

**The AeioTu Early Childhood Longitudinal Study
Report I. Baseline Data Collection
National Institute for Early Education Research
and Universidad de los Andes-CEDE**

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Introduction

In collaboration with aeioTU, NIEER is conducting a randomized trial comparing the effects of aeioTU's early childhood development (ECD) intervention in 2 aeioTU centers in Santa Marta, Colombia. The study design was formulated to investigate individual child growth and development in social, health, cognitive, and emotional area. The design also allows to accurately estimate the effects of the aeioTU preschool experience on children's cognitive and non-cognitive outcomes and at primary school entry. Moreover, it will allow the research team to study the costs and benefits of the aeioTU program for individuals and society.

The aim of this progress report is to describe baseline data collected from mid-2010 to early-2011. Baseline collection was funded in a 62% by the Jacobs Foundation, 16% by Fundación Carulla and 22% by the IADB.

Summary

Two communities in the city of Santa Marta were included in our study: Timayui and La Paz. Baseline data collection was carried out in both communities. A total 1,219 children were assessed in both communities from mid-July 2010 to early-January 2011. In November 2010 and February 2011, sampled children in Timayui and La Paz respectively participated in lotteries intended to assign school slots. In Table 1 we show baseline sample size by community, by child's age and by intent to treat status.

**Table 1. Baseline sample size by age, by community and
by intent to treat status**

Age group	Timayui		La Paz		Total	
	Lottery winners	Lottery losers	Lottery winners	Lottery losers	Lottery winners	Lottery losers
<1	38	75	30	24	68	99
1-2	63	80	56	96	119	176
2-3	82	61	56	123	138	184
3-4	57	45	64	97	121	142
4-5	29	14	69	60	98	74
Total	269	275	275	400	544	675

In particular, we show total sample size by community split by lottery status: winners and losers. As can be observed, total treatment group is 544 out of 1,219 total sample

size and the control group is 675. There are some differences by community. In particular, in Timayui, the split is roughly half and half between lottery winners and lottery losers out of a total 544 children assessed in baseline. In La Paz, 40% correspond to winners and the remainder 60% corresponds to lottery losers out of a total 675 children assessed in baseline. The distribution also varies somewhat by age. In particular, the fraction of lottery winners goes from 40% at less than one year of age to 56% at 4 to 5 years of age always monotonically increasing as a fraction of total number of assessed children by age range. This is due to the distribution of ages at the centers, with a very small number of slots available for younger children a larger number for older children. With these sample sizes we expect to be able to estimate cohort/intensity effects at least splitting the sample into younger than 2 and older than 2.

In Table 2 we summarize the list of instruments that were collected by child's age. The cookie test was only collected in Timayui due to implementation problems and small sample sizes. In addition, we collected a comprehensive household survey of all parents in our sample, including characteristics of the household, characteristics of adult members of the household, characteristics of other children in the household, the child's child care history, among others.

Table 2. List of instruments by child's age

CHILDREN 0-3 YEARS OF AGE	CHILDREN 3-5 YEARS OF AGE
1) Anthropometric measurements 2) Bayley Scale, 3rd edition 3) Peabody Picture Vocabulary Test (only 2-3) 4) Socio-emotional Ages & Stages Questionnaire (Squires et al. 1999)	1) Anthropometric measurements 2) Peabody Picture Vocabulary Test (Peabody) 3) Woodcock-Muñoz broad math battery - subtest 4) ELSA reading, comprehension and writing. 5) Self-regulation HTKS (Head, Toes, Knees and Shoulders) 6) Socio-emotional Ages & Stages Questionnaire 7) Delayed gratification "cookie test"

Baseline Data Description: Household Sociodemographic Characteristics

In this report we present a basic baseline data description by intent to treat status. In the tables to follow, the treatment group is understood as the group of lottery winners (intended to be treated) and the control group is understood as the group of lottery losers.

We start by showing characteristics of the household and the family by intent to treat status. The last two columns in each case show the relevant statistic and its p-value to assess mean or distribution difference between the two groups. Lack of stars in the p-value indicates that both groups are statistically identical in that dimension.

We start by showing in Table 3 characteristics of the household, availability of public utilities and other characteristics of the family. In panel A we show the type of house where the child's family resides, the type of walls and floor. Most of the families in the sample (around 70%) live in a house rather than an apartment or a room, which is quite typical in the Atlantic region in Colombia. Most of these houses are characterized by bricked / blocked walls and cement / gravel floors. There are no statistically significant differences between the two groups by these items.

