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When Randomization Is Not Feasible: The Case of Parenting Skills Programs

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ABSTRACT

When Randomization Is Not Feasible The Case of Parenting Skills Programs

One of the aims of parenting programs is to enhance parental skills and behaviours for the well-being of children. This study examines the effects of the FA.C.E. (“Becoming Educating Communities”) program, focusing on parents’ use of time with their children. Promoted by the non-profit organization *Con I Bambini*, FA.C.E. ran for three years, with funding from several Italian philanthropic foundations and the Italian government. Here we evaluate the impact of the second edition of the program on parental perceptions and on children’s time use during the 2020/2021 school year. Two obstacles prevented us from implementing randomization, which would have necessitated the randomization of two cohorts of families, with the first commencing the program immediately and the second starting later. The initial challenge arose from the COVID-19 pandemic, which confined people to their homes. It was therefore decided to encourage families to attend in person as often and whenever they could, with no restrictions imposed on their impromptu participation. The second issue stemmed from the randomization used to evaluate the first edition of FA.C.E., which led several families to abandon the program, either because they had wanted to start immediately or because they had not been placed with their family’s friends. For the second edition of the program, we collected data from each family before and after their participation in the program and rely on two different empirical strategies to evaluate the program’s impact. We also include a test to help determine which is the most reliable estimate.

JEL Classification: J13, J18, C80, D1, I26

Keywords: parenting skills, use of time, well-being, policy evaluation, impact evaluation methods, treated-controls model, mixed methods

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1. Parenting skills programs

In recent years, numerous studies have examined the importance of parental inputs, especially time and human capital, on child development (Del Boca, 2015; Del Boca et al., 2014; Guryan et al., 2008; Meroni et al., 2021). Parental inputs have been found to be more important than other sources of input, such as schools and other educational services. In response to the empirical evidence derived from these studies, several countries have recently launched a range of programs aimed at improving parenting skills. The overarching objective is to provide parents with support and knowledge, ultimately fostering improved child outcomes and parental satisfaction.

Policymakers began to place greater emphasis on parenting support during the 1990s. In Europe, several member states have incorporated parenting support programs into their national strategies and legislation (Janta, 2013). These programs aim to enhance parenting skills through the provision of various resources, such as information, educational services, training, counselling, and other interventions that influence parents' understanding and performance of their parenting role (Daly, 2009). Such programs are particularly important in contexts where single-child families are prevalent and contact with extended families is rare, resulting in limited opportunities for learning how to engage with children.

Recent policy debates have centred on the relative effectiveness of different parenting programs and their results in terms of family well-being (Kane et al., 2007; Kiernan et al., 2011). Some of the findings suggest that parenting programs, especially when combined with local and national policies that address broader contextual issues, can significantly benefit parents. More specifically, Moran et al. (2004) highlight the importance of initiatives such as counselling and information provision in supporting parents. However, Boddy et al. (2009) reveal that Italy, like other European countries, has a decentralized government administration, resulting in significant variations in parenting support policies across the country. These policies are often provided by independent organizations contracted by local authorities, with limited central state support and funding.

This paper contributes to this area of research through its analysis of the second edition of FA.C.E.¹, a social program promoted by the institution *Con i Bambini*² that was implemented in four Italian cities: Naples, Reggio, Emilia, and Teramo. The program's objective was to provide parents with educational resources and knowledge to help them improve their parenting skills and thus their children's well-being. In particular, our study looks at how FA.C.E. affected parents' awareness of the importance of spending time with their children, having them attend childcare centers, and letting them use digital devices. The latter is a particularly significant issue given the changes brought about by the Covid-19 pandemic.

¹ The "*FA.C.E. Farsi Comunità Educanti*" ("Becoming Educating Communities") program, coordinated by the Reggio Children Foundation, aimed to reshape educational policy in the territories it operated in.

