (0/1)				-0.0339	-0.0116	0.0411	0.0405	0.0405
				(0.183)	(0.186)	(0.183)	(0.184)	(0.184)
Mother's Age				0.0416**	0.0387*	0.0533**	0.0534**	0.0534**
				(0.0148)	(0.0152)	(0.0155)	(0.0156)	(0.0157)
Mother's Education				0.0393	0.0352	0.00496	0.00497	0.00498
				(0.0584)	(0.0591)	(0.0587)	(0.0588)	(0.0592)
Whether Father is a Daily-Wage Worker (0/1)				-0.0570	-0.0450	0.0344	0.0331	0.0331
				(0.178)	(0.180)	(0.179)	(0.182)	(0.182)
Total Income					-0.00753	-0.00800	-0.00794	-0.00795
					(0.0145)	(0.0142)	(0.0143)	(0.0146)
Assets					0.0676	0.112^{+}	0.111^{+}	0.112^{+}
					(0.0585)	(0.0588)	(0.0589)	(0.0592)
Gender						-0.167	-0.173	-0.173
						(0.197)	(0.243)	(0.243)
Birth Order						-0.424**	-0.424**	-0.424**
						(0.120)	(0.121)	(0.121)
School 1							-0.00905	-0.00908
							(0.218)	(0.218)
Constant	10.48**	11.09**	10.52**	8.814**	9.039**	9.479**	9.481**	9.480**
	(0.335)	(0.231)	(0.384)	(0.715)	(0.769)	(0.770)	(0.773)	(0.802)
R^2	.01	.00	.01	.04	.04	.08	.08	.08
N	305	305	305	305	305	305	305	305

Standard errors in parentheses

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table A.10: Models of Time Investment by the Child - Child Identity and Substitution Block Regressions

Dependent Variable: Time Investment of Child	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Child Substitution (0/1)	-0.539			-0.539	-0.560	-0.548	-0.382	-0.384	-0.384	-0.388
	(0.349)			(0.350)	(0.353)	(0.354)	(0.352)	(0.353)	(0.353)	(0.354)
Occupational Identity of Child (0/1)		0.182		0.178	0.181	0.173	0.0799	0.0793	0.0793	0.0759
		(0.178)		(0.178)	(0.176)	(0.177)	(0.178)	(0.178)	(0.178)	(0.179)
Occupational Identity of Mother (0/1)			0.0284	0.0264						0.0451
			(0.185)	(0.186)						(0.186)
Whether Mother is a Daily-Wage Worker (0/1)					-0.0607	-0.0398	0.0218	0.0206	0.0206	0.0198
					(0.185)	(0.187)	(0.185)	(0.186)	(0.186)	(0.186)
Mother's Age					0.0416**	0.0389*	0.0533**	0.0535**	0.0535**	0.0535**
					(0.0148)	(0.0152)	(0.0155)	(0.0157)	(0.0157)	(0.0157)
Mother's Education					0.0326	0.0285	0.000494	0.000483	0.000483	0.00115
					(0.0587)	(0.0594)	(0.0589)	(0.0590)	(0.0590)	(0.0592)
Whether Father is a Daily-Wage Worker (0/1)					-0.0826	-0.0710	0.0190	0.0163	0.0163	0.0165
					(0.180)	(0.181)	(0.181)	(0.184)	(0.184)	(0.184)
Total Income						-0.00658	-0.00740	-0.00729	-0.00729	-0.00778
						(0.0145)	(0.0143)	(0.0144)	(0.0144)	(0.0145)
Assets						0.0656	0.110+	0.110+	0.110+	0.111+
						(0.0587)	(0.0591)	(0.0592)	(0.0592)	(0.0595)
Gender							-0.177	-0.189	-0.189	-0.191
							(0.199)	(0.245)	(0.245)	(0.245)
Birth Order							-0.420**	-0.419**	-0.419**	-0.418**
							(0.121)	(0.122)	(0.122)	(0.122)
School 1								-0.0176	-0.0176	-0.0227
								(0.219)	(0.219)	(0.220)
Constant	11.11**	10.96**	11.06**	10.99**	9.367**	9.566**	9.871**	9.876**	9.876**	9.869**
	(0.0895)	(0.139)	(0.106)	(0.150)	(0.662)	(0.720)	(0.715)	(0.719)	(0.719)	(0.721)
R^2	.01	.00	.00	.01	.04	.04	.08	.08	.08	.08
N	305	305	305	305	305	305	305	305	305	305

Standard errors in parentheses

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table A.11: Models of School Performance - Child Identity Block Regressions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent Variable: Total Points								
Occupational Identity Strength of Child	17.80**		18.37**	17.51**	17.26**	12.58*	12.56*	12.92*
	(5.818)		(5.834)	(5.660)	(5.645)	(5.640)	(5.650)	(5.668)
Occupational Identity Strength of Mother		-4.357	-5.612					-4.008
		(4.824)	(4.771)					(4.657)
Whether Mother is a Daily-Wage Worker (0/1)				-0.398	1.123	4.965	5.086	4.901
				(10.88)	(10.99)	(10.78)	(10.82)	(10.83)
Mother's Age				3.007**	2.777**	3.478**	3.458**	3.434**
				(0.880)	(0.898)	(0.912)	(0.921)	(0.922)
Mother's Education				11.10**	10.53**	8.685*	8.684*	8.342*
				(3.471)	(3.498)	(3.453)	(3.459)	(3.483)
Whether Father is a Daily-Wage Worker (0/1)				-9.071	-8.303	-1.829	-1.514	-1.814
				(10.63)	(10.68)	(10.55)	(10.75)	(10.76)
Total Income					-0.412	-0.370	-0.385	-0.248
					(0.866)	(0.847)	(0.853)	(0.868)
Assets					6.739+	9.225**	9.243**	9.038**
					(3.466)	(3.462)	(3.470)	(3.480)
Gender						-34.23**	-32.90*	-33.18*
						(11.62)	(14.28)	(14.29)
Birth Order						-21.14**	-21.20**	-21.49**
						(7.080)	(7.103)	(7.114)
School 1							2.066	2.564
							(12.84)	(12.85)
Constant	203.2**	275.3**	216.5**	53.03	69.54	105.2*	104.7*	115.3*
	(20.38)	(14.18)	(23.31)	(42.52)	(45.63)	(45.44)	(45.61)	(47.24)
R^2	.03	.00	.04	.10	.11	.16	.16	.16
N	304	304	304	304	304	304	304	304

