Parenting courses and time use

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Research questions

➢ **What is the impact of parenting courses** on raising parental awareness?

➢ **Do they** improve the amount and quality of time parents and children spend together?

❖ Evaluation of parenting courses within the framework of the social program "*FA.C.E. Farsi Comunità Educanti*" (Becoming Educating Communities), offered in s.y. 2019-20 and 2020-21

Literature

➢ Parental time investments is the most important input in the child development process (Carneiro and Heckman 2003, Del Boca 2015, Meroni et al 2021)

➢ Previous research shows that parenting programs improve: parental awareness, parenting skills, children's cognitive skills, children's socio-emotional outcomes
  ➢ (Doyle et al. 2017, Doyle 2020, Wagner and Clayton 1999, Daly et al. 2014)

➢ Several EU countries include parenting support program into their national strategies (Janta, 2013)

➢ Contribution:
  • Analyzing the impact of parenting courses on raising parental awareness of the importance of spending time with the offspring and time use parent-children together
  • Compare alternative impact evaluation methods
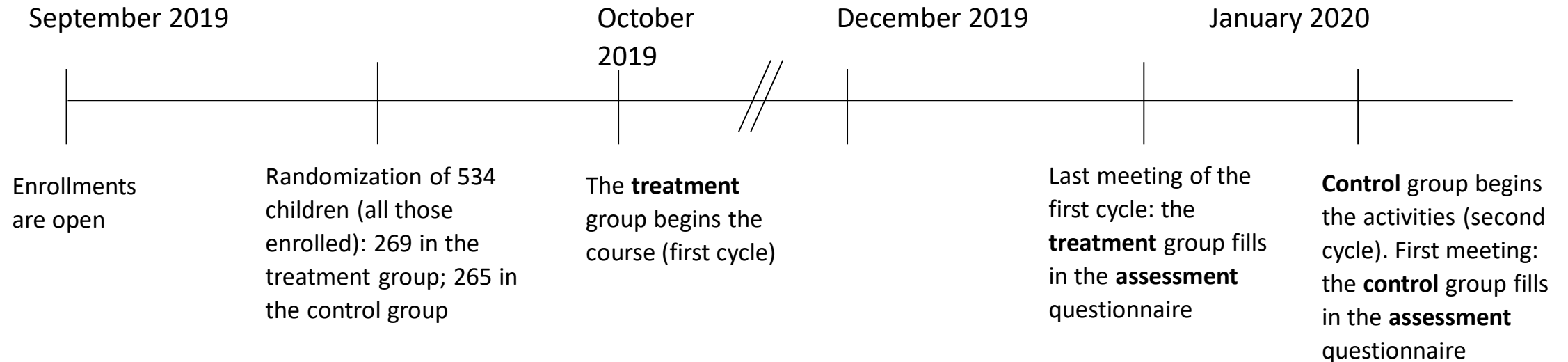
The intervention – FA.C.E.

➢ **Where?** Reggio Emilia, Teramo, Napoli, Palermo

➢ **Aims?** Support parents, increase access to educational and care services for children aged 0-6; building educating communities

➢ **Target?** Families with children aged 0-6

➢ **How?** Parenting courses based on participatory workshops involving children and one parent, organized separately for children aged 0-3 and those aged 3-6

- digital workshop
- musical workshop
- storytelling and reading workshop
- craft activities

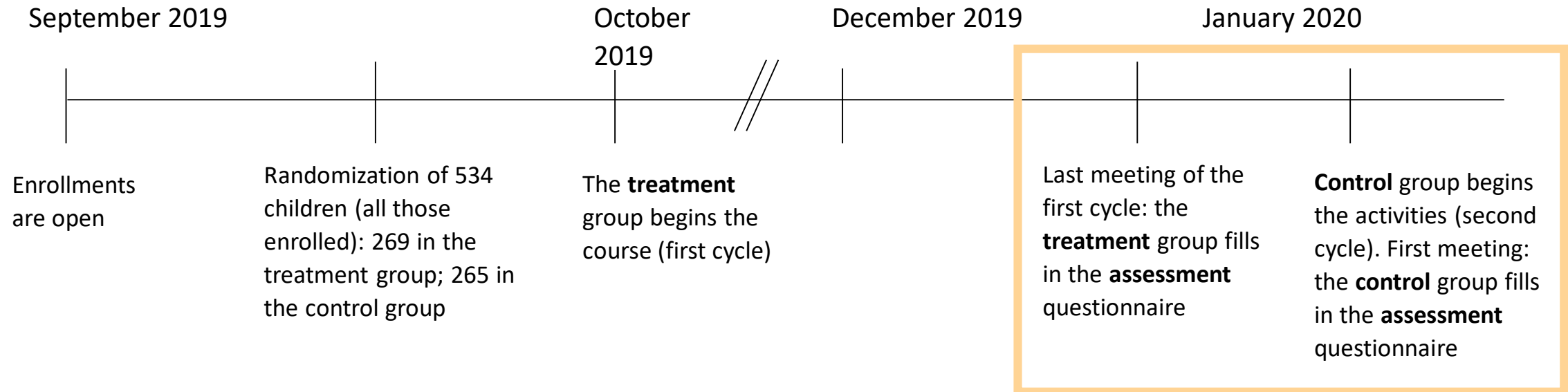➢ **When?** In s.y. 2019-20 and in s.y. 2020-21