² *Con i Bambini* is a non-profit organization whose mission is to implement programs contrasting the educational poverty of children, funded by a Memorandum of Intent (*Protocollo d'Intesa*) signed between the Italian Ministry of Labor and the Association of Italian Banking Foundations.

Even prior to the pandemic, the internet had already become an essential element in children's daily lives. According to a network survey conducted by EU Kids Online, in 2017 half of Italian children between the ages of 9 and 10 used their smartphones to go online at least once a day. However, only 21% of parents actively encouraged children to explore and learn through online platforms, while the majority focused on promoting safe internet usage. Additionally, 38% of parents provided assistance to their children when they encountered troubling situations online (Mascheroni & Ólafsson, 2018).

During the pandemic, restrictions on movement and the suspension of in-person activities led to a significant increase in internet usage across all age groups. In 2021, 72.9% of individuals aged 11 and above reported using the internet at least once a week³, marking a 6-percentage point increase over 2019 (Istat, 2023). For children, the internet became the only means of socializing with friends, participating in online learning activities and cultivating the school-child-family bond, and maintaining connections with grandparents or other relatives not residing in the same household (Mascheroni et al., 2021; Zecca, 2021). Digital devices were also used in the FA.C.E. program as a tool for discovery and learning. We are therefore interested in investigating how the program affected children's use of digital devices and what parents' thought about it.

³ Over the previous three months.

2. The FA.C.E Program

The FA.C.E program was implemented from May 2018 to June 2021, with fee waivers for families interested in participating during the 2020-21 school year. The program consisted of six sessions in which parents took part in a variety of activities with their children, ranging from storytelling and craft projects to digital, musical, and reading workshops. The aim was to encourage development of the manual, sensory, expressive, communicative, and relational skills of both children and parents. For example, the arts and crafts projects fostered imagination and creativity by utilizing various materials and artistic techniques, while also contributing to the development of the children's self-esteem. The storytelling and music workshops helped parents build self-confidence as they learned to engage their children in new activities. As a result, the parent-child relationship was strengthened, leading to improved parent-to-parent and child-to-child relationships as well.

The meetings provided a valuable opportunity for families without access to childcare and educational services for children (aged 0-6) to come together. During these gatherings, children were able to interact and play with their peers, while parents had the chance to exchange experiences, opinions, and ideas on educational, pedagogical, and social matters of mutual interest. Parenting was thus facilitated by diverse and adaptable opportunities for discussion and interaction with qualified educators and fellow parents.

The course emphasized the development of the parent-child relationship, allowing parents to discuss any parenting issues or challenges they were experiencing with educators.

The program involved multiple institutions, including municipalities, schools, local organizations, and other managing bodies overseen by the Reggio Children Foundation (the lead partner). While the program varied slightly from city to city, the core content remained the same⁴. Separate workshops were provided for two age groups: 0-3 years and 3-6 years.

In a previous study, Del Boca et al. (2021) analyzed the first edition of FA.CE. To assess its effectiveness, they implemented a randomized controlled trial based on a phase-in mechanism. The parenting courses were offered twice during the 2019-2020 school year. Families had the opportunity to enroll in the FA.C.E. program until the end of September 2019, but were not free to choose the dates they wished to attend. They were randomly assigned to either the treatment or control group across all four cities. The parenting courses were conducted in two separate periods: the treatment group attended from October to December 2019, while the control group attended from January to May 2020. At the end of courses in December 2019, before the control group started attending, both groups completed an assessment questionnaire. The findings indicated that the program had a positive impact on the families' understanding of the importance of educational activities and the value of spending time together. Additionally, parents expressed a desire to spend more time with their children.

⁴ The course content was determined with the supervision of the lead partner, the Reggio Children Foundation. However, no intervention protocol was provided to allow the managing bodies to adapt the workshops to the needs or characteristics of the communities (e.g. in the choice of the materials used in the craft activities, or organising educational farm visits when feasible).

