WORKING PAPERS

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THE EFFECT OF THE KANGAROO MOTHER CARE PROGRAM (KMC) ON WAGES: A STRUCTURAL MODEL

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ABSTRACT

In this paper we analyze the relationship between skills and some outcomes later in life for a population of premature children. Pretreatment skills and characteristics are good predictors of childhood and adulthood skills and outcomes. Income per capita and parents education at birth are positively correlated with home environment at 6 and 12 months of corrected age. Moreover, parents education and the proportion of workers at home are correlated with the number of preschool years attended by children. Interestingly, health indicators taken during the first year of life are critical factors for decision to enroll into a university, to obtain better results in math scores and earn larger wages.

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RESUMEN

En este trabajo se analiza la relación entre las habilidades y algunos resultados en etapas posteriores de la vida para niños prematuros. Las habilidades pre-tratamiento y las características del hogar son buenos predictores de las habilidades y resultados durante la infancia y la adultez. El ingreso per cápita y la educación de los padres al nacer se correlaciona positivamente con el entorno familiar a los 6 y 12 meses de edad. Por otro lado, la educación de los padres y la proporción de personas que trabajan en el hogar están correlacionados con el número de años que los niños asisten a educación preescolar. Los indicadores de salud durante el primer año de vida son factores críticos para la decisión de inscribirse en una universidad, obtener mejores calificaciones en matemáticas y ganar mayores salarios.

The effect of the Kangaroo Mother Care program (KMC) on wages: A structural model*

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Abstract

In this paper we analyze the relationship between skills and some outcomes later in life for a population of premature children. Pretreatment skills and characteristics are good predictors of childhood and adulthood skills and outcomes. Income per capita and parents education at birth are positively correlated with home environment at 6 and 12 months of corrected age. Moreover, parents education and the proportion of workers at home are correlated with the number of preschool years attended by children. Interestingly, health indicators taken during the first year of life are critical factors for decision to enrol into a university, to obtain better results in math scores and earn larger wages.

Keywords: Premature Children, KMC, Wages, Cognitive and Non Cognitive Skills, Colombia

JEL: : I12, J13, J24, O15.

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1 Introduction

Pre-term birth is one of the main causes of child death and one of the main reasons of long-term loss of human potential among survivors both in developed and developing countries. In 2010 about 15 million babies were born before 37 weeks of gestation, which accounts for 11% of all 2010 live-births worldwide (WHO et al., 2012). The problem is growing and is huge in countries from Southern Asia and Sub-Saharan Africa, and very large in countries like the US, India and Turkey. The cost represented by prematurity and low birth weight for the affected individuals includes chronic disease, growth and developmental disturbances, neurodevelopmental deficits, learning and language disabilities, behavioural and social functioning limitations, among others.

Traditional modern care of pre-term babies makes an intensive use of incubators. In late 1970s an alternative to this treatment was proposed in Colombia. M.D. Edgar Rey and his team faced a serious situation of incubator's congestion in the Instituto Materno Infantil in Bogotá. The *Kangaroo Mother Care program* (KMC) based on permanent skin-to-skin contact with parents pretended to reduce time-span of early separation between mother and baby as well as to reduce cross infection due to incubator sharing. During the following 15 years the KMC protocol was improved and started to be used in other hospitals. Finally, the KMC did have a Randomized Control Trial design (RCT) that allowed researchers to evaluate the effect of the program on main health outcomes (Charpak et al., 1997). This RCT randomly assigned premature children born in 1993 and 1994 to either KMC or incubators. Using this data it has been shown that the KMC has beneficial effects on early mortality, growth, hospitalizations (Charpak et al., 2001), mental development (Tessier et al., 2003) and mother's perception of her child (Tessier et al., 1998).

A long-run follow up of the KMC-RCT was performed between 2013 and 2014. Initial results exploiting this new data has shown that KMC has an effect on wages (Cortés et al., 2015). The working hypothesis is that as long as the KMC affects both the physical development and family bonding of children it might affect not only cognitive and socio-emotional skills of children but also investments of households. This might in turn affect the accumulation of human capital and individual productivity both at short and long run. The purpose of this paper is to investigate what are the potential mechanisms that might be behind the result on wages. To answer this question we will follow the approach of Heckman and coauthors to mediating analysis. The research proceeds following three steps. In the first step we construct the measures of skills using factor analysis to recover latent variables. This follows closely the standard procedure in the psychology literature and the economics literature (e.g. Heckman et al. (2013)). In the second step we perform a structural analysis to establish the relationship between childhood skills, adulthood skills and outcomes. Wages will be our main outcome, but we also look at the decision to work and enroll into a university. The analysis goes in the same vein as Cunha and Heckman (2010) and Attanasio et al. (2015). In the third step we look at whether the KMC has had an impact through the skills we measure. To do this we decompose the effects á là Blinder-Oaxaca.

The relevance of this investigation relies in that learning seems to be the crucial variable that determines the profitability of education and human capital (Hanushek and Woessmann, 2012). Learning depends on both cognitive and socio-emotional skills of individuals as well as investments of households. This paper relates with the growing literature on the role of investments on early childhood as the best investment to generate or increase human capital in societies. In education one of the more important examples of evaluation using experiments is the study of Perry pre-school in the United States. The Perry study has followed a group of 123 poor African-Americans in high risk of dropping-out school since the 60's. The last follow-up of the study was made in 2005, tracking this group of people until the age of 40 (Schweinhart et al., 2005). In Colombia, the most important experimental study in education was used to evaluate the effect of the PACES program on learning (Angrist et al., 2002). The program was a voucher program that was assigned randomly to a group of students in secondary school. Studies have demonstrated that this program has an important effect on the graduation rate (Angrist et al., 2006). The most recent contribution that looks at effects on adult labour outcomes of early childhood interventions is Gertler et al. (2014). They exploit a randomized intervention that provided psychosocial stimulation to Jamaican infants and show that this type of interventions in disadvantage settings might have substantial effects on adult labour outcomes.

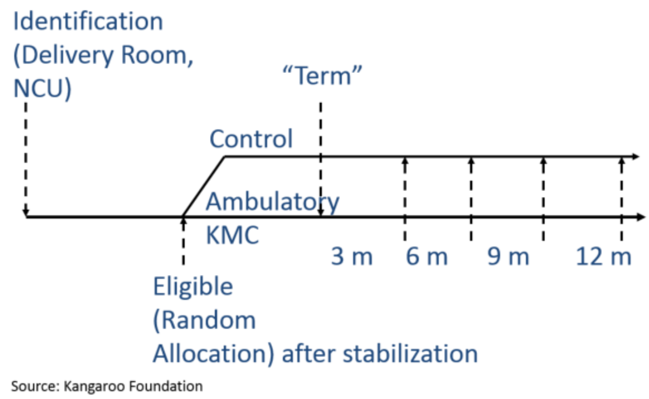
This report has six sections more. Section 2 briefly explains what is KMC about and the main traits of the RCT. Section 3 introduces data. Section 4 presents the empirical strategy. Section 5 reports the main results Section 6 discusses and concludes.

2 The Kangaroo Mother Care program (KMC)

The KMC is an ambulatory program for primary care to premature and low birth-weight children. It is characterized by three elements: firstly, the Kangaroo position, which requires permanent skin-to-skin contact until the child goes out from the position (usually, by the 37-38 week of corrected age). Secondly, the Kangaroo nutrition, that is based on breastfeeding. Pre-term formula and vitamin supplements were suministrated to babies if necessary. Thirdly, a clinical monitoring. Babies are followed daily until they gain 20 grams per day and then weekly until the 40th week of corrected age. The Traditional Care (TC) uses incubators until babies self-regulate temperature. The experiment used the 1993 hospital policies for the TC. Importantly, these policies established the discharge when babies obtain weight above 1700 grs.[1] Policies on breastfeeding, preterm formula and vitamins were the same as for the KMC children.

The RCT was conducted at the San Pedro Claver clinic, the main public hospital in Bogotá at that moment, between September 1993 and September 1994. Investigators conformed diads of mother-child that were included into the study following two criteria: first, the mother should be able to understand and follow instructions. Second, the infant had overcome major problems in adapting to extra-uterine life, gaining weight and could suck and swallow properly. Randomization was performed using a randomized block design with four strata based on birth weight, ¡1200grs, 1200-1499grs, 1500-1800grs and 1801-2000grs. This allows, by design, both treatment and control groups to be perfectly balanced with respect to birth weight.[2]

Figure 1: Timeline of intervention



The intervention timeline is summarized in Figure 1. At birth each children receives

[1]The discharge policy varies from hospital to hospital. If the experiment would had involved more than one hospital, it should control for or take into account this important confounding factor. Nowadays, most hospitals in Colombia discharge at 2000 grs. If the baby is very premature or very low weight, incubators are usually combined with the kangaroo position. However, whether this discharge policy makes TC a more effective treatment remains unsolved, since later discharges implies longer separation from family.

[2]The sample was designed to study mortality rate at one year of corrected age. To detect a twofold (two-tailed) difference departing from an incidence rate of 10% for the control group, at a 95% of significance and 80% of power, a sample of $N = 656$ was needed. Here, to detect differences of 25% in log-wages a sample of $N = 134$ is needed (95% significance and 99% of power). So the sample size is fine to perform the study (Dupont and Plummer, 1998).

the treatment needed to survive and to adapt into the extra-uterine life. All of them are born in delivery rooms in the hospital and receive special care (NCU) if needed. Once they are stabilized and adapted to the extrauterine life and accomplish the elegibility criteria they are randomly allocated either to the TC or the KMC. Children in both treatments are treated until they arrive to term (40 weeks of gestational age). Those children that either get out from the kangaroo position (KMC group) or the incubator (TC group) before 40 weeks are monitored weekly. Then both groups of individuals are monitored quarterly at 3, 6, 9 and 12 months of corrected age.

Main pre-treatment characteristics for the sample we use in this paper are summarized in Table 1. As we see there with the exception of weight at eligibility, both groups are balanced. On average, gestational age is almost 33 weeks in both groups, and one week and half later are elegible to enter into the RCT. Between birth and eligibility both groups of children lose weight on average. Loss is bigger in the KMC group and the difference becomes significant.

Table 1: Pre-treatment characteristics

Outcomes	KMC (1)	TC (2)	Difference (3)
Girl	0.528	0.609	−0.081
	(0.501)	(0.490)	(0.064)
Mother's education level, 1993	2.112	2.113	−0.001
	(0.650)	(0.659)	(0.085)
Father's education level, 1993	2.146	2.044	0.102
	(0.698)	(0.632)	(0.087)
HH income per capita, 1993	$8.8e+04$	$8.7e+04$	1000.000
	$(6.3e+04)$	$(5.4e+04)$	(7600.463)
Multiple pregnancy	0.224	0.114	0.110**
	(0.419)	(0.319)	(0.049)
Birth weight	1550.640	1594.696	−44.056
	(231.826)	(202.052)	(28.177)
Gestational Age	32.960	32.957	0.003
	(2.500)	(2.483)	(0.322)
Weight at eligibility	1538.960	1586.130	−47.170**
	(193.177)	(171.874)	(23.682)
Age at elegibility	34.426	34.519	−0.093
	(2.134)	(2.039)	(0.270)
Acute Fetal Distress	0.552	0.539	0.013
	(0.499)	(0.501)	(0.065)
Hospitalized in neonatal period	0.792	0.696	0.096*
	(0.408)	(0.462)	(0.056)

KMC might affect long run outcomes at least through two channels. Firstly, KMC might modify the typical stressful exposure in neonatal intensive care units reducing the exposure to toxic stress and its consequences. For children, the consequences of toxic stress, as is the case of the stress which early birth child need to be expose on the neonatal intensive care units, include lifelong risk for physical and mental disorders, which is likely to be due to compromised brain architecture and deregulated physiological systems (Shonkoff and Phillips, 2000).

Secondly, the skin to skin contact that experiment KMC-children might induce mothers to breast-fed their infants, avoiding a malnutrition scenario and its consequences. As has been reported by Shonkoff and Phillips (2000) breastfeeding increases cognitive function. The effect is larger for the low-birth-weight infants. They also observe that the higher level of cognitive on 6-23 months of age children, is stable across successive ages.

3 Data

Data comes from the long-run follow up the KMC-RCT undertaken in 2013-2014 together with thew initial baseline and follow-up database gathered between 1993 and 1995. A total of 746 individuals participated in the original RCT. Of them, 30 died during the first year of follow up, 19 in the control and 11 in the kangaroo group. The target population for re-enrollment consisted of 716 subjects who were alive at the end of the primary follow-up (up to 1 year of corrected age). During 2013-2014 a total of 493 former participants in the RCT were located. Of them, 3 had died after 1 year of age, 11 were located but were living outside Bogotá and could not attend, and 39 refused to participate. The remaining 441 agreed to participate in the long-run follow up. The remaining 222 individuals could not be located but were presumed alive because their Civil Registry numbers were not reported as death.

A number of tests and questionnaires on cognitive and socio-emotional skills were undertaken in both follow-ups. In this report we use tests on IQ (WASI), verbal learning skills (CVLT), academic performance (SABER11), working memory (TAP), behavioural and emotional problems (Conners, ABCL), and household environment (HOME). Besides, from the first follow up and baseline we use data on pre-birth and birth variables (income, weight at birth, gestational age) as well as a measure of developmental coefficient (Griffiths) and household environment (HOME). In the next subsections we explain with more detail the variables that we use. Table A.1 in the Annex presents basic descriptives for the final samples that are included in the empirical exercise.

We restrict attention to the first three blocks of the experiment, namely children with birth weight equal or smaller than 1800 grams. The reason to do so is because the previous findings on wages are significant for those three blocks.

3.1 Measures of skills and investments

A first set of measures captures information about behavioral and emotional aspects and mental health status for individuals at age 20. The test is the *Adult Behavioral Checklist* (ABCL), designed by the Achenbach System of Empirically Based Assessment (ASEBA) for individuals aged 18-59 years (ASEBA, 2015). It is a well-established measure in the field of psychology which is assessed from those individuals close to the studied subject (friends and family). The self-administered version, Adult Self-Report (ASR), is also included.

A set of scales that seek to summarize as possible behavioral problems are typically derived. An important feature is that typically a set of categories of mental illness are derived in order to be consistent with the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5). The second test is the *Conners Comprehensive Behavior Rating Scales* (CONNERS CBRS), and has a similar purpose (Multi-Health Systems INC, 2015). The main difference is that it targets children and adolescents, rather than adult population. It includes questionnaires for parents, teachers and a self-report version as well. There is also information on the Ronsenberg self-esteem test (Rosenberg, 1965; Schmitt and Allik, 2005) and on depression screening (Radloff, 1977).

The second set of measures is related to the household environment that promotes child development. This is the *Home Observation Measurement of the Environment* (HOME) inventory (Caldwell et al., 1984), that involves an interview and an observation of parent-child interaction. It comes in different versions according to the age of the targeted children. We concentrate in the infant/toddler (0-3 years) and on the early adolescent (10-14 years). This instrument was administered both at childhood (1 year old) and adulthood (age 20).

A third set comprises measures normally associated with cognitive abilities. The first instrument, with measures at 6 and 12 months of age, is the *Griffiths Mental Development Scale* (Griffiths). A set of exercises is summarized in 6 scales: locomotor, personal-social, hearing and language, eye and hand coordination and performance. A second instrument is the second edition of the *Wechsler Abbreviated Scale of Intelligence* (WASI-II), which measures the Intelligence Quotient (Verbal, Performance and Global IQ) and is developed by Pearson (2015). It involves indicators of vocabulary, similarities, block design and matrix reasoning. The last one is a neuropsychological computer-based system, the *Test of Attentional Performance 2.3* (TAP), designed by Zimmermann and Fimm, is directed to capture the ability to concentrate and recall details of practical situations which are key to minimize errors. It has measures on working memory, divided attention, alertness, among others (Psytest, 2015). The California Verbal Learning Test-Second Edition (Delis et al., 2000, CVLT-II) is also included. This test aims to measure verbal memory and and learning capabilities.

Another relevant measure is a formal academic standardized test. SABER 11 is the official exam to classify students who are finishing secondary school and who want to undertake further studies. As a result, this information not only summarizes cognitive ability but also is directly related to the investment made by households on previous and their expectations on future schooling. This information was obtained by linking individuals identification number with administrative records from the ICFES, the government body that organizes the exam. The test includes modules on mathematics, language, biology, chemistry, physics and social sciences, among other topics.

Finally, we have anthropometric measures at all moments of time, which provides rough idea of the physical health evolution of children. Particularly important are the measures prior to the intervention, as they are the starting values of our exercise jointly with parents' education.

3.2 Outcomes

The main outcome is the logarithm of wages per hour. With the aim to look at potential selection biases we also look at the decisions to study and/or to work. The decision to study is measured through a dummy variable that takes value one if the individual is studying or have studied at the university and zero otherwise. The decision to work is measured using a dummy variable that takes value one if the individual is working or have worked in the previous year, and zero if not.

Main results for wages per hour are estimated for three samples. Sample 1 (S1) is the full sample. Sample 2 (S2) excludes individuals with neurosensory disorders. In many medical respects those individuals in S2 are indeed premature. Table 2 reports main results of Cortés et al. (2015) for our outcomes of interest. It seems that KMC has had an effect on wages.

Table 2: Treatment Effect of the Kangaroo Programme

Regression Analysis

Dependent variable	(1)	(2)	(3)	(4)
Study				
Kangaroo	0.035	0.056	0.051	0.051
	(0.067)	(0.067)	(0.065)	(0.064)
R-squared	0.007	0.048	0.118	0.173
Observations	235	235	233	229
Work				
Kangaroo	0.075	0.080	0.070	0.054
	(0.060)	(0.061)	(0.061)	(0.062)
R-squared	0.017	0.021	0.033	0.039
Observations	239	239	237	233
Log wages per hour				
Kangaroo	0.265**	0.280**	0.277**	0.257**
	(0.115)	(0.119)	(0.118)	(0.121)
R-squared	0.042	0.085	0.086	0.088
Observations	158	158	158	156
Basic Controls	✓	✓	✓	✓
Individual		✓	✓	✓
Income			✓	✓
Education				✓

Note: Taken from Cortes, et al. (2015). Ordinary Least Squares regression. All specifications control for weight at birth and are estimated for children with no neurosensory disorder. Robust standard errors in parenthesis. Basic controls are the variables across which the KMC and non KMC are unbalanced. For the whole sample basic controls are multiple pregnancy and weight at eligibility. For the premature sample basic controls is multiple pregnancy. Individual controls are gender, birth weight, gestational age and acute fetal distress. Income control is 1993 household income per capita. Education controls are both father's education level and mother's education level in 1993. *** is significant at the 1% level. ** is significant at the 5% level. * is significant at the 10% level.

Given the age of individuals in our sample for the long run follow-up (20 years old), some of them have not entered into the labor market yet. Indeed, those already in the labor market are likely to be less able, poorer or both compared to those that are studying full-time. As these conditions might

is the case, we believe is of first importance to know the mechanisms and pathways through which the treatment works for the sub-sample of the less favored.