Standard errors in parentheses

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table A.12: Models of School Performance - Child Substitution Block Regressions

Dependent Variable: Total Points	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Child Substitution (0/1)	-6.989			-4.833	-4.468	-3.355	8.645	9.048	9.048	10.98
	(21.52)			(21.22)	(21.05)	(21.01)	(20.72)	(20.80)	(20.80)	(20.75)
Occupational Identity of Child (0/1)		30.14**		31.59**	30.39**	29.71**	20.70+	20.80*	20.80*	22.23*
		(10.83)		(10.83)	(10.54)	(10.52)	(10.52)	(10.54)	(10.54)	(10.54)
Occupational Identity of Mother (0/1)			-18.36	-20.67+						-19.23+
			(11.34)	(11.25)						(10.88)
Whether Mother is a Daily-Wage Worker (0/1)					0.558	1.956	6.467	6.716	6.716	7.056
					(11.01)	(11.13)	(10.92)	(10.97)	(10.97)	(10.93)
Mother's Age					3.042**	2.832**	3.547**	3.511**	3.511**	3.508**
					(0.883)	(0.902)	(0.915)	(0.924)	(0.924)	(0.921)
Mother's Education					11.13**	10.55**	8.801*	8.805*	8.805*	8.523*
					(3.496)	(3.523)	(3.472)	(3.477)	(3.477)	(3.468)
Whether Father is a Daily-Wage Worker (0/1)					-9.716	-9.010	-1.544	-0.954	-0.954	-1.014
					(10.73)	(10.79)	(10.69)	(10.89)	(10.89)	(10.85)
Total Income						-0.321	-0.316	-0.344	-0.344	-0.136
						(0.871)	(0.850)	(0.857)	(0.857)	(0.862)
Assets						6.642+	9.286**	9.319**	9.319**	8.797*
						(3.482)	(3.481)	(3.488)	(3.488)	(3.488)
Gender							-34.98**	-32.53*	-32.53*	-31.44*
							(11.72)	(14.41)	(14.41)	(14.38)
Birth Order							-21.78**	-21.90**	-21.90**	-22.68**
							(7.155)	(7.178)	(7.178)	(7.165)
School 1								3.786	3.786	5.973
								(12.91)	(12.91)	(12.92)
Constant	263.9**	244.9**	269.4**	251.0**	92.46*	106.6*	131.2**	130.1**	130.1**	133.6**
	(5.519)	(8.491)	(6.469)	(9.140)	(39.48)	(42.86)	(42.27)	(42.49)	(42.49)	(42.38)
R^2	.00	.03	.01	.04	.10	.11	.15	.15	.15	.16
N	304	304	304	304	304	304	304	304	304	304

Standard errors in parentheses

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table A.13: Impact of Behavioral Variables on Monetary Investments - Block Regressions

	(1)	(2)	(3)	(4)	(5)
Dependent Variable: Monetary Investments					
Parental Aspiration	1129.6*	480.6	487.2	406.1	435.5
	(505.5)	(476.5)	(474.6)	(475.3)	(473.6)
Child Motivation	-380.0^{+}	-282.3	-309.8	-294.7	-294.3
	(210.1)	(188.6)	(188.2)	(188.2)	(187.4)
Mother has Role Model due to Occupation (0/1)	-290.8	265.2	50.54	69.26	244.3
	(668.8)	(610.7)	(600.9)	(601.5)	(606.6)
Child Substitution (0/1)		-1598.5^{+}			-1493.8^{+}
		(815.5)			(811.3)
Occupational Identity Strength of Mother			-447.0*		
			(179.9)		
Occupational Identity of Mother (0/1)				-982.7*	-938.2*
				(420.4)	(419.4)
Whether Mother is a Daily-Wage Worker (0/1)		-120.7	-15.63	23.70	-95.27
		(429.1)	(422.6)	(423.1)	(426.3)
Mother's Age		79.60*	79.46*	82.69*	80.18*
		(35.92)	(35.77)	(35.80)	(35.68)
Mother's Education		-29.31	-44.51	-18.65	-39.96
		(138.5)	(138.3)	(137.7)	(137.6)
Total Income		68.97*	82.66*	78.83*	79.54*
		(32.95)	(33.37)	(33.20)	(33.07)
Assets		285.7*	281.1*	278.6*	263.7^{+}
		(136.0)	(135.5)	(135.7)	(135.4)
School 1		-2580.6**	-2444.5**	-2416.1**	-2480.2**
		(504.9)	(502.8)	(504.4)	(503.5)
Gender		1294.8*	1208.8*	1289.1*	1328.3*
		(552.2)	(549.8)	(550.5)	(548.7)
Birth Order		-669.3*	-778.1**	-784.5**	-717.2**
		(277.5)	(274.6)	(275.1)	(276.4)
Whether Father is a Daily-Wage Worker (0/1)		-149.2	-64.79	-57.01	-152.1
		(423.0)	(418.2)	(418.6)	(420.1)
Constant	7476.2**	6810.2*	8162.4**	7137.4*	7271.2**
	(2667.3)	(2789.4)	(2843.7)	(2788.5)	(2778.1)
R^2	.02	.26	.27	.27	.27
N	305	305	305	305	305

Standard errors in parentheses

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table A.14: Impact of Behavioral Variables on Quantitative Time Investment - Block Regressions