Table 3. Characteristics of the household

A. House conditions	All	Treated	Control	Pearson Chi 2	P value
Type of House	1199	534	665	5.97	0.11
House	70.1%	68.5%	71.3%		
Apartment	7.8%	6.6%	8.9%		
Room(s) in a house or apartment	4.3%	5.1%	3.6%		
Another type of shelter	17.8%	19.9%	16.2%		
Exterior walls	1200	536	664	3.48	0.84
Block, brick, stone, polished wood	89.6%	88.4%	90.5%		
Tapia stone, adobe	0.1%	0.0%	0.2%		
Crude wood, table, board	7.7%	8.8%	6.8%		
Prefabricated material	0.3%	0.4%	0.3%		
Bamboo, cane, mat, other vegetables	0.2%	0.2%	0.2%		
Zinc, cloth, cardboard, cans, waste, plastics	1.8%	1.9%	1.7%		
Other	0.3%	0.4%	0.3%		
Floors	1204	535	669	5.92	0.43
Carpet, marble, parquet, polished wood or lacquered	2.1%	2.1%	2.1%		
Tile, vinyl, tablet, brick	7.3%	5.8%	8.5%		
Cement, gravel	80.0%	80.6%	79.5%		
Crude wooden, planks, another plant	0.1%	0.2%	0.0%		
Dirt, sand	10.3%	11.2%	9.6%		
Other	0.2%	0.2%	0.1%		

* Significant at 10% level, ** at 5% level, *** at 1% level

In panel B we show characteristics of the bathroom and availability of some basic public utilities. Most of the households in the sample have a toilet connected to septic tank and less than 31% are connected to sewer, which reveals that both communities are quite poor. Some 2% to 4% do not have a bathroom in their house.

Most households also have their own bathroom for exclusive use of the member of the household. However, close to 6% to 8% either do not have a bathroom or have to share with other families. Finally, in most households the bathroom is located inside the house (close to 55%) while close to 35% have a bathroom but outside the house within their property. Only the type of bathroom connection seems to be statistically different between the two groups being the treatment group more likely to be connected to sewer.

Table 3. Characteristics of the household (continuation)

A. Bathroom	All	Treat ed	Contro ls	Pea rso n Chi 2	P value	
				10.3		
Bathroom service	1206	537	669	7	0.04	**
Toilet connected to sewer	27.4%	31.1%	24.5%			
Toilet connected to septic tank	69.0%	64.6%	72.5%			
Toilet with no connection, latrine	0.3%	0.2%	0.4%			
Other	0.2%	0.4%	0.1%			
They do not have a bathroom	3.0%	3.7%	2.4%			
Bathroom Use	1191	528	663	4.27	0.12	
Exclusively by the people who reside in	92.4%	91.5%	93.2%			
In a sharing arrangement with people from other homes	4.5%	4.4%	4.7%			
They do not have a bathroom	3.0%	4.2%	2.1%			
Water supply: Location of the key, tap or well	1199	533	666	8.05	0.09	*
Inside the house	55.8%	56.7%	55.1%			
Outside the house but within the lot or property	36.4%	34.5%	37.8%			
Outside of the house and the lot or property	3.3%	2.8%	3.8%			
Other	4.4%	6.0%	3.2%			

* Significant at 10% level, ** at 5% level, *** at 1% level

Finally, panel C shows the use of other public utilities including water, electricity and gas. As can be observed, 40% to 50% receive clean water at home through public aqueduct; while close to 30% have access to clean water through a public fountain. Something close to 18% has access through a communal aqueduct. There seems to be a

significant difference between treatment and control groups with the control group reporting better access to clean water through public aqueduct at their own homes.

Close to half the families have a separate kitchen for cooking at home, while 28% report having a kitchen within their living room and 14% cooking in a room that is also used to sleep. Finally, only about 13% households report they cook with electricity while 30% to 40% of households cook with natural gas through public pipeline. A large fraction of households, close to 50%, cook with gas cylinder or pipette. In this case, also the control group seems to have better access to clean water and safer ways of cooking than the treatment group.

In Table 4 we show the fraction of households that had been previously displaced by the social conflict in Colombia, and the reasons for displacement. In particular, we observe that close to 35% of households have actually been displaced (and arrived to one of our communities as a consequence) as a result of the social conflict in the country. Close to 65% of these, report that the actor of social conflict responsible for their displacement was the guerilla. In a smaller proportion, they also report paramilitaries, government and other types of armed conflict.

Table 3. Characteristics of the household (continuation)

A. Food preparation	All	Treat ed	Contro led	Pearso n Chi2	P value	
Water for drinking or food preparation	1203	537	666	26.51	0.002	***
Public aqueduct	45.1%	39.1%	50.0%			
Communal aqueduct	18.2%	17.9%	18.5%			
Public fountain	25.4%	30.2%	21.6%			
Well with a pump	0.7%	1.1%	0.3%			
Well without a pump	0.1%	0.0%	0.2%			
River, creek, spring	0.3%	0.4%	0.3%			
Water truck or water boy	0.7%	1.3%	0.3%			
Bottled water or bag	5.8%	5.8%	5.9%			
Rainwater	0.1%	0.2%	0.0%			
Other	3.5%	4.1%	3.0%			
Where are meals prepared in your home	1198	535	663	3.72	0.59	
In a room used for cooking	53.8%	53.3%	54.1%			
In room that is also used to sleep	14.0%	13.5%	14.5%			
In a living or dining room	28.4%	29.3%	27.6%			
In a courtyard, corridor, arbor or outdoors	2.3%	1.9%	2.7%			
Meals are not prepared at home	1.2%	1.7%	0.8%			
Other	0.3%	0.4%	0.3%			
Fuel or energy used to cook in your home	1189	528	661	20.83	0.002	***