4 Empirical Strategy

4.1 Measurement of Skills

Our theoretical framework relies on the idea that a set of skills determines the potential path on earning profiles that are available for an individual during his life. Those skills are produced by innate characteristics and by investments made by households. A first goal in this project is to provide estimates of such skills and investments from a pool of measurements that involve cognitive, academic, personality, and behavioural characteristics. All these measures are at individual level, but we omit individual subscripts in order to simplify notation. We follow Attanasio et al. (2015) and Heckman et al. (2013) strategy which consist on the estimation of a dedicated measurement system (Gorsuch, 2003). The standardized version of each of these measures is denoted as $M^{m(j)}$, and is assumed to be part of a set $\mathcal{M}_t^j$ that noisily capture information from factor (a skill or investment) j of stage t (at birth $t = 0$, childhood $t = 1$, adulthood $t = 2$), and that we denote as $\ln(\theta_t^j)$. We assume that we are measuring the logarithm just for convenience. It is also assumed that the noise $\phi_t^{m(j)}$, a classical measurement error[3], is additively separated from the skill that is loaded into the measure by the parameter $\varphi_t^{m(j)}$. This is presented in Equation 1, where $v_t^{m(j)}$ is a measure-specific intercept. Given that the factors are latent variables, identification requires normalization on the location and scale (Anderson and Rubin, 1956; Heckman et al., 2013). One of the factor loadings $\varphi_t^{m(j)}$ is set to 1 for each set $\mathcal{M}_t^j$ (scale), and the mean of all factors to 0 (location). The model, a classical *confirmatory factor analysis* (CFA), is estimated via maximum likelihood.[4]

$$M_t^{m(j)} = v_t^{m(j)} + \varphi_t^{m(j)}\ln(\theta_t^j) + \phi_t^{m(j)}, \quad m(j) \in \mathcal{M}_t^j, \quad j \in \{1, ..., J_t\} \tag{1}$$

Prior to the estimation of the system described by equation 1, we need to establish which measurements belong to each set $\mathcal{M}_t^j$, as well as the number of sets. This is done via *exploratory factor analysis* (EFA) following the following steps:

1. Several groups of measures are defined according to their objective. For instance, at adulthood, cognitive measures are separated from psychological ones. This is done in order to ensure the presence of different type of factors. More details of these groups will be given in the results section.

2. We pool together all the available measures for a given group of skills at period t and select those are correlated with wages, university enrollment, or affected by the treatment. This is done in order to concentrate in those measures that are related to our problem of interest. We establish their relationship with wages by estimating the following OLS regression. If ω_2 is statistically different from 0 at 70% level, we keep the measure for the next step.

$$log(Y) = \omega_1 + \omega_2 M_t^{m(j)} + \xi$$

[3]Each of them is assumed to be *iid*, normally distributed with mean 0 and sample variance $\sigma_t^{m(j)}$.

[4]The parameters from the system of equations were estimated using routine *confa (Kolenikov, 2009)* implemented in *STATA 13*. Starting values were established to Bollen (1996) instrumental variables two stage least squares estimates where other measures but m_t^j which are part of M_t^j are set as instruments of θ_t^j in the m_t^j equation. As this is just a *rule of thumb* for getting sensitive starting values, we do not discuss further this technique.

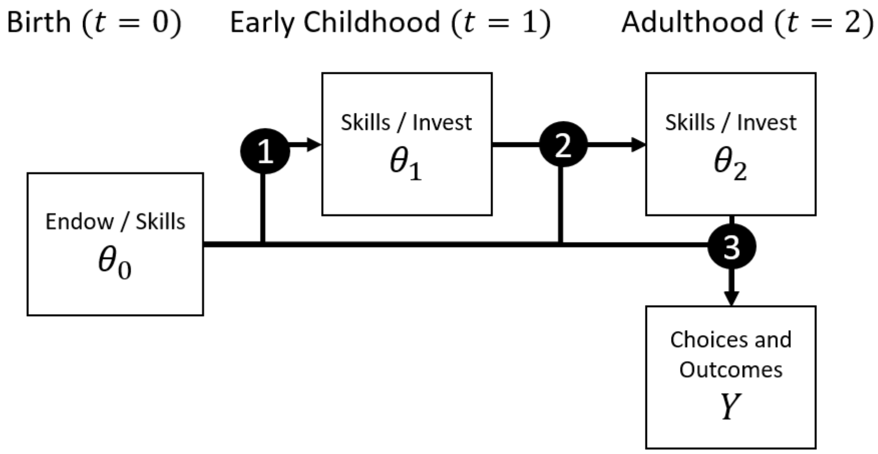
3. Using factor analysis, we determine the number of factors that best summarize the available information of each group of variables. [5] Several procedures were used in order to determine the number of factors. We discuss how we selected them in detail in the results section.

4. After an oblique rotation, we determine which variables should be part of the latent factors, and how many factors represent the variables of group. Essentially we define sets $\mathcal{M}_t^j$. The following rule was established: if the absolute value of a rotated factor loading is above 0.3, the measure is selected for the specific factor. If factor loadings are above this threshold in more than one factor, it is only included in the equation with the highest one. None of the factors is associated with more than one factor according to this criteria.

4.2 Structural model

In this section we model the main relations between endowments, skills and investments. Here we assume that there is an initial set of skills at birth, which includes both individual characteristics as health status or hereditary traits, but also environmental ones as parents' education. These initial skills are translated into early childhood skills (1), and both of them jointly with parental investments produce adulthood skills (2). It this final stage, parental investments, skills and initial traits are mixed into outcomes. These outcomes are both choices an realizations from processes that depend on the skills.

Figure 2: Model sketch



We will not fully specify the utility gains from the outcomes, the payoff from attending

[5] This was implemented in *STATA 13* using the routine *factor*. Presented results are based on principal factors, but are the almost the same using alternatives as principal-component factor and iterated principal factor. This is because this exercise only establish the groups of variables to be considered.

to a College or the benefits of having higher test scores or wages. However, we are implicitly assuming that they are desirable outcomes which motivate families investments on skills through childhood in order to attain them. This implies that our agents are forward-looking maximizers which have some notion of the potential returns of their investments.

4.2.1 Intertemporal Production of Skills

Our data allows to explore the relationship between skills at early childhood and adulthood. This is particularly important as between them is most of the investment done by households. We follow Attanasio et al. (2015) strategy and estimate a production function of skills.

Equation 2 presents a Cobb-Douglas specification for the transformation of the J_1 skills and investment in stage 1 and J_0 at-birth characteristics, into skill/investment i at adulthood (stage 2). Some of the inputs correspond to the pre-intervention period, which are assumed to be relevant at all stages of life. These are family education and health at birth. The input-neutral productivity is made up of a constant A^i, gender specific, but also of unobserved measures or events K^i. This assumption implies for positive inputs that, elasticity of substitution is 1, marginal returns of any input are decreasing, and that cross-productivity is increasing.[6]

$$\theta_2^i = \prod_{j=1}^{J_1} (\theta_1^{j\,\gamma_1^{j,i}}) \prod_{j=1}^{J_0} (\theta_0^{j,i\,\gamma_0^j}) * A^i * e^{\varepsilon^i}, \quad \varepsilon^i = K^i + \varsigma^i \quad, \forall i \in \{1, ..., J_2\} \tag{2}$$

Household investments θ_1^3 and θ_1^4, might be correlated with K^i. For instance, investment could be higher in order to counterbalance a disease. In order to identify the investment coefficient, we follow Attanasio et al. (2015) strategy and use a control function approach. Equation 3 presents one of the investments expressed on terms of the pre-intervention measures θ_0, an error term ϖ, and a set of instruments Z. From this OLS regression, residuals are predicted and the resulting variable becomes the control function CF_3 (one per endogenous investment variables).

[6]A Constant Elasticity of Substitution (CES) was also implemented (see Table **??**). Results are similar, but in most of cases $\hat{\rho} = 0$, which points towards a Cobb-Douglas.

$$\ln(\theta_1^4) = \iota^4 Z + \sum_{j=1}^{J_0} \lambda_j^4 \ln(\theta_0^j) + \varpi^4$$

$$CF_4 = \ln(\theta_1^4) - \hat{\iota^4} Z - \sum_{j=1}^{J_0} \hat{\lambda_j^4} \ln(\theta_0^j) \tag{3}$$

Hence, introducing the CFs in the production function as shown in Equation 4, it is possible to obtain consistent estimates of the investment parameter $\gamma_1^{h,i}$. These parameters can be easily recovered under an OLS regression.

$$\ln(\theta_2^i) = \sum_{j=1}^{J_1} \gamma_1^{j,i} \ln(\theta_1^j) + \sum_{j=1}^{J_0} \gamma_0^{j,i} \ln(\theta_0^j) + \ln(A^k) + \delta_1 CF_4 + \delta_2 CF_5 + \varepsilon^i \quad ,\forall i \in \{1, ..., J_2\} \tag{4}$$

A final comment is that in this exposition we did not consider different coefficients according to treatment status as we reject such hypothesis for this functional form (see results). However, this is plausible scenario.

4.2.2 Skills and outcomes

It is expected that the observed set of skills is reflected on outcomes measured in the data. In order to understand how the Kangaroo program is reflected on the final outcomes, it is essential to understand such transformation process.

Given an continuous outcome y measured at $t = 2$, which corresponds to an individual who is part of treatment $d = 1$ or control group $d = 0$, we want to know its relationship with skill $\theta_{t,d}^j$ measured at t. We will assume that such relationship can be expressed linearly in terms of the logarithm of the skill, as show in Equation 5, and that coefficients might differ according to treatment status as we cannot reject this hypothesis. For university enrolment,which is a discrete choice, we assume that Y_d is a latent index of which we observe a transformation[7]. Notice that if Y_d is in logarithms, the specification in Equation 5 is equivalent to the Cobb-Douglas in Equation 2. For such case, $\tau_d + \varepsilon_d$ can be assumed to be a neutral shock on productivity, where τ_d is gender specific.

[7]We are going to use a probit model for these variables.

$$Y_d^y = \sum_{j=1}^{J_t} \alpha_{t,d}^{j,y} \ln(\theta_{t,d}^j) + \tau_d + \sum_{j=1}^{J_0} \beta_{t,d}^{j,y} \ln(\theta_{t=0,d}^j) + \varepsilon_d^y, \quad d \in \{0,1\}, \quad t \in \{1,2\} \tag{5}$$

An important element to take into account is that estimates for wages' equation might be bias due to selection into work related to our skills. For instance, those individuals with the highest skills might get immediately high wages if they work regardless of having a tertiary education degree. Another possibility is that for those individuals who know that their cognitive skills are low, it is more attractive to go directly into the workplace as their expected returns for higher education are relatively low. Both stories will induce opposite bias on our estimates. In order to deal with this, we implement a traditional (Heckman, 1979) correction. Identifications in this model comes from assumption of a excluded restriction in the selection equation (to be working).[8] That is, there is one variable that allow us to separate the effect of skills on wages from the effect on participation, because such excluded variable affects wages only by shifting participation.

4.2.3 Calculating the impact of varying childhood skills

Given this model we can define how an intervention that impacts certain skills at childhood would affect outputs at adulthood. Equation 6 summarizes it. Notice that includes variation of all observed adulthood skills and their impact on the outcome, but also on non-observed skills which are part of ε. As we can estimate both the left-hand side term and the first term of the right-hand, the last one shows what we have been unable to predict.

Hence, we can define a simple indicator of our model ability to match outcome y for skill j. Equation 7 presents it, and it is just this unpredicted term as a proportion of the total observed effect.

$$\begin{aligned} \frac{\partial Y^y}{\partial \ln(\theta_1^j)} &= \sum_{l=1}^{J_2} \left[\frac{\partial Y^y}{\partial \ln(\theta_2^l)} \cdot \frac{\partial \ln(\theta_2^l)}{\partial \ln(\theta_1^j)} \right] + \frac{\partial Y}{\partial \varepsilon} \frac{\partial \varepsilon}{\partial \ln(\theta_1^j)} \\ \frac{\partial Y}{\partial \varepsilon} \frac{\partial \varepsilon}{\partial \ln(\theta_1^j)} &= \hat{\alpha}_1^{j,y} - \sum_{l=1}^{J_2} \left[\hat{\alpha}_2^{l,y} \cdot \hat{\gamma}_1^{j,l} \right] \end{aligned} \tag{6}$$

[8] In other words, if we consider Equation 5 for labor participation, it should also include an additional variable on top of the skills and investments considered for log-wages equation. These two equations are connected via the correlation between their error terms, ρ_ε. If such correlation is 0, then the selection problem does not bias skills and investment coefficients.

$$P_{j,y} = \frac{\frac{\partial Y^y}{\partial \varepsilon}\frac{\partial \varepsilon}{\partial \ln(\theta_1^j)}}{\frac{\partial Y^y}{\partial \ln(\theta_1^j}\,)} \tag{7}$$

Given this, we will be able to compare the observed and predicted impact of the program associated to variation on childhood skills. The observed element will be derived from the Blinder Oaxaca decomposition described in the following section, and the predicted from Equation 8 at the mean values of θ.

$$E_p\left[Y_{d=1} - Y_{d=0}\right] = \sum_{j=1}^{J_1} \frac{\partial \hat{Y}}{\partial \ln(\theta_1^j)} \times E\left[\ln(\theta_{1,d=1}^j) - \ln(\theta_{1,d=0}^j)\right] \tag{8}$$

4.3 Decomposition of the Treatment Effect

In order to understand how the Kangaroo program impacted wages, we analyze our data following a two-fold Oaxaca-Blinder decomposition which is common in the labor discrimination literature[9]. Part of such impact, can be due to an impact on a set of J skills that we are able to measure. First, as stated before, the program D had an impact on wages Y, that on average can be stated as $Y_{d=1} - Y_{d=0}$. Second, the impact on measured log-skills can be easily estimated by computing $E(\ln(\theta_{t,d=1}^j) - \ln(\theta_{t,d=0}^j))$ using the evaluation data. Given that the treatment is randomly allocated, estimating parameter η_2 from Equation 9 would be enough as D is orthogonal to u^j, as long as we condition on θ_0, as the treatment reduced mortality for low-weight babies in the treatment group. Given these results, we want to know how much of the variation on the outcomes is explained by the variation on the measured skills.

$$\ln(\theta^j) = \eta_1 + \eta_2 D + \sum_{j=1}^{J_0} \eta_3^j \ln(\theta_0^j) + u^j \tag{9}$$

We replace Equation 5 into the expectation of $Y_{d=1} - Y_{d=0}$[10]. Equation 10 shows the two-fold decomposition with α_0^j and β_0 as references. The first and second term corresponds to the variation related to the factors, while the third is the variation on either the coefficients or on unobserved terms. The main advantage of rearranging terms

[9]The procedure was implemented using Jann et al. (2008) routine.

[10]For binary variables, the decomposition is done on the averages of the observed variable, not the latent variable. Hence, for the probit model, $\Phi(Y_d)$ is replaced instead of Y_d, from which an analog result is obtained (Yun, 2004). In this case, the component of the explained difference will depend on $E\left[\Phi\left(\alpha_0^j \ln(\theta_1^j)\right)\right] - E\left[\Phi\left(\alpha_0^j \ln(\theta_0^j)\right)\right]$

in this fashion is that for each factor j, the reference coefficients are identified from Equation 5, while the expected difference of log-skills is identified by Equation 9. Hence, the validity of these results relies on the identification assumptions of Equation 5.

$$
\begin{aligned}
E[Y_{d=1}-Y_{d=0}] &= \sum_{j=1}^{J_1}\alpha_1^j E[\ln(\theta_{1,d=1}^j)] - \sum_{j=1}^{J_0}\alpha_0^j E[\ln(\theta_{1,d=0}^j)] \\
&\quad + \sum_{j=1}^{J}\beta_1^j E[\ln(\theta_{0,d=1}^j)] - \sum_{j=1}^{J}\beta_0^j E[\ln(\theta_{0,d=0}^j)] + \tau_1 - \tau_0 \\
E[Y_{d=1}-Y_{d=0}] &= \left\{\sum_{j=1}^{J_1}\alpha_0^j E\left[\ln(\theta_{1,d=1}^j) - \ln(\theta_{1,d=0}^j)\right]\right\} + \left\{\sum_{j=1}^{J_0}\beta_0^j E\left[\ln(\theta_{0,d=1}^j) - \ln(\theta_{0,d=0}^j)\right]\right\} \\
&\quad + \left\{\sum_{j=1}^{J_1}\left[\alpha_1^j - \alpha_0^j\right] E[\ln(\theta_{1,d=1}^j)] + \sum_{j=1}^{J_0}\left[\beta_1^j - \beta_0^j\right] E[\ln(\theta_{0,d=1}^j)] + \tau_1 - \tau_0\right\}
\end{aligned} \tag{10}
$$

5 Results

5.1 Factor Analysis

From the total pool of available measures, we selected a subset which was correlated to either the outcomes or the treatment. Table A.2 presents the p-value associated to the t-test of significance of the variables in the row with the outcome in the columns. The sign that is presented close to each p-value represents the sign of the coefficient.

The next step was to extract common signals among these variables. For this, we conducted several exploratory factor analysis after grouping variables according to their objective, in each of the development stages. First, for the pre-treatment measurements, we grouped them into health and parents education. Table A.3 and A.4 presents the factor loadings (Panel B) suggested by the EFA after retaining one factor in each group. It also presents the suggested number of factors to retain according to several methods (Panel A). In general, we opted to retain the least number of factors suggested[11]. For early childhood (6 and 12 months) three groups based on Griffith, HOME and anthropometrics (Tables A.5, A.6 and A.7). For adulthood we have a generous set of measures for cognitive, socio-emotional, health (Table A.12) and investment variables (Table A.13). Given the

[11]In some cases, even less. For Griffith measures, the EFA suggested one factor at 6 months and other at 12 months. As both factors measure similar information but at different stages, we retained only one. Another case was ABCL measures, which suggested three factors which corresponded to the different ways to measure similar items (self-report, parental-report).

available data, cognitive measures we split into two groups (Tables A.8 and A.9) and socio-emotional into two (Tables A.10 and A.11). Finally, those variables with a factor loading above 0.3, in bold in the tables, are selected to be included into the CFA. The variable of years of preschool, despite not being selected by the previous algorithm,[12] was retained as it is a well-known investment from households.

The present groups are our preferred after experimenting with different options. Among the stages, adulthood is the more interesting given the rich set of variables available. Each of the cognitive tests derived into a different factor. WASI variables represent general reasoning ability, CVLT episodic memory, and TAP the working memory. While some alternative specifications connect matrix reasoning from WASI with TAP, we found that the factor made out of TAP variables is a very good predictor of wages and test-scores. An important point to comment is that the common factor from WASI variables is essentially made out by extracting the top-performers. Figure B.4 illustrates this by presenting scatter plots between the extracted signal and its components. This is particular to this measures, as for the other adult skills/investments there is in general a clear correlation with all their components. Figure B.5 is a graphical example of this for verbal reasoning skill and CVLT test results. For the case of socio-emotional skills, we grouped measures of mental disease apart as they are intended to capture a very particular element of individual's personality.

The final step is to estimate the set of skills under the CFA specified by Equation 1, which will reduce measurement error. For the adulthood measures, Table A.16 presents the parameter estimates from the system of equations. Table A.15 does it for the case of childhood measures, and Table A.14 for the pre-treatment variables. From now on, we will use the skill measures predicted by the model for each individual in the data set. We discard 26 observations which were more than 3 standard deviations from the median in any of the resulting measures, in order to avoid results been driven by outliers.

5.2 Treatment and Skills

Table 3 shows the impact of KMC on the mean of each skill at adulthood, while Table 4 does it for childhood. Panel A presents results from the plain mean differences between treatment and control groups, and Panels B and C shows them conditional on pre-intervention skills (Equation 9). While Panel B is restricted to the sample used in the decompositions, Panel C was constructed using all available information for children birth with a weight below 1801 gr. Taking into account these controls is important as the

[12] The principle of this procedure was to summarize redundant information, which is not applicable to this variable as there are no other measures of it.

program induced selective mortality in the first weeks of life. As a result, initial health variables differ across groups, as shown in Table A.2, where the treatment group has lower weight and gestational age. This is reflected on the index as shown in Table 5, where there is a negative difference but that is not statistically different from 0 at 90% level. In order to complement these tables, Figures B.1, B.2 and B.3 present the smoothed kernel distributions for each factor in treatment and control.