Dependent Variable: Quantitative Time Investment of Mother	(1)	(2)	(3)	(4)	(5)
Parental Aspiration	0.315**	0.267**	0.267**	0.267**	0.268**
	(0.0797)	(0.0837)	(0.0837)	(0.0837)	(0.0839)
Child Motivation	0.0699*	0.0724*	0.0717*	0.0725*	0.0725*
	(0.0332)	(0.0331)	(0.0332)	(0.0331)	(0.0332)
Mother has a Role Model due to Occupation (0/1)	0.0218	0.0106	0.00448	0.00563	0.0110
	(0.107)	(0.108)	(0.107)	(0.107)	(0.108)
Child Substitution (0/1)		-0.0427			-0.0438
		(0.143)			(0.143)
Occupational Identity Strength of Mother			-0.00971		
			(0.0317)		
Occupational Identity of Mother (0/1)				0.00818	0.00958
				(0.0741)	(0.0744)
Whether Mother is a Daily-Wage Worker (0/1)		0.0244	0.0274	0.0277	0.0242
		(0.0752)	(0.0743)	(0.0744)	(0.0754)
Mother's Age		-0.00823	-0.00824	-0.00817	-0.00823
		(0.00631)	(0.00631)	(0.00631)	(0.00632)
Mother's Education		0.0459^{+}	0.0457^{+}	0.0467^{+}	0.0461^{+}
		(0.0243)	(0.0244)	(0.0242)	(0.0243)
Total Income		-0.00156	-0.00129	-0.00169	-0.00166
		(0.00581)	(0.00590)	(0.00586)	(0.00587)
Assets		0.0116	0.0116	0.0123	0.0119
		(0.0238)	(0.0239)	(0.0239)	(0.0240)
School 1		-0.216*	-0.212*	-0.215*	-0.217*
		(0.0893)	(0.0893)	(0.0896)	(0.0900)
Gender		-0.121	-0.122	-0.122	-0.121
		(0.0971)	(0.0971)	(0.0971)	(0.0974)
Birth Order		-0.0652	-0.0678	-0.0667	-0.0647
		(0.0486)	(0.0483)	(0.0484)	(0.0489)
Whether Father is a Daily-Wage Worker (0/1)		0.0620	0.0645	0.0648	0.0619
		(0.0743)	(0.0737)	(0.0738)	(0.0745)
Constant	-1.373**	-0.878^{+}	-0.849^{+}	-0.886^{+}	-0.883^{+}
	(0.421)	(0.489)	(0.501)	(0.490)	(0.491)
R^2	.07	.13	.13	.13	.13
N	304	304	304	304	304

Standard errors in parentheses

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table A.15: Impact of Behavioral Variables on Qualitative Time Investment - Block Regressions

Dependent Variable: Qualitative Time Investment of Mother Z score	(1)	(2)	(3)	(4)	(5)
Parental Aspiration	0.578**	0.360**	0.368**	0.353**	0.350**
	(0.128)	(0.128)	(0.128)	(0.127)	(0.128)
Child Motivation	0.0413	0.0423	0.0384	0.0396	0.0396
	(0.0533)	(0.0507)	(0.0507)	(0.0505)	(0.0505)
Mother has a Role Model due to Occupation (0/1)	0.301+	0.145	0.159	0.161	0.140
	(0.170)	(0.164)	(0.162)	(0.161)	(0.163)
Child Substitution (0/1)		0.153			0.177
		(0.219)			(0.219)
Occupational Identity Strength of Mother			-0.0629		
			(0.0484)		
Occupational Identity of Mother (0/1)				-0.208+	-0.213+
				(0.113)	(0.113)
Whether Mother is a Daily-Wage Worker (0/1)		0.0369	0.0218	0.0286	0.0427
		(0.115)	(0.114)	(0.113)	(0.115)
Mother's Age		-0.00845	-0.00910	-0.00861	-0.00831
		(0.00965)	(0.00963)	(0.00960)	(0.00961)
Mother's Education		0.219**	0.211**	0.214**	0.216**
		(0.0372)	(0.0372)	(0.0369)	(0.0371)
Total Income		0.00518	0.00741	0.00766	0.00758
		(0.00885)	(0.00898)	(0.00890)	(0.00891)
Assets		0.0547	0.0500	0.0479	0.0497
		(0.0365)	(0.0365)	(0.0364)	(0.0365)
School 1		-0.383**	-0.379**	-0.368**	-0.360**
		(0.136)	(0.135)	(0.135)	(0.136)
Gender		-0.236	-0.238	-0.224	-0.228
		(0.148)	(0.148)	(0.148)	(0.148)
Birth Order		0.0329	0.0341	0.0300	0.0221
		(0.0746)	(0.0739)	(0.0738)	(0.0745)
Whether Father is a Daily-Wage Worker (0/1)		-0.0289	-0.0412	-0.0408	-0.0295
		(0.114)	(0.113)	(0.112)	(0.113)
Constant	-2.313**	-2.014**	-1.784*	-1.893*	-1.909*
	(0.676)	(0.749)	(0.766)	(0.748)	(0.748)
R^2	.08	.22	.22	.22	.23
N	305	305	305	305	305

Standard errors in parentheses

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table A.16: Impact of Behavioral Variables on Time Investment by the Child - Block Regressions

Dependent Variable: Time Investment of Child	(1)	(2)	(3)	(4)	(5)
Parental Aspiration	0.346^{+}	0.253	0.244	0.249	0.256
	(0.197)	(0.205)	(0.205)	(0.205)	(0.205)
Child Motivation	0.283**	0.271**	0.272**	0.272**	0.272**
	(0.0817)	(0.0811)	(0.0814)	(0.0812)	(0.0812)
Mother has a Role Model due to Occupation (0/1)	-0.0523	-0.0160	-0.0590	-0.0596	-0.0142
	(0.260)	(0.262)	(0.260)	(0.260)	(0.263)
Child Substitution (0/1)		-0.378			-0.388
		(0.350)			(0.352)
Occupational Identity Strength of Mother			0.0191		
			(0.0777)		
Occupational Identity of Mother (0/1)				0.0703	0.0819
				(0.181)	(0.182)
Whether Mother is a Daily-Wage Worker (0/1)		-0.0265	0.00434	0.00214	-0.0287
		(0.184)	(0.183)	(0.183)	(0.185)
Mother's Age		0.0511**	0.0518**	0.0517**	0.0510**
		(0.0154)	(0.0155)	(0.0155)	(0.0155)
Mother's Education		-0.0228	-0.0156	-0.0163	-0.0218
		(0.0595)	(0.0598)	(0.0594)	(0.0596)
Total Income		-0.0108	-0.0117	-0.0119	-0.0117
		(0.0142)	(0.0144)	(0.0143)	(0.0143)
Assets		0.0948	0.0998^{+}	0.101^{+}	0.0967
		(0.0584)	(0.0585)	(0.0586)	(0.0587)
School 1		-0.0706	-0.0586	-0.0627	-0.0794
		(0.217)	(0.217)	(0.218)	(0.218)
Gender		-0.223	-0.232	-0.236	-0.226
		(0.237)	(0.238)	(0.238)	(0.238)
Birth Order		-0.383**	-0.397**	-0.396**	-0.378**
		(0.119)	(0.119)	(0.119)	(0.120)
Whether Father is Daily-Wage Worker (0/1)		0.0283	0.0533	0.0533	0.0286
		(0.182)	(0.181)	(0.181)	(0.182)
Constant	6.840**	6.327**	6.222**	6.252**	6.286**
	(1.037)	(1.199)	(1.229)	(1.204)	(1.204)
R^2	.05	.12	.12	.12	.13
N	305	305	305	305	305

