

## **Report on the study of the Home Inventory (preschool form) in a Portuguese sample**

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### **SUMMARY**

The intent of this study was twofold: first and foremost we were interested to analyse the psychometric properties of the HOME Inventory (Caldwell & Bradley, 1984) in the cultural context of Portuguese families and their preschool aged children. In a second step, we focused on the relation between the quality of home environments and results obtained by children on a test of receptive vocabulary (Peabody Picture Vocabulary Test – Revised, Dunn & Dunn, 1981) and a measure of adaptive behaviour (Vineland Adaptive Behaviour Scales, Sparrow, Balla & Cicchetti, 1984).

The study of the scale properties was conducted on a total of 407 Portuguese families, all of which participated on the European Child Care and Education Study (ECCE), that was initiated in 1992 by a group of European countries, in which Portugal was included. Its main purpose were to assess the diversity and quality of educational experiences of children from 3 to 6 years of age, in formal and family settings, and the impact of such experiences in their development and quality of life (ECCE Study Group, 1997).

The validity of the Home inventory was estimated and a factor structure emerged (which was conceptually very identical to the original one).

In a second step, the group of participants was reduced to 215 families, retaining only those that had complete information both on quality of home variables, family background variables and child outcome variables. Variables from the family's demographic context were used to predict HOME total scores; socio-economic status appeared as the strongest predictor. The predictive value of the Home global score on child's outcome measures was compared to other relevant variables, such as a socio-

economical index. HOME scores were found to be the most significant predictor when results on the cognitive, socialization and language domain were considered.

## **METHOD.**

### **1. Participants.**

A total of 407 families participated in the study. They came from two regions of Portugal, the North region (surrounding Porto, the second biggest city in the country) and the South region (around Lisbon, the capital). Although it is not possible to consider such a distribution as representative of the whole country, it is a fact the most of the Portuguese population concentrates in these regions, both located on the coast area. The interior of the country, mostly rural, has for the last 25 years been subjected to intense migrations, towards the urban centres and to the coast area.

In each region, two zones were selected, metropolitan and non-metropolitan. In the four areas where participants were drawn from, shown in Table 1, live approximately 40% of the country population.

**Table 1 – Distribution of participant families by area of residence (region x zone)**

	North	South	Total
Metropolitan	159	134	293
Non-metropolitan	64	50	114
Total	223	184	407

All children (209 boys and 198 girls) were caucasian and had no diagnosed disorders or illness. Most of them (81.3%) attended some kind of early childhood center-based education programme. By the time the families were visited and interviewed, the children had between 50 and 63 months (4 years 2 months and 5 years 3 months), the mean age being 55.03 (4 years 7 months). 31 % of the families had only

one child, whereas 45% of the children had one sibling and 24% two or more siblings. Only 27 of these families were monoparental.

## 2. Measures

*Demographic data.* Other information on family background variables were collected, using a structured interview, such as crowding ratio, mother's age and number of hours mothers spent away from home daily.

*Peabody Picture Vocabulary Test – Revised (PPVT-R).* The Peabody Vocabulary Test was administered to all the children, at home, providing a measure of the child receptive vocabulary. This measure was considered to be an estimate of the child's verbal intelligence, and thus in the cognitive domain.

*Vineland Adaptive Behaviour Scales, (ECVA).* The Vineland scales were used to assess Children's adaptive behaviour. A global score was obtained as well as four scores/ domains (resulting from the four dimensions that stood out after factor analysis): Autonomy in daily life activities, Socialization, Language and knowledge and Motor development.

*EAS Temperament Scale for Parents (Buss & Plomin, 1984).* Mothers rated their children on the EAS Temperament Survey. After factor analysis of the data on the sample, four dimensions of temperament were retained for each child, respectively Energy, Sociability, Introversion and Emotionality

### 1.1. Socio-economic status

Data on some of the family background variables such as mother and father's education and occupation and income *per capita* were used in the calculation of a socio-economic index<sup>1</sup>. Information on these five variables allowed us to compute an estimate of the socioeconomic status (SES) of each family, by attributing a numeric value to categories within each variable and adding them up. Obviously, families in which parents had more years of schooling, more specialized occupations and higher incomes, received higher rankings.