At adulthood, we find significant differences on cognitive skills. Even after taking into account pre-intervention variables, there is a reduction of 0.06 units of the logarithm of working memory skills[13]. Apart from this there is no evidence of other impact. While figures B.2 and B.3 suggest that the program might have more impacts, specially for personality measures, they are not significant. There is a positive and relatively large coefficient for reasoning skill, but it cannot be reject to be equal to 0 at 90% level. This goes in line with findings from Table A.2, where few of the components of these skills seem to be different across treatment groups.

In childhood, we found impacts on years of pre-school only, an effect that is robust to different samples. As before, while Figure B.1 might suggest other differences, they are not significant at a 90% level. It is relevant to mention that Table A.2 suggest that the KMC program had an impact on some measures of the HOME and Griffiths. However, when taking the common information from all available measures, there is no robust average impact.

[13]If we allow for heterogeneous effects, the impact is concentrated on those with the lowest weight-at-birth, where the selective mortality was also found.

Table 3: Treatment and Adulthood skills

	Reasoning (θ_2^1)	Episodic Memory (θ_2^2)	Working Memory (θ_2^3)	(NEG) Mental Disorder (θ_2^4)	(NEG) ADHD (θ_2^5)	(NEG) Depression (θ_2^6)	Health 20y (θ_2^7)	HOME 20y (θ_2^8)
Panel A: Mean Differences								
$\ln(\theta^j) = \eta_1 + \eta_2 D + u^j$								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Kangaroo (η_2)	0.198$^+$	-0.029	-0.061*	-0.076	-0.054	0.022	0.020	0.020
	(0.152)	(0.082)	(0.035)	(0.109)	(0.084)	(0.065)	(0.078)	(0.058)
Observations	205	205	205	205	205	205	205	205
R^2	0.008	0.001	0.015	0.002	0.002	0.001	0.000	0.001
Adjusted R^2	0.003	-0.004	0.010	-0.003	-0.003	-0.004	-0.005	-0.004
Panel B: Mean Differences + Controls								
$\ln(\theta^j) = \eta_1 + \eta_2 D + \sum_{j=1}^{J_0} \eta_3^j \ln(\theta_0^j) + u^j$								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Kangaroo (η_2)	0.198$^+$	-0.032	-0.069**	-0.065	-0.044	0.009	-0.029	0.012
	(0.153)	(0.081)	(0.035)	(0.107)	(0.080)	(0.063)	(0.044)	(0.055)
Observations	205	205	205	205	205	205	205	205
R^2	0.017	0.078	0.062	0.049	0.071	0.063	0.681	0.102
Adjusted R^2	-0.003	0.060	0.043	0.030	0.052	0.044	0.675	0.084
Panel C: Mean Differences + Controls, for all weight-at-birth categories								
$\ln(\theta^j) = \eta_1 + \sum_{k=1}^{3} (\eta_2^k D * Cat_k + \eta_3^k * Cat_k) + \sum_{j=1}^{J_0} \eta_3^j \ln(\theta_0^j) + u^j$								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Less than 1801 grs * KMC	0.212$^+$	-0.025	-0.062*	-0.018	-0.010	0.013	-0.038	-0.003
	(0.151)	(0.080)	(0.034)	(0.104)	(0.079)	(0.062)	(0.043)	(0.054)
Above 1801 grs * KMC	-0.238$^+$	0.098	0.067$^+$	0.151	0.159*	-0.063	0.015	0.069
	(0.167)	(0.102)	(0.044)	(0.128)	(0.095)	(0.093)	(0.050)	(0.064)
Observations	350	354	358	358	358	353	357	357
R^2	0.030	0.036	0.061	0.031	0.055	0.048	0.705	0.110
Adjusted R^2	0.013	0.019	0.045	0.014	0.039	0.032	0.700	0.095

Robust standard errors in parenthesis.
Individuals with Weight-at-birth below 1801 grs
Significance: + 20% * 10%, ** 5%, *** 1%.

Table 4: Treatment and Childhood skills

	Griffiths(θ_1^1)	**Health 6m,12m** (θ_1^2)	**HOME 6m,12m** (θ_1^3)	**Pre-School Years** (θ^4)
Panel A: Mean Differences				
$\ln(\theta^j) = \eta_1 + \eta_2 D + u^j$				
	(1)	(2)	(3)	(4)
Kangaroo (η_2)	0.037	-0.083	0.023	0.172**
	(0.102)	(0.142)	(0.146)	(0.086)
Observations	126	126	126	126
R^2	0.001	0.003	0.000	0.030
Adjusted R^2	-0.007	-0.005	-0.008	0.022
Panel B: Mean Differences + Controls				
$\ln(\theta^j) = \eta_1 + \eta_2 D + \sum_{j=1}^{J_0} \eta_3^j \ln(\theta_0^j) + u^j$				
	(1)	(2)	(3)	(4)
Kangaroo (η_2)	0.039	-0.100	-0.012	0.140*
	(0.104)	(0.133)	(0.139)	(0.081)
Observations	126	126	126	126
R^2	0.021	0.122	0.138	0.194
Adjusted R^2	-0.011	0.093	0.110	0.168
Panel C: Mean Differences + Controls, for all weight-at-birth categories				
$\ln(\theta^j) = \eta_1 + \sum_{k=1}^{3} (\eta_2^k D * Cat_k + \eta_3^k * Cat_k) + \sum_{j=1}^{J_0} \eta_3^j \ln(\theta_0^j) + u^j$				
	(1)	(2)	(3)	(4)
Less than 1801 grs * KMC	0.093	-0.050	-0.023	0.176***
	(0.100)	(0.125)	(0.127)	(0.063)
Above 1801 grs * KMC	0.156	-0.127	0.334**	0.051
	(0.146)	(0.152)	(0.159)	(0.077)
Observations	219	220	220	389
R^2	0.056	0.131	0.142	0.139
Adjusted R^2	0.029	0.106	0.117	0.125

Robust standard errors in parenthesis.
Individuals with Weight-at-birth below 1801 grs
Significance: + 20% * 10%, ** 5%, *** 1%.

Table 5: Treatment and Prehood skills

	Family Edu-cation (θ_0^1)	**Health pre-treat** (θ_0^2)
$\ln(\theta^j) = \eta_1 + \eta_2 D + u^j$		
	(1)	(2)
Kangaroo (η_2)	0.125	-0.127$^+$
	(0.117)	(0.085)
Observations	256	255
R^2	0.004	0.009
Adjusted R^2	0.001	0.005

Robust standard errors in parenthesis.
Individuals with Weight-at-birth below 1801 grs
Significance: + 20% * 10%, ** 5%, *** 1%.

As a summary, we found that the KMC program did increase the average number of years of pre-school, but this is not reflected in adulthood skills. If anything, we only found that the weakest-at-birth KMC children show signs of lower working memory skills, but this seems to be driven by the higher mortality rate in the control group.

5.3 Intertemporal transformation of Skills

The next step of our analysis is to understand how skills and investments from early childhood are transformed into adulthood ones. In particular, we would like to know how pre-school years, which was affected by the program, is related to adulthood skills.

Table 6: Estimates of the log-linear invstment function

$\ln(\theta_1^h) = \iota Z + \sum_{j=1}^{J_0} \lambda_j \ln(\theta_0^j) + \varpi$	**HOME 6m,12m** (θ_1^3)	**Pre-School Years** (θ^4)
	(1)	(2)
ι_1 HH income per capita, 1993	0.287**	0.030
	(0.127)	(0.081)
ι_2 Proportion of workers at home, 1993	0.464+	0.477**
	(0.325)	(0.220)
λ_1, LOG Family Education (θ_0^1)	0.173**	0.220***
	(0.077)	(0.039)
λ_2, LOG Health pre-treat (θ_0^2)	-0.095	-0.011
	(0.080)	(0.054)
Girl	0.130	-0.094
	(0.122)	(0.075)
Observations	138	146
R^2	0.179	0.232
Adjusted R^2	0.148	0.204

Robust standard errors in parenthesis.
Significance: + 20% * 10%, ** 5%, *** 1%.

In first place, we estimate the intertemporal transformation from pre-intervention measures into early childhood investments (Equation 3), where income per-capita and the proportion of indviduals at home who are workers are found to be relevant predictors of investment. Table 6 presents parameter estimates, which are used to construct the control function. Income per capita is positively related with more general investments while having more people working at home increases the number of years in pre-school education[14].

[14] The inclusion of other non-significant variables as the type of family of adulthood, number of siblings or their average age, do not affect these results. These variables are going to be considered for other exercises later.

Table 7: Transformation of skills and investments: Cobb-Douglas

$\theta_2^j = \prod_{j=1}^{J_1}(\theta_1^{j\,\gamma_1^j})\prod_{j=1}^{J_0}(\theta_0^{j\,\gamma_0^j}) * A * e^{\varepsilon}, \quad \varepsilon = K + \varsigma$

	LOG Reasoning (θ_2^1)	**LOG Episodic Memory** (θ_2^2)	**LOG Working Memory** (θ_2^3)	**(NEG) LOG Mental Disorder** (θ_2^4)	**(NEG) LOG ADHD** (θ_2^5)	**(NEG) LOG Depression** (θ_2^6)	**LOG Health 20y** (θ_2^7)	**LOG HOME 20y** (θ_2^8)
Panel A: Without control functions								
$\ln(\theta_2^j) = \sum_{j=1}^{J_1}\gamma_1^j \ln(\theta_1^j) + \sum_{j=1}^{J_0}\gamma_0^j \ln(\theta_0^j) + \ln(A) + \varepsilon$	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
γ_1^1, LOG Griffiths(θ_1^1)	0.054	0.084	0.020	-0.141	-0.112	0.032	0.029	-0.095$^+$
	(0.253)	(0.141)	(0.054)	(0.178)	(0.149)	(0.092)	(0.071)	(0.064)
γ_1^2, LOG Health 6m,12m (θ_1^2)	-0.085	-0.003	0.018	0.030	0.033	-0.032	0.207***	0.117**
	(0.135)	(0.073)	(0.030)	(0.108)	(0.084)	(0.055)	(0.043)	(0.049)
γ_1^3, LOG HOME 6m,12m (θ_1^3)	0.376**	0.001	0.023	0.004	0.024	0.064	-0.088$^+$	0.135***
	(0.150)	(0.089)	(0.037)	(0.098)	(0.079)	(0.058)	(0.059)	(0.046)
γ_1^4, LOG Pre School Years (θ^4)	0.141	0.236**	0.004	0.036	0.040	-0.059	0.034	0.058
	(0.266)	(0.113)	(0.052)	(0.161)	(0.118)	(0.099)	(0.089)	(0.077)
Observations	105	106	107	107	107	107	107	101
R^2	0.0774	0.1636	0.0271	0.0737	0.0945	0.2542	0.7106	0.3226
$\sum\gamma$	0.3978	0.5480	0.0858	0.1685	0.1933	0.2148	0.2507	0.2986
Const. ret. to scale (p-val)	0.1081	0.0139	0.0000	0.0013	0.0001	0.0000	0.0000	0.0000
Panel B: With control functions								
$\ln(\theta_2^j) = \sum_{j=1}^{J_1}\gamma_1^j \ln(\theta_1^j) + \sum_{j=1}^{J_0}\gamma_0^j \ln(\theta_0^j) + \ln(A) + \delta CF + \varepsilon$	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
γ_1^1, LOG Griffiths(θ_1^1)	0.032	0.112	0.024	-0.134	-0.108	0.037	0.026	-0.106$^+$
	(0.252)	(0.140)	(0.052)	(0.178)	(0.148)	(0.092)	(0.071)	(0.064)
γ_1^2, LOG Health 6m,12m (θ_1^2)	-0.078	-0.009	0.019	0.030	0.035	-0.034	0.209***	0.124**
	(0.133)	(0.073)	(0.030)	(0.109)	(0.084)	(0.056)	(0.044)	(0.051)
γ_1^3, LOG HOME 6m,12m (θ_1^3)	0.558	0.224	0.334$^+$	0.471	0.622$^+$	0.083	-0.034	0.477$^+$
	(1.023)	(0.374)	(0.213)	(0.612)	(0.456)	(0.319)	(0.260)	(0.354)
γ_1^4, LOG Pre School Years (θ^4)	1.468	-1.312$^+$	-0.637$^+$	-0.970	-0.951	-0.410	0.166	-0.081
	(2.707)	(0.835)	(0.459)	(1.469)	(1.101)	(0.835)	(0.563)	(0.641)
δ_1 Control F. for LOG HOME 1Y	-0.224	-0.206	-0.319$^+$	-0.478	-0.617$^+$	-0.012	-0.060	-0.360
	(0.994)	(0.399)	(0.214)	(0.624)	(0.468)	(0.329)	(0.248)	(0.348)
δ_2 Control F. for LOG Pre-School Years	-1.400	1.599*	0.647$^+$	1.016	0.992	0.365	-0.142	0.124
	(2.696)	(0.824)	(0.457)	(1.481)	(1.120)	(0.817)	(0.559)	(0.634)
Observations	105	106	107	107	107	107	107	101
R^2	0.0924	0.1963	0.0518	0.0791	0.1089	0.2580	0.7120	0.3432
$\sum\gamma$	1.5505	-0.4370	-0.1464	-0.2130	-0.0712	-0.0366	0.3945	0.4706
Const. ret. to scale (p-val)	0.6841	0.0032	0.0000	0.1247	0.0704	0.0330	0.0831	0.1018
P-val diff. treatment status Produc †	0.8105	0.6327	0.2812	0.8668	0.8569	0.3964	0.9997	0.9993
P-val diff. treatment status Coeffs †	0.0365	0.7098	0.8717	0.8470	0.8856	0.2391	0.1370	0.3049

† These p-values come from an alternative model that includes treatment status and interaction terms between each log-skill at $t = 1$ with the treatment indicator. The first one tests if the neutral productivity differs by treatment indicator. The second is a wald test on the joint significance of the interaction terms, wich indicatesa change of productivity of particular skills.
Robust standard errors in parenthesis.
Significance: + 20% * 10%, ** 5%, *** 1%.

Table 7 presents estimates for the parameters of Equation 4[15], which transforms Early Childhood measurements into adulthood. Panel B shows results after taking into account the control functions, which are not included in Panel A specification.

The CFs play an important role when estimating n terms of the output elasticities. Both HOME and pre-school seem important for cognitive skills, but after including the CFs the standard errors do not allow to distinguish those coefficients from 0. For pre-school, some of these relationships are even negative. After this procedure, both investment measures are not clearly related with adulthood skills, and even their rela-

[15] Table A.17 shows the complete version of it.

tionship with future HOME investment is weak. This investment at $t = 2$ includes Early childhood health and Griffiths as relevant inputs, also apart from the gender specific neutral-productivity, we allow it to differ according to the type of family. We found that if young adults live in a nuclear family, there is a larger level of investment. Full results for these variables are presented in Table A.17.

without the CFs, HOME measurements reduce future health by 8%, though not significant at 90% level. This figure is reduced once the CFs are taken into account, showing that probably household investment was larger for more fragile children in order to compensate for this.

On the function itself, we reject constant returns to scale in most cases but in reasoning (p-value in the third last row on Table 7), showing decreasing returns instead. In terms of the program, as in Attanasio et al. (2015), the treatment did not have an impact on either the neutral or the specific input productivities for all but one of the skills. This was tested by including interaction terms for each parameter and testing their joint significance. The p-values for these tests are presented in the last two rows of Table 7. There is evidence that suggest that the factor-specific productivities for reasoning were modified. The HOME coefficient is more productive while the Griffiths is relevant only for the control group. For all other factors, any impact of the program is transmitted via changes on the input levels.

5.4 Outcomes and Skills

The final step in our procedure is to estimate the relationship between skills and outcomes. Table 9 presents results for Adults, and Table 8 for children. Before describing the results, we should bear in mind that Adulthood skills are contemporaneous to the outcomes. As result, some of them might be biased and unfortunately we do not have enough instruments available to identify properly the parameters in Equation 5. Nevertheless, these correlations allow us to understand which measures are related to our outcomes.

We found that cognitive skills are positively related with both academic and labor-market outcomes. Working memory is the strongest predictor of test results and wages. On terms of personality, lack of depression is the strongest one, but it is clearly the one that might be affected the most by feedback and omitted variables. For instance, not being able to attend to the University, or economic shocks that prevented such investment, might have triggered such mood. The other measure that is relevant is home environment investment, which is connected to further investments like pursuing tertiary education. This effect sustains controlling for bias in HOME by including a control function derived from the residuals of Equation 3 (not presented in this tables), where the excluded variable is to be living in a nuclear family (see TableA.17). It is also important to mention that for all this variable but SABER 11 mathematics results, these coefficients differ according to the treatment status. The last row of the Table shows the p-val of a joint test of significance of such interactions. In particular, the relationship between working memory, behavior and depression with wages is stronger for the KMC group, and is less important for mental disorders (see Table A.18). Finally, if we consider the estimated coefficients only for the control group as shown in Table A.19, results over wages are not significant but this might be due to the low number of observations.

Table A.20 shows estimated coefficients from the wage equations corrected by selection into working. The excluded variables are the number of siblings and their average age, which influence the likelihood to be working but not the level of wages directly. Coefficients are almost the same if we compare the corrected and uncorrected estimates for wages. This is reflected on the test of independence of wages and participation equation ($\rho_\varepsilon = 0$), which cannot be rejected in the main sample.

For the case of childhood skills, feedback is not a problem anymore. However Table 8 shows that childhood health is the sole predictor of whether or not the individual was or is enrolled in an university. Wages are unrelated to any of the skills that we measured. If we take into account the CFs included in the intertemporal production equations, results are similar. In terms of the program (Table A.21), the impact is found in SABER 11, where the effect of KMC on the level of SABER 11 is not captured by any of our measures skills. Finally, if we consider results only for the control group, estimated coefficients are similar but very imprecise due to the reduced number of observations. We also found no evidence of selection into working related to these early childhood measures (see Table A.23).

Table 8: Outcomes and Childhood skills

$Y = \sum_{j=1}^{J_1} \alpha^j \ln(\theta_1^j) + \tau + \sum_{j=1}^{J_0} \beta^j \ln(\theta_0^j) + \varepsilon$ **Skill**	**Univ**	**S11 math**	**Log-wage S1**	**Log-wage S2**
	(1)	(2)	(3)	(4)
LOG Griffiths(θ_1^1)	-0.027	0.061	-0.076	-0.139
	(0.088)	(0.222)	(0.236)	(0.230)
LOG Health 6m,12m (θ_1^2)	0.169***	0.080	0.012	-0.018
	(0.055)	(0.146)	(0.133)	(0.130)
LOG HOME 6m,12m (θ_1^3)	0.086+	0.211+	0.053	0.100
	(0.058)	(0.150)	(0.134)	(0.130)
LOG Pre School Years (θ^4)	-0.101	-0.219	0.176	0.088
	(0.093)	(0.238)	(0.214)	(0.207)
LOG Family Education (θ_0^1)	0.137***	-0.028	0.010	0.106
	(0.050)	(0.134)	(0.115)	(0.113)
LOG Health pre-treat (θ_0^2)	0.149***	0.334**	0.158	0.233*
	(0.053)	(0.140)	(0.130)	(0.128)
Girl		-0.357*	0.109	0.167
		(0.214)	(0.203)	(0.196)
Observations	126	102	84	81
R^2		0.121	0.037	0.080
Adjusted R^2		0.056	-0.052	-0.008
P-val diff. treatment status coeffs †	0.9210	0.0102	0.5219	0.4493

Univ: currently attends or attended in the past to a University. **Works:** currently working. **S11 Math:** SABER 11 Math results (if presented), **Log-wage:** logarithm of weekly wage if working
S1: All individuals (Weight-at-birth below 1801 grs). S2: No neurosensorial disorders.
Robust standard errors in parenthesis. This table reports coefficients from OLS regressions for SABER 11 and Wages, and marginal effects at the mean for university.
† This p-value comes from an alternative model that includes treatment status and interaction terms between each log-skill at $t = 1$ with the treatment indicator. It is a wald test on the joint significance of those interaction terms.
Significance: + 20% * 10%, ** 5%, *** 1%.