Electricity	13.5%	13.6%	13.3%
Natural gas connected to a public line	35.8%	30.3%	40.2%
Gas cylinder or pipette	45.6%	48.9%	43.0%
Oil, gasoline, kerosene, alcohol	0.3%	0.4%	0.2%
Wood, waste materials, charcoal	3.9%	5.1%	2.9%
Coal	0.7%	1.3%	0.2%
Other	0.3%	0.4%	0.3%

* Significant at 10% level, ** at 5% level, *** at 1% level

Table 4. Forced displacement

Displacement	All	Treated	Controlled	Pearson Chi2	P value	
Been displaced from home due to violence	1191	528	663	1.14	0.57	
No	66.0%	65.2%	66.7%			
Yes	33.9%	34.8%	33.2%			
Guerilla	309	147	162	4.21	0.04	**
No	62.8%	68.7%	57.4%			
Yes	37.2%	31.3%	42.6%			
Paramilitary	345	163	182	0.78	0.38	
No	48.4%	50.9%	46.2%			
Yes	51.6%	49.1%	53.8%			
Government	271	132	139	1.06	0.30	
No	99.6%	99.2%	100.0%			
Yes	0.4%	0.8%	0.0%			
Assassination	275	135	140	0.04	0.85	
No	94.5%	94.8%	94.3%			
Yes	5.5%	5.2%	5.7%			
Kidnappings or torture	270	131	139			
No	100.0%	100.0%	100.0%			
Yes	0.0%	0.0%	0.0%			
Armed confrontations	290	140	150	1.35	0.25	
No	67.6%	64.3%	70.7%			
Yes	32.4%	35.7%	29.3%			
Forced recruitment	272	133	139	0.00		

					0.98	
	No	99.3%	99.2%	99.3%		
	Yes	0.7%	0.8%	0.7%		
Interdepartmental		271	132	139	0.03	0.87
	No	87.5%	87.1%	87.8%		
	Yes	12.5%	12.9%	12.2%		
Intermunicipal displacement		273	134	139	0.40	0.53
	No	81.3%	82.8%	79.9%		
	Yes	18.7%	17.2%	20.1%		
Other		288	136	152	2.32	0.13
	No	86.5%	89.7%	83.6%		
	Yes	13.5%	10.3%	16.4%		

* Significant at 10% level, ** at 5% level, *** at 1% level

In Table 5 we present a variety of measures of household poverty including public utilities, access to durable goods, SISBEN level and average income / expenses. SISBEN identifies the poorest and most disadvantaged households, families or individuals, for targeting process and unifying social policies.

Table 5. Socioeconomic conditions of households

SISBEN			Treated		Controlled		t stat	P value
	All	N	Mean	n	Mean	n		
Score	6.69 (6.78)	175	6.52 (5.37)	88	6.87 (7.98)	87	-0.35	0.73

SISBEN LEVEL		All	Treated	Controls	Pearson Chi2	P value
Level		955	438	517	0.82	0.665
	level zero	0.50%	0.70%	0.40%		
	level one	96.60%	96.10%	97.10%		
	level two	2.80%	3.20%	2.50%		

* Significant at 10% level, ** at 5% level, *** at 1% level

Standard deviation in parentheses

Public utilities			Control s	Pears on Chi2	P value	
	All	Treated				
Electricity	1197	533	664	1.25	0.54	
No	0.8%	0.8%	0.8%			
Yes	99.2%	99.1%	99.2%			
Sewage	1191	530	661	7.95	0.05	**

No	73.5%	70.0%	76.2%			
Yes	26.4%	30.0%	23.4%			
Aqueduct	1192	531	661	7.14	0.07	*
No	54.7%	58.6%	51.6%			
Yes	45.1%	41.4%	48.1%			
Natural gas connected to public network	1190	530	660	16.23	0.00	****
No	63.1%	69.1%	58.3%			
Yes	36.6%	30.9%	41.2%			
Land Line Phone	1189	531	658	2.13	0.71	
No	96.0%	96.6%	95.6%			
Yes	3.6%	3.2%	4.0%			
Garbage collection	1187	527	660	1.95	0.58	
No	21.6%	22.4%	20.9%			
Yes	78.3%	77.6%	78.8%			