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<sup>1</sup> This index was quite similar to the Hollingshead index for computing SES.

## RESULTS

### a. Psychometric characteristics of the HOME inventory for families of Portuguese preschool age children.

Table 2 displays the percentage of the tested families that got credit for each item, which we can assume to reflect its “difficulty level”. Around 33% of the items were quoted positively in 81% or more of the families. Item 19 received the maximum amount of credit, whereas item 37 received the minimum.

**Table 2 – Percentage of families that passed each item in HOME**

Item	%	Item	%	Item	%	Item	%	Item	%
1	41.8	12	59.5	23	75.2	34	64.4	45	74.4
2	44	13	56.8	24	77.6	35	43.2	46	34.6
3	34.4	14	74.4	25	92.4	36	83.8	47	81.8
4	59	15	88.9	26	83.3	37	16.2	48	56.8
5	83.8	16	87.7	27	85.7	38	47.4	49	26.5
6	34.4	17	84.3	28	86.7	39	38.8	50	85
7	59.5	18	69.8	29	86	40	38.6	51	77.6
8	63.1	19	92.9	30	40	41	59	52	65.1
9	25.6	20	62.4	31	58.7	42	64.4	53	89.4
10	53.8	21	80.8	32	26	43	75.2	54	89.9
11	30.7	22	84	33	53.6	44	86.7	55	71.5

Point biserial correlation coefficients were calculated to analyse the discriminative power of the items, and are presented in Table 3. With the exception of items 18, 50 and 51, all items showed a positive correlation with the global score. This anomalous situation led us to exclude the three items referred from further analysis.

**Table 3 – Point biserial correlation (rpbis) of each item with total score**

Item	rpbis	Item	rpbis	Item	rpbis	Item	rpbis	Item	rpbis
1	.62	12	.70	23	.63	34	.44	45	.43
2	.68	13	.37	24	.51	35	.35	46	.57
3	.58	14	.52	25	.78	36	.42	47	.33
4	.63	15	.72	26	.66	37	.34	48	.56
5	.84	16	.59	27	.57	38	.28	49	.36
6	.68	17	.58	28	.69	39	.16	50	(a)
7	.66	18	(a)	29	.65	40	.40	51	(a)
8	.70	19	.89	30	.31	41	.40	52	.31
9	.50	20	.05	31	.41	42	.32	53	.45
10	.41	21	.65	32	.18	43	.66	54	.34
11	.46	22	.50	33	.33	44	.60	55	.36

(a) Items excluded

Tetrachoric correlations among the 52 dichotomous items and the corresponding matrix were estimated with STATISTICA. Over such a matrix, a principal component analysis was conducted, followed by varimax rotation using an eigenvalue cut-off of 1.0. The analysis produced six main factors and several other factors composed of a small number of items, so we limited the analysis to six factors, which accounted for 70.4% of the variance of the results.

The six factors and the items that compose them, as well as the item loadings and communality values are presented in Table 4.