Table 9: Outcomes and Adulthood skills

$Y = \sum_{j=1}^{J_2} \alpha^j \ln(\theta_2^j) + \tau + \sum_{j=1}^{J_0} \beta^j \ln(\theta_0^j) + \varepsilon$

Skill	**Univ**	**S11 math**	**Log-wage S1**	**Log-wage S2**
	(1)	(2)	(3)	(4)
LOG Reasoning (θ_2^1)	0.006	0.110$^+$	0.131**	0.061
	(0.029)	(0.077)	(0.055)	(0.058)
LOG Episodic Memory (θ_2^2)	0.119**	0.127	0.040	0.021
	(0.058)	(0.143)	(0.116)	(0.116)
LOG Working Memory (θ_2^3)	0.143	1.342***	1.052***	0.925***
	(0.149)	(0.371)	(0.306)	(0.300)
(NEG) LOG Mental Disorder (θ_2^4)	-0.221	-0.458	-0.119	0.095
	(0.212)	(0.527)	(0.396)	(0.391)
(NEG) LOG ADHD (θ_2^5)	0.294	0.673	0.029	-0.243
	(0.291)	(0.715)	(0.537)	(0.531)
(NEG) LOG Depression (θ_2^6)	0.159**	0.121	0.333**	0.188
	(0.071)	(0.184)	(0.149)	(0.148)
LOG Health 20y (θ_2^7)	0.006	0.194	0.237$^+$	0.232
	(0.096)	(0.247)	(0.182)	(0.188)
LOG HOME 20y (θ_2^8)	0.245***	-0.264	-0.161	0.011
	(0.089)	(0.237)	(0.179)	(0.180)
LOG Family Education (θ_0^1)	0.078**	-0.104	-0.054	-0.019
	(0.034)	(0.087)	(0.072)	(0.072)
LOG Health pre-treat (θ_0^2)	0.049	0.163$^+$	0.075	0.138$^+$
	(0.044)	(0.109)	(0.086)	(0.086)
Girl		0.006	0.416*	0.456**
		(0.279)	(0.217)	(0.225)
Observations	205	169	137	127
R^2		0.167	0.192	0.171
Adjusted R^2		0.109	0.121	0.092
P-val diff. treatment status coeffs †	0.0774	0.7565	0.0677	0.0673

Univ: currently attends or attended in the past to a University. **Works:** currently working. **S11 Math:** SABER 11 Math results (if presented), **Log-wage:** logarithm of weekly wage if working S1: All individuals (Weight-at-birth below 1801 grs). S2: No neurosensorial disorders.
Robust standard errors in parenthesis. This table reports coefficients from OLS regressions for SABER 11 and Wages, and marginal effects at the mean for university.
† This p-value comes from an alternative model that includes treatment status and interaction terms between each log-skill at $t = 1$ with the treatment indicator. It is a wald test on the joint significance of those interaction terms.
Significance: + 20% * 10%, ** 5%, *** 1%.

5.5 Indirect effects

Table 10 compares the observed relation between childhood skills and adulthood outcomes. 'Total Effect' rows are the observed variation of the outcomes with respect to each childhood skills. That is, it is equivalent to the α in Equation 5 for $t = 2$. The difference with Table A.23 is essentially the reduce sample that is involved in all measurements. As detailed in Section 4.2.3, such effect can be decomposed between the variation on observed skills and their relation with the outcomes, 'Predicted Effect', and the variation that is not associated to those variables, 'Difference'.

As in Table A.23, the sole observed relationships are between health and university attendance, and a more noisy association between HOME and SABER 11 results. Both effects seem to be transmitted via skills and investments not captured by our dataset.

Table 10: Childhood skills/investments and outcomes: predicted and observed

Total Effect: $\frac{\partial Y^y}{\partial \ln(\theta_1^j)} = \sum_{l=1}^{J_2} \left[\frac{\partial Y^y}{\partial \ln(\theta_2^l)} \cdot \frac{\partial \ln(\theta_2^l)}{\partial \ln(\theta_1^j)} \right] + \frac{\partial Y}{\partial \varepsilon} \frac{\partial \varepsilon}{\partial \ln(\theta_1^j)}$

Predicted Effect: $\sum_{l=1}^{J_2} \left[\frac{\partial Y^y}{\partial \ln(\theta_2^l)} \cdot \frac{\partial \ln(\theta_2^l)}{\partial \ln(\theta_1^j)} \right]$

Difference: $\frac{\partial Y}{\partial \varepsilon} \frac{\partial \varepsilon}{\partial \ln(\theta_1^j)}$

	(1) **Univ**	(2) **S11 Math**	(3) **LOG Wage S1**	(4) **LOG Wage S1**
Griffiths(θ_1^1)				
Total Effect				
	-0.134	-0.0274	-0.0118	-0.0458
	(0.105)	(0.267)	(0.267)	(0.267)
Predicted Effect				
	-0.0134	0.00314	-0.0180	-0.0466
	(0.0475)	(0.148)	(0.135)	(0.138)
Difference				
	-0.121	-0.0305	0.00624	0.000843
	(0.0979)	(0.228)	(0.242)	(0.243)
Health 6m,12m (θ_1^2)				
Total Effect				
	0.237***	0.188	0.0941	0.0636
	(0.0658)	(0.168)	(0.145)	(0.145)
Predicted Effect				
	0.0234	-0.0418	0.0202	0.0628
	(0.0419)	(0.120)	(0.0920)	(0.0917)
Difference				
	0.213**	0.230	0.0739	0.000791
	(0.0682)	(0.162)	(0.143)	(0.143)
HOME 6m,12m (θ_1^3)				
Total Effect				
	0.379	1.172*	0.111	-0.0154
	(0.213)	(0.598)	(0.455)	(0.471)
Predicted Effect				
	0.0736	0.241	0.349	0.150
	(0.111)	(0.368)	(0.293)	(0.297)
Difference				
	0.305	0.931	-0.238	-0.166
	(0.206)	(0.535)	(0.452)	(0.461)
Pre-School Years (θ^4)				
Total Effect				
	-0.277	-1.046	-0.520	-0.377
	(0.523)	(1.564)	(1.096)	(1.072)
Predicted Effect				
	0.0482	-0.547	-0.621	-0.334
	(0.222)	(0.885)	(0.627)	(0.616)
Difference				
	-0.325	-0.499	0.101	-0.0429
	(0.482)	(1.348)	(1.039)	(1.013)
Observations	103	89	69	66

Univ: currently attends or attended in the past to a University. **Works:** currently working. **S11 Math:** SABER 11 Math results (if presented), **Log-wage:** logarithm of weekly wage if working
S1: All individuals (Weight-at-birth below 1801 grs). S2: No neurosensorial disorders.

Table 11: Groupes and outcomes: predicted and observed

Total Effect: $\frac{\partial Y^y}{\partial \ln(\theta_1^j)} = \sum_{l=1}^{J_2} \left[\frac{\partial Y^y}{\partial \ln(\theta_2^l)} \cdot \frac{\partial \ln(\theta_2^l)}{\partial \ln(\theta_1^j)} \right] + \frac{\partial Y}{\partial \varepsilon} \frac{\partial \varepsilon}{\partial \ln(\theta_1^j)}$

Predicted Effect: $\sum_{l=1}^{J_2} \left[\frac{\partial Y^y}{\partial \ln(\theta_2^l)} \cdot \frac{\partial \ln(\theta_2^l)}{\partial \ln(\theta_1^j)} \right]$

Difference: $\frac{\partial Y}{\partial \varepsilon} \frac{\partial \varepsilon}{\partial \ln(\theta_1^j)}$

	(1) **Univ**	(2) **S11 Math**	(3) **LOG Wage S1**	(4) **LOG Wage S1**
Kangaroo ($\tau_1 - \tau_0$)				
total_1	-0.0986	-0.273	0.475	0.584
	(0.152)	(0.467)	(0.347)	(0.345)
predicted_1	-0.0632	-0.232	-0.167	-0.0768
	(0.123)	(0.401)	(0.291)	(0.290)
difference_1	-0.0354	-0.0413	0.642***	0.660***
	(0.0894)	(0.220)	(0.193)	(0.184)
Observations	103	89	69	66

Univ: currently attends or attended in the past to a University. **Works:** currently working. **S11 Math:** SABER 11 Math results (if presented), **Log-wage:** logarithm of weekly wage if working
S1: All individuals (Weight-at-birth below 1801 grs). S2: No neurosensorial disorders.

5.6 Decomposition of the treatment impacts

The final step of our proposed analysis was to disentangle the impact on wages based on the impact on each of the skills. Given the results from previous sections, we are unable to account for the mechanisms behind the higher wages of KMC children. Tables 12 and 13 present results on the Blinder-Oaxaca twofold decomposition.

Table 12: BO Decomposition of Kangaroo Treatment Effect, Child Skills

Twofold decomposition: Explained by variations on observed skills and due to other factors

Skill	**Univ**	**S11 Math**	**Log-wage S1**	**Log-wage S2**	**Works**
	(1)	(2)	(3)	(4)	(5)
overall difference	-0.00900	-0.307^{+}	0.357*	0.359*	0.122^{+}
	(0.0909)	(0.218)	(0.189)	(0.190)	(0.0860)
explained	-0.00778	-0.0460	-0.0166	-0.00390	-0.0799
	(0.0508)	(0.164)	(0.138)	(0.132)	(0.0701)
unexplained	-0.00122	-0.261	0.373^{+}	0.363*	0.202**
	(0.0838)	(0.219)	(0.228)	(0.219)	(0.0843)
explained					
LOG Griffiths(θ_1^1)	0.00128	0.00359	0.0515	0.0575	0.00652
	(0.00510)	(0.0142)	(0.0711)	(0.0655)	(0.0193)
LOG Health 6m,12m (θ_1^2)	-0.00610	-0.0264	0.0374	0.0442	-0.0148
	(0.0266)	(0.0530)	(0.0786)	(0.0667)	(0.0249)
LOG HOME 6m,12m (θ_1^3)	0.000241	-0.00774	0.0000472	-0.00272	0.0000286
	(0.00200)	(0.0355)	(0.00344)	(0.0252)	(0.00228)
LOG Pre School Years (θ^4)	-0.0149	-0.107^{+}	0.0509	0.0715	0.00463
	(0.0562)	(0.0692)	(0.0609)	(0.0664)	(0.0339)
Controls	0.0117	0.0921	-0.157	-0.174^{+}	-0.0763^{+}
	(0.0300)	(0.119)	(0.124)	(0.124)	(0.0590)
Observations	126	102	84	81	126

Univ: currently attends or attended in the past to a University. **Works:** currently working. **S11 Math:** SABER 11 Math results (if presented), **Log-wage:** logarithm of weekly wage if working
Individuals with Weight-at-birth below 1801 grs S1: All individuals (Weight-at-birth below 1801 grs). S2: No neurosensorial disorders.
Explained: The mean increase in the outcome of the control given that they are given the same skills as the treatment group. *Unexplained:* The mean increase in the outcome of the control which might be due to variations on other factors (unrelated to the measured skills) and to variations on the intercepts.
Robust standard errors in parenthesis.
Significance: + 20% * 10%, ** 5%, *** 1%.

First, as shown in Table 12, results on wages remain unexplained as the only impacted measurement at Early Childhood was the number of years of pre-school. However, as seen in Table 7, this childhood skill is unrelated to any skill or investment at adulthood.

For adulthood, Table 12 shows that we can not relate the impact on wages to variations on any of the measured skills. In this case there are some skills related to wages as shown in Table 9, and moreover, some of these relationships seemed to be larger for the KMC group. However, there is no impact at all in any of these skills, only for working memory which is in opposite direction of the wage findings. Lower test scores in SABER 11 are associated to that negative impact in such cognitive skill, which might be due to the selective mortality of the lowest weight-at-birth children of the control group.

Table 13: BO Decomposition of Kangaroo Treatment Effect, Adult Skills

Twofold decomposition: Explained by variations on observed skills and due to other factors

Skill	**Univ**	**S11 Math**	**Log-wage S1**	**Log-wage S2**	**Works**
	(1)	(2)	(3)	(4)	(5)
overall difference	-0.0229	-0.343**	0.166+	0.213*	0.0567
	(0.0688)	(0.156)	(0.121)	(0.118)	(0.0627)
explained	0.0133	-0.147+	-0.0452	-0.0499	-0.0476+
	(0.0397)	(0.114)	(0.0657)	(0.0677)	(0.0363)
unexplained	-0.0362	-0.196	0.211+	0.263**	0.104+
	(0.0619)	(0.164)	(0.133)	(0.134)	(0.0652)
explained					
LOG Reasoning (θ_2^1)	0.0155	0.0261	0.00912	0.00145	0.00424
	(0.0154)	(0.0296)	(0.0175)	(0.0151)	(0.0102)
LOG Episodic Memory (θ_2^2)	-0.00184	-0.0269	0.00120	-0.00303	0.000604
	(0.00649)	(0.0336)	(0.0109)	(0.0142)	(0.00325)
LOG Working Memory (θ_2^3)	-0.0242	-0.135*	-0.0163	-0.00749	-0.00913
	(0.0288)	(0.0747)	(0.0280)	(0.0287)	(0.0147)
(NEG) LOG Mental Disorder (θ_2^4)	0.0186	0.0639	-0.0294	-0.0367	-0.0379
	(0.0374)	(0.115)	(0.0794)	(0.0849)	(0.0596)
(NEG) LOG ADHD (θ_2^5)	-0.0196	-0.103	0.0226	0.0216	0.0354
	(0.0403)	(0.151)	(0.103)	(0.103)	(0.0600)
(NEG) LOG Depression (θ_2^6)	0.00388	0.000106	0.00277	0.00110	-0.00246
	(0.0113)	(0.0117)	(0.00913)	(0.0115)	(0.00748)
LOG Health 20y (θ_2^7)	-0.00135	0.000964	-0.00427	0.000140	0.00440
	(0.00628)	(0.0199)	(0.0160)	(0.00314)	(0.0178)
LOG HOME 20y (θ_2^8)	0.00235	-0.000763	0.00816	0.0120	-0.00509
	(0.00716)	(0.0196)	(0.0207)	(0.0243)	(0.0150)
Controls	0.0200	0.0278	-0.0391	-0.0389	-0.0377+
	(0.0207)	(0.0705)	(0.0571)	(0.0565)	(0.0247)
Observations	205	169	137	127	205

Univ: currently attends or attended in the past to a University. **Works:** currently working.
S11 Math: SABER 11 Math results (if presented), **Log-wage:** logarithm of weekly wage if working
Individuals with Weight-at-birth below 1801 grs S1: All individuals (Weight-at-birth below 1801 grs). S2: No neurosensorial disorders.
Explained: The mean increase in the outcome of the control given that they are given the same skills as the treatment group. *Unexplained:* The mean increase in the outcome of the control which might be due to variations on other factors (unrelated to the measured skills) and to variations on the intercepts.
Robust standard errors in parenthesis.
Significance: + 20% * 10%, ** 5%, *** 1%.

6 Discussion and Final Remarks

Pretreatment skills and characteristics are good predictors of childhood and adulthood skills and outcomes. Income per capita and parents education at birth are positively correlated with home environment at 6 and 12 months of corrected age. Moreover, parents education and the proportion of workers at home are correlated with the number of preschool years attended by children. Interestingly, health indicators taken during the first year of life are critical factors for decision to enrol into a university, to obtain better results in math scores and earn larger wages.

We find that the KMC program caused an increase on the number of years of pre-school education. However, we found that they are not related to any skill or outcome at adulthood. This after taking into account omitted variable bias using a control function approach.

Moreover, we find a strong association between working memory, on the one hand, with wages and test results, on the other hand. Other skills as reasoning and depression seem important as well. However, none of these variables were modified by the program, meaning that the impact is driven by an unobserved channel. The program did affect the relationship between some of these variables and wages, making it stepper. Therefore, either KMC affected other skills which we do not measure, or it modified the production function that maps skills and investments into outcomes.

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A Tables

Table A.1: Descriptives

Variable	Sample 2 N	Sample 2 Mean	Sample 3 N	Sample 3 Mean	Full Sample N	Mean	SD	Min	P25	P50	P75	Max
Outcomes												
University Ed.(complete, incomplete)	447	.38	236	.41	482	.36	.48	0	0	0	1	1
Work	456	.72	240	.71	866	.4	.49	0	0	0	1	1
Standardized Math Score	349	-.0039	188	.0074	365	-.028	1	-3.1	-.74	-.039	.7	2.7
Log wages per hour	296	1.1	159	1.1	313	1.1	.7	-1.5	.78	1.1	1.4	4
Controls												
Girl	408	.56	240	.57	745	.55	.5	0	0	1	1	1
Weight at birth (grs)	408	1727	240	1572	745	1720	259	700	1600	1800	1900	2000
Gestational age (Ballard)	408	34	240	33	745	34	2.6	26	32	34	36	40
Weight at elegibility age (grs)	408	1701	240	1564	745	1698	227	930	1525	1720	1900	2000
Multiple pregnancy	406	.17	238	.17	739	.18	.39	0	0	0	0	1
Acute Fetal Distress	456	.47	240	.55	491	.47	.5	0	0	0	1	1
Neonatal Hospitalization	456	.54	240	.75	491	.55	.5	0	0	1	1	1
HH income per capita, 1993 (COP 1000s)	454	90	238	88	489	90	60	14	50	73	117	400
Father Education: Primary or less	400	.2	236	.18	723	.21	.41	0	0	0	0	1
Father Education: Secondary	400	.56	236	.55	723	.59	.49	0	0	1	1	1
Father Education: Above Secondary	400	.23	236	.28	723	.2	.4	0	0	0	0	1
Mother Education: Primary or less	408	.19	240	.16	743	.22	.42	0	0	0	0	1
Mother Education: Secondary	408	.55	240	.56	743	.56	.5	0	0	1	1	1
Mother Education: Above Secondary	408	.26	240	.28	743	.22	.41	0	0	0	0	1
Components of Pre-treatment Skills												
LOG Family Education (θ_0^1)	400	.004	236	.11	432	1.1e-09	.93	-1.5	-.16	-.044	.085	1.4
FAMILY: Nivel educ. padre	400	.057	236	.16	723	4.8e-09	1	-1.5	.011	.011	.011	1.6
FAMILY: Nivel educ. madre	408	.11	240	.17	743	-4.8e-09	1	-1.5	.002	.002	.002	1.5
LOG Health pre-treat (θ_0^2)	400	.038	236	-.49	432	7.1e-10	.88	-2.9	-.67	.068	.77	1.2
HEALTH0: Weight at birth (grs)	408	.027	240	-.57	745	-1.1e-08	1	-3.9	-.46	.31	.69	1.1
HEALTH0: Gestational age (Ballard)	408	.028	240	-.32	745	-6.2e-09	1	-3	-.69	.086	.86	2.4
HEALTH0: Weight at elegibility age (grs)	408	.012	240	-.59	745	1.1e-08	1	-3.4	-.76	.096	.89	1.3
HEALTH0: Neonatal Hospitalization	456	-.026	240	.4	491	-2.3e-09	1	-1.1	-1.1	.91	.91	.91
Components of Childhood Skills												
LOG Griffiths(θ_1^1)	212	.022	134	.01	229	2.1e-09	.59	-2	-.23	.026	.27	1.7
Grif6: A. Locomotor	407	.016	217	-.096	438	-7.3e-17	1	-3.8	-.77	.08	.51	4.8
Grif6: B: Personal-Social	407	.046	217	-.0076	438	-3.7e-16	1	-4.1	-.59	-.081	.43	4
Grif6: C: Language	407	.068	217	-.029	438	-1.4e-16	1	-5.8	-.29	-.29	.81	3
Grif6: D: Eye and Hand Co-ordination	406	.029	216	-.0024	436	-2.9e-16	1	-5.3	-.27	.36	.36	3.5
Grif6: psychomotor delay at 6 months of corrected age	394	.056	218	.0043	425	-5.9e-09	1	-3.5	.17	.17	.17	2.6
Grif12: A. Locomotor	407	.026	214	-.069	440	3.0e-16	1	-6.8	-.25	.036	.61	3.5
Grif12: B: Personal-Social	408	.029	215	-.076	441	-2.7e-16	1	-6.8	-.39	-.054	.28	2
Grif12: C: Language	408	.043	215	-.019	441	3.6e-16	1	-6.8	-.38	.0024	.38	3.4
Grif12: D: Eye and Hand Co-ordination	407	.03	215	-.038	440	-2.1e-16	1	-10	-.57	.36	.83	2.7
Grif12: E: Performance	408	.03	215	-.034	441	-9.9e-17	1	-7.2	-.32	.062	.44	8.1
Grif12: psychomotor delay at 12 months of corrected age	396	.028	216	-.12	429	8.8e-09	1	-5	-.085	-.085	-.085	3.2
LOG Health 6m,12m (θ_1^2)	212	.0072	134	-.073	229	1.6e-09	.78	-2.4	-.49	.02	.43	2.4
OTHE: weight for age at 41 weeks	388	.025	231	-.035	420	-4.1e-16	1	-2.9	-.63	-.046	.66	2.9
OTHE: height for age at 41 weeks	388	.019	231	-.14	420	-1.3e-15	1	-3.9	-.65	-.073	.57	3.8
OTHE: weight for height at 12 months	363	.042	215	-.054	394	-6.2e-16	1	-2.7	-.68	-.086	.62	3.4
OTHE: weight for age at 12 months	370	.026	218	-.085	401	-6.3e-16	1	-2.3	-.74	-.042	.61	3.6
OTHE: height for age at 3 months	365	-.0099	217	-.084	396	-1.1e-15	1	-3.1	-.57	.094	.78	3.2
LOG HOME 6m,12m (θ_1^3)	212	.013	134	.049	229	-8.3e-10	.77	-2.4	-.55	.013	.65	1.7
HOME1: Family cognitively stimulating	257	.013	156	.032	276	7.1e-09	1	-2	-.79	.019	.83	2.5
HOME1: Emotional restrictions (neg score)	257	-.004	156	-.012	276	-8.4e-09	1	-1.5	-.91	-.37	.17	5
HOME1: Open family	257	-.0015	156	.039	276	-6.0e-09	1	-4.3	-.72	.46	1	1
HOME1: Structured environment	257	-6.0e-05	156	.067	276	-2.9e-09	1	-4	-.45	.26	.98	1.7
LOG Pre School Years (θ^4)	414	.72	219	.72	442	.73	.51	0	0	.69	1.1	1.8
Preschool years	416	2.3	220	2.3	444	2.3	1.1	0	1	2	3	6
Pre-School Years (θ^5)	416	2.3	220	2.3	444	2.3	1.1	0	1	2	3	6
Components of Adulthood Skills												
LOG Reasoning (θ_2^1)	380	.002	204	.15	402	8.9e-08	2.1	-14	-.86	-.2	.52	22
WASI: Block Design	453	.046	239	.06	488	3.7e-09	1	-2.5	-.74	.098	.71	2.7