However, the randomization method used in the program, which involved staggered starts, received criticism from some territories. These territories reported that some families who were accepted into the program had chosen not to participate⁵ either because they had not ended up in their preferred cycle or because they had been separated from other families who could have provided support or carpooling to reach the course locations. These concerns were further amplified by the outbreak of the Covid-19 pandemic in early 2020, which significantly impacted implementation of the program during the 2020-21 school year. Due to the high risk that the activities would be suspended from time to time⁶, children and families were given the opportunity to participate at any time of the year, in order to increase their chances of joining the program. We decided, in agreement with the Reggio Children Foundation, to refrain from randomizing the list of enrollees. We opted instead to schedule the program as several non-overlapping cycles throughout the school year.

To evaluate the impact of the program, we conducted interviews with families before and after their participation in the course at different points during the school year. The same set of questions was posed to all the families. We present two models of analysis: the first compares families who have just finished the course with those who are about to start it; the second compares the same families over time, incorporating additional control variables to account for temporal factors. Additionally, we propose a model to test whether families who enrolled early were systematically different from those who enrolled later.

⁵ The case of non-participation, and non-response as well, was addressed in Del Boca et al., 2021.

⁶ In spring 2020, the Italian government suspended educational and childcare services in presence to contain the spread of Covid-19 virus. Further suspensions were expected in case of an increase in Covid-19 cases in the following periods.

3. Data collection

Data was collected during the 2020-2021 school year by conducting interviews with families before and after they attended parenting courses offered by FA.C.E. . The same assessment questionnaire was administered to parents and covered topics such as family wellbeing, confidence in child rearing, opinions about the use of TVs, tablets, and smartphones by children in general and about how much their children use such devices, and opinions about the benefits of using kindergarten for the early years of a child's life. A total of 278 questionnaires were collected during the first meeting and 167 during the last meeting. Only 127 families completed both questionnaires.

Table 1 provides a summary of the characteristics of the 127 families included in the analyses.

The descriptive statistics show that 54% of the participating children were girls, with an average age of 3 years old. In 97% of the cases, the mother was the parent participating in the course and answering the questionnaire. Most parents had a relatively high level of education, with 54% having a degree and 37% a high-school diploma.

Regarding parents' participation in the labor market, the distribution aligns more closely with national statistics. 40% work full-time, 15% work part-time, and 45% do not work. Additionally, an analysis of the distribution of the participants throughout the year and across the four cities reveals that most activities were carried out in winter and spring, with the highest level of participation in Naples.

4. The empirical strategy

The four municipalities carried out two or three consecutive editions of parenting courses during the 2020-21 school year. Participating parents were asked to complete a questionnaire at the beginning of the course and another one at the end.

Figure 1 provides an illustrative overview of the data collected, summarizing the outcomes of families who participated in each period: September to December, December to March, or March to June.

Let us consider, for example, the outcome of “time spent together playing outside”. At the beginning of the course, the average value of the first group for this outcome results from its observable characteristics and unobservable characteristics fixed over ($u1$) time plus a temporal component ($t1$) (in September, the weather is still nice, for example). At the end of the course, the outcome would potentially have increased due to participation in FA.C.E. (F) and decreased, for example, by $t2$ (in December, it is usually too cold to play outside). We can tell similar stories for the second and third courses.

Figure 1

	September	December	March	June
First group	$u1 + t1$	$u1 + t2 + F$		
Second group		$u2 + t2$	$u2 + t3 + F$	
Third group			$u3 + t3$	$u3 + t4 + F$

We propose two specifications to estimate F . In the first, we assume:

$$u1=u2=u3,$$

that is, participants in the first course are not systematically different from those who participate later, for what concerns unobservable characteristics. We therefore compare outcomes at the end of the first course with outcomes at the beginning of the second course (December), and outcomes at the end of the second course with outcomes at the beginning of the third course (March), deriving the average of these two treatments:

$$(((u1 + t2 + F) - (u2 + t2)) + ((u2 + t3 + F) - (u3 + t3))) / 2 = F \quad [1]$$

with $u1=u2=u3$.