* Significant at 10% level, ** at 5% level, *** at 1% level

Public utilities	All	Treated	Controlled	Pearson Chi2	P value	
Refrigerator or cooler	1205	537	668	0.38	0.54	
No	40.0%	41.0%	39.2%			
Yes	60.0%	59.0%	60.8%			
Washing Machine	1206	537	669	2.81	0.25	
No	73.0%	75.0%	71.3%			
Yes	26.9%	25.0%	28.6%			
Sound equipment	1206	537	669	1.75	0.63	
No	75.0%	75.6%	74.4%			
Yes	24.9%	24.4%	25.3%			
Water heater	1205	538	667	0.83	0.66	
No	99.8%	99.8%	99.7%			
Yes	0.2%	0.2%	0.1%			
Electric shower	1203	535	668	4.90	0.09	*
No	99.2%	99.8%	98.7%			
Yes	0.7%	0.2%	1.2%			
Blender	1205	537	668	1.17	0.28	
No	18.8%	20.1%	17.7%			
Yes	81.2%	79.9%	82.3%			
Electric or gas stove	1202	536	666	1.89	0.39	
No	7.2%	8.0%	6.5%			
Yes	92.8%	92.0%	93.4%			
Electric or gas oven	1205	537	668	2.38	0.31	
No	89.4%	90.7%	88.3%			
Yes	10.5%	9.3%	11.5%			

Fan	1206	538	667	1.31	0.52
No	4.6%	4.5%	4.8%		
Yes	95.3%	95.4%	95.2%		
Radio	1203	535	668	1.07	0.30
No	73.5%	75.0%	72.3%		
Yes	26.5%	25.0%	27.7%		
Betamax, DVD, VHS	1204	537	667	1.72	0.42
No	60.3%	58.8%	61.5%		
Yes	39.6%	41.2%	38.4%		
Color TV	1206	538	668	3.95	0.14
No	11.6%	13.2%	10.3%		
Yes	88.2%	86.8%	89.4%		
Computer	1205	537	668	3.79	0.15
No	97.6%	98.5%	96.9%		
Yes	2.3%	1.5%	3.0%		
Microwave oven	1203	538	665	2.12	0.35
No	97.3%	96.8%	97.7%		
Yes	2.6%	3.2%	2.1%		
Other	800	372	428	1.01	0.60
No	96.4%	96.2%	96.5%		
Yes	3.5%	3.8%	3.3%		

* Significant at 10% level, ** at 5% level, *** at 1% level

Household appliances	All	N	Treated		Controlled		t stat	P value
			Mean	n	Mean	n		
Vehicles (private use only)								
Bike	0.45 (0.69)	901	0.47 (0.72)	402	0.43 (0.67)	499	0.76	0.45
Motorcycle, scooter	0.22 (0.44)	778	0.21 (0.44)	340	0.22 (0.44)	438	-0.23	0.82
Car	0.01 (0.13)	686	0.01 (0.14)	306	0.02 (0.13)	380	-0.27	0.79
Another Specify	0.03 (0.23)	505	0.05 (0.31)	230	0.02 (0.13)	275	1.42	0.16
Number of cellular phones	1.74 (1.26)	1171	1.68 (1.08)	520	1.79 (1.39)	651	-1.61	0.11

* Significant at 10% level, ** at 5% level, *** at 1% level

Standard deviation in parentheses

Earnings and Expenses	All	Treated	Controlled	Pearson Chi2	P value
Monthly Earnings	987	432	555	4.99	0.42
0 - 200.000	34.0%	36.1%	32.4%		
200.000 - 400.000	23.3%	24.5%	22.3%		
400.000 - 700.000	30.3%	28.9%	31.4%		
700.000 - 1.000.000	7.9%	6.5%	9.0%		
1.000.000 - 1.500.000	4.4%	3.9%	4.7%		
1.500.000 - 2.000.000	0.1%	0.0%	0.2%		
Monthly Expenses	972	429	543	6.60	0.16
0 - 200.000	50.1%	52.2%	48.4%		
200.000 - 400.000	25.2%	27.0%	23.8%		
400.000 - 700.000	20.5%	17.2%	23.0%		
700.000 - 1.000.000	3.3%	2.8%	3.7%		
1.000.000 - 1.500.000	0.9%	0.7%	1.1%		
1.500.000 - 2.000.000	0.0%	0.0%	0.0%		

* Significant at 10% level, ** at 5% level, *** at 1% level

Households in both groups seem to be very similar in terms of socioeconomic conditions. These households are very poor with SISBEN scores close to 6 (and SISBEN level 1). In terms of access to public utilities, there seem to be some differences between groups but not in a single direction. For example, the treatment group seems to have significantly more access to sewage than the control group but the opposite happens with access to clean water through public aqueduct. With the exception of electricity (almost 100%) and garbage collection (close to 78%), access to other utilities does not surpass 50% in all other cases.

There seem to be marginally significant differences in favor of the control groups in terms of ownership of electric shower, TV and computer. Apart from that, no differences emerge in terms of refrigerator, washing machine, blender, electric stove or oven, radio, microwave, etc.

Households commonly use a bike as a means of transportation, while about 20% report owning a motorbike. Only 1% of households report owning a car as a means of transportation. No significant differences emerge between groups. Households report owning more than one cellular phone per family.

Finally, the distribution of earnings seems similar in both groups, with an average of about 550.000COP or US\$300 monthly earnings. In terms of reported total family monthly expenses, the control group reports a slightly higher (but significantly so) amount with an average US\$250 compared to US\$216 in the treatment group.

