

Allocation of Time and Child Socio-Emotional Skills

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Supplemental material on

Sources of Inequality: Heterogeneous Effects and Inequalities

1. Heterogeneous Effects

In the main paper, we find evidence of the beneficial effects of time spent with parents, doing sports, reading and caring/tidying up and school-related activities on the child's socio-emotional skills. Extra time spent at school and video-screen time were found to be detrimental.

In order to complement the analysis of the main paper, we investigated the possible heterogeneous effects of time allocation to assess possible sources of inequalities. Specifically, we considered the different impacts of time use according to the family's socio-economic status (education and income), structure (presence of both parents and siblings in the household), the child's ethnic background (British/other) and gender. We tested whether more structured activities (like sports) are more or less beneficial for children from disadvantaged families. One may also assume that different family structures may characterise activities with parents and in the household differently, with consequential heterogeneous effects. Finally, for non-British children, better comprehension of the language (through TV) may also improve relationships with peers and adults. Empirically, we simply estimated equation (1) from the paper (cumulative value-added model) for sub-groups of the sample. However, we found no strong evidence for any heterogeneous effect.²

2. Different Opportunities Across Children

We can expect that children from different contexts have a different likelihood of spending time on these activities. If so, even under homogeneous effects, inequalities in socio-emotional development would arise across different groups. Particularly, it is policy-relevant to consider whether children with fewer economic and cultural resources have the same opportunities as children with more resources. Once we consider economic resources, family composition may also play a role. A considerable number of siblings or the absence of one of the two parents in the household could influence the logistics of some activities. Finally, whether determined by preference or culture, a child's gender may affect the use of their time.

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² Results available from the authors upon request.

Thus, to complement the above analysis and enrich the debate, we analysed the association between child and household characteristics and children's use of time (grouped as before). We conducted a set of OLS regressions in which the activities undertaken were estimated as a function of the relevant variables. This was done by pooling the two waves, when children are 7 and 11 years old, together.³

Nevertheless, we can expect that children from different contexts have a different likelihood of spending time on these activities and can assess if this is indeed true. Table S1 reports the results. This exercise is useful for evaluating the observable characteristics associated with participation in different activities.

From an inequality perspective, we observe that children from more advantaged backgrounds regarding parental education and income are more exposed to enriching uses of their time (sports, school-related activities) and are less exposed to detrimental ones (TV and video-screen time), but are more likely to spend extra hours at school. Moreover, richer parents and labour-market attached mothers spend less time with their children. Interestingly, the number of hours worked by the father did not influence the probability of activities with parents or any other activities. The family structure influences two uses of time in an opposing but compensatory way: An only child spends more time with her parents, while a child with siblings spends more time on reading and caring activities. Having siblings also decreases the probability of doing sports and homework or receiving extra-classes. The father's presence (or a stepfather) does not influence time allocation, while the grandparents' presence results in children spending more time on 'quiet' activities (TV, computers, religious services and going to the library) and fewer extra hours at school. British children spend more time with their parents and on sports activities, while children from ethnic minorities spend more time on homework, caring activities in the household, going to the library and participating in religious services. From a gender perspective, most of the results are expected: girls are more likely to spend time on school-related activities, reading and caring/tidying up, and are less likely to engage in sports and TV or computer use. Less intuitive is the positive effect of being a girl on the number of extra hours spent at school.

³ Results are no different when considering separate estimations for the two waves.