In the second specification, we exploit within-family variation, and assume:

$$t2=t3 \text{ and } t1=t4$$

that is, the temporal components (the season and concomitant facts) can be grouped together according to their similar effects on the outcomes of interest. In this example, we are assuming that playing outside is as common in December as in March, and as common in September as in June. Identifying the effect of a program repeated over the course of several school years can be accomplished by observing both the treated (those who have completed a course) and the controls (those who are about to start a course) in each period (cold period: December and March, mild period: June and September). On the other hand, we do not have to make assumptions about the unobservable characteristics of the families, which make influence the selection in one course rather than the other.

$$(((u1 + t2 + F) - (u1 + t1)) + ((u2 + t3 + F) - (u2 + t2)) + ((u3 + t4 + F) - (u3 + t3))) / 3 = F \quad [2]$$

with $t2=t3$ and $t1=t4$

Model [1] is estimated through a linear regression, with robust standard errors, by comparing the treated families and the controls:

$$y_{it} = \alpha + \beta_{TC}FACE_{it} + C_{it}'\gamma + X_{it}'\delta + \varepsilon_{it} \quad [3],$$

where y is the analyzed outcome of the parent of child i at time t , $FACE$ is a dummy equal to 1 when the course has been attended, C is a vector of dummy variables which identify the end of the course (for the treated) / the beginning of the course (for the controls) in each city, X is a vector of control variables (gender and age of the child, respondents' work and education, mothers' age at birth, whether the respondent is the mother), and ε_{it} represents the error.

Model [2] is estimated through a linear regression, with parent-child fixed effects, and robust standard errors:

$$y_{it} = \kappa + \beta_{FE}FACE_{it} + \theta age_{it} + \tau_1 winter_{it} + \tau_2 fall_{it} + \zeta_i + v_{it} \quad [4],$$

where y is the analyzed outcome of the parent of child i at time t , $FACE$ is a dummy equal to 1 when the course has been attended, age is the age in months of the child, $winter$ and $fall$ indicate the season in which the questionnaire was completed (spring is the excluded category),⁷ ζ_i are individual fixed effects, and v_{it} represents the error. Thanks to individual fixed effects, we can control for all the characteristics that are unchanged from the beginning to the end of the course, such as the gender of the parent and child, the parent's education, and other unobservable characteristics.

The first model is more efficient (exploiting cross-sectional information) and makes weaker assumptions about the temporal component (one course finishes *when* the following starts). The second model is less efficient (by differentiating the data) and makes stronger assumptions about the temporal component (assuming the same effect at different points in time) but makes weaker assumptions about the unobservable characteristics of the families.

Which is the better model of the two? The first, if the unobservable characteristics do not play an important role, meaning that the families who participate in the first course are not systematically different from those who participate in the second, and the families who participate in the second course are not systematically different from those who participate in the third. We therefore estimate the following "placebo" equation:

$$y_{i,before} = \kappa + \beta_{PL}FIRST_{i,before} + City_{i,before}'\zeta + X_{i,before}'\chi + \epsilon_{i,before} \quad [5],$$

where we test whether families who participate in the first course show initial outcomes that are systematically different from families who participate in the second or in the third course, once other socio-demographic characteristics and the city of residence have been taken into consideration.

A final consideration concerns the sample to be used for the analyses. For the fixed effects model, we are obliged to use the 127 families who completed the course and answered the questionnaire both before and after. For the treated-control analyses, we could potentially use more observations; for

⁷ In all three seasons, we observe families both starting and ending the program.

example, in the control group we could include all those who start, even if they do not finish. However, we prefer to use only the 127 families that completed the process because it is more likely to allow us to compare treated and control families with similar characteristics.