Standard errors in parentheses

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table A.17: Models of Monetary Investments Alternate

	(1)	(2)	(3)	(4)
Dependent Variable: Monetary Investments w/o School Fees				
Child Substitution (0/1)	-1413.2^{+}			-1322.7^{+}
	(745.9)			(742.0)
Occupational Identity Strength of Mother		-356.1*		
		(166.7)		
Occupational Identity of Mother (0/1)			-899.5*	-861.5*
			(388.8)	(388.0)
Whether Mother is a Daily-Wage Worker (0/1)	8.136	107.0	131.7	25.57
	(393.2)	(388.0)	(387.5)	(390.6)
Mother's Age	52.91	53.26	55.30^{+}	53.09
	(33.07)	(33.01)	(32.95)	(32.85)
Mother's Education	-56.73	-71.92	-56.21	-69.79
	(124.7)	(125.0)	(124.2)	(124.0)
Total Income	48.39	58.47^{+}	56.53^{+}	57.76^{+}
	(30.39)	(30.83)	(30.59)	(30.48)
Assets	225.5^{+}	221.9^{+}	214.9^{+}	203.3
	(124.9)	(124.7)	(124.7)	(124.4)
School 1	-665.1	-557.7	-512.0	-571.6
	(461.6)	(460.4)	(461.0)	(460.5)
Gender	1081.9*	1021.3*	1092.9*	1115.0*
	(509.0)	(508.3)	(507.6)	(505.9)
Birth Order	-512.6*	-602.7*	-611.5*	-553.2*
	(255.6)	(253.6)	(253.4)	(254.6)
Whether Father is a Daily-Wage Worker (0/1)	-224.7	-146.6	-132.3	-223.3
	(387.6)	(383.7)	(383.1)	(385.1)
Constant	3502.9*	4321.8**	3489.9*	3695.5*
	(1497.8)	(1569.1)	(1491.5)	(1490.4)
R^2	.10	.10	.10	.11
N	305	305	305	305

Standard errors in parentheses

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table A.18: Models of Monetary Investments Alternate - Identity Block Regressions

	(1)	(2)	(3)	(4)	(5)
Dependent Variable: Monetary Investments w/o School Fees					
Occupational Identity Strength of Mother	-346.2*	-340.7*	-387.1*	-366.0*	-356.1*
	(166.8)	(168.8)	(170.4)	(166.6)	(166.7)
Whether Mother is a Daily-Wage Worker (0/1)		235.5	134.3	140.2	107.0
		(394.5)	(396.7)	(387.4)	(388.0)
Mother's Age		18.10	24.50	47.94	53.26
		(32.04)	(32.43)	(32.74)	(33.01)
Mother's Education		-0.664	-52.49	-73.15	-71.92
		(126.6)	(127.0)	(125.1)	(125.0)
Whether Father is a Daily-Wage Worker (0/1)		51.66	-31.82	-65.24	-146.6
		(385.2)	(384.7)	(378.1)	(383.7)
Total Income			60.90^{+}	55.16^{+}	58.47^{+}
			(31.53)	(30.73)	(30.83)
Assets			177.8	225.9^{+}	221.9^{+}
			(125.6)	(124.8)	(124.7)
Gender				1381.5**	1021.3*
				(412.6)	(508.3)
Birth Order				-620.4*	-602.7*
				(253.3)	(253.6)
School 1					-557.7
					(460.4)
Constant	5781.3**	4966.8**	4283.7**	4202.8**	4321.8**
	(490.4)	(1528.3)	(1593.1)	(1567.3)	(1569.1)
R^2	.01	.02	.04	.10	.10
N	305	305	305	305	305

Standard errors in parentheses

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table A.19: Models of Monetary Investments Alternate - Child Substitution Block Regressions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent Variable: Monetary Investments w/o School Fees								
Child Substitution (0/1)	-1371.8^{+}		-1305.4^{+}	-1327.3^{+}	-1322.8^{+}	-1340.2^{+}	-1413.2^{+}	-1322.7^{+}
	(744.4)		(740.9)	(763.3)	(758.7)	(745.5)	(745.9)	(742.0)
Occupational Identity of Mother (0/1)		-853.3*	-823.8*					-861.5*
		(392.7)	(391.7)					(388.0)
Whether Mother is a Daily-Wage Worker (0/1)				140.5	64.25	53.86	8.136	25.57
				(398.6)	(401.6)	(392.6)	(393.2)	(390.6)
Mother's Age				21.69	26.23	46.76	52.91	53.09
				(32.01)	(32.53)	(32.86)	(33.07)	(32.85)
Mother's Education				3.639	-41.32	-56.41	-56.73	-69.79
				(126.8)	(127.2)	(124.9)	(124.7)	(124.0)
Whether Father is a Daily-Wage Worker (0/1)				1.986	-62.09	-122.2	-224.7	-223.3
				(387.7)	(387.7)	(381.8)	(387.6)	(385.1)
Total Income					49.15	43.98	48.39	57.76^{+}
					(31.12)	(30.29)	(30.39)	(30.48)
Assets					194.2	231.5^{+}	225.5^{+}	203.3
					(125.7)	(125.0)	(124.9)	(124.4)
Gender						1510.4**	1081.9*	1115.0*
						(413.9)	(509.0)	(505.9)
Birth Order						-535.8*	-512.6*	-553.2*
						(255.6)	(255.6)	(254.6)
School 1							-665.1	-571.6
							(461.6)	(460.5)
Constant	4928.1**	5115.1**	5191.1**	4035.4**	3413.4*	3314.9*	3502.9*	3695.5*
	(190.6)	(223.7)	(227.1)	(1417.2)	(1527.2)	(1494.8)	(1497.8)	(1490.4)
R^2	.01	.02	.03	.01	.03	.10	.10	.10
N	305	305	305	305	305	305	305	305

Standard errors in parentheses

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table A.20: Models of Monetary Investments