Table 6 presents characteristics of mothers of children in our sample. Mothers have on average 8 years of education, with no significant differences between the treatment and control group. Most mothers (close to 60%) are not legally married but rather have cohabitated with their partner for over two years. Only about 9% are legally married and 24% report to be single mothers.

Close to 98% of mothers of children in our sample are reported to not live in the household with the child. Only about 23% report to be employed, while close to 70% report they run some kind of business at home (informal employment of some sort). In addition, out of women reporting to be working, 70% are unpaid family workers (also considered as informal employment). All in all, female labor participation is quite low in our sample which also resembles quite well the situation in the Atlantic region.

In Table 7 we present similar information for fathers of children in our sample. On average, these fathers have lower educational attainment than children's mothers, with close to 7.2 years of schooling. No significant differences emerge between groups. Similarly, 30% of fathers do not reside with their children at home. Close to 90% of fathers report to be working (during the previous week), with most report self-employment (50%) or worker/employee (45%).

Table 6. Characteristics of the child's mother

Mother's education			Treated		Controlled		t stat	P value
	All	N	Mean	n	Mean	n		
Years of schooling for mother	8.37 (3.26)	1164	8.34 (3.09)	517	8.40 (3.39)	647	-0.33	0.74
Mother's current marital status			All	Treat ed	Controll ed	Pearso n Chi2	P value	
Current marital status			1197	531	666	9.31	0.10	
Married			8.9%	8.1%	9.6%			
Divorced			1.1%	1.1%	1.1%			
Single			24.2%	24.1%	24.3%			

Widowed	1.2%	0.4%	1.8%		
Marriage-like for more than two years	59.1%	62.0%	56.9%		
Marriage-like for less than two years	5.4%	4.3%	6.3%		

Mother	All	Treated	Controlled	Pearson Chi2	P value
Lives in the household	1203	535	668	1.20	0.27
Yes	97.6%	98.1%	97.2%		
No	2.4%	1.9%	2.8%		

Mother's employment during the last week	All	Treated	Controlled	Pearson Chi2	P value
Receives payment for work	1173	516	657	2.37	0.50
No	77.7%	78.5%	77.2%		
Yes	22.1%	21.3%	22.7%		
Employment	1197	532	665	5.66	0.69
Working	23.8%	23.1%	24.4%		
Did not work but had a job	0.3%	0.4%	0.2%		
Looked for work but had a job before	0.6%	0.9%	0.3%		
Looked for work but was working	0.1%	0.0%	0.2%		
Looked for work for the first time	0.3%	0.2%	0.5%		
Studied	4.8%	4.7%	5.0%		
Trades conducted from home	69.3%	70.1%	68.6%		
Was permanently incapacitated for work	0.2%	0.2%	0.2%		
He was in another situation	0.7%	0.4%	0.9%		
Employment type	939	424	515	3.34	0.65
Worker or employee	7.5%	8.0%	7.0%		
Government employee or worker	0.2%	0.0%	0.4%		
Self-employed	13.3%	13.0%	13.6%		
Domestic employee	10.3%	10.6%	10.1%		
Unpaid family worker	68.8%	68.2%	68.9%		

* Significant at 10% level, ** at 5% level, *** at 1% level

Table 7. Characteristics of the child's father

Father's education	Treated		Controlled		t stat	P value
	All	N	Mean	n		
Years of schooling for father	8.33 (3.43)	1110	8.32 (3.28)	501	8.34 (3.56)	609 -0.08 0.94

Father's residency	All	Treated	Controlled	Pearson Chi2	P value
Lives in the household	1175	520	655	3.26	0.35
Yes	68.2%	67.5%	68.7%		
No	29.6%	30.8%	28.7%		
Deceased	2.1%	1.5%	2.6%		

Father's employment during the last week	All	Treated	Controlled	Pearson Chi2	P value
Receives payment for work	1074	495	579	4.48	0.21
No	24.4%	25.7%	23.3%		
Yes	75.2%	74.1%	76.2%		

Employment	1092	498	594	12.04	0.21
Working	88.4%	86.7%	89.7%		
Did not work but had a job	1.3%	2.0%	0.7%		
Looked for work but had a job before	4.9%	5.2%	4.5%		
Looked for work but was working	0.5%	0.2%	0.7%		
Looked for work for the first time	0.1%	0.2%	0.0%		
Studied	0.3%	0.2%	0.3%		
Trades conducted from home	0.4%	0.4%	0.3%		
Was permanently incapacitated for work	0.5%	0.8%	0.3%		
He lived by retirement income or rent	0.3%	0.0%	0.5%		
He was in another situation	3.5%	4.2%	2.9%		

Employment type	1000	449	551	2.57	0.77
Worker or employee	44.2%	44.3%	44.1%		
Government employee or worker	2.1%	2.0%	2.2%		
Boss or employer	0.3%	0.0%	0.5%		
Self-employed	52.1%	52.3%	51.9%		

Domestic employee	0.7%	0.7%	0.7%
Unpaid family worker	0.6%	0.7%	0.5%

* Significant at 10% level, ** at 5% level, *** at 1% level

In Table 8 we report information about children's attendance to childcare. The results indicate that only about 25% of children have actually attended some type of childcare during the last year, with treated children being significantly more likely. From those we have attended over the last year, a vast majority of 88% have used services provided by Instituto Colombiano de Bienestar Familiar (ICBF) such as the widespread program *Hogares Comunitarios*. There are no significant differences on the type of childcare, on attending any other childcare in the past (beyond just the previous year), or on the type of such care. About 15% of children report that they have attended some sort of childcare in the past (not the last year) and there are no significant differences by group. Almost of all these, report to have used public services provided by ICBF.