5. Empirical Results

Tables 2 and 3 report the results of the analyses, respectively, on opinions and attitudes, and on the time use of children and parents. Each table is organized as follows: Column 1 includes the list of outcomes considered; Column 2 shows the average outcome level before participation in the program; Column 3 presents the results of the first model, where the outcomes of families who have just finished the course are compared to the outcomes of families who are about to start it; Column 4 presents the results of the second model, where the families' outcomes are compared before and after participation in the program; Column 5 reports the estimates of the model that tests whether there are systematic differences in the outcomes observed between families who signed up immediately and those who signed up later.

Let's consider, for example, the outcome "Well-being: living in an area that offers opportunities" (Table 2, line 3). On average, at the first meeting, 77.6% of families describe this aspect as being important for their well-being (Column 2). By comparing families finishing the course (treated) and families about to start it (controls), we observe an increase of 12.7 percentage points (Column 3). Comparison of families at the beginning and at the end of the course reveals no significant difference (Column 4). We also see that families enrolled in the first course show a lower value of this variable, although it is not statistically significant. Overall, we trust the results from the treated and control models (Column 3) and conclude that participation in FA.C.E. has positive benefits on this aspect of family well-being.

Looking at Table 2, Column 5, it is clear that families enrolled first in the course give systematically higher ratings to the importance of being well integrated into a community, and having access to culture for their well-being. If we had referred just to the "treated-controls" model, without testing the assumptions, we would have mistakenly attributed this positive effect to participation in the program.

For the remaining outcomes listed in Table 2, we refer to the model treated/controls (Column 3), and find beneficial effects of the program on the importance of having good-quality relationships with friends and family, on the level of self-confidence in sharing own experiences with other parents and, in general, on the opinion that tablets and cell phones may be useful for learning, can give parents the opportunity to do something, and can calm children.

While Table 2 displays the results concerning opinions and attitudes, Table 3 considers changes in parental behaviors related to time spent with their children. Here, too, we observe some systematic differences: parents enrolled in the first session are less likely to have read a book, and to allow their children to use tablets/smartphones for more than one hour per day. We do not observe much impact in terms of effective behaviors, except for a negative impact on dancing together in the last week (which may be due to the time taken up by the program).

5 Conclusions

In this paper, we used two empirical strategies to evaluate the impact of parenting skills programs on parents' opinions and use of time with their children. Organizing a randomized control trial would have been difficult for several reasons. The first related to the historical moment, just after the outbreak of the pandemic, and the desire to involve families in person as soon as they were available. The second is linked to the previous randomized controlled trial, which had shown a high dropout rate of families not chosen to immediately take part in the program or unwilling to participate due to the lack of families or friends in their assigned group.

The two proposed strategies, which are both straightforward and already documented in the literature, are viable due to the short-term and recurrent nature of the program analyzed. We first propose a treated-control comparison wherein the treated group comprises families who have just finished the course, while the control group consists of families just embarking on the course. This approach leverages the willingness of both groups to participate in the program, albeit at different points of time. Finally, the fact that the end of one course coincides with the beginning of the next one allows the temporal dimension to be kept under control. The only potential bias arises from the possibility that families engaging in the program earlier may be systematically different from those who decide to take part in the program later. We can test for this bias, and indeed, for a limited number of outcomes, our findings support this observation within our sample of families. Specifically, those who participate earlier seem to place greater emphasis on the importance of community and cultural involvement, and make efforts to restrict their children's screen time, but are less inclined to read to their children.

The second strategy we propose involves a simple before-after comparison, enriched by the inclusion of temporal control variables. These temporal controls capture the effect of events with less precision than those of the first model. In fact, we must define time intervals large enough to include both treated and control groups. However, this approach provides the distinct advantage of mitigating the impact of self-selection of families into courses.