Source: Own calculations

Table A.1: (Continued)

	Sample 2		Sample 3		Full Sample							
Variable	**N**	**Mean**	**N**	**Mean**	**N**	**Mean**	**SD**	**Min**	**P25**	**P50**	**P75**	**Max**
WASI: Vocabulary	453	.07	239	.15	484	-3.1e-09	1	-3.4	-.62	.14	.76	1.9
WASI: Matrix Reasoning	453	.046	239	.027	488	-5.9e-09	1	-2.8	-.8	.21	.82	2.2
WASI: Similarities	453	.075	239	.05	484	-1.5e-08	1	-4.5	-.69	.15	.71	2.4
WASI: Verbal Comprehension	453	.068	239	.11	484	-5.2e-09	1	-2.6	-.63	.042	.71	2.4
WASI: Perceptual Reasoning.	453	.053	239	.055	488	-1.4e-09	1	-2.9	-.68	.025	.73	2.6
LOG Episodic Memory (θ_2^2)	380	.012	204	-.0059	402	5.1e-09	.63	-2.5	-.33	.08	.46	1.1
CVLT: Short-Delay Free Recall Correct	453	.014	239	-.063	484	-3.5e-17	1	-3.6	-.63	-.032	1.2	2.7
CVLT: Long-Delay Free Recall Correct	453	.03	239	-.0011	484	-1.0e-08	1	-4.1	-.42	.19	.8	2
CVLT: Long-Delay Cued Recall Correct	453	.03	239	-.016	484	-6.2e-09	1	-4.6	-.76	.34	.89	2
CVLT: Trial 1-4 Free Recall Total Correct	453	.034	239	-.033	484	-2.8e-09	1	-4	-.6	.073	.65	3.6
LOG Working Memory (θ_2^3)	380	.0074	204	-.013	402	2.2e-09	.26	-.75	-.17	.013	.21	.44
TAP: Omissions	429	.023	232	.015	459	4.4e-09	1	-2.9	-.85	.14	1	1.3
TAP: Median RT	429	.026	232	.071	459	5.0e-09	1	-3.3	-.62	-.025	.77	1.7
TAP: Standard deviation of RT	429	.024	232	.019	459	4.2e-09	1	-2.6	-.97	.044	.75	1.8
TAP: GO/Nogo	447	.034	235	.0082	478	1.3e-08	1	-4	-.54	.4	.71	2.1
TAP: GO/Nogo	446	-.0013	234	-.014	477	-3.3e-09	1	-2.7	-.83	-.16	.72	2.8
TAP: Flexibility PI 0.707 * (TAPFN3MDT4 + TAPFN3ERT4 - 100)	431	.039	234	-.023	458	-3.4e-17	1	-2.8	-.66	.088	.83	2.3
TAP: Flexibility SAI 0.707 * (TAPFN3ERT4 - TAPFN3MDT4)	431	.021	234	-.037	458	-4.7e-17	1	-2.4	-.78	.032	.84	2.6
(NEG) LOG Mental Disorder (θ_2^4)	380	.0042	204	.032	402	2.0e-09	.77	-1.8	-.59	.022	.58	1.4
ABCLDSM: Depressive	444	-.0043	237	-.038	478	9.2e-09	1	-1.4	-.97	.097	.93	1.5
ABCLDSM: Somatic	444	.0061	237	.021	478	-3.0e-09	1	-1.5	-.77	.037	.85	1.4
ABCLDSM: Avoidant	444	-.0073	237	-.057	478	-1.3e-08	1	-1.4	-1.2	.0089	.96	1.3
ABCLDSM: Attention Deficit and Hyperactivity	444	-.0064	237	-.014	478	7.8e-09	1	-1.5	-1	-.024	.89	1.7
ABCLDSM: Antisocial	444	-.0039	237	-.043	478	-3.3e-09	1	-1.4	-1.1	-.12	.89	1.9
ABCLDSM: Inattention	444	-.0055	237	-.016	478	6.4e-09	1	-2	-.65	.28	.85	1.4
ABCLDSM: Hyperactivity/Impulsivity	444	-.01	237	-.042	478	-6.5e-09	1	-1	-1	-.48	.88	2.1
ASRDSM: DSM depressive Percent score	449	-.012	235	-.056	484	1.2e-08	1	-1.1	-.86	-.37	.8	1.9
ASRDSM: DSM Anxiety Percent score	449	.014	235	.025	484	1.0e-09	1	-1.7	-1.1	.21	.91	1.5
ASRDSM: DSM Avoidant Percent score	449	.0014	235	-.059	484	-1.5e-08	1	-1.1	-.88	-.25	1	1.7
ASRDSM: DSM Attention Deficit and Hyperactivity Percent score	449	.0098	235	-.018	484	1.3e-09	1	-1.3	-.84	-.16	.95	1.7
ASRDSM: DSM Antisocial Percent score	449	-.014	235	-.1	484	-1.2e-08	1	-1.1	-.89	-.2	.8	1.9
ASRDSM: DSM Inattention Percent score	449	.0069	235	-.044	484	8.8e-09	1	-1.5	-.72	.16	.66	1.5
ASRDSM: DSM Hyperactivity/Impulsivity Percent score	449	.0034	235	-.005	484	-6.7e-09	1	-1.1	-.83	-.31	.97	2
(NEG) LOG ADHD (θ_2^5)	380	.0086	204	.021	402	3.0e-10	.59	-1.6	-.43	.043	.51	1.1
CONNERS: Defiant-Aggressive Behaviors (P)	443	-.018	237	-.01	477	9.7e-10	1	-.78	-.78	-.27	.32	3
CONNERS: Learning Problems (P)	443	-.059	237	-.087	477	1.0e-10	1	-1.1	-.72	-.39	.61	3
CONNERS: Executive Functioning (P)	443	-.00047	237	-.03	477	-1.9e-09	1	-1.3	-.7	-.3	.5	3.6
CONNERS: Hyperactivity/Impulsivity (P)	443	-.024	237	-.034	477	4.3e-09	1	-1.4	-.86	-.25	.65	1.8
CONNERS: Inattention (P)	443	-.023	237	-.032	477	-2.5e-09	1	-1.3	-.84	-.13	.51	2.6
CONNERS: Peer Relations (P)	443	.0044	237	-.028	477	1.1e-08	1	-1.1	-1.1	-.33	1	1.5
ABCL: Internalized	444	-.0057	237	-.029	478	3.3e-09	1	-3.1	-.59	.26	.88	1.1
ABCL: Externalized	444	-.017	237	-.056	478	3.0e-09	1	-2.7	-.72	.13	.94	1.5
ABCL: Mean Substance Use	430	-.0051	231	.021	461	1.0e-08	1	-.49	-.49	-.49	-.49	4.5
(NEG) LOG Depression (θ_2^6)	380	-.0032	204	.033	402	1.6e-09	.57	-2.2	-.4	.11	.4	.98
CESD: CES-D Total	452	-.0061	238	-.1	487	2.1e-09	1	-1.8	-.68	-.25	.45	3.8
AUTOESTI: Self-esteem Score	451	.011	237	.042	486	-3.2e-09	1	-4.3	-.64	.076	.8	2
AUTOESTI: Dx Self-esteem	451	.011	237	.078	486	6.9e-09	1	-4.1	-.99	.56	.56	.56
ASR: Internalized Percentile score	449	-.00055	235	-.034	484	1.1e-08	1	-2.7	-.61	.28	.85	1.2
ASR: Externalized Percent score	449	-.012	235	-.053	484	-8.6e-09	1	-2.4	-.85	.15	.79	1.5
LOG Health 20y (θ_2^7)	380	-.0062	204	-.028	402	2.4e-09	.57	-1.2	-.47	-.11	.49	1.7
PEDIA: Cephalic perimeter	456	.014	240	-.054	491	-1.6e-15	1	-2.9	-.73	-.15	.72	3.3
PEDIA: Height-gor-age z-score WHO	455	.014	240	-.083	490	-8.8e-18	1	-2.9	-.68	-.15	.57	3.9
PEDIA: Talla	456	-.0023	240	-.063	491	-4.0e-16	1	-3.7	-.8	-.033	.67	3
LOG HOME 20y (θ_2^8)	380	.0028	204	.013	402	-5.2e-10	.41	-1.3	-.28	.027	.29	.95
HOME18: Physical environment	422	.015	222	.09	456	2.1e-08	1	-4.3	-.53	.24	1	1
HOME18: Learning material	422	.019	222	.032	456	5.3e-09	1	-2.5	-.6	-.12	.82	2.2
HOME18: Modeling	422	-.0095	222	.03	456	1.1e-09	1	-2.9	-.89	-.22	.46	2.5
HOME18: Fostering self sufficiency	422	-.0074	222	-.0094	456	-5.3e-09	1	-2.5	-.93	-.12	.68	2.3
HOME18: Regulatory activity	422	-.016	222	-.013	456	-6.7e-09	1	-3.4	-.46	.14	.74	1.3
HOME18: Family companionship	422	.0022	222	.069	456	1.7e-09	1	-2.2	-.54	.0048	.55	2.2
HOME18: Acceptance	422	.0054	222	-.011	456	1.3e-08	1	-4.1	-.37	.17	.71	.71

Source: Own calculations

Table A.2: Base skill/investments measures and outcomes

Name	Univ	S11 Math	Wage	Treat
List of measures related to Pre1 skills/investments				
Parental character				
Nivel educ. padre	**(+)** 0.000	(+) 0.405	**(+)** 0.081	(+) 0.682
Nivel educ. madre	**(+)** 0.000	(+) 0.500	(-) 0.985	(-) 0.784
Edad de la madre	(-) 0.249	(+) 0.778	(+) 0.921	(-) 0.807
List of measures related to Pre2 skills/investments				
Health pre-treatment				
Weight at birth (grs)	(-) 0.754	(+) 0.384	(+) 0.552	**(-)** 0.091
Gestational age (Ballard)	**(-)** 0.059	(-) 0.978	(+) 0.138	**(-)** 0.093
Weight at elegibility age (grs)	(-) 0.872	(+) 0.276	(+) 0.169	**(-)** 0.042
Multiple pregnancy	(-) 0.942	(-) 0.183	(+) 0.250	**(+)** 0.078
Acute Fetal Distress	(+) 0.205	(+) 0.442	(+) 0.332	(-) 0.395
Neonatal Hospitalization	(+) 0.254	(+) 0.428	(-) 0.816	(+) 0.248
List of measures related to Child1 skills/investments				
Griffiths Mental Development Scales (6 months)				
A. Locomotor	**(+)** 0.038	(-) 0.729	(+) 0.896	(+) 0.737
B: Personal-Social	(+) 0.275	(+) 0.941	(+) 0.684	(+) 0.726
C: Language	**(+)** 0.020	(+) 0.119	(-) 0.929	(+) 0.402
D: Eye and Hand Co-ordination	(+) 0.107	(-) 0.918	(+) 0.858	(+) 0.992
psychomotor delay at 6 months of corrected age	(+) 0.187	(+) 0.255	(+) 0.789	(+) 0.236
Griffiths Mental Development Scales (12 months)				
A. Locomotor	(+) 0.822	(-) 0.749	(-) 0.842	(+) 0.106
B: Personal-Social	(+) 0.997	(-) 0.521	(+) 0.263	(+) 0.508
C: Language	(+) 0.101	(-) 0.488	(+) 0.175	(+) 0.507
D: Eye and Hand Co-ordination	**(+)** 0.031	(+) 0.603	(+) 0.312	(+) 0.714
E: Performance	(+) 0.358	(-) 0.149	(+) 0.624	(+) 0.355
psychomotor delay at 12 months of corrected age	(-) 0.380	(-) 0.244	(+) 0.543	(+) 0.134
List of measures related to Child2 skills/investments				
Others				
=1 if Casita	(+) 0.270	(-) 0.475	(+) 0.470	**(+)** 0.046
Competence feeling of the mother (41wks)	(+) 0.107	(+) 0.677	(+) 0.483	**(+)** 0.003
Social support of the mother (41wks)	**(+)** 0.001	(-) 0.244	(+) 0.606	**(-)** 0.093
Stress feeling of the moher (41wks)	**(-)** 0.000	(+) 0.494	(-) 0.726	(+) 0.370
weight for age at 41 weeks	**(+)** 0.015	(+) 0.631	(-) 0.887	(-) 0.337
height for age at 41 weeks	**(+)** 0.044	(+) 0.413	(+) 0.515	(-) 0.129
weight for height at 12 months	(+) 0.964	(+) 0.141	(+) 0.986	(+) 0.948
weight for age at 12 months	(+) 0.166	(+) 0.123	(-) 0.430	(+) 0.632
height for age at 3 months	**(+)** 0.059	(+) 0.589	(-) 0.339	(+) 0.503
List of measures related to Child3 skills/investments				
Home Observation Measurement of the Environment (12 months)				
Family cognitively stimulating	**(+)** 0.006	**(+)** 0.070	(+) 0.112	(+) 0.315
Emotional restrictions (neg score)	**(-)** 0.028	(-) 0.470	(-) 0.386	(-) 0.686
Open family	(+) 0.104	**(+)** 0.012	**(+)** 0.074	(+) 0.323
Structured environment	**(+)** 0.060	(-) 0.747	**(+)** 0.058	**(+)** 0.039
Preschool years	**(+)** 0.064	**(-)** 0.001	(+) 0.136	**(+)** 0.003
List of measures related to Adult1 skills/investments				

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Table A.2: (Continued)

Name	Univ	S11 Math	Wage	Treat
WASI IQ Test				
Block Design	(+) 0.000	(+) 0.000	(-) 0.685	(+) 0.897
Vocabulary	(+) 0.000	(+) 0.000	(+) 0.691	(-) 0.671
Matrix Reasoning	(+) 0.000	(+) 0.000	(+) 0.005	(+) 0.602
Similarities	(+) 0.000	(+) 0.000	(+) 0.550	(-) 0.974
Verbal Comprehension	(+) 0.000	(+) 0.000	(+) 0.644	(-) 0.687
Perceptual Reasoning.	(+) 0.000	(+) 0.000	(+) 0.108	(+) 0.581
Californian Verbal Learning Test				
Short-Delay Free Recall Correct	(+) 0.000	(+) 0.015	(+) 0.637	(-) 0.798
Long-Delay Free Recall Correct	(+) 0.000	(+) 0.021	(+) 0.726	(+) 0.658
Long-Delay Cued Recall Correct	(+) 0.000	(+) 0.036	(+) 0.258	(+) 0.066
Trial 1-4 Free Recall Total Correct	(+) 0.000	(+) 0.001	(+) 0.280	(+) 0.869
List of measures related to Adult2 skills/investments				
Working Memory TAP				
Omissions	(+) 0.000	(+) 0.003	(+) 0.113	(-) 0.140
Median RT	(+) 0.007	(+) 0.005	(+) 0.234	(-) 0.441
Standard deviation of RT	(+) 0.033	(+) 0.019	(+) 0.040	(+) 0.929
GO/Nogo	(+) 0.109	(+) 0.053	(+) 0.975	(-) 0.813
GO/Nogo	(-) 0.687	(+) 0.308	(-) 0.049	(+) 0.751
Incompatibility (Hand)	(-) 0.062	(-) 0.545	(+) 0.350	(+) 0.319
Incompatibility (Visual field hands)	(-) 0.140	(+) 0.646	(-) 0.332	(-) 0.633
Flexibility PI 0.707 * (TAPFN3MDT4 + TAPFN3ERT4 - 100)	(+) 0.000	(+) 0.000	(+) 0.016	(-) 0.689
Flexibility SAI 0.707 * (TAPFN3ERT4 - TAPFN3MDT4)	(+) 0.059	(+) 0.048	(+) 0.394	(+) 0.846
List of measures related to Adult3 skills/investments				
ABCL Diagnostic and Statistical Manual of Mental Disorders (DSM)				
Depressive	(-) 0.000	(+) 0.750	(-) 0.281	(-) 0.525
Anxiety	(-) 0.297	(+) 0.488	(+) 0.585	(+) 0.087
Somatic	(-) 0.006	(+) 0.632	(-) 0.311	(+) 0.824
Avoidant	(-) 0.004	(-) 0.874	(-) 0.069	(-) 0.450
Attention Deficit and Hyperactivity	(-) 0.006	(-) 0.579	(+) 0.714	(+) 0.802
Antisocial	(-) 0.000	(-) 0.470	(+) 0.589	(-) 0.855
Inattention	(-) 0.206	(+) 0.907	(+) 0.997	(+) 0.325
Hyperactivity/Impulsivity	(-) 0.001	(-) 0.362	(+) 0.523	(-) 0.717
Acute Stress Response (ASR)				
DSM depressive Percent score	(-) 0.000	(-) 0.651	(-) 0.408	(+) 0.899
DSM Anxiety Percent score	(-) 0.064	(+) 0.708	(-) 0.062	(+) 0.820
DSM Somatic Percent score	(-) 0.016	(+) 0.950	(-) 0.810	(-) 0.442
DSM Avoidant Percent score	(-) 0.009	(-) 0.783	(-) 0.006	(+) 0.969
DSM Attention Deficit and Hyperactivity Percent score	(-) 0.183	(-) 0.943	(-) 0.139	(-) 0.842
DSM Antisocial Percent score	(-) 0.003	(-) 0.368	(+) 0.881	(-) 0.003
DSM Inattention Percent score	(-) 0.632	(+) 0.244	(-) 0.031	(+) 0.522
DSM Hyperactivity/Impulsivity Percent score	(-) 0.090	(-) 0.065	(+) 0.762	(-) 0.486
List of measures related to Adult4 skills/investments				
Conners Behaviour Rating				
Defiant-Aggressive Behaviors (P)	(-) 0.001	(-) 0.165	(-) 0.215	(-) 0.066
Learning Problems (P)	(-) 0.000	(-) 0.000	(-) 0.440	(+) 0.539
Executive Functioning (P)	(-) 0.000	(-) 0.464	(-) 0.488	(-) 0.409