Table 8. Children's attendance to childcare

Early childhood experiences	All	Treated	Contr ols	Pearson Chi2	P value	
Attended childcare last year	1204	536	668	7.48	0.01	***
No	79.5%	75.9%	82.3%			
Yes	20.5%	24.1%	17.7%			
Types of childcare last year	248	125	123			
ICBF	88.3%	88.8%	87.8%	1.42	0.70	
Private center	9.3%	8.0%	10.6%			
Relative's home	80.0%	0.8%	0.8%			
Non-relative's home	1.6%	2.4%	0.8%			
Attended any other childcare in the past	1178	524	654	1.65	0.20	
No	86.0%	84.5%	87.2%			
Yes	14.0%	15.5%	12.8%			
Types of other childcare in past	154	77	77	1.23	0.54	
ICBF	96.1%	97.4%	94.8%			
Private center	3.2%	2.6%	3.9%			
Non-relative's home	0.6%	0.0%	1.3%			
Other child younger than 10 attend a childcare	821	364	457	6.28	0.01	**
No	83.1%	79.4%	86.0%			
Yes	16.9%	20.6%	14.0%			
Type of childcare center	133	76	57	1.13	0.57	
ICBF	82.0%	80.3%	84.2%			
Private center	14.3%	14.5%	14.0%			

Non-relative's home	3.8%	5.3%	1.8%
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* Significant at 10% level, ** at 5% level, *** at 1% level

Baseline Data Description: Children's outcome variables

In the tables that follow, we show average outcome variables (following Table 2) by group. We start in Table 9 by showing children's nutritional status as measured by height, weight and height for weight Z-scores (upper panel) and the corresponding malnutrition measures (lower panel).

The results indicate that there are no significant differences in nutritional status by group, but nutritional status is quite poor in our sample. Note that Z-scores for height for age are, on average, one complete standard deviation below what they should be given the child's gender and age. Weight for age is close to half a standard deviation below and weight for height is barely 0.2 of a standard deviation above average.

In all, close to 20% of children in our sample suffer from chronic malnutrition, 4% global malnutrition and 1% acute malnutrition. There are no significant differences by intent to treat status.

Table 9. Children's Nutritional Status

	Treated		Controls		P value	
	All	N	Mea n	n	Mean	n
Length/height-for-age z-score	-1.11 (1.07)	1182	-1.1 (.99)	527	-1.12 (1.12)	655
Weight-for-age z-score	-0.40 (1.03)	1161	-0.46 (.98)	516	-0.35 (1.06)	645
Weight-for-length/height z-score	0.31 (0.98)	1156	0.25 (.95)	516	0.35 (1.01)	640
					t test	
					0.21	0.83
					-1.72	0.09 *
					-1.83	0.07 *

^oZ-scores for height for age, weight for age and weight for height

* Significant at 10% level, ** at 5% level, *** at 1% level

Standard deviation in parentheses

Malnutrition	All	Treated	Controls	Pearson Chi2	P value
Weight for Height	1179	523	656	4.42	0.49
Chronic Malnutrition	6.90%	7.60%	6.30%		
Global Malnutrition	0.60%	0.80%	0.50%		
Acute Malnutrition	0.20%	0.20%	0.20%		

In Table 10 we present various cognitive ability tests, including the Peabody Picture Vocabulary Test, the Woodcock-Muñoz (battery III)- applied problems subscale and the reading, comprehension and writing ELSA test for children older than 2. We report raw scores in all cases, as our object of interest is the comparison between treatment and control group. There are no statistically significant differences between groups in any case.

In Table 11 we report the Bayley test for children younger than 2 which measures various cognitive dimensions including language and psychomotor development. There are no statistically significant differences between groups in any of the subscales reported in the table.