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TABLES

Table 1: Descriptive statistics

VARIABLES	Mean
<i>Participating child</i>	
Child is a girl	0.543
Child's age (months)	36.87
Child enrolled in kindergarten	0.551
<i>Participating adult</i>	
Mother	0.969
Level of education: High-school diploma	0.370
Level of education: Degree	0.535
Unemployed or inactive	0.449
Part-time worker	0.150
Full-time worker	0.402
Presence of a partner	0.976
<i>The portion of F.A.C.E. programs offered in:</i>	
Fall	0.197
Winter	0.323
Spring	0.480
Naples	0.457
Teramo	0.134
Palermo	0.276
Reggio Emilia	0.134
<i>Number of observations</i>	127

Table 2: The impact of FA.C.E. on parents' opinions and attitudes

COLUMN 1	COLUMN 2		COLUMN 3		COLUMN 4		COLUMN 5	
	Value of the outcome at the beginning		Treated-controls		Child-parent fixed effects		Placebo	
OUTCOMES	<i>mean</i>	<i>sd</i>	<i>beta</i>	<i>sd</i>	<i>beta</i>	<i>sd</i>	<i>beta</i>	<i>sd</i>
Well-being: being well integrated within a community	0.863	(0.345)	0.104**	(0.049)	-0.134	(0.073)	0.288**	(0.141)
Well-being: having access to culture	0.813	(0.391)	0.129	(0.067)	0.018	(0.065)	0.408**	(0.164)
Well-being: living in an area that offers opportunities	0.776	(0.419)	0.127**	(0.054)	-0.001	(0.087)	-0.101	(0.189)
Well-being: having good-quality relationships with friends and family	0.937	(0.245)	0.090**	(0.044)	-0.067	(0.055)	0.048	(0.140)
Well-being: economic security	0.887	(0.318)	0.024	(0.053)	-0.108	(0.058)	0.088	(0.144)
Self-confidence in comparison and sharing with other parents/adults (1-10 scale)	7.409	(1.550)	0.598**	(0.286)	0.154	(0.236)	1.178	(0.816)
Cell phone: Calms children when they are nervous	0.26	(0.441)	0.258***	(0.095)	0.052	(0.128)	0.017	(0.214)
Tablet: Calms children when they are nervous	0.24	(0.429)	0.160	(0.094)	0.006	(0.118)	-0.066	(0.194)
TV: Calms children when they are nervous	0.402	(0.493)	0.046	(0.107)	-0.082	(0.107)	-0.509	(0.283)
Cell phone: Gives the parent/adult an opportunity to do something	0.531	(0.502)	0.231**	(0.100)	-0.093	(0.098)	0.534	(0.379)
Tablet: Gives the parent/adult an opportunity to do something	0.561	(0.499)	0.152	(0.103)	-0.066	(0.127)	0.606	(0.333)
TV: Gives the parent/adult an opportunity to do something	0.848	(0.360)	0.053	(0.073)	-0.105	(0.076)	0.297	(0.197)
Cell phone: Can be used for learning	0.454	(0.500)	0.217**	(0.103)	0.137	(0.099)	-0.178	(0.328)
Tablet: Can be used for learning	0.625	(0.487)	0.185**	(0.085)	-0.064	(0.113)	0.141	(0.392)
TV: Can be used for learning	0.838	(0.370)	0.077	(0.055)	0.102	(0.060)	0.174	(0.256)
Kindergarten: provides more time for work	0.244	(0.435)	0.260	(0.178)	0.499***	(0.185)	-0.223	(0.508)
Kindergarten: offers more free time for parents	0.289	(0.458)	0.272	(0.190)	-0.018	(0.201)	-0.106	(0.451)

N of id

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Notes: In the “treated-controls” model (model 3 in “Empirical strategy”), we include the following control variables: gender; child’s age in months; whether the mother answered the questionnaire; if the respondent holds a university degree, the respondent’s work status (unemployed, part-time worker, full-time worker); the age of the parent at the child’s birth (<25 years, 25-30 years, 31-35 years, 36-40 years, >40 years); and the reference group for each FA.C.E. program and time period. In the “child-parent fixed effects” model (model 4 in “Empirical strategy”), we include the following control variables: the season when FA.C.E. was attended (autumn and winter, spring is the reference category); and the child’s age in months. In the placebo model (model 5 in “Empirical strategy”), we include the following control variables: gender; the child’s age in months; whether the mother answered the questionnaire; if the respondent holds a university degree, the respondent’s work status (unemployed, part-time worker, full-time worker); the age of the parent at the child’s birth (<25 years, 25-30 years, 31-35 years, 36-40 years, >40 years); the season when FA.C.E. was attended (autumn and winter, spring is the reference category), the municipality in which FA.C.E. was attended. Robust standard errors in parentheses for all models. ** p< 0.05; *** p< 0.01.