**Table 4 – HOME: Item loadings for the six factors<sup>2</sup>**

Itens	h2	F1	F2	F3	F4	F5	F6
8. Dez livros visíveis na casa	.882	.926					
2. Três ou mais puzzles	.871	.907					
4. Brinquedos que permitem expressão livre	.902	.891					
7. Dez livros infantis	.875	.882					
43. Tem instrumentos de música	.786	.867					
5. Brinquedos que exigem movimentos precisos	.847	.861					
23. Casa tem 9 m2 por pessoa	.824	.845					
3. Gira discos, gravador e 5 discos infantis	.795	.843					
24. Divisões não superlotadas	.796	.841					
19. Edifício parece seguro	.809	.839					
21. Interior da casa não é escuro	.841	.834					
12. Brinquedos que ensinam nomes de animais	.772	.822					
15. Mãe utiliza gramática e dicção correctas	.764	.816					
6. Brinquedos que ensinam números	.781	.814					
48. Mãe usa frases complexas	.679	.763					
1. Brinquedos que ensinam cores, tamanhos, formas	.748	.757					
45. Fez viagens de mais de 40 km.	.640	.732					
25. Casa limpa e arrumada	.753	.726					
46. Cr. levada a um museu	.669	.622					
9. Família lê jornal	.686	.620					
49. Trabalhos manuais da cr. expostos	.737	.611					
44. Cr. levada a passear	.490	.549					
16. Mãe estimula criança a falar e tem tempo p. ouvir	.758	.533					
10. Família assina uma revista	.527	.494					
29. Mãe receptiva quando c. fala	.808		.865				
28. Mãe responde verbalmente à cr.	.868		.859				
27. Mãe conversa com cr. 2 vezes durante entrevista	.794		.835				
32. Mãe ajuda a cr. a mostrar habilidade	.858		.825				
17. Mãe transmite sentimentos positivos à cr. ou acerca dela	.698		.766				
30. Mãe elogia qualidades da cr	.730		.765				
31. Mãe acaricia ou dá beijos durante a entrevista	.744		.730				
40. Mãe apresenta a criança	.612		.575				
14. Mãe ensina à criança bons modos	.624		.555				

<sup>2</sup> Although the Portuguese version of the items is presented, numbers correspond to the original items

**Table 4 – HOME: Item loadings for the six factors**

Itens	h2	F1	F2	F3	F4	F5	F6
36. Cr. estimulada a aprender números	.745			.813			
35. Cr. estimulada a aprender relaç. espaciais	.733			.801			
11. Cr. estimulada a aprender as formas	.700			.788			
33. Cr. estimulada a aprender cores	.591			.691			
34. Cr. estimulada a aprender lenga-lengas	.540			.648			
13. Cr. estimulada a aprender o alfabeto	.504			.601			
37. Cr. estimulada a aprender a ler palavras	.518			.578			
26. Mãe abraça a criança algum tempo por dia	.613			.497			
53. Mãe não utiliza repressão física na visita	.850				.805		
54. Mãe não bate na cr. durante visita	.932				.803		
52. Mãe não repreende cr. na visita	.790				.757		
38. Cr. habituada a respeitar horário na alimentação	.605					.629	
22. Zona que rodeia a casa é agradável	.854					.627	
47. Cr. habituada a arrumar os brinquedos	.691					.621	
20. Zona de brincadeiras ao ar livre é segura	.554					.567	
39. TV utilizada de forma criteriosa	.385					.476	
55. Não mais do que um castigo na semana	.690						.654
42. Cr. pode bater na mãe sem severa represália	.633						.609
41. Cr. pode exprimir sentimentos negativos	.629						.562
<b>Valores-próprios (<i>eigenvalues</i>)</b>		<b>16.97</b>	<b>6.51</b>	<b>6.33</b>	<b>3.73</b>	<b>3.13</b>	<b>2.06</b>
<b>% de Variância</b>		<b>30.9</b>	<b>11.8</b>	<b>11.5</b>	<b>6.8</b>	<b>5.7</b>	<b>3.8</b>

The first factor accounted for the largest amount of the common variance (31%) and was called **Support for Development**. It drew from several existing subscales, namely Learning Stimulation, Language Stimulation, Physical Environment and Variety of Experience. It refers to play materials and household equipment that turn the home into a stimulating and challenging environment, as well as the parent's ability to organize and make available cultural experiences to the child.

The interactional dimension appeared in the second factor that accounted for 11.8% of the common variance and grouped most of the observational items, particularly those that expressed a warmth and positive affective relation with child. It corresponded closely to subscale Pride, Affection and Warmth, and was named **Positive Interaction**.

The third factor was responsible for 11.5% of the variance and most of the items reflected a deliberate effort from the adult to cognitively stimulate the child. It

overlapped with the original Stimulation of Academic Behaviour scale and was named **Academic Stimulation** accordingly.