Table 10. Cognitive Ability Outcomes for Children older than 3

TVIP & WM			Treated		Controls		t stat	P value
	All	N	Mean	n	Mean	n		
Peabody Picture Vocabulary	9.33 (8.82)	525	9.38 (8.6)	276	9.26 (9.07)	249	0.16	0.87
WM Applied Problems	5.14 (3.03)	385	4.85 (2.76)	202	5.45 (3.28)	183	-1.95	0.05 *

ELSA			Treated		Controls		t stat	P value
	All	N	Mean	n	Mean	n		
ELSA: Raw Score								
elsa reading comprehension	3.06 (3.98)	388	2.88 (3.90)	203	3.27 (4.08)	185	-0.97	0.33
elsa phonological awareness	3.37 (2.60)	388	3.40 (2.7)	203	3.33 (2.50)	185	0.26	0.79
elsa Alphabetic Principle	2.63 (3.40)	388	2.45 (3.53)	203	2.83 (3.25)	185	-1.10	0.27
elsa print concepts	9.09 (2.53)	388	9.04 (2.49)	203	9.14 (2.59)	185	-0.37	0.71
ELSA: Level								
elsa reading comprehension	0.74	388	0.71	203	0.76	185	-0.69	0.49

level								
	(0.68)		(0.64)		(0.73)			
elsa phonological awareness level	1.02	388	1.01	203	1.02	185	-0.19	0.85
	(0.61)		(0.64)		(0.59)			
elsa alphabetic principle level	1.14	387	1.13	202	1.16	185	-0.67	0.54
	(0.37)		(0.36)		(0.38)			
elsa print concepts level	1.26	388	1.25	203	1.26	185	-0.29	0.77
	(0.46)		(0.45)		(0.47)			

* Significant at 10% level, ** at 5% level, *** at 1% level

Standard deviation in parentheses

Table 11. Cognitive Ability Outcomes for Children younger than 3

Bayley	Treated				Controls		P value	
	All	N	Mean	n	Mean	n	t stat	
Subscale								
bayley cognitive raw	48.42	804	49.06	332	47.96	472	1.03	0.30
	(14.97)		(15.53)		(14.57)			
bayley expressive raw	19.62	796	20.21	327	19.21	496	1.50	0.14
	(9.34)		(9.99)		(8.85)			
bayley receptive raw	19.29	795	19.91	329	18.85	466	1.81	0.07 *
	(8.11)		(8.17)		(8.05)			
bayley language total raw	38.94	788	40.2	325	38.05	463	1.74	0.08 *
	17.00		(17.77)		(16.41)			
bayley fine motor raw	32.49	799	32.85	329	32.24	470	0.89	0.38
	9.69		(9.98)		(9.49)			
bayley gross motor raw	46.88	800	47.27	331	46.61	469	0.69	0.49
	13.41		(14.01)		(12.98)			

bayley motor total raw	79.32 22.68	795	80.06 (23.56)	328	78.8 (22.06)	467	0.77	0.44	
bayley total raw	166.85 (53.04)	778	169.52 (55.09)	321	164.98 (51.54)	457	1.18	0.24	
bayley cognitive percent	0.53 (0.16)	804	0.54 (0.17)	332	0.53 (0.16)	472	0.96	0.34	
bayley expressive percent	0.41 (0.19)	796	0.40 (0.17)	329	0.38 (0.16)	466	1.81	0.07	*
bayley receptive percent	0.39 (0.17)	795	0.42 (0.21)	327	0.40 (0.18)	469	1.50	0.14	
bayley language total percent	0.40 (0.18)	788	0.41 (0.18)	325	0.39 (0.17)	463	1.74	0.08	*
bayley fine motor percent	0.49 (0.15)	799	0.50 (0.15)	329	0.49 (0.14)	470	0.89	0.38	
bayley gross motor percent	0.65 (0.19)	800	0.66 (0.19)	331	0.65 (0.18)	469	0.69	0.49	
bayley motor total percent	0.57 (0.16)	795	0.58 (0.17)	328	0.57 (0.16)	467	0.77	0.44	
bayley total percent	0.51 (0.16)	778	0.52 (0.17)	321	0.50 (0.16)	457	1.18	0.24	

* Significant at 10% level, ** at 5% level, *** at 1% level

Standard deviation in parentheses

In Table 12 we report children's socioemotional behavior using the Ages & Stages socioemotional rating scale. The upper panel shows total raw scores and the lower panel

shows the probability of socioemotional risk given these raw scores. No significant differences between groups emerge with the exception of children in the range of 30 to 36 months. In this case, children in the treatment group exhibit more socio-emotional problems and thus show higher probability of socioemotional risk.

Table 12. Socio-emotional Children's Outcomes

ASQ	All	N	Treated Mean	n	Controls Mean	n	t- stat	P value
Total score for 6-month child	24.01 (14.73)	208	23.1 (14.88)	86	24.66 (14.66)	122	-0.75	0.46
Total score for 18- month child	33.42 (20.26)	336	33.36 (20.08)	126	33.45 (20.41)	210	-0.04	0.97
Total score for 30- month child	49.29 (23.08)	254	52.55 (23.98)	112	46.72 (22.08)	142	2.01	0.05 *
Total score for 36- month child	54.76 (23.16)	243	54.63 (21.73)	121	54.89 (24.59)	122	-0.09	0.93
Total score for 48- month child	60.27 (27.33)	172	62.89 (28.16)	95	57.38 (26.07)	76	1.31	0.19