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Table A.2: (Continued)

Name	Univ	S11 Math	Wage	Treat
Hyperactivity/Impulsivity (P)	(-) 0.010	(-) 0.416	(+) 0.349	(-) 0.650
Inattention (P)	(-) 0.000	(-) 0.041	(-) 0.393	(-) 0.636
Peer Relations (P)	(-) 0.001	(+) 0.293	(-) 0.493	(-) 0.329
Adult Behavior Checklist (ABCL)				
Internalized	(-) 0.001	(+) 0.705	(-) 0.281	(-) 0.338
Externalized	(-) 0.002	(-) 0.631	(+) 0.496	(-) 0.412
Mean Substance Use	(-) 0.072	(+) 0.809	(-) 0.716	(-) 0.204
Depression Index CES-D				
CES-D Total	(-) 0.011	(-) 0.430	(-) 0.619	(-) 0.231
Selfsteem (Rosenberg)				
Self-esteem Score	(+) 0.001	(+) 0.275	(+) 0.249	(-) 0.374
Dx Self-esteem	(+) 0.052	(+) 0.357	(+) 0.228	(-) 0.329
Acute Stress Response (ASR)				
Internalized Percentile score	(-) 0.000	(-) 0.985	(-) 0.091	(-) 0.279
Externalized Percent score	(-) 0.027	(-) 0.184	(+) 0.186	(-) 0.061
Mean Substance Use Total Percentilr score	(-) 0.103	(+) 0.994	(+) 0.239	(-) 0.356
List of measures related to Adult5 skills/investments				
Health t=2				
Cephalic perimeter	(+) 0.128	(+) 0.218	(-) 0.756	(+) 0.457
BMI-for-age z-score WHO	(+) 0.167	(-) 0.026	(+) 0.038	(+) 0.343
Height-gor-age z-score WHO	(+) 0.003	(-) 0.802	(+) 0.704	(-) 0.896
Talla	(+) 0.555	(+) 0.130	(-) 0.969	(+) 0.640
Frecuencia Cardiaca	(-) 1.000	(-) 0.570	(-) 0.259	(+) 0.940
List of measures related to Adult6 skills/investments				
Home Observation Measurement of the Environment (Age 20)				
Physical environment	(+) 0.000	(-) 0.623	(+) 0.496	(-) 0.775
Learning material	(+) 0.000	(+) 0.423	(+) 0.139	(+) 0.642
Modeling	(+) 0.000	(-) 0.626	(-) 0.924	(+) 0.992
Fostering self sufficiency	(+) 0.000	(+) 0.235	(+) 0.893	(+) 0.291
Regulatory activity	(+) 0.001	(+) 0.697	(+) 0.551	(+) 0.478
Family companionship	(+) 0.000	(-) 0.290	(+) 0.007	(+) 0.126
Acceptance	(+) 0.096	(-) 0.517	(+) 0.019	(+) 0.156

Significance: 99% ***; 95% **; 90% *.

Table A.3: Exploratory Factor Analysis (EFA) for Pre1 skills

Panel A: Number of factors under different selection rules	
PCA Kaiser	2
PCA Horn Correction	2
PCA Velicer Correction	0
Scree	0
Panel B: Rotated factor loadings	
Measure	**Fac 1**
FAMILY: Nivel educ. padre	**0.647**
FAMILY: Nivel educ. madre	**0.648**
FAMILY: Edad de la madre	0.015

Significance: 99% ***; 95% **; 90% *.

Table A.4: Exploratory Factor Analysis (EFA) for Pre2 skills

Panel A: Number of factors under different selection rules	
PCA Kaiser	2
PCA Horn Correction	1
PCA Velicer Correction	1
Scree	1
Panel B: Rotated factor loadings	
Measure	**Fac 1**
HEALTH0: Weight at birth (grs)	**0.872**
HEALTH0: Gestational age (Ballard)	**0.655**
HEALTH0: Weight at elegibility age (grs)	**0.923**
HEALTH0: Multiple pregnancy	0.065
HEALTH0: Acute Fetal Distress	-0.121
HEALTH0: Neonatal Hospitalization	**-0.611**

Significance: 99% ***; 95% **; 90% *.

Table A.5: Exploratory Factor Analysis (EFA) for Child1 skills

Panel A: Number of factors under different selection rules	
PCA Kaiser	2
PCA Horn Correction	2
PCA Velicer Correction	2
Scree	2
Panel B: Rotated factor loadings	
Measure	**Fac 1**
Grif6: A. Locomotor	**0.621**
Grif6: B: Personal-Social	**0.568**
Grif6: C: Language	**0.456**
Grif6: D: Eye and Hand Co-ordination	**0.583**
Grif6: psychomotor delay at 6 months of corrected age	**0.785**
Grif12: A. Locomotor	**0.642**
Grif12: B: Personal-Social	**0.726**
Grif12: C: Language	**0.580**

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Table A.5: (Continued)

Grif12: D: Eye and Hand Co-ordination	**0.613**
Grif12: E: Performance	**0.559**
Grif12: psychomotor delay at 12 months of corrected age	**0.739**

Significance: 99% ***; 95% **; 90% *.

Table A.6: Exploratory Factor Analysis (EFA) for Child2 skills

Panel A: Number of factors under different selection rules	
PCA Kaiser	4
PCA Horn Correction	4
PCA Velicer Correction	0
Scree	2
Panel B: Rotated factor loadings	
Measure	**Fac 1**
OTHE: =1 if Casita	-0.048
OTHE: Competence feeling of the mother (41wks)	0.123
OTHE: Social support of the mother (41wks)	0.022
OTHE: Stress feeling of the moher (41wks)	-0.053
OTHE: weight for age at 41 weeks	**0.556**
OTHE: height for age at 41 weeks	**0.597**
OTHE: weight for height at 12 months	**0.498**
OTHE: weight for age at 12 months	**0.912**
OTHE: height for age at 3 months	**0.779**

Significance: 99% ***; 95% **; 90% *.

Table A.7: Exploratory Factor Analysis (EFA) for Child3 skills

Panel A: Number of factors under different selection rules	
PCA Kaiser	1
PCA Horn Correction	1
PCA Velicer Correction	1
Scree	1
Panel B: Rotated factor loadings	
Measure	**Fac 1**
HOME1: Family cognitively stimulating	**0.736**
HOME1: Emotional restrictions (neg score)	**-0.686**
HOME1: Open family	**0.693**
HOME1: Structured environment	**0.664**
HOME1: Preschool years	0.196

Significance: 99% ***; 95% **; 90% *.

Table A.8: Exploratory Factor Analysis (EFA) for Adult1 skills

Panel A: Number of factors under different selection rules	
PCA Kaiser	3

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Table A.8: (Continued)

PCA Horn Correction	2	
PCA Velicer Correction	3	
Scree	2	
Panel B: Rotated factor loadings		
Measure	**Fac 1**	**Fac 2**
WASI: Block Design	**0.825**	-0.091
WASI: Vocabulary	**0.670**	0.265
WASI: Matrix Reasoning	**0.856**	-0.072
WASI: Similarities	**0.582**	0.326
WASI: Verbal Comprehension	**0.705**	0.280
WASI: Perceptual Reasoning.	**0.967**	-0.102
CVLT: Short-Delay Free Recall Correct	-0.015	**0.710**
CVLT: Long-Delay Free Recall Correct	-0.034	**0.852**
CVLT: Long-Delay Cued Recall Correct	0.004	**0.794**
CVLT: Trial 1-4 Free Recall Total Correct	0.191	**0.572**

Significance: 99% ***; 95% **; 90% *.

Table A.9: Exploratory Factor Analysis (EFA) for Adult2 skills

Panel A: Number of factors under different selection rules	
PCA Kaiser	3
PCA Horn Correction	3
PCA Velicer Correction	0
Scree	1
Panel B: Rotated factor loadings	
Measure	**Fac 1**
TAP: Omissions	**0.374**
TAP: Median RT	**0.386**
TAP: Standard deviation of RT	**0.537**
TAP: GO/Nogo	**0.310**
TAP: GO/Nogo	**0.302**
TAP: Incompatibility (Hand)	-0.069
TAP: Incompatibility (Visual field hands)	-0.110
TAP: Flexibility PI 0.707 * (TAPFN3MDT4 + TAPFN3ERT4 - 100)	**0.680**
TAP: Flexibility SAI 0.707 * (TAPFN3ERT4 - TAPFN3MDT4)	**0.502**

Significance: 99% ***; 95% **; 90% *.

Table A.10: Exploratory Factor Analysis (EFA) for Adult3 skills

Panel A: Number of factors under different selection rules	
PCA Kaiser	4
PCA Horn Correction	3
PCA Velicer Correction	3
Scree	3
Panel B: Rotated factor loadings	
Measure	**Fac 1**

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Table A.10: (Continued)

ABCLDSM: Depressive	**0.716**
ABCLDSM: Anxiety	0.285
ABCLDSM: Somatic	**0.383**
ABCLDSM: Avoidant	**0.589**
ABCLDSM: Attention Deficit and Hyperactivity	**0.788**
ABCLDSM: Antisocial	**0.626**
ABCLDSM: Inattention	**0.667**
ABCLDSM: Hyperactivity/Impulsivity	**0.652**
ASRDSM: DSM depressive Percent score	**0.586**
ASRDSM: DSM Anxiety Percent score	**0.351**
ASRDSM: DSM Somatic Percent score	0.275
ASRDSM: DSM Avoidant Percent score	**0.421**
ASRDSM: DSM Attention Deficit and Hyperactivity Percent score	**0.703**
ASRDSM: DSM Antisocial Percent score	**0.551**
ASRDSM: DSM Inattention Percent score	**0.597**
ASRDSM: DSM Hyperactivity/Impulsivity Percent score	**0.590**

Significance: 99% ***; 95% **; 90% *.

Table A.11: Exploratory Factor Analysis (EFA) for Adult4 skills

Panel A: Number of factors under different selection rules

PCA Kaiser	4
PCA Horn Correction	3
PCA Velicer Correction	2
Scree	2

Panel B: Rotated factor loadings

Measure	**Fac 1**	**Fac 2**
CONNERS: Defiant-Aggressive Behaviors (P)	**0.698**	0.077
CONNERS: Learning Problems (P)	**0.607**	-0.114
CONNERS: Executive Functioning (P)	**0.728**	-0.009
CONNERS: Hyperactivity/Impulsivity (P)	**0.611**	0.138
CONNERS: Inattention (P)	**0.800**	-0.009
CONNERS: Peer Relations (P)	**0.469**	-0.088
ABCL: Internalized	**0.619**	-0.139
ABCL: Externalized	**0.727**	0.028
ABCL: Mean Substance Use	**0.333**	0.101
CESD: CES-D Total	0.084	**-0.626**
AUTOESTI: Self-esteem Score	0.015	**0.863**
AUTOESTI: Dx Self-esteem	0.064	**0.811**
ASR: Internalized Percentile score	0.089	**-0.639**
ASR: Externalized Percent score	0.269	**-0.328**
ASR: Mean Substance Use Total Percentilr score	0.235	0.011

Significance: 99% ***; 95% **; 90% *.

Table A.12: Exploratory Factor Analysis (EFA) for Adult5 skills

Panel A: Number of factors under different selection rules

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Table A.12: (Continued)

PCA Kaiser	2
PCA Horn Correction	2
PCA Velicer Correction	0
Scree	1
Panel B: Rotated factor loadings	
Measure	**Fac 1**
PEDIA: Cephalic perimeter	**0.572**
PEDIA: BMI-for-age z-score WHO	-0.032
PEDIA: Height-gor-age z-score WHO	**0.695**
PEDIA: Talla	**0.867**
PEDIA: Frecuencia Cardiaca	-0.117

Significance: 99% ***; 95% **; 90% *.

Table A.13: Exploratory Factor Analysis (EFA) for Adult6 skills

Panel A: Number of factors under different selection rules	
PCA Kaiser	1
PCA Horn Correction	1
PCA Velicer Correction	1
Scree	1
Panel B: Rotated factor loadings	
Measure	**Fac 1**
HOME18: Physical environment	**0.448**
HOME18: Learning material	**0.521**
HOME18: Modeling	**0.506**
HOME18: Fostering self sufficiency	**0.492**
HOME18: Regulatory activity	**0.492**
HOME18: Family companionship	**0.492**
HOME18: Acceptance	**0.409**

Significance: 99% ***; 95% **; 90% *.

Table A.14: Confirmatory Factor Analysis (CFA) for Pre skills

Panel A: Estimated Parameters

Measure	**Mean**	**Fac 1**	**Fac 2**	**Var(Error)**
FAMILY: Nivel educ. padre	0.05	1.00		0.10
	(0.05)			(0.51)
FAMILY: Nivel educ. madre	0.10	0.61		0.65
	(0.05)	(0.33)		(0.20)
HEALTH0: Weight at birth (grs)	-0.03		1.00	0.23
	(0.05)			(0.02)
HEALTH0: Gestational age (Ballard)	0.01		0.68	0.59
	(0.05)		(0.05)	(0.04)
HEALTH0: Weight at elegibility age (grs)	-0.03		1.13	0.04
	(0.05)		(0.04)	(0.03)
HEALTH0: Neonatal Hospitalization	0.13		-0.65	0.62
	(0.05)		(0.05)	(0.04)

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Table A.14: (Continued)

Measure	Mean	Fac 1	Fac 2	Var(Error)
Panel B: Factors Covariance				
	Factor 1	0.95	-0.11	
	Factor 2	-0.11	0.80	

Table A.15: Confirmatory Factor Analysis (CFA) for Child skills

Panel A: Estimated Parameters					
Measure	**Mean**	**Fac 1**	**Fac 2**	**Fac 3**	**Var(Error)**
Grif6: A. Locomotor	-0.08	1.00			0.58
	(0.07)				(0.07)
Grif6: B: Personal-Social	-0.05	0.92			0.60
	(0.06)	(0.12)			(0.07)
Grif6: C: Language	-0.04	0.69			0.80
	(0.07)	(0.12)			(0.08)
Grif6: D: Eye and Hand Co-ordination	-0.06	1.09			0.65
	(0.07)	(0.13)			(0.08)
Grif6: psychomotor delay at 6 months of corrected age	-0.04	1.24			0.38
	(0.07)	(0.12)			(0.06)
Grif12: A. Locomotor	-0.07	0.81			0.57
	(0.06)	(0.12)			(0.06)
Grif12: B: Personal-Social	-0.10	0.90			0.39
	(0.06)	(0.13)			(0.05)
Grif12: C: Language	-0.09	0.84			0.58
	(0.06)	(0.13)			(0.06)
Grif12: D: Eye and Hand Co-ordination	-0.05	0.82			0.45
	(0.06)	(0.12)			(0.05)
Grif12: E: Performance	-0.07	0.62			0.25
	(0.04)	(0.09)			(0.03)
Grif12: psychomotor delay at 12 months of corrected age	-0.06	0.96			0.38
	(0.06)	(0.13)			(0.05)
OTHE: weight for age at 41 weeks	0.05		1.00		0.31
	(0.07)				(0.05)
OTHE: height for age at 41 weeks	0.01		1.00		0.27
	(0.07)		(0.08)		(0.05)
OTHE: weight for height at 12 months	-0.03		0.20		0.84
	(0.06)		(0.08)		(0.08)
OTHE: weight for age at 12 months	-0.02		0.54		0.73
	(0.06)		(0.09)		(0.08)
OTHE: height for age at 3 months	0.03		0.57		0.70
	(0.06)		(0.09)		(0.07)
HOME1: Family cognitively stimulating	0.03			1.00	0.27
	(0.07)				(0.06)
HOME1: Emotional restrictions (neg score)	-0.01			-0.60	0.65
	(0.06)			(0.08)	(0.07)
HOME1: Open family	0.07			0.86	0.32
	(0.06)			(0.07)	(0.05)
HOME1: Structured environment	0.05			0.58	0.65
	(0.06)			(0.09)	(0.07)
Panel B: Factors Covariance					
	Factor 1	0.39	0.10	0.12	
	Factor 2	0.10	0.71	-0.01	
	Factor 3	0.12	-0.01	0.71	

Table A.16: Confirmatory Factor Analysis (CFA) for Adult skills

Panel A: Estimated Parameters **Measure**	**Mean**	**Fac 1**	**Fac 2**	**Fac 3**	**Fac 4**	**Fac 5**	**Fac 6**	**Fac 7**	**Fac 8**	**Var(Error)**
WASI: Block Design	0.08	1.00								0.45
	(0.05)									(0.04)
WASI: Vocabulary	0.11	0.02								0.84
	(0.05)	(0.04)								(0.06)
WASI: Matrix Reasoning	0.10	0.99								0.39
	(0.05)	(0.05)								(0.04)
WASI: Similarities	0.09	0.02								0.78
	(0.04)	(0.03)								(0.05)
WASI: Verbal Comprehension	0.10	0.05								0.88
	(0.05)	(0.05)								(0.06)
WASI: Perceptual Reasoning.	0.10	1.57								-0.35
	(0.05)	(0.10)								(0.05)
CVLT: Short-Delay Free Recall Correct	0.03		1.00							0.50
	(0.05)									(0.04)
CVLT: Long-Delay Free Recall Correct	0.01		1.30							0.19
	(0.05)		(0.09)							(0.03)
CVLT: Long-Delay Cued Recall Correct	0.03		1.16							0.27
	(0.05)		(0.08)							(0.03)
CVLT: Trial 1-4 Free Recall Total Correct	0.04		0.86							0.60
	(0.05)		(0.08)							(0.05)
TAP: Omissions	0.04			1.00						0.90
	(0.05)									(0.07)
TAP: Median RT	0.00			0.86						0.94
	(0.05)			(0.25)						(0.07)
TAP: Standard deviation of RT	0.02			1.32						0.83
	(0.05)			(0.30)						(0.06)
TAP: GO/Nogo	0.02			0.93						0.88
	(0.05)			(0.25)						(0.06)
TAP: GO/Nogo	0.04			0.62						0.94
	(0.05)			(0.22)						(0.07)
TAP: Flexibility PI 0.707 * (TAPFN3MDT4 + TAPFN3ERT4 - 100)	0.01			3.20						0.19
	(0.05)			(0.69)						(0.07)
TAP: Flexibility SAI 0.707 * (TAPFN3ERT4 - TAPFN3MDT4)	-0.02			2.17						0.61
	(0.05)			(0.46)						(0.05)
ABCLDSM: Depressive	-0.02				1.00					0.34
	(0.05)									(0.03)
ABCLDSM: Somatic	0.01				0.54					0.80
	(0.05)				(0.06)					(0.06)
ABCLDSM: Avoidant	-0.01				0.83					0.56
	(0.05)				(0.06)					(0.04)
ABCLDSM: Attention Deficit and Hyperactivity	-0.03				1.10					0.21
	(0.05)				(0.06)					(0.03)
ABCLDSM: Antisocial	-0.03				0.92					0.44
	(0.05)				(0.06)					(0.03)
ABCLDSM: Inattention	-0.01				0.94					0.40
	(0.05)				(0.06)					(0.03)
ABCLDSM: Hyperactivity/Impulsivity	-0.04				0.89					0.46
	(0.05)				(0.06)					(0.04)
ASRDSM: DSM depressive Percent score	-0.00				0.50					0.86
	(0.05)				(0.06)					(0.06)
ASRDSM: DSM Anxiety Percent score	0.02				0.20					0.97
	(0.05)				(0.07)					(0.07)
ASRDSM: DSM Avoidant Percent score	0.04				0.29					0.94
	(0.05)				(0.07)					(0.07)
ASRDSM: DSM Attention Deficit and Hyperactivity Percent score	0.02				0.55					0.82
	(0.05)				(0.06)					(0.06)
ASRDSM: DSM Antisocial Percent score	-0.03				0.53					0.81
	(0.05)				(0.06)					(0.06)
ASRDSM: DSM Inattention Percent score	0.03				0.47					0.86
	(0.05)				(0.06)					(0.06)
ASRDSM: DSM Hyperactivity/Impulsivity Percent score	-0.01				0.48					0.84
	(0.05)				(0.06)					(0.06)
CONNERS: Defiant-Aggressive Behaviors (P)	-0.04					1.00				0.55
	(0.05)									(0.04)
CONNERS: Learning Problems (P)	-0.05					0.99				0.55
	(0.05)					(0.09)				(0.04)