	(1)	(2)	(3)	(4)
Dependent Variable: Monetary Investments				
Child Substitution (0/1)	-1523.0^{+}			-1424.8^{+}
	(806.1)			(801.8)
Occupation Identity Strength of Mother		-430.3*		
		(179.6)		
Occupation Identity of Mother (0/1)			-980.4*	-939.8*
			(419.6)	(418.7)
Whether Mother is a Daily-Wage Worker (0/1)	-84.66	20.49	50.01	-65.77
	(425.0)	(418.5)	(418.7)	(422.2)
Mother's Age	82.54*	82.76*	85.16*	82.80*
	(35.69)	(35.55)	(35.55)	(35.45)
Mother's Education (in years)	-11.96	-18.10	-10.00	-16.74
	(50.24)	(50.23)	(49.98)	(49.95)
Total Income	70.62*	83.13*	79.34*	80.96*
	(33.00)	(33.43)	(33.21)	(33.10)
Assets	299.9*	293.3*	287.6*	275.5*
	(134.8)	(134.3)	(134.6)	(134.3)
School 1	-2714.6**	-2592.7**	-2548.4**	-2612.6**
	(498.5)	(496.1)	(497.6)	(497.1)
Gender	1220.4*	1150.6*	1233.7*	1256.4*
	(549.8)	(547.9)	(548.1)	(546.3)
Birth Order	-667.3*	-767.5**	-773.0**	-711.4*
	(276.2)	(273.5)	(273.8)	(275.0)
Whether Father is a Daily-Wage Worker (0/1)	-244.1	-162.8	-143.2	-243.2
	(419.4)	(414.2)	(414.2)	(416.5)
Constant	5160.2**	6138.0**	5133.6**	5345.5**
	(1552.9)	(1623.2)	(1545.6)	(1544.5)
N	305	305	305	305
R^2	0.253	0.258	0.257	0.265

Standard errors in parentheses

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table A.21: Models of Monetary Investments

	(1)	(2)	(3)	(4)
Dependent Variable: Monetary Investments				
Child Substitution (0/1)	-1515.8^{+}			-1414.2^{+}
	(816.3)			(812.3)
Occupational Identity Strength of Mother		-426.8*		
		(181.1)		
Occupational Identity of Mother (0/1)			-970.0*	-928.2*
			(423.0)	(422.2)
Whether Mother is a Daily-Wage Worker (0/1)	-121.8	-10.87	17.76	-100.9
	(427.3)	(420.4)	(420.6)	(424.6)
Mother's Age	85.83*	85.16*	87.21*	85.45*
	(36.05)	(35.92)	(35.92)	(35.81)
Mother's Education- Primary	-1067.7	-1352.7	-1354.2	-1112.1
	(1312.2)	(1300.1)	(1300.8)	(1303.7)
Mother's Education- Elementary	-337.3	-468.1	-472.5	-443.1
	(721.4)	(720.1)	(720.6)	(718.3)
Mother's Education- Upper Elementary	147.0	-85.56	27.77	84.38
	(632.2)	(633.6)	(630.1)	(628.7)
Mother's Education- High School	24.82	-85.16	-34.65	-57.56
	(587.3)	(588.0)	(586.6)	(584.7)
Mother's Education- College	-1351.6	-1542.4	-1356.9	-1464.7
	(1212.6)	(1213.7)	(1208.3)	(1205.7)
Mother's Education- Graduate	-3311.4	-2816.8	-2605.3	-2768.7
	(3455.4)	(3445.2)	(3452.4)	(3441.6)
Total Income	86.31*	97.56**	93.92**	96.12**
	(34.51)	(34.87)	(34.67)	(34.57)
Assets	296.2*	293.0*	284.8*	271.1*
	(135.9)	(135.4)	(135.8)	(135.5)
School 1	-2801.5**	-2687.6**	-2651.2**	-2709.3**
	(505.4)	(503.1)	(504.4)	(503.8)
Gender	1100.5^{+}	1026.8^{+}	1103.0*	1126.7*
	(560.1)	(558.3)	(558.4)	(556.6)
Birth Order	-683.7*	-790.4**	-792.4**	-730.3**
	(279.3)	(276.7)	(277.0)	(278.3)
Whether Father is a Daily-Wage Worker (0/1)	-336.3	-256.8	-233.3	-331.0
	(424.9)	(419.8)	(419.9)	(422.1)
Constant	4989.3**	6112.9**	5125.6**	5243.4**
	(1627.0)	(1705.9)	(1624.8)	(1620.5)
N	305	305	305	305
R^2	0.261	0.267	0.266	0.274

Standard errors in parentheses

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table A.22: Models of Quantitative Time Investment

	(1)	(2)	(3)	(4)
Dependent Variable: Quantitative Time Investment of Mother				
Child Substitution (0/1)	-0.0252			-0.0245
	(0.145)			(0.145)
Occupational Identity Strength of Mother		-0.0107		
		(0.0324)		
Occupational Identity of Mother (0/1)			-0.00721	-0.00649
			(0.0758)	(0.0760)
Whether Mother is a Daily-Wage Worker (0/1)	0.0659	0.0676	0.0681	0.0661
	(0.0762)	(0.0753)	(0.0753)	(0.0764)
Mother's Age	-0.00595	-0.00598	-0.00592	-0.00596
	(0.00641)	(0.00641)	(0.00641)	(0.00642)
Mother's Education (in years)	0.0240**	0.0238**	0.0241**	0.0239**
	(0.00904)	(0.00908)	(0.00903)	(0.00907)
Total Income	-0.000299	0.0000142	-0.000263	-0.000233
	(0.00595)	(0.00604)	(0.00600)	(0.00601)
Assets	0.0240	0.0237	0.0240	0.0238
	(0.0242)	(0.0242)	(0.0242)	(0.0243)
School 1	-0.228*	-0.225*	-0.226*	-0.227*
	(0.0901)	(0.0900)	(0.0903)	(0.0907)
Gender	-0.127	-0.129	-0.127	-0.127
	(0.0990)	(0.0990)	(0.0991)	(0.0992)
Birth Order	-0.0856^{+}	-0.0875^{+}	-0.0869^{+}	-0.0859^{+}
	(0.0495)	(0.0492)	(0.0493)	(0.0497)
Whether Father is a Daily-Wage Worker (0/1)	0.0399	0.0412	0.0417	0.0400
	(0.0753)	(0.0746)	(0.0746)	(0.0755)
Constant	0.712*	0.739*	0.710*	0.713*
	(0.279)	(0.293)	(0.278)	(0.280)
N	304	304	304	304
R^2	0.080	0.080	0.080	0.080