ASQ-SE: Socio- emotional risk	All	Treated	Controls	Pearson Chi2	P value
Child's age					
6-month	208	86	122	0.05	0.83
No	93.80%	94.2%	93.4%		
Yes	6.30%	5.8%	6.6%		
18-month	337	126	211	1.51	0.22
No	83.40%	80.2%	85.3%		
Yes	16.60%	19.8%	14.7%		
30-month	262	112	150	2.97	0.09
No	69.10%	63.4%	73.3%		
Yes	30.90%	36.6%	26.7%		
36-month	279	125	154	0.04	0.84

*

No	60.90%	61.6%	60.4%		
Yes	39.10%	38.4%	39.6%		
48-month	199	98	101	1.54	0.22
No	72.40%	68.4%	76.2%		
Yes	27.60%	31.6%	23.8%		

* Significant at 10% level, ** at 5% level, *** at 1% level

Standard deviation in parentheses

In table 13 we report the scores on the HTKS (Head-Shoulders-Knees and Shoulders) which is a The HTKS examines behavioral regulation in children's early years. HTKS requires children to remember and respond to behavioral commands. There is evidence of slight differences between groups in the harder section on the test given driven by 2 outliers.

Table 13. Outcomes in behavioral regulation.

HTKS	Treated		Controls		t stat	P value	
	All	N	Mean	n	Mean	n	
Sum of items 1-10	2.45 (4.14)	146	1.8 (3.21)	72	3.07 (4.82)	74	-1.86 0.07 *
Sum of items 11-20	0.43 (2.16)	146	0.03 (0.24)	72	0.82 (2.98)	74	-2.26 0.03 **
Total	2.88 (5.79)	146	1.83 (3.32)	72	3.89 (7.33)	74	-2.18 0.03 **

* Significant at 10% level, ** at 5% level, *** at 1% level

Standard deviation in parentheses

In addition, in the earlier half of 2011 we collected information on the HOME, an instrument that assesses the quality of the social, emotional, and physical dimensions of the home environment. This instrument is slightly different for infant versus toddlers. We find no statistical differences in the whole scale or any of the subscales of the HOME, for either infants (upper panel) or toddlers (lower panel).

Table 14. Home Observation and Measurement of the Environment.

IT-HOME	Treated		Controls		t stat	P value	
	All	N	Mean	n	Mean	n	
Subscale							
Responsivity	7.91 (2.35)	728	8.04 (2.4)	306	7.82 (2.31)	422	1.22 0.22
Acceptance	6.47 (0.82)	728	6.47 (0.81)	306	6.47 (0.82)	422	0.11 0.91

Organization	4.59 (1.08)	728	4.62 (1.09)	306	4.56 (1.07)	422	0.66	0.51
Learning Materials	3.57 (1.89)	728	3.54 (1.8)	306	3.6 (1.94)	422	-0.35	0.73
Involvement	3.14 (1.50)	728	3.06 (1.54)	306	3.2 (1.48)	422	-1.23	0.22
Variety	2.09 (1.04)	728	2.05 (1.03)	306	2.12 (1.04)	422	-0.90	0.37
Total	27.77 (5.34)	728	27.78 (5.25)	306	27.76 (5.41)	422	0.04	0.97

EC-HOME	All	N	Treated		Controls		t stat	P value	
			Mean	n	Mean	n			
Subscale									
Learning Materials	2.01 (1.63)	376	1.88 (1.62)	193	2.15 (1.63)	183	-1.66	0.10	*
Language Stimulation	5.33 (1.10)	376	5.37 (1)	193	5.30 (1.2)	183	0.50	0.62	
Physical Environment	3.93 (1.96)	376	3.84 (1.92)	193	4.02 (2.01)	183	-0.90	0.37	
Responsivity	4.18 (1.87)	376	4.06 (1.88)	193	4.31 (1.87)	183	-1.29	0.20	
Academic Stimulation	3.24 (1.19)	376	3.21 (1.16)	193	3.27 (1.22)	183	-0.54	0.59	
Modeling	2.92 (1.27)	376	2.89 (1.28)	193	2.96 (1.27)	183	-0.50	0.62	
Variety	4.72 (1.39)	376	4.76 (1.39)	193	4.68 (1.41)	183	0.55	0.59	
Acceptance	3.82 (0.47)	376	3.81 (0.50)	193	3.83 (0.45)	183	-0.24	0.81	
Total	30.16 (6.47)	376	29.81 (5.90)	193	30.52 (7.01)	183	-1.07	0.284	

* Significant at 10% level, ** at 5% level, *** at 1% level
Standard deviation in parentheses

Conclusions

In this report we have documented differences by group (intent-to-treat status) in socio-demographic characteristics of households, parents and children, and differences in children's outcome variables including nutritional status, cognitive and non-cognitive development of children. We have focused on comparing by intent-to-treat status, that is, lottery winners versus lottery losers. Although not reported here, comparisons of enrolled versus non-enrolled do not vary significantly.

The results indicate that for the most part, there are no significant differences by group status. This implies that random assignment to treatment was carried out successfully, and on average, both of our sample groups are similar to each other. Very few differences emerge, with some differences favoring one group and some favoring the other. Overall, we find there is no systematic bias in favor of either group to be concerned about when we estimate program impact further along this study.