The remaining three factors - **Absence of Hostility, Structure** and **Permissive Discipline**, appeared to be less robust, in what concerned the percentage of variance they accounted for (6.8, 5.7 and 3.8%, respectively) although conceptually their meaning seemed quite relevant. The items included in the subscales **Absence of Hostility** and **Permissive discipline** indicated that the adult was able to model appropriate emotional control and that child was not often punished or beaten for inappropriate behaviour. The items grouped under **Structure** reflected the existence of rules and routines of family organization that seemed important aspects of family life.

### Reliability

Internal consistency of the results was calculated for the whole scale and for each subscale, using the Kuder-Richardson (20 formula) and are presented on Table 5. The whole scale presented good internal consistency, as well as the first subscale.

**Table 5 – Internal consistency ( Kuder-Richardson coefficients) for the Home scale and subscales**

Subscales	Number of items	K-R (20)
1. Support for development.	24	.95
2. Positive interaction	9	.87
3. Academic stimulation	8	.83
4. Absence of hostility	3	.93
5. Structure	5	.61
6. Permissive discipline	3	.74
HOME – total score	52	.94

Intercorrelations among subscale scores are displayed in Table 6. The coefficients varied from negligible to strong.



**Table 6 – Intercorrelations among Home subscales**

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
1. Support for development.						
2. Positive interaction	.38***					
3. Academic stimulation	.42***	.28***				
4. Absence of hostility	.21***	.14**	.05			
5. Structure	.23***	.17**	.20***	.08		
6. Permissive discipline	.27***	.33***	.12*	.21***	.06	
HOME – total score	.90***	.63***	.61***	.32**	.40***	.44***

\* p&lt;.05

\*\*p&lt;.01

\*\*\*p&lt;.001

Finally, the mean and standard-deviation for each sub-scale and for the whole scale, as well as minimum and maximum values, were calculated and are presented in Table 7.

**Table 7 – Mean, Standard deviation, maximum and minimum values for HOME Inventory sub-scales and total scale**

	<b>N of items</b>	<b>Mean</b>	<b>S-D.</b>	<b>Mín.</b>	<b>Máy.</b>
1. Support for development.	24	15.83	4.92	2	24
2. Positive interaction	9	5.90	2.08	0	9
3. Academic stimulation	8	4.49	1.85	0	8
4. Absence of hostility	3	2.47	.83	0	3
5. Structure	5	3.18	1.20	0	5
6. Permissive discipline	3	2.00	1.03	0	3
HOME – total score	52	33.87	8.05	10	50

## b. Prediction of HOME total score using variables from the ecological context of families

After having determined the psychometric properties of the HOME inventory on the sample, further analysis were conducted on a sub-group of 215 families, as previously indicated, that had complete data on all variables.

According to the ecological and systemic model that characterized this study (Bronfenbrenner & Morris, 1998), quality of the home environment was considered as the result of variables acting at different levels of the child's ecology. Groups defined by region and zone of residence, socio-economic and cultural level, presence of mother at home during normal working hours, maternal age and crowding ratio were compared using t-tests and ANOVA's and showed significant differences in mean HOME scores.

Prediction of the HOME total score with demographic variables using *enter* method showed that a 51% of the variance of the HOME scores was explained by the variables region, SES, presence of mother at home, age of mother and crowding ratio. The socio-economic index contributed with the largest amount of variance, as can be seen in Table 8. Children from the south region, from less crowded homes and from higher socio-economic level had significantly higher HOME global scores.