Standard errors in parentheses

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table A.23: Models of Quantitative Time Investment

Dependent Variable: Quantitative Time Investment of Mother	(1)	(2)	(3)	(4)
Child Substitution (0/1)	-0.00143			-0.000163
	(0.146)			(0.147)
Occupation Identity Strength of Mother		-0.0147		
		(0.0327)		
Occupation Identity of Mother (0/1)			-0.0114	-0.0114
			(0.0764)	(0.0766)
Whether Mother is a Daily-Wage Worker (0/1)	0.0701	0.0698	0.0704	0.0704
	(0.0766)	(0.0756)	(0.0757)	(0.0768)
Mother's Age	-0.00664	-0.00674	-0.00665	-0.00665
	(0.00647)	(0.00647)	(0.00647)	(0.00648)
Mother's Education - Primary	-0.243	-0.244	-0.244	-0.244
	(0.235)	(0.234)	(0.234)	(0.236)
Mother's Education - Elementary	0.155	0.152	0.154	0.154
	(0.129)	(0.129)	(0.130)	(0.130)
Mother's Education - Upper Elementary	0.119	0.113	0.118	0.118
	(0.113)	(0.114)	(0.113)	(0.114)
Mother's Education - High School	0.242*	0.237*	0.241*	0.241*
	(0.105)	(0.106)	(0.105)	(0.106)
Mother's Education - College	0.237	0.225	0.235	0.235
	(0.223)	(0.225)	(0.224)	(0.224)
Mother's Education - Graduate	0.906	0.918	0.912	0.912
	(0.619)	(0.620)	(0.621)	(0.622)
Total Income	0.000530	0.00100	0.000646	0.000646
	(0.00619)	(0.00627)	(0.00624)	(0.00625)
Assets	0.0249	0.0243	0.0246	0.0246
	(0.0244)	(0.0244)	(0.0244)	(0.0245)
School 1	-0.229*	-0.227*	-0.228*	-0.228*
	(0.0912)	(0.0912)	(0.0914)	(0.0918)
Gender	-0.123	-0.124	-0.122	-0.122
	(0.101)	(0.101)	(0.101)	(0.101)
Birth Order	-0.0872^{+}	-0.0887^{+}	-0.0878^{+}	-0.0878^{+}
	(0.0501)	(0.0498)	(0.0498)	(0.0503)
Whether Father is a Daily-Wage Worker (0/1)	0.0300	0.0294	0.0302	0.0301
	(0.0762)	(0.0755)	(0.0755)	(0.0763)
Constant	0.747*	0.790*	0.750*	0.750*
	(0.292)	(0.307)	(0.292)	(0.293)
N	304	304	304	304
R^2	0.091	0.092	0.091	0.091

Standard errors in parentheses

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table A.24: Models of Qualitative Time Investment

	(1)	(2)	(3)	(4)
Dependent Variable: Qualitative Time Investment of Mother Z score				
Child Substitution (0/1)	0.217			0.242
	(0.220)			(0.219)
Occupational Identity Strength of Mother		-0.0638		
		(0.0491)		
Occupational Identity of Mother (0/1)			-0.229*	-0.236*
			(0.114)	(0.114)
Whether Mother is a Daily-Wage Worker (0/1)	0.0936	0.0733	0.0787	0.0983
	(0.116)	(0.115)	(0.114)	(0.115)
Mother's Age	-0.00632	-0.00702	-0.00665	-0.00625
	(0.00974)	(0.00973)	(0.00969)	(0.00969)
Mother's Education (in years)	0.0886**	0.0855**	0.0863**	0.0874**
	(0.0137)	(0.0137)	(0.0136)	(0.0137)
Total Income	0.00490	0.00740	0.00778	0.00750
	(0.00901)	(0.00915)	(0.00905)	(0.00905)
Assets	0.0717+	0.0666+	0.0635+	0.0656+
	(0.0368)	(0.0368)	(0.0367)	(0.0367)
School 1	-0.409**	-0.409**	-0.394**	-0.383**
	(0.136)	(0.136)	(0.136)	(0.136)
Gender	-0.254+	-0.257+	-0.241	-0.245
	(0.150)	(0.150)	(0.149)	(0.149)
Birth Order	0.0111	0.0149	0.0105	0.0000408
	(0.0754)	(0.0749)	(0.0746)	(0.0752)
Whether Father is a Daily-Wage Worker (0/1)	-0.0538	-0.0729	-0.0705	-0.0536
	(0.115)	(0.113)	(0.113)	(0.114)
Constant	-0.209	0.00434	-0.127	-0.163
	(0.424)	(0.444)	(0.421)	(0.422)
N	305	305	305	305
R^2	0.181	0.183	0.190	0.193

Standard errors in parentheses

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table A.25: Models of Qualitative Time Investment

	(1)	(2)	(3)	(4)
Dependent Variable: Qualitative Time Investment of Mother Z score				
Child Substitution (0/1)	0.195			0.221
	(0.223)			(0.222)
Occupational Identity Strength of Mother		-0.0630		
		(0.0496)		
Occupational Identity of Mother (0/1)			-0.228*	-0.235*
			(0.115)	(0.115)
Whether Mother is a Daily-Wage Worker (0/1)	0.0817	0.0630	0.0684	0.0870
	(0.117)	(0.115)	(0.115)	(0.116)
Mother's Age	-0.00566	-0.00628	-0.00602	-0.00575
	(0.00984)	(0.00983)	(0.00979)	(0.00979)
Mother's Education - Primary	0.119	0.148	0.145	0.107
	(0.358)	(0.356)	(0.354)	(0.356)
Mother's Education - Elementary	0.537**	0.525**	0.515**	0.510**
	(0.197)	(0.197)	(0.196)	(0.196)
Mother's Education - Upper Elementary	0.795**	0.776**	0.788**	0.779**
	(0.173)	(0.173)	(0.172)	(0.172)
Mother's Education - High School	0.987**	0.962**	0.962**	0.966**
	(0.160)	(0.161)	(0.160)	(0.160)
Mother's Education - College	1.088**	1.027**	1.043**	1.060**
	(0.331)	(0.332)	(0.329)	(0.330)
Mother's Education - Graduate	1.611+	1.643+	1.723+	1.749+
	(0.944)	(0.943)	(0.941)	(0.941)
Total Income	0.00956	0.0120	0.0124	0.0120
	(0.00942)	(0.00954)	(0.00945)	(0.00945)
Assets	0.0685+	0.0636+	0.0600	0.0622+
	(0.0371)	(0.0371)	(0.0370)	(0.0371)
School 1	-0.417**	-0.416**	-0.403**	-0.394**
	(0.138)	(0.138)	(0.137)	(0.138)
Gender	-0.263+	-0.266+	-0.253+	-0.256+
	(0.153)	(0.153)	(0.152)	(0.152)
Birth Order	0.0115	0.0136	0.00946	-0.000237
	(0.0763)	(0.0757)	(0.0755)	(0.0761)
Whether Father is a Daily-Wage Worker (0/1)	-0.0813	-0.0986	-0.0952	-0.0800
	(0.116)	(0.115)	(0.114)	(0.115)
Constant	-0.361	-0.157	-0.278	-0.297
	(0.444)	(0.467)	(0.443)	(0.443)
N	305	305	305	305
R^2	0.191	0.193	0.200	0.202

