

Human capital effects of one-on-one time with parents

Evidence from a Swedish childcare access reform

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Purpose

- Study the human capital effects of better opportunities for one-on-one time with a parent during infancy
- Nationwide reform 2002
 - All municipalities obliged to offer 15 hours/week childcare for older siblings whose parents were on parental leave
 - Increased childcare access and enrollment in municipalities which did not already offer childcare
- Differences-in-differences model
 - children with and without a sibling of childcare age, before and after reform in municipalities affected by the reform.
- Human capital effects
 - Standardized core subject test scores in 6th grade (age 13)
 - Effects by gender and maternal education
 - Mechanisms: Health, home environment, childcare enrollment age

Our contribution

- Exogenous increase in opportunities for one-on-one time with a parent
 - Importance of child related investments e.g. Francesconi and Heckman (2016)
- Investments during infancy
 - Early investments have larger effects than later e.g. Hsin and Felfe (2014)
 - Attachment and socioemotional development Moullin et al. (2018)
- Home environment of younger siblings became more similar to that of firstborns
 - Sibling gap due to differential parental investments e.g. Black et al. (2005); Lehmann et al. (2018)
- Heterogeneous effects with respect to gender and maternal education
 - Parental stress is found to be higher for low educated mothers Parkes et al. (2015)
 - Boys are more sensitive to adverse childhood environment e.g. Bertrand and Pan (2013)
 - Girls are more sensitive to cognitive stimulus Fort et al. (2019)

Empirical strategy

- Intention-to-treat effects – effect of better opportunities
- Differences-in-differences
 - Comparing infants *with and without siblings* of childcare age
 - Comparing infants born *pre- and post-reform*
 - Restricted to municipalities that were most affected by the reform
 - Placebo analysis using municipalities that were least affected

$$Y_{imcd} = \alpha + \delta post_c * sibling_i + \gamma sibling_i + \theta_{mc} + \lambda_d + \mathbf{X}_i \beta' + \varepsilon_{imcd}$$

- Municipality-cohort fe (θ), birth month fe (λ), pre-determined characteristics of child and parents (\mathbf{X})
- Standard errors (ε) clustered at municipality level

Data

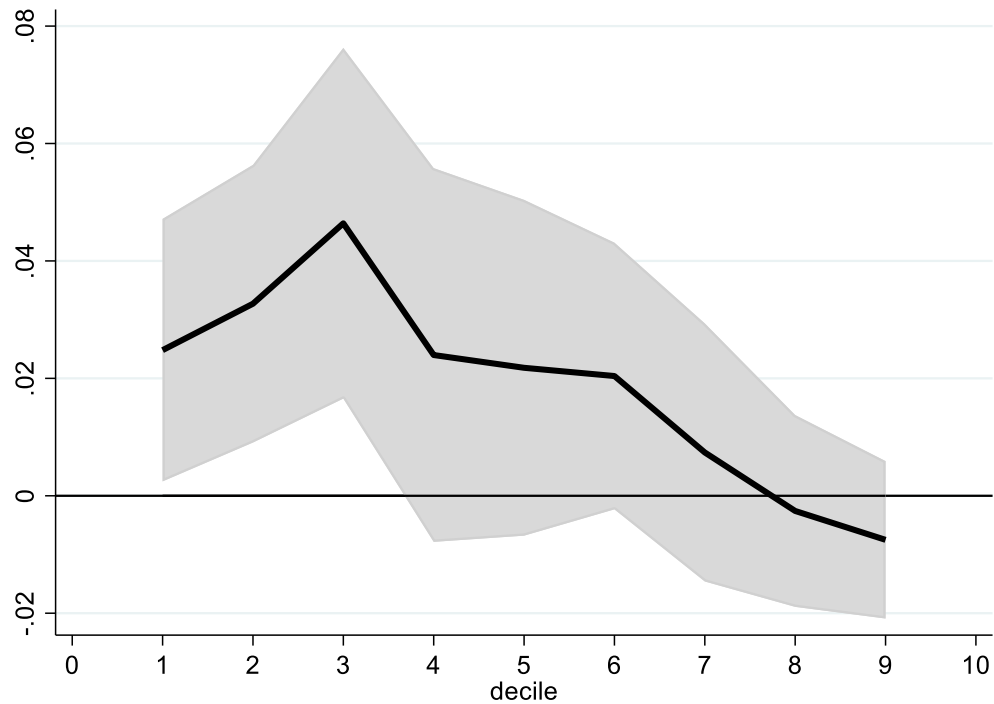
- Children born 1999-2003
- Administrative data on all Swedish children and their families
 - Family links and demographics
 - Parental education, annual earnings
 - Parental leave use
 - Children's 6th grade test scores
 - Child and parental health: Inpatient and outpatient care, drug prescriptions
- Survey data on childcare enrollment
 - National Agency for Education