**Table 8 – Multiple regression for HOME total score, using variables from child's ecological context as predictors**

Predictors	$\beta$	t	sr <sup>2</sup>	R <sup>2</sup>	F(5,206)
Region (1= South; 0=North)	.151	3.027**	.03	.51	42.91***
SES	.621	10.265***	.38		
Mother present/absent from home (1=present, 0=absent)	-.085	-1.533	.01		
Age of mother	.023	.450	.00		
Crowding ratio	-.189	-3.529**	.05		

<sup>+</sup>p<.10    \* p<.05    \*\*p<.01    \*\*\*p<.001

**c. Relationships between quality of the HOME environment and results in children.**

Table 9 shows the correlations between HOME total and subscale scores and results obtained by children. The results include receptive vocabulary, assessed with the Peabody Picture Vocabulary Test (revised version), (PPVT-R), and adaptive behaviour, assessed with the Vineland Adaptive Behaviour Scales (VABS). Apart from the total score, domain scores on the VABS are also presented.

**Table 9- Correlations of HOME subscale and total scores with children's results on the PPVT-R and VABS (domain and total scores)**

	PPVT-R	Autonomy in daily activities	Socialization	Lang. and knowledge	Motor Development	VABS - Total score
1. Support for development	.41***	-.06	.18**	.27***	-.05	.13
2. Positive interaction	.34***	.11	.20**	.29***	-.12	.20**
3. Academic stimulation	.28***	.18**	.25***	.30***	.07	.28***
4. Absence of hostility	.02	-.09	.10	-.02	.05	.00
5. Structure	.10	.03	.08	.11	.07	.08
6. Permissive discipline	.16*	-.03	.15*	.09	-.14	.05
HOME - total score	.44***	.03	.26***	.34***	-.05	.22**

\* p<.05

\*\*p<.01

\*\*\*p<.001

Although the coefficients ranged from mild to moderate, there were some significant correlations between quality of HOME environment and results from children, which were more evident in the cognitive results, namely receptive vocabulary, assumed to be an estimate of verbal intelligence, and Language and knowledge, which, among the Vineland domains, is the one most related with academic and cognitive development. Additionally, three sub-groups of children were formed, on the basis of their socioeconomic level, and the correlations between HOME and children's results were re-calculated. Interestingly, there were no significant correlations

in the medium and high socio-economic groups, the absolute values being much smaller, indicating that the non-significance of the results was not solely a consequence of having less children per group; in the low socio-economic level group, however, values significantly increased for all the domains considered, with the exception of Motor development. There were no differences in the pattern of correlations for boys and girls.

The HOME total score was used as an independent variable to predict results in children, together with a set of other variables that included child temperament characteristics, age and sex, socio-economic level and preschool attendance. Multiple regression analysis were conducted, using as criterion variables the results obtained by children. The HOME total score was the only significant predictor of children's receptive vocabulary level, assessed by the PPVT-R. The Home total score was also a significant predictor of the VABS global score, together with Sociability, age and sex of child.

The VABS global score was decomposed in the four constituent domains, and further regression analysis were conducted, the HOME total score having continued to be a significant predictor of Language and knowledge, and on the Socialization domains, but not on Autonomy in daily life activities and Motor development domains.<sup>3</sup>

## CONCLUSIONS

Throughout these conclusions we tried to address some of Dr. Bradley's direct questions.

**Question 1: To what extent was data obtained using the HOME considered relevant for a particular society and what (if any) changes in the measure were made?**

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<sup>3</sup> Tables with data on these analysis are presented in Appendix A

The results from this study have shown that the HOME inventory is a valid and relevant instrument in the context of Portuguese families, both for assessment and for investigation purposes. It does not impose any unusual tasks either on child or on mother, nor does it introduce any artificial scenarios. On the contrary, it builds on the direct observation of a natural life setting and on naturally occurring events, thus respecting the family's and the child's ecology.

The factor structure that emerged is different from the original structure, which is not surprising considering the results from other studies in families with different socio-economic, cultural and ethnic backgrounds, particularly latino families (Bradley, Mundfrom, Whiteside, Casey et al, 1994). Differences in the factorial structure of the scale have led many authors to refer to the whole scale score and to ignore scores on subscales (Palacios, Lera & Moreno, 1994). The differences between our factorial structure and the original one do not appear to be conceptually problematic, although it is obvious that three subscales are particularly relevant, namely Support for Development, Positive Interaction and Academic Stimulation, reflecting three basic elements or dimensions of quality of family environment: physical/spatial, social and cognitive/academic. The other three subscales seem less robust at least in what concerns the percentage of variance explained. However an appreciation of the items included strengthens the idea, although intuitively, that they focus on important dimensions of family life.