Standard errors in parentheses

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table A.26: Models of Time Investment by the Child

	(1)	(2)	(3)	(4)
Dependent Variable: Time Investment of Child				
Child Substitution (0/1)	-0.378			-0.383
	(0.353)			(0.354)
Occupational Identity Strength of Mother		0.00784		
		(0.0790)		
Occupational Identity of Mother (0/1)			0.0408	0.0517
			(0.185)	(0.185)
Whether Mother is a Daily-Wage Worker (0/1)	0.0238	0.0547	0.0539	0.0228
	(0.186)	(0.184)	(0.184)	(0.186)
Mother's Age	0.0538**	0.0545**	0.0544**	0.0538**
	(0.0156)	(0.0156)	(0.0156)	(0.0156)
Mother's Education (in years)	0.00127	0.00336	0.00334	0.00153
	(0.0220)	(0.0221)	(0.0220)	(0.0220)
Total Income	-0.00754	-0.00836	-0.00855	-0.00811
	(0.0144)	(0.0147)	(0.0146)	(0.0146)
Assets	0.111+	0.115+	0.116+	0.113+
	(0.0590)	(0.0591)	(0.0592)	(0.0593)
School 1	-0.0214	-0.00661	-0.00980	-0.0271
	(0.218)	(0.218)	(0.219)	(0.219)
Gender	-0.207	-0.213	-0.216	-0.209
	(0.241)	(0.241)	(0.241)	(0.241)
Birth Order	-0.425**	-0.440**	-0.439**	-0.423**
	(0.121)	(0.120)	(0.120)	(0.121)
Whether Father is a Daily-Wage Worker (0/1)	0.0241	0.0511	0.0509	0.0240
	(0.184)	(0.182)	(0.182)	(0.184)
Constant	9.920**	9.839**	9.853**	9.909**
	(0.680)	(0.714)	(0.680)	(0.682)
N	305	305	305	305
R^2	0.082	0.078	0.079	0.082

Standard errors in parentheses

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table A.27: Models of Time Investment by the Child

Dependent Variable: Time Investment of Child	(1)	(2)	(3)	(4)
Child Substitution (0/1)	-0.358			-0.362
	(0.357)			(0.359)
Occupational Identity Strength of Mother		0.00786		
		(0.0797)		
Occupational Identity of Mother (0/1)			0.0224	0.0331
			(0.186)	(0.186)
Whether Mother is a Daily-Wage Worker (0/1)	0.0298	0.0600	0.0594	0.0291
	(0.187)	(0.185)	(0.185)	(0.187)
Mother's Age	0.0509**	0.0514**	0.0513**	0.0509**
	(0.0158)	(0.0158)	(0.0158)	(0.0158)
Mother's Education - Primary	-0.579	-0.639	-0.639	-0.577
	(0.574)	(0.572)	(0.572)	(0.575)
Mother's Education - Elementary	-0.0749	-0.0793	-0.0787	-0.0711
	(0.316)	(0.317)	(0.317)	(0.317)
Mother's Education - Upper Elementary	0.106	0.0958	0.0940	0.109
	(0.277)	(0.279)	(0.277)	(0.278)
Mother's Education - High School	-0.127	-0.117	-0.118	-0.124
	(0.257)	(0.259)	(0.258)	(0.258)
Mother's Education - College	0.0725	0.107	0.104	0.0765
	(0.531)	(0.534)	(0.532)	(0.532)
Mother's Education - Graduate	1.419	1.448	1.441	1.399
	(1.513)	(1.516)	(1.519)	(1.519)
Total Income	-0.00654	-0.00747	-0.00745	-0.00689
	(0.0151)	(0.0153)	(0.0153)	(0.0153)
Assets	0.104+	0.108+	0.108+	0.104+
	(0.0595)	(0.0596)	(0.0597)	(0.0598)
School 1	-0.0533	-0.0406	-0.0417	-0.0565
	(0.221)	(0.221)	(0.222)	(0.222)
Gender	-0.219	-0.224	-0.226	-0.220
	(0.245)	(0.246)	(0.246)	(0.246)
Birth Order	-0.413**	-0.427**	-0.427**	-0.411**
	(0.122)	(0.122)	(0.122)	(0.123)
Whether Father is a Daily-Wage Worker (0/1)	0.0263	0.0515	0.0511	0.0261
	(0.186)	(0.185)	(0.185)	(0.186)
Constant	10.06**	10.00**	10.02**	10.05**
	(0.712)	(0.751)	(0.715)	(0.715)
N	305	305	305	305
R^2	0.092	0.089	0.089	0.092