Evaluation design 2019-20: RCT

September 2019

October 2019

December 2019

January 2020

Enrollments are open

Randomization of 534 children (all those enrolled): 269 in the treatment group; 265 in the control group

The **treatment** group begins the course (first cycle)

Last meeting of the first cycle: the **treatment** group fills in the **assessment** questionnaire

Control group begins the activities (second cycle). First meeting: the **control** group fills in the **assessment** questionnaire

➢ RCT experiment based on a phase-in mechanism

➢ Treatment: participating in a parenting course

➢ Families were randomly assigned to the treatment (1st cycle, 250 children admitted + 19 on waiting list) or to the control group (2nd cycle, 250 children admitted + 15 on waiting list)

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Data Collection

Assessment Questionnaire

Three sections:

i) use of time of parents and children together (reading, storytelling, singing, etc.)

ii) child's use of technology and parents' opinions about it

iii) whether parents can rely on a private network of social support; questions on parents' attitudes and beliefs about their offspring's education

Data 2019-20

534 children were enrolled in the FA.C.E. course in 2019-20
- ➢ 269 to the treatment group
- ➢ 265 to the control group

VARIABLES	CONTROLLED (Mean)	TREATED (Mean)	T-test (p-value)
Female	0.498	0.435	0.144
No siblings	0.158	0.175	0.616
Siblings missing[1]	0.336	0.279	0.154
Cohabiting parents	0.925	0.937	0.577
Mother	0.864	0.896	0.259
Naples	0.249	0.275	0.495
Palermo	0.196	0.167	0.387
Reggio Emilia	0.260	0.260	0.997
Teramo	0.294	0.297	0.938

Note: [1] Dummy which takes value equal to 1 if the information about siblings was missing

Empirical strategy 2019-20 : RCT

$$E[Y_{1i} - Y_{0i}|D_i = 1] = E[Y_{1i}|D_i = 1] - E[Y_{0i}|D_i = 0]$$

Empirical strategy 2019-20 : RCT

average causal effect of FA.C.E. [the effect of treatment on the treated]

$$E[Y_{1i} - Y_{0i}|D_i = 1] = E[Y_{1i}|D_i = 1] - E[Y_{0i}|D_i = 0]$$

potential outcome of those children *i* who attended FA.C.E.

potential outcome of those children *i* who did **not** attended FA.C.E.

Results 2019-20

OUTCOMES	CONTROLS mean	TREATED mean	Test p-value
Importance of education activities for children (1 min – 10 max)	9.145	9.516	0.004
Importance of cultural sites to improve one's life (1 min – 10 max)	9.017	9.478	0.006
Importance of talking/discussing with other parents of children development/educational path (1 min – 10 max)	8.474	8.550	0.686
Activity in the last week: read to the child	0.756	0.867	0.010
Activity in the last month: going to the library, playroom	0.378	0.268	0.078
Little satisfaction of the caregiver about the time spent with the child, s/he would like to spend more time together	0.159	0.301	0.032
Satisfaction of the caregiver about the time spent with the child, s/he would like more time to play with the child than doing household chores	0.386	0.258	0.042
Children use of technological devices: listening of music	0.243	0.325	0.248
Children use of technological devices: using Whatsapp	0.027	0.000	0.132
Television use: Never	0.090	0.153	0.140
Cumulative television use: Never or less than 30 minutes a day	0.260	0.371	0.066
Cumulative other technological devices use: Never	0.300	0.399	0.102

Notes: The p-value of the test are computed using randomization inference using weights. The number of valid answers per question is between 110 and 133 per group. Standard errors are clustered at family level.