Continued on next page

Table A.16: (Continued)

Measure	Mean	Fac 1	Fac 2	Fac 3	Fac 4	Fac 5	Fac 6	Fac 7	Fac 8	Var(Error)
CONNERS: Executive Functioning (P)	-0.03					1.15				0.48
	(0.05)					(0.09)				(0.04)
CONNERS: Hyperactivity/Impulsivity (P)	-0.04					0.85				0.70
	(0.05)					(0.09)				(0.05)
CONNERS: Inattention (P)	-0.04					1.27				0.37
	(0.05)					(0.10)				(0.03)
CONNERS: Peer Relations (P)	0.02					0.80				0.76
	(0.05)					(0.09)				(0.06)
ABCL: Internalized	-0.02					1.19				0.46
	(0.05)					(0.10)				(0.04)
ABCL: Externalized	-0.04					1.25				0.42
	(0.05)					(0.10)				(0.04)
ABCL: Mean Substance Use	-0.02					0.47				0.89
	(0.05)					(0.09)				(0.06)
CESD: CES-D Total	0.00						1.00			0.67
	(0.05)									(0.05)
AUTOESTI: Self-esteem Score	-0.02						-1.63			0.12
	(0.05)						(0.13)			(0.03)
AUTOESTI: Dx Self-esteem	-0.03						-1.52			0.27
	(0.05)						(0.12)			(0.03)
ASR: Internalized Percentile score	0.02						0.92			0.67
	(0.05)						(0.10)			(0.05)
ASR: Externalized Percent score	-0.03						0.55			0.90
	(0.05)						(0.09)			(0.06)
PEDIA: Cephalic perimeter	0.00							1.00		0.84
	(0.05)									(0.07)
PEDIA: Height-gor-age z-score WHO	-0.05							1.26		0.68
	(0.05)							(0.13)		(0.06)
PEDIA: Talla	-0.03							2.66		-0.43
	(0.05)							(0.47)		(0.18)
HOME18: Physical environment	0.00								1.00	0.78
	(0.05)									(0.06)
HOME18: Learning material	0.02								1.12	0.70
	(0.05)								(0.16)	(0.06)
HOME18: Modeling	-0.00								1.10	0.74
	(0.05)								(0.16)	(0.06)
HOME18: Fostering self sufficiency	-0.01								1.05	0.72
	(0.05)								(0.16)	(0.06)
HOME18: Regulatory activity	0.01								1.05	0.72
	(0.05)								(0.16)	(0.06)
HOME18: Family companionship	-0.00								1.00	0.74
	(0.05)								(0.16)	(0.06)
HOME18: Acceptance	0.02								0.83	0.81
	(0.05)								(0.15)	(0.06)
Panel B: Factors Covariance										
	Factor 1	0.51	0.02	0.01	-0.01	-0.01	-0.01	0.01	-0.01	
	Factor 2	0.02	0.44	0.06	-0.09	-0.09	-0.05	0.01	0.02	
	Factor 3	0.01	0.06	0.08	-0.03	-0.04	-0.02	0.00	0.04	
	Factor 4	-0.01	-0.09	-0.03	0.63	0.46	0.14	0.02	-0.09	
	Factor 5	-0.01	-0.09	-0.04	0.46	0.38	0.08	0.02	-0.09	
	Factor 6	-0.01	-0.05	-0.02	0.14	0.08	0.35	-0.03	-0.04	
	Factor 7	0.01	0.01	0.00	0.02	0.02	-0.03	0.20	-0.00	
	Factor 8	-0.01	0.02	0.04	-0.09	-0.09	-0.04	-0.00	0.24	

Table A.17: Transformation of skills and investments: Cobb-Douglas (Full-version)

$\theta_2^j = \prod_{j=1}^{J_1}(\theta_1^{j\,\gamma_1^j}) \prod_{j=1}^{J_0}(\theta_0^{j\,\gamma_0^j}) * A * e^{\varepsilon}, \quad \varepsilon = K + \varsigma$

	LOG Reasoning (θ_2^1)	**LOG Episodic Memory** (θ_2^2)	**LOG Working Memory** (θ_2^3)	**(NEG) LOG Mental Disorder** (θ_2^4)	**(NEG) LOG ADHD** (θ_2^5)	**(NEG) LOG Depression** (θ_2^6)	**LOG Health 20y** (θ_2^7)	**LOG HOME 20y** (θ_2^8)
Panel A: Without control functions								
$\ln(\theta_2^j) = \sum_{j=1}^{J_1}\gamma_1^j \ln(\theta_1^j) + \sum_{j=1}^{J_0}\gamma_0^j \ln(\theta_0^j) + \ln(A) + \varepsilon$	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
γ_1^1, LOG Griffiths(θ_1^1)	0.054	0.084	0.020	-0.141	-0.112	0.032	0.029	-0.095+
	(0.253)	(0.141)	(0.054)	(0.178)	(0.149)	(0.092)	(0.071)	(0.064)
γ_1^2, LOG Health 6m,12m (θ_1^2)	-0.085	-0.003	0.018	0.030	0.033	-0.032	0.207***	0.117**
	(0.135)	(0.073)	(0.030)	(0.108)	(0.084)	(0.055)	(0.043)	(0.049)
γ_1^3, LOG HOME 6m,12m (θ_1^3)	0.376**	0.001	0.023	0.004	0.024	0.064	-0.088+	0.135***
	(0.150)	(0.089)	(0.037)	(0.098)	(0.079)	(0.058)	(0.059)	(0.046)
γ_1^4, LOG Pre School Years (θ^4)	0.141	0.236**	0.004	0.036	0.040	-0.059	0.034	0.058
	(0.266)	(0.113)	(0.052)	(0.161)	(0.118)	(0.099)	(0.089)	(0.077)
γ_0^1, LOG Family Education (θ_0^1)	-0.138	0.103+	0.021	0.171*	0.127*	0.161***	0.067*	0.075*
	(0.174)	(0.071)	(0.030)	(0.091)	(0.072)	(0.048)	(0.040)	(0.044)
γ_0^2, LOG Health pre-treat (θ_0^2)	0.051	0.126+	-0.001	0.069	0.081	0.048	0.000	0.007
	(0.198)	(0.085)	(0.031)	(0.097)	(0.074)	(0.047)	(0.039)	(0.043)
Girl	0.234	-0.150	0.010	0.073	0.121	-0.264***	-0.827***	0.161**
	(0.239)	(0.117)	(0.052)	(0.163)	(0.123)	(0.085)	(0.069)	(0.076)
$\ln(A)$	-0.228	-0.003	-0.006	0.039	0.010	0.266***	0.390***	-0.127+
	(0.271)	(0.142)	(0.059)	(0.169)	(0.128)	(0.086)	(0.088)	(0.089)
ι_3 Nuclear family at adulthood								0.176**
								(0.069)
Observations	105	106	107	107	107	107	107	101
R^2	0.0774	0.1636	0.0271	0.0737	0.0945	0.2542	0.7106	0.3226
$\sum\gamma$	0.3978	0.5480	0.0858	0.1685	0.1933	0.2148	0.2507	0.2986
Const. ret. to scale (p-val)	0.1081	0.0139	0.0000	0.0013	0.0001	0.0000	0.0000	0.0000
Panel B: With control functions								
$\ln(\theta_2^j) = \sum_{j=1}^{J_1}\gamma_1^j \ln(\theta_1^j) + \sum_{j=1}^{J_0}\gamma_0^j \ln(\theta_0^j) + \ln(A) + \delta CF + \varepsilon$	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
γ_1^1, LOG Griffiths(θ_1^1)	0.032	0.112	0.024	-0.134	-0.108	0.037	0.026	-0.106+
	(0.252)	(0.140)	(0.052)	(0.178)	(0.148)	(0.092)	(0.071)	(0.064)
γ_1^2, LOG Health 6m,12m (θ_1^2)	-0.078	-0.009	0.019	0.030	0.035	-0.034	0.209***	0.124**
	(0.133)	(0.073)	(0.030)	(0.109)	(0.084)	(0.056)	(0.044)	(0.051)
γ_1^3, LOG HOME 6m,12m (θ_1^3)	0.558	0.224	0.334+	0.471	0.622+	0.083	-0.034	0.477+
	(1.023)	(0.374)	(0.213)	(0.612)	(0.456)	(0.319)	(0.260)	(0.354)
γ_1^4, LOG Pre School Years (θ^4)	1.468	-1.312+	-0.637+	-0.970	-0.951	-0.410	0.166	-0.081
	(2.707)	(0.835)	(0.459)	(1.469)	(1.101)	(0.835)	(0.563)	(0.641)
γ_0^1, LOG Family Education (θ_0^1)	-0.512	0.417***	0.091	0.285	0.202	0.241*	0.020	0.014
	(0.534)	(0.155)	(0.078)	(0.261)	(0.198)	(0.128)	(0.107)	(0.099)
γ_0^2, LOG Health pre-treat (θ_0^2)	0.082	0.131+	0.023	0.103	0.129+	0.046	0.007	0.042
	(0.229)	(0.082)	(0.031)	(0.105)	(0.079)	(0.055)	(0.043)	(0.046)
Girl	0.350	-0.331**	-0.086	-0.075	-0.039	-0.301**	-0.819***	0.113
	(0.419)	(0.158)	(0.094)	(0.254)	(0.189)	(0.137)	(0.097)	(0.134)
δ_1 Control F. for LOG HOME 1Y	-0.224	-0.206	-0.319+	-0.478	-0.617+	-0.012	-0.060	-0.360
	(0.994)	(0.399)	(0.214)	(0.624)	(0.468)	(0.329)	(0.248)	(0.348)
δ_2 Control F. for LOG Pre-School Years	-1.400	1.599*	0.647+	1.016	0.992	0.365	-0.142	0.124
	(2.696)	(0.824)	(0.457)	(1.481)	(1.120)	(0.817)	(0.559)	(0.634)
$\ln(A)$	-1.107	1.075*	0.471+	0.784	0.762	0.507	0.308	0.022
	(1.997)	(0.617)	(0.339)	(1.049)	(0.782)	(0.607)	(0.398)	(0.473)
ι_3 Nuclear family at adulthood								0.161**
								(0.067)
Observations	105	106	107	107	107	107	107	101
R^2	0.0924	0.1963	0.0518	0.0791	0.1089	0.2580	0.7120	0.3432
$\sum\gamma$	1.5505	-0.4370	-0.1464	-0.2130	-0.0712	-0.0366	0.3945	0.4706
Const. ret. to scale (p-val)	0.6841	0.0032	0.0000	0.1247	0.0704	0.0330	0.0831	0.1018
P-val diff. treatment status Produc †	0.8105	0.6327	0.2812	0.8668	0.8569	0.3964	0.9997	0.9993
P-val diff. treatment status Coeffs †	0.0365	0.7098	0.8717	0.8470	0.8856	0.2391	0.1370	0.3049

† These p-values come from an alternative model that includes treatment status and interaction terms between each log-skill at $t = 1$ with the treatment indicator. The first one tests if the neutral productivity differs by treatment indicator. The second is a wald test on the joint significance of the interaction terms, wich indicatesa change of productivity of particular skills.
Robust standard errors in parenthesis.
Significance: + 20% * 10%, ** 5%, *** 1%.

Table A.18: Outcomes and Adulthood skills: Test on Autonomy

$Y_d = \sum_{j=1}^{J_2} \alpha_d^j \ln(\theta_{2d}^j) + \tau_d + \sum_{j=1}^{J_0} \beta_d^j \ln(\theta_{0d}^j) + \varepsilon_d, \quad d \in \{0,1\}$

Skill	**Univ**	**S11 Math**	**Log-wage S1**	**Log-wage S2**
	(1)	(2)	(3)	(4)
main				
LOG Reasoning (θ_2^1)	0.234+	0.167*	0.074	0.078
	(0.143)	(0.085)	(0.092)	(0.095)
LOG Episodic Memory (θ_2^2)	0.188	0.204	0.018	-0.041
	(0.295)	(0.231)	(0.178)	(0.205)
LOG Working Memory (θ_2^3)	1.179+	1.450**	0.625+	0.643+
	(0.736)	(0.585)	(0.415)	(0.405)
(NEG) LOG Mental Disorder (θ_2^4)	-0.730	-0.860	0.560	0.570
	(0.991)	(0.774)	(0.483)	(0.497)
(NEG) LOG ADHD (θ_2^5)	1.080	1.488+	-0.966+	-0.943+
	(1.375)	(1.081)	(0.674)	(0.693)
(NEG) LOG Depression (θ_2^6)	0.518+	0.163	0.049	0.014
	(0.360)	(0.249)	(0.160)	(0.162)
LOG Health 20y (θ_2^7)	-0.205	0.018	0.080	-0.014
	(0.463)	(0.399)	(0.285)	(0.303)
LOG HOME 20y (θ_2^8)	0.345	-0.312	0.099	0.123
	(0.454)	(0.312)	(0.259)	(0.257)
LOG Family Education (θ_0^1)	0.315+	-0.329**	-0.109	-0.076
	(0.194)	(0.141)	(0.110)	(0.117)
LOG Health pre-treat (θ_0^2)	-0.088	-0.034	-0.016	0.031
	(0.210)	(0.183)	(0.128)	(0.142)
Girl	-0.251	-0.394	0.417	0.360
	(0.538)	(0.458)	(0.461)	(0.471)
Kangaroo	-1.045*	-0.425	0.251	0.143
	(0.543)	(0.409)	(0.358)	(0.366)
Kangaroo =1 × LOG Reasoning (θ_2^1)	-0.371*	-0.058	0.071	-0.038
	(0.195)	(0.139)	(0.129)	(0.111)
Kangaroo =1 × LOG Episodic Memory (θ_2^2)	0.858*	-0.089	-0.026	0.044
	(0.465)	(0.297)	(0.234)	(0.246)
Kangaroo =1 × LOG Working Memory (θ_2^3)	-1.721+	-0.484	0.957*	0.788+
	(1.073)	(0.823)	(0.545)	(0.540)
Kangaroo =1 × (NEG) LOG Mental Disorder (θ_2^4)	0.184	0.386	-1.174*	-0.736
	(1.433)	(1.023)	(0.688)	(0.667)
Kangaroo =1 × (NEG) LOG ADHD (θ_2^5)	-0.303	-0.958	1.695*	1.108
	(1.941)	(1.380)	(0.917)	(0.904)
Kangaroo =1 × (NEG) LOG Depression (θ_2^6)	0.282	0.021	0.475*	0.288
	(0.496)	(0.420)	(0.243)	(0.233)
Kangaroo =1 × LOG Health 20y (θ_2^7)	0.797	0.245	0.402	0.645+
	(0.693)	(0.486)	(0.389)	(0.411)
Kangaroo =1 × LOG HOME 20y (θ_2^8)	1.133*	0.073	-0.562+	-0.319
	(0.654)	(0.570)	(0.373)	(0.358)
Kangaroo =1 × LOG Family Education (θ_0^1)	-0.117	0.365*	0.054	0.025
	(0.254)	(0.189)	(0.133)	(0.136)
Kangaroo =1 × LOG Health pre-treat (θ_0^2)	0.496*	0.234	0.115	0.168
	(0.302)	(0.236)	(0.170)	(0.176)
Kangaroo =1 × Girl	1.675**	0.530	0.141	0.401
	(0.798)	(0.589)	(0.534)	(0.563)
Observations	205	169	137	127
R^2		0.223	0.317	0.314
Adjusted R^2		0.100	0.178	0.161
jointTestF	.	0.6800	1.7700	1.7800
jointTestP	0.0774	0.7565	0.0677	0.0673

Univ: currently attends or attended in the past to a University. **Works:** currently working. **S11 Math:** SABER 11 Math results (if presented), **Log-wage:** logarithm of weekly wage if working
S1: All individuals (Weight-at-birth below 1801 grs). S2: No neurosensorial disorders.
Robust standard errors in parenthesis. This table reports coefficients from OLS regressions for SABER 11 and Wages, and from a PROBIT on university.
Significance: + 20% * 10%, ** 5%, *** 1%.

Table A.19: Outcomes and Adulthood skills: Control only

$Y_{d=0} = \sum_{j=1}^{J_2} \alpha^j_{d=0} \ln(\theta^j_{2,d=0}) + \tau_{d=0} + \sum_{j=1}^{J_0} \beta^j_{d=0} \ln(\theta^j_{0,d=0}) + \varepsilon_{d=0}$ **Skill**	**Univ**	**S11 math**	**Log-wage S1**	**Log-wage S2**
	(1)	(2)	(3)	(4)
LOG Reasoning (θ_2^1)	0.073$^+$	0.167$^+$	0.074	0.078
	(0.053)	(0.120)	(0.109)	(0.110)
LOG Episodic Memory (θ_2^2)	0.058	0.204	0.018	-0.041
	(0.085)	(0.218)	(0.183)	(0.195)
LOG Working Memory (θ_2^3)	0.366$^+$	1.450**	0.625	0.643
	(0.233)	(0.562)	(0.508)	(0.511)
(NEG) LOG Mental Disorder (θ_2^4)	-0.227	-0.860	0.560	0.570
	(0.315)	(0.764)	(0.610)	(0.614)
(NEG) LOG ADHD (θ_2^5)	0.335	1.488$^+$	-0.966	-0.943
	(0.443)	(1.060)	(0.858)	(0.863)
(NEG) LOG Depression (θ_2^6)	0.161$^+$	0.163	0.049	0.014
	(0.109)	(0.266)	(0.207)	(0.212)
LOG Health 20y (θ_2^7)	-0.064	0.018	0.080	-0.014
	(0.136)	(0.335)	(0.270)	(0.279)
LOG HOME 20y (θ_2^8)	0.107	-0.312	0.099	0.123
	(0.138)	(0.337)	(0.278)	(0.280)
LOG Family Education (θ_0^1)	0.098*	-0.329**	-0.109	-0.076
	(0.057)	(0.138)	(0.122)	(0.129)
LOG Health pre-treat (θ_0^2)	-0.027	-0.034	-0.016	0.031
	(0.073)	(0.165)	(0.144)	(0.158)
Girl		-0.394	0.417	0.360
		(0.410)	(0.361)	(0.365)
Observations	96	78	63	60
R^2		0.267	0.108	0.126
Adjusted R^2		0.145	-0.085	-0.074

Univ: currently attends or attended in the past to a University. **Works:** currently working. **S11 Math:** SABER 11 Math results (if presented), **Log-wage:** logarithm of weekly wage if working
S1: All individuals (Weight-at-birth below 1801 grs). S2: No neurosensorial disorders.
Robust standard errors in parenthesis. This table reports coefficients from OLS regressions for SABER 11 and Wages, and marginal effects at the mean for university.
Significance: + 20% * 10%, ** 5%, *** 1%.