Standard errors in parentheses

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

Table A.28: Correlation of Substitution Variables

Variable 1	Variable 2	Correlation	P-Value
Panel A: Parent and Chosen Child Response			
Child Substitution-Parent Response	Child Substitution- Chosen Child Response	0.6911*	0.0000
-For Mother	-For Mother	0.7302*	0.0000
-For Father	-For Father	0.5999*	0.0000
Child Substitution-Parent Response (0/1)	Child Substitution-Chosen Child Mother (0/1)	0.7100*	0.0000
Child Substitution-Parent Response (0/1)	Child Substitution-Chosen Child Father (0/1)	0.4901*	0.0000
Panel B: Other Substitution Variables			
Child Substitution-Parent Response (0/1)	Substitution Common-Mother's Work	0.3552*	0.0000
Child Substitution-Parent Response (0/1)	Whether Earning Potential Increases-Mother	0.4381*	0.0000
Child Substitution-Parent Response (0/1)	Whether Earning Potential Increases-Father	0.2487*	0.0000
Child Substitution-Parent Response (0/1)	Whether Child Knows to do Mother's work	0.4612*	0.0000
Child Substitution-Parent Response (0/1)	Whether Child Knows to do Father's work	0.5881*	0.0000
Panel C: Dependent Variables			
Child Substitution-Parent Response (0/1)	Monetary Investments	-0.0838	0.1441
Child Substitution-Parent Response (0/1)	Time Investment-Quantitative	-0.0380	0.5092
Child Substitution-Parent Response (0/1)	Time Investment-Qualitative	0.0273	0.6348
Child Substitution-Parent Response (0/1)	Time Investment-Child	-0.0883	0.1238
Panel D: Occupational Identity			
Child Substitution-Parent Response (0/1)	Occupational Identity Strength-Mother	0.0542	0.3459
Child Substitution-Parent Response (0/1)	Occupational Identity Strength-Child	-0.0539	0.3479
Panel E: School Performance			
Child Substitution-Parent Response (0/1)	Total Points	-0.0187	0.7455
Child Substitution-Parent Response (0/1)	Total Absence	0.0274	0.6336
Panel E: Behavioral Variables			
Child Substitution-Parent Response (0/1)	Role Model for Mother due to Occupation	0.1450*	0.0112
Child Substitution-Parent Response (0/1)	Parental Aspiration	0.0035	0.9515

Notes: Data sources are Household Parent Survey and Household Child Survey.

Table A.29: Correlation of Occupational Identity Variables

Variable 1	Variable 2	Correlation	P-Value
Panel A: Parent and Chosen Child Response			
Identity Strength-Mother	Identity Strength-Child		
-Occupation	-Occupation	0.0831	0.1474
-Mother Tongue	-Mother Tongue	0.1215*	0.0339
-Relationship	-Relationship	0.1032	0.0719
-Birthplace	-Birthplace	0.1112	0.0523
Panel B: Dependent Variables			
Occupational Identity Strength-Mother	Monetary Investments	-0.1392*	0.0150
Occupational Identity Strength-Mother	Time Investment-Quantitative	-0.0339	0.5557
Occupational Identity Strength-Mother	Time Investment-Qualitative	-0.1003	0.0804
Occupational Identity Strength-Mother	Time Investment-Child	-0.0035	0.9508
Occupational Identity Strength-Child	Time Investment-Child	0.1041	0.0695
Panel C: Behavioral Variables			
Occupational Identity Strength-Mother	Role Model for Mother due to Occupation	-0.0074	0.8979
Occupational Identity Strength-Mother	Parental Aspiration	0.0008	0.9888
Occupational Identity Strength-Child	Role Model for Child due to Occupation	0.0122	0.8315
Occupational Identity Strength-Child	Child Motivation	0.1197*	0.0367

Notes: Data sources are Household Parent Survey and Household Child Survey.

Table A.30: Correlation of School Performance Variables

Variable 1	Variable 2	Correlation	P-Value
Total Points	Occupational Identity Strength-Child	0.1734*	0.0024
Total Points	Occupational Identity Strength-Mother	-0.0519	0.3672
Total Points	Parent Child Disagreement	-0.1963*	0.0006
Total Points	Parental Aspiration	0.1823*	0.0014
Total Points	Child Motivation	0.1218*	0.0338
Total Absence	Occupational Identity Strength-Child	-0.2028*	0.0004
Total Absence	Total Points	-0.4128*	0.0000
Total Absence	Child Substitution	0.0274	0.6336

Notes: Data source is School Performance Data.

Table A.31: Statistical Difference Between School 1 and School 2

Variables	School 1 -Mean	School 2-Mean	P-Value
Occupational Identity Strength-Mother (1-4)	2.809	2.640	0.0914
Occupational Identity Strength-Child (1-4)	3.467	3.300	0.0539
Monetary Investment (in Rs)	5150	8359	0.0000
Monetary Investment-Alternate (in Rs)	4270	5403	0.0010
Time Investment-Quantitative (in hrs.)	.31	.49	0.0045
Time Investment-Qualitative (Z -Score)	-.13	.13	0.0128
Time Investment-Child (in hrs.)	11.13	11.01	0.7723
Total Points	276.29	250.73	0.0081
Parent Child Disagreement (0-4)	.99	1.5	0.0010
Parental Aspiration (2-4)	3.11	3.18	0.0977
Child Motivation (5-12)	11.24	11.04	0.0447

Notes: Data sources are Household Parent Survey and Household Child Survey.

Table A.32: Statistical Difference Between Gender in School 2

Variables	Boys	Girls	P-Value
Occupational Identity Strengh-Child (1-4)	3.14	3.48	0.0154
Monetary Investment (in Rs)	9032	7620	0.0148
Monetary Investment Alternate (in Rs)	5980	4770	0.0178
Time Investment- Quantitative (in hrs.)	.43	.56	0.0891
Time Investment- Qualitative (Z-Score)	-.003	.27	0.0289
Time Allocation on HH Chores (in hrs.)	.50	.16	0.0000
Time Allocation on Entertainment (in hrs.)	1.9	1.3	0.0001
Total Points	234.45	268.58	0.0185
Total Absence (no of days)	19.81	16.37	0.0258
Parent Child Disagreement (0-4)	1.9	1.1	0.0003

Notes: Data sources are Household Parent Survey and Household Child Survey.

Table A.33: Comparison of Time Allocation Between US and India

	US	India
Unpaid domestic services for household members (in hrs.)	2.54	4.98
Unpaid caregiving services for household members (in hrs.)	2.37	2.23
Socializing and communication, community participation and religious practice (in hrs.)	2.15	2.32
Culture, leisure, mass-media and sports practice (in hrs.)	5.12	2.75

Notes: Data sources are American Time Use Survey, 2019 and Time Use Survey - India, 2019. The time denotes the average time spent in a day per participant.