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What if…

…it is not possible to implement a Randomized Controlled Trial Experiment?
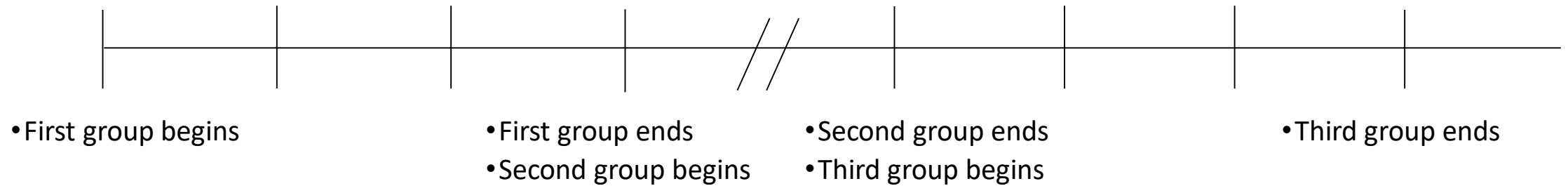
Evaluation design 2020-21

September 2020   December 2020   March 2021   June 2021

- First group begins

- First group ends
- Second group begins

- Second group ends
- Third group begins

- Third group ends

➢ Families were not randomized, they enrolled in the preferred cycle. The only difference was in the execution period: fall/winter or spring.

➢ All parents answered 2 questionnaires, one at the beginning and one at the end of the course (same assessment questionnaire).
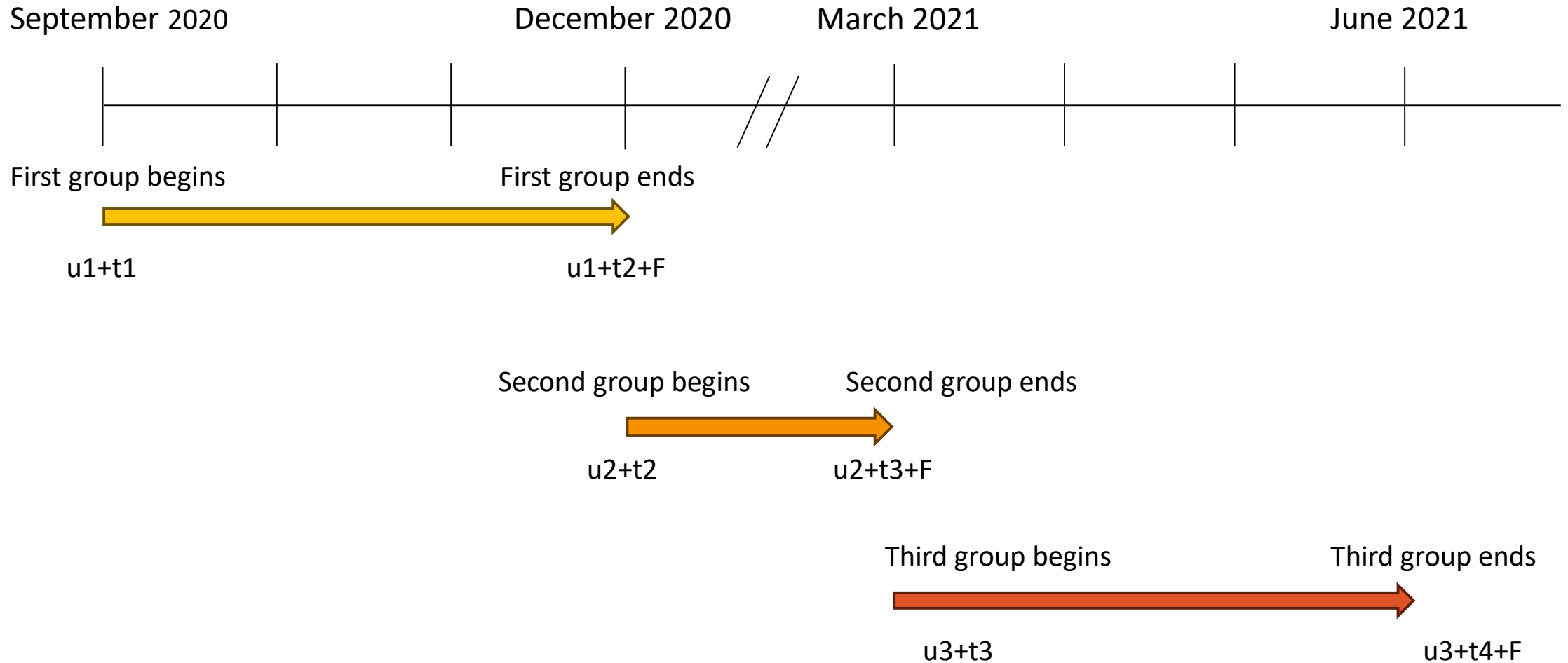
Data 2020-21

Descriptive statistics of those who complete FACE program.