Three items (18, 50 and 51) appear not to be measuring the quality of the home environment. Items 18 and 50 address the autonomy granted to the child, either by allowing her to choose what to eat at mealtimes, or by letting her pick-up some items at the grocery's or at the supermarket. It may well be that such practices express a too democratic conception of education that does not match the beliefs of Portuguese parents for children in that age group. On the other hand, items refer to what parents do, not to what parents think, and there might be discrepancies. As for item 51, it is possible that those families answering affirmatively (meaning that the child eats at least one meal with parents per day) are either those whose children do not attend preschool, or those in which mother does not work outside home. Both cases reflect less quality and lower socio-economic levels. So, either for cultural reasons, or not, the fact is that we can only hypothesize, further investigation being needed in order to obtain an objective answer.

In this study, a 52-item version was the used, although the 55 item version does not seem conceptually inadequate as a whole. It is expected that further investigation will allow for a refinement of the coding criteria, and eliminate the apparent discrepancy found in the three items referred.

**Question 2: To what extent do scores on the HOME reflect parental characteristics, beliefs, attitudes.**

So far, we do not have data on beliefs and attitudes. However, in what concerns parental characteristics, the correlations shown in Table 10 reflect the relation between quality of home environment and variables related with socio-economic status of the family. Parents with more years of schooling and with more demanding jobs seemed more able to develop higher quality environments. Higher HOME scores were also related with income per capita, and crowding ratio.

**Table 10 – Correlations between HOME Inventory and socio-economic status variables in Portuguese families (n=215)**

	Socio-economic index <sup>a</sup>	Income per capita <sup>b</sup>	Crowding	Maternal education <sup>b</sup>	Paternal education <sup>b</sup>
1. Support for development.	.72**	.57**	-.41**	.57**	.57**
2. Positive interaction	.29**	.21**	-.24**	.24**	.24**
3. Academic stimulation	.36**	.29**	-.15*	.22**	.25**
4. Absence of hostility	.16*	.10	-.10	.14*	.14*
5. Structure	.19**	.14*	-.25**	.15**	.09
6. Permissive discipline	.25**	.16**	.08	.20**	.16**
HOME - total score	.68**	.53**	-.41**	.52**	.52**

<sup>a</sup>This index aggregates information on maternal and paternal education, occupation and family income

<sup>b</sup> coeficiente tau de Kendall

\* p<.05

\*\*p<.01

All correlations were in the expected direction, and ranged from moderate to strong between the total score and the first subscale – Support for development. Except

for Absence of hostility and Permissive discipline, all correlations were significant ( $p < .05$ ).

These data confirm the validity of the HOME inventory for the Portuguese families and the Portuguese socio-cultural context.

**Question 3: To what extent do scores on the HOME reflect the context in which parenting is done? SES, family configuration, social support, marital relationships, etc?**

The HOME inventory showed significant correlations with socio-economic status variables (family income per capita, crowding, maternal and paternal education) ranging from moderate to strong (cf. Table 10). The comparison among HOME scores obtained by groups of children defined by mother's occupation revealed that those children whose mothers were either domestic, non-specialized, manual or agricultural workers had significantly lower mean HOME scores than those whose mothers had occupations with higher complexity levels or requiring specialization. A similar relation was found regarding father's occupation.

There were no differences among the quality of home environment of children with or without siblings, or between the quality of home environments of boys and girls. The presence of mother at home during normal working hours was not related to higher HOME scores; on the contrary, families whose mothers referred not to be at home during normal working hours showed significantly higher mean HOME scores. The influence of mother's occupation is a complex one and probably moderated by other contextually relevant variables. However, and contrarily to traditional beliefs, it seems quite clear that the presence of mother at home is not by itself an asset for child development nor does it imply better HOME scores, at least amongst Portuguese families.