Table 3: The impact of FA.C.E. on the time use of children and parents

COLUMN 1 OUTCOMES	COLUMN 2 Value of the outcome at the beginning		COLUMN 3 Treated-controls		COLUMN 4 Child-parent fixed effects		COLUMN 5 Placebo	
	<i>mean</i>	<i>sd</i>	<i>beta</i>	<i>sd</i>	<i>beta</i>	<i>sd</i>	<i>beta</i>	<i>sd</i>
Activities in the last week: Dancing together with the child	0.929	(0.258)	-0.137**	(0.058)	-0.046	(0.045)	-0.054	(0.094)
Activities in the last week: Watching a cartoon with the child	0.858	(0.350)	0.042	(0.061)	0.103	(0.053)	-0.024	(0.126)
Activities in the last week: Reading a book to the child	0.843	(0.366)	-0.074	(0.069)	-0.005	(0.047)	-0.435**	(0.207)
Last month: Discussing child education with other adults	0.701	(0.460)	-0.073	(0.091)	0.127	(0.092)	-0.345	(0.234)
Last month: Visiting places of worship with the child	0.157	(0.366)	0.061	(0.076)	0.202***	(0.069)	-0.104	(0.159)
Last month: Attending a workshop with the child	0.15	(0.358)	0.028	(0.075)	-0.050	(0.115)	-0.267	(0.156)
Last month: Organizing meals with other families	0.551	(0.499)	-0.017	(0.091)	0.041	(0.082)	-0.364	(0.230)
Daily schedule: Impossible, there is always an emergency	0.031	(0.175)	-0.034	(0.020)	-0.034	(0.041)	-0.038	(0.098)
Daily schedule: Well-defined with many activities, but I'm always in a rush	0.378	(0.487)	0.048	(0.099)	0.155	(0.089)	-0.299	(0.225)
Daily schedule: Well-defined, the child has various activities throughout the day	0.433	(0.497)	-0.024	(0.096)	-0.028	(0.097)	0.372	(0.242)
Daily tablet and smartphone use: +1h	0.059	(0.238)	0.171**	(0.081)	-0.114***	(0.040)	-0.159**	(0.079)
Daily TV use: +1h	0.178	(0.385)	0.186	(0.110)	-0.034	(0.074)	-0.139	(0.300)
N of id	127							

Notes: In the “treated-controls” model (model 3 in “Empirical strategy”), we include the following control variables: gender; child’s age in months; whether the mother answered the questionnaire; if the respondent holds a university degree, the respondent’s work status (unemployed, part-time worker, full-time worker); the age of the parent at the child’s birth (<25 years, 25-30 years, 31-35 years, 36-40 years, >40 years); and the reference group for each FA.C.E. program and time period. In the “child-parent fixed effects” model (model 4 in “Empirical strategy”), we include the following control variables: the season when FA.C.E. was attended (autumn and winter, spring is the reference category); and the child’s age in months. In the placebo model (model 5 in “Empirical strategy”), we include the following control variables: gender; child’s age in months; whether the mother answered the questionnaire; if the respondent holds a university degree, the respondent’s work status (unemployed, part-time worker, full-time worker); the age of the parent at the child’s birth (<25 years, 25-30 years, 31-35 years, 36-40 years, >40 years); the season when FA.C.E. was attended (autumn and winter, spring is the reference category), the municipality in which FA.C.E. was attended. ** p< 0.05; *** p< 0.01.