Table S1: Determinants of the allocation of time

	Activities with parents (1)	Sports (2)	Library & Religious (3)	Video- screen time (4)	Reading and caring/ tidying up (5)	Extra hours at school (6)	School – related activities (7)
British	0.103*** (0.022)	0.275*** (0.022)	-0.624*** (0.025)	0.022 (0.022)	-0.088*** (0.023)	0.015 (0.022)	-0.283*** (0.025)
Girl	0.017 (0.012)	-0.136*** (0.012)	0.006 (0.012)	-0.312*** (0.013)	0.258*** (0.013)	0.046*** (0.013)	0.060*** (0.013)
Siblings	-0.102*** (0.007)	-0.039*** (0.007)	0.001 (0.007)	0.010 (0.007)	0.043*** (0.007)	-0.006 (0.007)	-0.018** (0.007)
New-born	-0.061** (0.024)	-0.022 (0.025)	0.024 (0.024)	-0.047* (0.025)	0.066*** (0.026)	-0.018 (0.026)	-0.040 (0.026)
Mother tertiary educ.	0.024 (0.015)	0.082*** (0.015)	0.028* (0.015)	-0.215*** (0.016)	0.022 (0.016)	0.054*** (0.016)	0.078*** (0.016)
Breastfeeding	0.024* (0.013)	0.060*** (0.013)	0.046*** (0.013)	-0.161*** (0.014)	0.017 (0.014)	-0.009 (0.015)	0.053*** (0.015)
Mum work early	-0.033** (0.013)	0.028** (0.013)	-0.033*** (0.013)	0.056*** (0.014)	0.034** (0.014)	0.047*** (0.014)	0.022 (0.014)
Father in the HH	-0.106 (0.213)	-0.220 (0.200)	-0.163 (0.231)	0.051 (0.112)	-0.287 (0.255)	0.080 (0.215)	0.301 (0.188)
Stepfather in HH	-0.096 (0.212)	-0.323 (0.198)	-0.317 (0.229)	0.076 (0.109)	-0.270 (0.253)	0.140 (0.213)	0.196 (0.186)
Grandparents HH	0.013 (0.030)	-0.054 (0.034)	0.065* (0.033)	0.124*** (0.032)	0.011 (0.040)	-0.084** (0.033)	0.052 (0.036)
Mum working hours	-0.000*** (0.000)	0.000 (0.000)	-0.000** (0.000)	-0.000 (0.000)	0.000*** (0.000)	-0.000 (0.000)	0.000 (0.000)
Dad working hours	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
HH income	-0.016*** (0.004)	0.040*** (0.004)	-0.026*** (0.004)	-0.038*** (0.004)	-0.024*** (0.004)	0.019*** (0.004)	0.039*** (0.004)
Age of the child	-0.082 (0.208)	-0.120 (0.214)	0.242 (0.209)	0.202 (0.208)	0.036 (0.222)	-0.636*** (0.213)	-0.036 (0.210)
Age squared	0.001 (0.002)	0.001 (0.002)	-0.002 (0.002)	-0.002 (0.002)	-0.000 (0.002)	0.006*** (0.002)	0.000 (0.002)
Age cubed	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	-0.000*** (0.000)	-0.000 (0.000)
Wales	0.063*** (0.018)	0.026 (0.018)	0.041** (0.018)	-0.011 (0.019)	-0.043** (0.020)	0.230*** (0.022)	-0.253*** (0.019)
Scotland	-0.025 (0.019)	0.084*** (0.019)	0.110*** (0.020)	0.059*** (0.022)	0.087*** (0.021)	-0.140*** (0.020)	-0.101*** (0.020)
Northern Ireland	-0.100*** (0.022)	0.189*** (0.021)	0.518*** (0.023)	-0.159*** (0.024)	0.129*** (0.024)	-0.167*** (0.022)	0.218*** (0.024)
Constant	2.155 (8.344)	5.443 (8.590)	-9.362 (8.386)	-7.952 (8.350)	-0.912 (8.876)	25.186*** (8.556)	0.430 (8.428)
Observations	18,876	18,876	18,876	18,876	18,876	18,876	18,876

Notes: The outcomes are the seven components (standardized) resulting from the principal component analysis of the single activities at each wave (see Table 3 of the main paper). We include only children present in both waves 4 and 5. HH stands for household. “Breastfeeding” stands for the variable “Child breastfed for at least 1 month”; “Mum work early” stands for the variable “Mother was back to work by six months of the child”.

Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.