Although maternal age was not a significant predictor of the HOME total score, the comparison of mean HOME scores of groups of families defined by age of mother indicated that children with older mothers (over 34 years) tended to get higher HOME scores. However, when three groups were compared on the basis of maternal age, the differences in means were only significant between older and younger mothers (less

then 29 years). Mean HOME scores from families whose mothers were aged in between (29-34 years) were not significantly different from the other two groups.

The family's place of residence also showed some relation with quality of home environment. Children from the south of the country had higher mean HOME scores than their peers from the north; families in urban areas also tended to receive higher scores than those from non-urban areas. The contrast north/south was a significant predictor of HOME scores, as referred. This is in accordance with the Portuguese tendency for an asymmetrical distribution of resources throughout the country, a trend that has been aggravated in the last years and that calls for immediate action from the part of policy-makers.

Socio-economic status was the variable that revealed the strongest correlation with HOME scores. It aggregated information on mother and father educational level, mother and father occupation status and family income, added up to form a continuous variable. It was quite evident from our data that children with higher socio-economic status had higher HOME scores. Our data have also shown (although numbers have not been presented here) that dispersion of the results on the HOME scores was higher on the group of children with lower SES, which led us to believe that the relation amongst the two variables might be stronger in the higher SES groups. In other words, families from low socio-economic backgrounds do not necessarily receive the lowest scores on the HOME, and may be able to develop stimulating and challenging environments for their children. This interesting result undoubtedly deserves further investigation.

Finally, it is important to refer that although demographic data predicted half of the HOME variance, another half of the variance was unaccounted for. Other family variables, apart from those commonly related with SES, are certainly involved in the determination of the quality of home environments

**Question 4. To what extent do scores on the HOME agree with other measures of parenting or the home environment?**



At this point we do not have much information on this issue. However some people from our group are conducting research on Engagement, and have used the 0-2 version. Data are being analysed and we will soon be able to send some of the results.

**Question 5. How are HOME scores related to measures of child outcomes/well being/development?**

The HOME was used as an independent variable, together with other variables from the ecological context of families, to predict the results obtained by children on two different outcome measures: the level of receptive vocabulary and the adaptive behaviour. Whereas the first is a traditional domain of psychological evaluation, assessed through a standardized norm-referenced test– the PPVT-R , the second presents different characteristics, being a less traditional area of assessment where the competence of child is evaluated through the mother and regarding the child's competence in non-standardized situations.

The HOME was a significant predictor in the case of the cognitive measures and it showed to be the best predictor in the outcome measures Socialization and Language and knowledge. However it did not predict the child's competence in the Autonomy in Daily life activities domain as well as in the Motor domain, where children's characteristics like age and sex seemed to be in motion.

It is relevant to note that the HOME total score was always a better predictor of children's outcome measures than the socio-economic index used in this study, which, as explained, was a continuous variable aggregating information from five different sources. It was also interesting to find out that significant correlations between children's results and HOME scores were only to be found in the group of families from low socio-economic background. So, on one side, the HOME score seems to be the most powerful single predictor of child development. On the other side, it seems obvious that the HOME inventory constitutes a particularly useful instrument in the case of families from low socio-economic backgrounds or at risk for other socio-cultural reasons, either for assessment or for intervention purposes.

## Appendix A

The following tables contain results of multiple regression analysis on all outcome measures: Receptive vocabulary (PPVT-R), Adaptive Behaviour (VABS), and the four adaptive behaviour domains – Autonomy in daily activities, Socialization, Language and knowledge and Motor development

Table A – Multiple regression for PPVT-R, using child and ecological context variables as predictors

Predictors	$\beta$	t	sr <sup>2</sup>	R <sup>2</sup>	F(9,205)
Energy	-.051	-.739	.00	.220	6.413***
Sociability	.089	1.321	.01		
Emocionality	-.003	-.041	.00		
Introversion	.012	.184	.00		
Age	-.061	-.978	.00		
Sex	-.067	-1.074	.01		
SES	.141	1.555	.01		
Preschool attendance (1=yes, 0=No)	-.006	-.095	.00		
HOME	.336	3.938***	.07		

<sup>+</sup>p<.10    \* p<.05    \*\*p<.01    \*\*\*p<.001

Table B - Multiple regression for VABS, using child and ecological context variables as predictors.