Table A.20: Wages and Adulthood skills, controlling for selection

$Y = \sum_{j=1}^{J_2} \alpha^j \ln(\theta_2^j) + \tau + \sum_{j=1}^{J_0} \beta^j \ln(\theta_0^j) + \varepsilon$

	Sample 1			Sample 2		
	(1)	(2)		(3)	(4)	
	Log-wage	**Log-wage**		**Log-wage**	**Log-wage**	
	-	**Log-wage**	Work	-	**Log-wage**	Work
LOG Reasoning (θ_2^1)	0.131**	0.120**	0.038	0.061	0.047	-0.061
	(0.055)	(0.058)	(0.096)	(0.058)	(0.064)	(0.099)
LOG Episodic Memory (θ_2^2)	0.040	-0.037	0.377*	0.021	-0.069	0.479**
	(0.116)	(0.122)	(0.199)	(0.116)	(0.126)	(0.204)
LOG Working Memory (θ_2^3)	1.052***	0.895***	0.792+	0.925***	0.758**	0.707+
	(0.306)	(0.316)	(0.496)	(0.300)	(0.324)	(0.491)
(NEG) LOG Mental Disorder (θ_2^4)	-0.119	-0.557+	1.750**	0.095	-0.428	1.449**
	(0.396)	(0.430)	(0.709)	(0.391)	(0.434)	(0.686)
(NEG) LOG ADHD (θ_2^5)	0.029	0.614	-2.482**	-0.243	0.426	-2.089**
	(0.537)	(0.582)	(0.985)	(0.531)	(0.588)	(0.957)
(NEG) LOG Depression (θ_2^6)	0.333**	0.396**	-0.057	0.188	0.260+	-0.063
	(0.149)	(0.154)	(0.251)	(0.148)	(0.161)	(0.258)
LOG Health 20y (θ_2^7)	0.237+	0.139	0.534+	0.232	0.111	0.925***
	(0.182)	(0.193)	(0.339)	(0.188)	(0.210)	(0.348)
LOG HOME 20y (θ_2^8)	-0.161	-0.008	-0.606*	0.011	0.190	-0.519+
	(0.179)	(0.192)	(0.329)	(0.180)	(0.200)	(0.319)
LOG Family Education (θ_0^1)	-0.054	-0.008	-0.222*	-0.019	0.037	-0.134
	(0.072)	(0.075)	(0.116)	(0.072)	(0.079)	(0.119)
LOG Health pre-treat (θ_0^2)	0.075	0.021	0.249*	0.138+	0.069	0.336**
	(0.086)	(0.090)	(0.149)	(0.086)	(0.095)	(0.154)
Girl	0.416*	0.323+	0.627+	0.456**	0.341+	1.086***
	(0.217)	(0.225)	(0.388)	(0.225)	(0.246)	(0.408)
Number of siblings			0.227*			0.252**
			(0.122)			(0.119)
Avg. age of siblings			-0.028**			-0.021*
			(0.013)			(0.012)
Observations	137	197		127	183	
Censored Obs.		60			56	
ρ_ε		-0.7301			-0.9082	
χ^2 test on H0: $\rho\_\varepsilon = 0$		1.6547			6.1810	
p-val		0.1983			0.0129	

Univ: currently attends or attended in the past to a University. **Works:** currently working. **S11 Math:** SABER 11 Math results (if presented), **Log-wage:** logarithm of weekly wage if working
S1: All individuals (Weight-at-birth below 1801 grs). S2: No neurosensorial disorders.
Robust standard errors in parenthesis. This table reports coefficients from OLS regressions and ML Heckman selection model.
Significance: + 20% * 10%, ** 5%, *** 1%.

Table A.21: Outcomes and Childhood skills: Test on Autonomy

$Y_d = \sum_{j=1}^{J_1} \alpha_d^j \ln(\theta_{1d}^j) + \tau_d + \sum_{j=1}^{J_0} \beta_d^j \ln(\theta_{0d}^j) + \varepsilon_d, \quad d \in \{0,1\}$

Skill	**Univ**	**S11 Math**	**Log-wage S1**	**Log-wage S2**
	(1)	(2)	(3)	(4)
main				
LOG Griffiths(θ_1^1)	0.218	-0.081	-0.301	-0.389
	(0.421)	(0.276)	(0.413)	(0.385)
LOG Health 6m,12m (θ_1^2)	0.467$^+$	0.307$^+$	-0.126	-0.188
	(0.302)	(0.214)	(0.278)	(0.265)
LOG HOME 6m,12m (θ_1^3)	0.066	0.218	0.002	0.134
	(0.312)	(0.195)	(0.184)	(0.189)
LOG Pre School Years (θ^4)	-0.550	-0.528**	0.239	0.382
	(0.442)	(0.248)	(0.286)	(0.305)
LOG Family Education (θ_0^1)	0.662**	-0.284$^+$	-0.352$^+$	-0.268
	(0.284)	(0.172)	(0.253)	(0.230)
LOG Health pre-treat (θ_0^2)	0.440$^+$	0.219	0.013	0.269
	(0.309)	(0.220)	(0.232)	(0.287)
Girl	0.048	-0.771**	0.387	0.475
	(0.445)	(0.350)	(0.411)	(0.403)
Kangaroo	-0.356	-1.286***	0.655$^+$	0.745$^+$
	(0.554)	(0.430)	(0.473)	(0.481)
Kangaroo =1 × LOG Griffiths(θ_1^1)	-0.471	0.084	0.463	0.487
	(0.545)	(0.356)	(0.477)	(0.458)
Kangaroo =1 × LOG Health 6m,12m (θ_1^2)	0.094	-0.417$^+$	0.220	0.261
	(0.382)	(0.267)	(0.331)	(0.323)
Kangaroo =1 × LOG HOME 6m,12m (θ_1^3)	0.286	-0.044	0.132	0.025
	(0.387)	(0.252)	(0.252)	(0.259)
Kangaroo =1 × LOG Pre School Years (θ^4)	0.310	0.562$^+$	-0.166	-0.469
	(0.575)	(0.410)	(0.398)	(0.405)
Kangaroo =1 × LOG Family Education (θ_0^1)	-0.299	0.454**	0.386	0.415$^+$
	(0.345)	(0.227)	(0.302)	(0.267)
Kangaroo =1 × LOG Health pre-treat (θ_0^2)	-0.007	0.094	0.171	-0.037
	(0.383)	(0.275)	(0.259)	(0.307)
Kangaroo =1 × Girl	0.499	0.690$^+$	-0.332	-0.361
	(0.557)	(0.431)	(0.455)	(0.445)
Observations	126	102	84	81
R^2		0.264	0.144	0.200
Adjusted R^2		0.135	-0.045	0.016
jointTestF	.	2.8500	0.8900	0.9900
jointTestP	0.9210	0.0102	0.5219	0.4493

Univ: currently attends or attended in the past to a University. **Works:** currently working. **S11 Math:** SABER 11 Math results (if presented), **Log-wage:** logarithm of weekly wage if working
S1: All individuals (Weight-at-birth below 1801 grs). S2: No neurosensorial disorders.
Robust standard errors in parenthesis. This table reports coefficients from OLS regressions for SABER 11 and Wages, and from a PROBIT on university.
Significance: + 20% * 10%, ** 5%, *** 1%.

Table A.22: Outcomes and Childhood skills: Control only

$Y_{d=0} = \sum_{j=1}^{J_1} \alpha_{d=0}^{j} \ln(\theta_{1,d=0}^{j}) + \tau_{d=0} + \sum_{j=1}^{J_0} \beta_{d=0}^{j} \ln(\theta_{0,d=0}^{j}) + \varepsilon_{d=0}$

Skill	**Univ**	**S11 math**	**Log-wage S1**	**Log-wage S2**
	(1)	(2)	(3)	(4)
LOG Griffiths(θ_1^1)	0.072	-0.081	-0.301	-0.389
	(0.145)	(0.335)	(0.428)	(0.418)
LOG Health 6m,12m (θ_1^2)	0.155$^+$	0.307$^+$	-0.126	-0.188
	(0.097)	(0.228)	(0.249)	(0.245)
LOG HOME 6m,12m (θ_1^3)	0.022	0.218	0.002	0.134
	(0.101)	(0.231)	(0.250)	(0.257)
LOG Pre School Years (θ^4)	-0.182	-0.528$^+$	0.239	0.382
	(0.168)	(0.370)	(0.397)	(0.395)
LOG Family Education (θ_0^1)	0.219**	-0.284	-0.352	-0.268
	(0.097)	(0.240)	(0.278)	(0.274)
LOG Health pre-treat (θ_0^2)	0.145$^+$	0.219	0.013	0.269
	(0.094)	(0.224)	(0.295)	(0.332)
Girl		-0.771**	0.387	0.475
		(0.355)	(0.401)	(0.392)
Observations	46	35	27	26
R^2		0.480	0.161	0.223
Adjusted R^2		0.345	-0.148	-0.079

Univ: currently attends or attended in the past to a University. **Works:** currently working. **S11 Math:** SABER 11 Math results (if presented), **Log-wage:** logarithm of weekly wage if working S1: All individuals (Weight-at-birth below 1801 grs). S2: No neurosensorial disorders.
Robust standard errors in parenthesis. This table reports coefficients from OLS regressions for SABER 11 and Wages, and marginal effects at the mean for university.
Significance: + 20% * 10%, ** 5%, *** 1%.

Table A.23: Wages and Childhood skills, controlling for selection

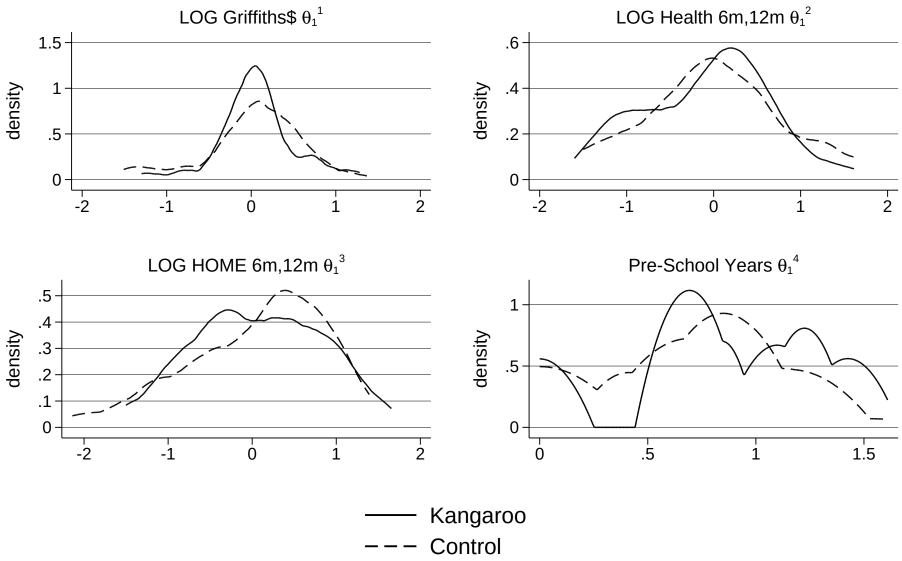
$Y = \sum_{j=1}^{J_1} \alpha^j \ln(\theta_1^j) + \tau + \sum_{j=1}^{J_0} \beta^j \ln(\theta_0^j) + \varepsilon$

	Sample 1			Sample 2		
	(1)	(2)		(3)	(4)	
	Log-wage	**Log-wage**		**Log-wage**	**Log-wage**	
	-	**Log-wage**	Work	-	**Log-wage**	Work
LOG Griffiths(θ_1^1)	-0.076	0.031	0.242	-0.139	-0.148	0.131
	(0.236)	(0.246)	(0.268)	(0.230)	(0.225)	(0.287)
LOG Health 6m,12m (θ_1^2)	0.012	0.037	0.008	-0.018	-0.021	0.014
	(0.133)	(0.136)	(0.187)	(0.130)	(0.126)	(0.201)
LOG HOME 6m,12m (θ_1^3)	0.053	0.004	0.015	0.100	0.106	-0.052
	(0.134)	(0.142)	(0.203)	(0.130)	(0.130)	(0.218)
LOG Pre School Years (θ^4)	0.176	0.193	-0.159	0.088	0.087	-0.077
	(0.214)	(0.219)	(0.311)	(0.207)	(0.197)	(0.337)
LOG Family Education (θ_0^1)	0.010	-0.060	-0.342*	0.106	0.112	-0.236
	(0.115)	(0.130)	(0.183)	(0.113)	(0.113)	(0.194)
LOG Health pre-treat (θ_0^2)	0.158	0.214^{+}	0.175	0.233*	0.227*	0.166
	(0.130)	(0.137)	(0.190)	(0.128)	(0.129)	(0.197)
Girl	0.109	0.061	-0.311	0.167	0.170	-0.288
	(0.203)	(0.207)	(0.269)	(0.196)	(0.188)	(0.291)
Number of siblings			0.348**			0.428**
			(0.170)			(0.177)
Avg. age of siblings			-0.024^{+}			-0.012
			(0.015)			(0.019)
Observations	84	121		81	113	
Censored Obs.		37			32	
ρ_ε		0.6695			-0.0812	
χ^2 test on H0: $\rho\_\varepsilon = 0$		0.2768			0.0225	
p-val		0.5988			0.8809	

Univ: currently attends or attended in the past to a University. **Works:** currently working. **S11 Math:** SABER 11 Math results (if presented), **Log-wage:** logarithm of weekly wage if working
S1: All individuals (Weight-at-birth below 1801 grs). S2: No neurosensorial disorders.
Robust standard errors in parenthesis. This table reports coefficients from OLS regressions and ML Heckman selection model.
Significance: + 20% * 10%, ** 5%, *** 1%.

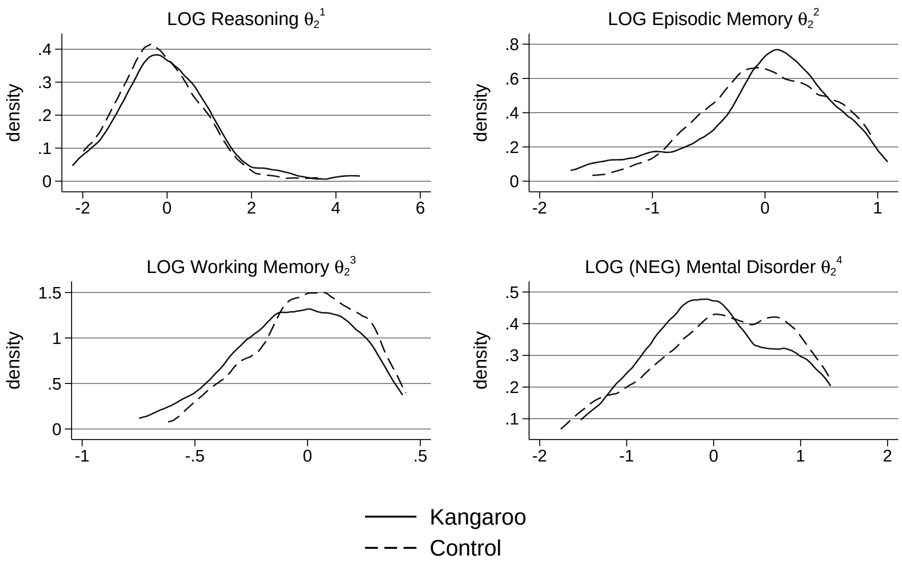
B Images

Figure B.1: Childhood Factor Densities for Treatment and Control



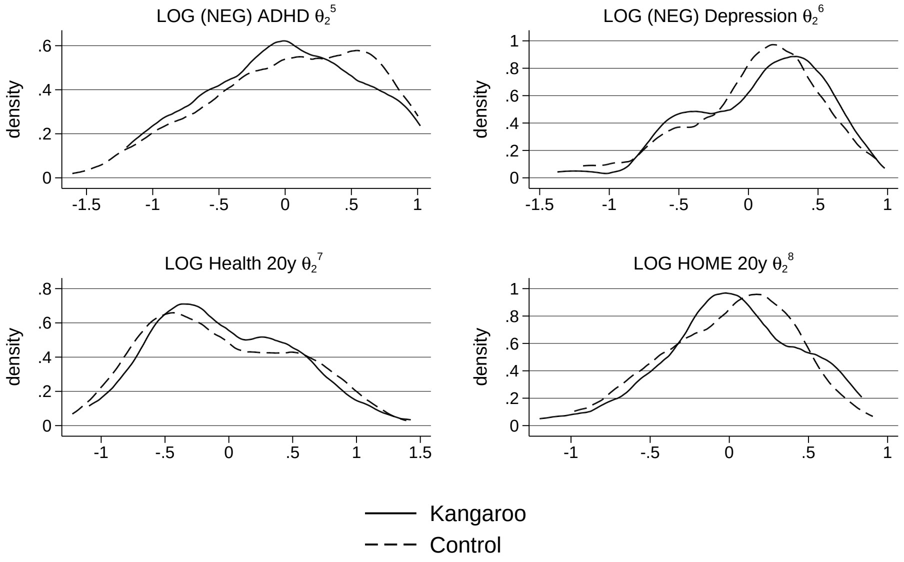
Individuals with Weight-at-birth below 1801 grs Epanechnikov kernel density

Figure B.2: Adult Factor Densities for Treatment and Control I



Individuals with Weight-at-birth below 1801 grs Epanechnikov kernel density

Figure B.3: Adult Factor Densities for Treatment and Control II



Individuals with Weight-at-birth below 1801 grs Epanechnikov kernel density

Figure B.4: Components of Reasoning Skills

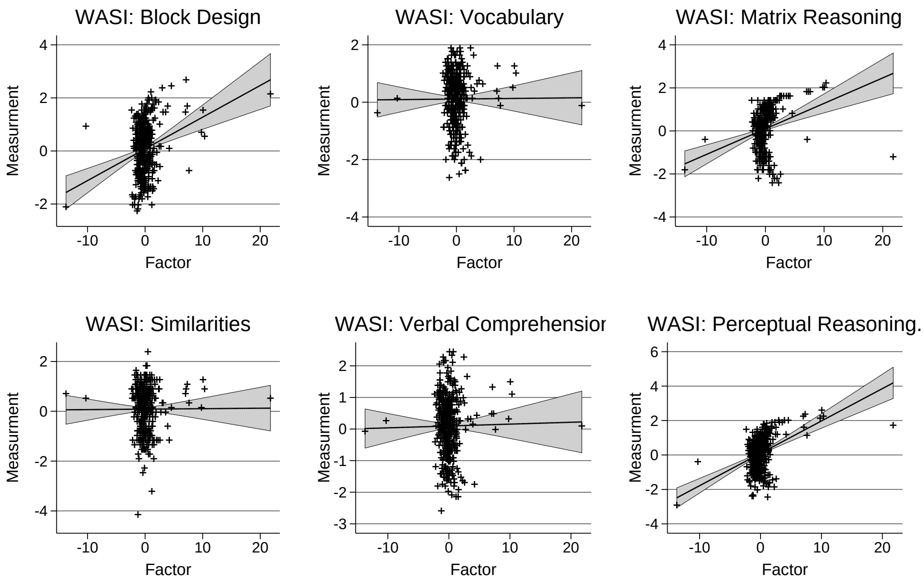


Figure B.5: Components of Verbal Skills