Main results:

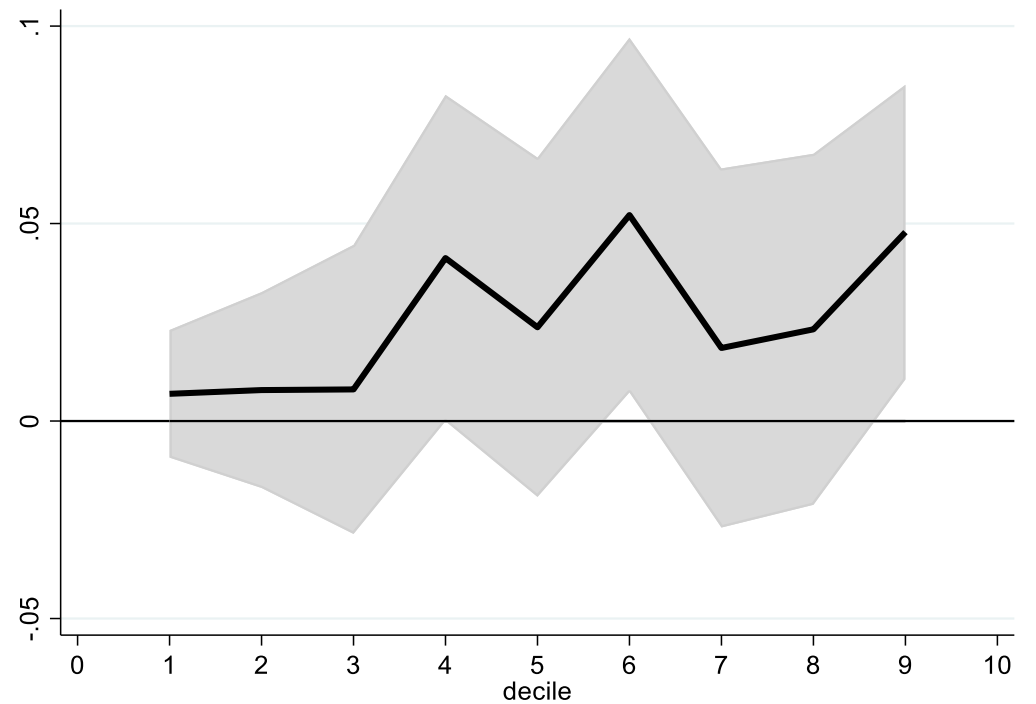
Effects of better opportunities for one-on-one time on standardized 6th grade test scores in core subjects.

	(1)	(2)	(3)
	All	Boys	Girls
		<i>All</i>	
One-on-one time	0.029	0.043**	0.017
	(0.019)	(0.021)	(0.025)
Observations	43,566	22,145	21,421
Control mean	-0.0790	-0.199	0.0467
		<i>Mother low education</i>	
One-on-one time	0.034	0.063**	0.007
	(0.024)	(0.028)	(0.034)
Observations	32,173	16,400	15,773
Control mean	-0.215	-0.337	-0.0843
		<i>Mother high education</i>	
One-on-one time	0.041	0.003	0.086**
	(0.029)	(0.040)	(0.041)
Observations	10,874	5,498	5,376
Control mean	0.364	0.256	0.475

Effects over the test score distribution



Sons of less than college educated mothers



Daughters of university educated mothers

Mechanisms

- No strong effect on child health
 - Possibly improved mental health in school age for boys
 - Possibly worse health in preschool age for affected
- No strong effects on quantity nor quality of the home environment
 - No effects on maternal return to work or age at childcare enrolment
 - No evidence of sibling spillovers – older siblings test scores do not improve.
 - No effects on parental leave division between parents
 - Possibly lower fertility/increased spacing for girls of high educated mom

Conclusion

- Strong first stage for all
 - Heterogeneity in effects likely reflects differences in *effects*, rather than differential *utilization of opportunity*
- Consistent with improvements in quality of parent-infant interaction
 - More undivided attention – better conditions for early attachment
- Potential for family policy to strengthen disadvantaged families
 - Low performing sons of low educated mothers