Predictors	$\beta$	t	sr <sup>2</sup>	R <sup>2</sup>	F(9,198)
Energy	.101	1.440	.01	.234	6.708***
Sociability	.230	3.375**	.05		
Emocionality	-.088	-1.346	.01		
Introversion	.100	1.512	.01		
Age	.293	4.636***	.10		
Sex	-.179	-2.838**	.04		
SES	-.002	-.064	.00		
Preschool attendance (1=yes, 0=No)	-.084	-1.256	.01		
HOME	.253	2.944**	.04		

<sup>+</sup>p<.10    \* p<.05    \*\*p<.01    \*\*\*p<.001

Table C - Multiple regression for Autonomy, using child and ecological context variables as predictors

Predictors	$\beta$	t	sr <sup>2</sup>	R <sup>2</sup>	F(9,205)
Energy	.135	1.907 <sup>+</sup>	.02	.178	4.949***
Sociability	.096	1.379	.01		
Emocionalidad	-.058	-.881	.00		
Introversión	.039	.584	.00		
Age	.152	2.360*	.03		
Sex	-.327	-5.101***	.12		
SES	-.036	-.391	.00		
Preschool attendance (1=yes, 0=No)	-.123	-1.814 <sup>+</sup>	.02		
HOME	.096	1.098	.01		

<sup>+</sup>p<.10    \* p<.05    \*\*p<.01    \*\*\*p<.001

Table D - Multiple regression for Socialization, using child and ecological context variables as predictors

Predictors	$\beta$	t	sr <sup>2</sup>	R <sup>2</sup>	F(9,205)
Energy	-.013	-.184	.00	.157	4.240***
Sociability	.245	3.480**	.06		
Emocionalidad	-.072	-1.067	.01		
Introversión	.084	1.225	.01		
Age	.100	1.530	.01		
Sex	-.124	-1.912 <sup>+</sup>	.02		
SES	-.096	-1.015	.00		
Preschool attendance (1=yes, 0=No)	.001	.015	.00		
HOME	.318	3.579***	.06		

<sup>+</sup>p<.10    \* p<.05    \*\*p<.01    \*\*\*p<.001

Table E - Multiple regression for Language and knowledge, using child and ecological context variables as predictors

Predictors	$\beta$	t	sr <sup>2</sup>	R <sup>2</sup>	F(9,199)
Energy	.109	1.614	.01	.280	8.590***
Sociability	.219	3.322**	.05		
Emocionalidad	-.093	-1.314	.01		
Introversión	.048	.755	.00		
Age	.281	4.596***	.10		
Sex	-.118	-1.939 <sup>+</sup>	.02		
SES	.111	1.254	.01		
Preschool attendance (1=yes, 0=No)	-.144	-2.229*	.02		
HOME	.307	3.690***	.06		

<sup>+</sup>p<.10    \* p<.05    \*\*p<.01    \*\*\*p<.001

Table F - Multiple regression for Motor Development, using child and ecological context variables as predictors

Predictors	$\beta$	t	sr <sup>2</sup>	R <sup>2</sup>	F(9,205)
Energy	.054	.744	.00	.130	3.409**
Sociability	.088	1.229	.01		
Emocionalidad	-.061	-.899	.00		
Introversión	.070	1.002	.00		
Age	.296	4.480***	.10		
Sex	.105	1.600	.01		
SES	-.057	-.595	.00		
Preschool attendance (1=yes, 0=No)	.138	1.976*	.02		
HOME	-.038	-.427	.00		

<sup>+</sup>p<.10    \* p<.05    \*\*p<.01    \*\*\*p<.001

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