VARIABLES	Mean
Female	0.543
Child's Age (months)	36.87
Child enrolled in kindergarten	0.551
Participating adult	
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
The portion of FACE programs offered in:	
Fall	0.197
Winter	0.323
Spring	0.480
Naples	0.457
Teramo	0.134
Palermo	0.276
Reggio Emilia	0.134
Number of observations	127

Note: * answer given by 126 persons about their status in spring 2020

Evaluation design 2020-21

September 2020   December 2020   March 2021   June 2021

First group begins   First group ends

u1+t1   u1+t2+F

Second group begins   Second group ends

u2+t2   u2+t3+F

Third group begins   Third group ends

u3+t3   u3+t4+F

Evaluation design 2020-21 : Treated & Controls

September 2020   December 2020   March 2021   June 2021

First group begins   First group ends

$u1+t1$ $u1+t2+F$

Second group begins   Second group ends

$u2+t2$ $u2+t3+F$

If $u1=u2=u3$

Third group begins   Third group ends

$u3+t3$ $u3+t4+F$
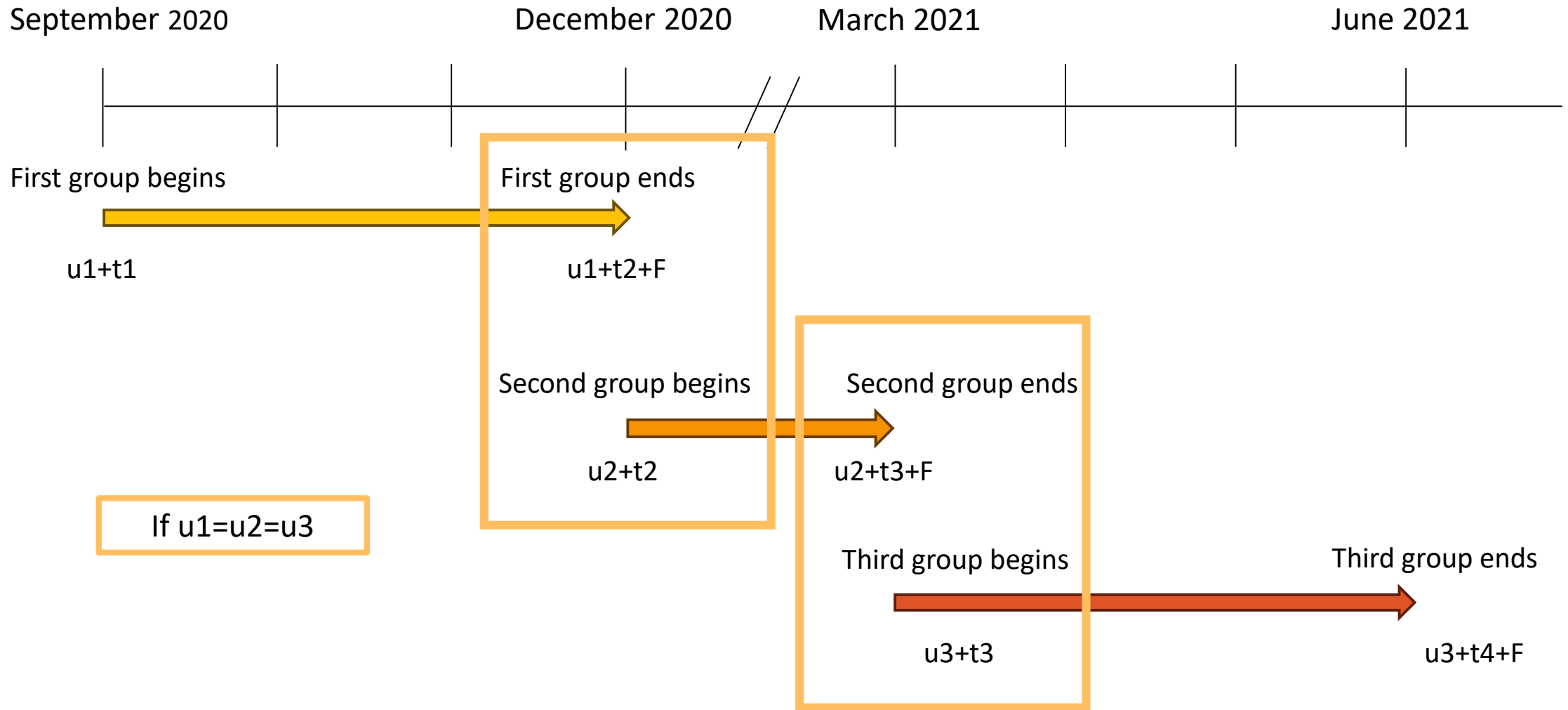
Empirical strategy 2020-21 : Treated & Controls

$$y_{it} = \alpha + \beta_{TC}FACE_{it} + C'_{it}\gamma + X'_{it}\delta + \varepsilon_{it}$$

With i = child, t = time

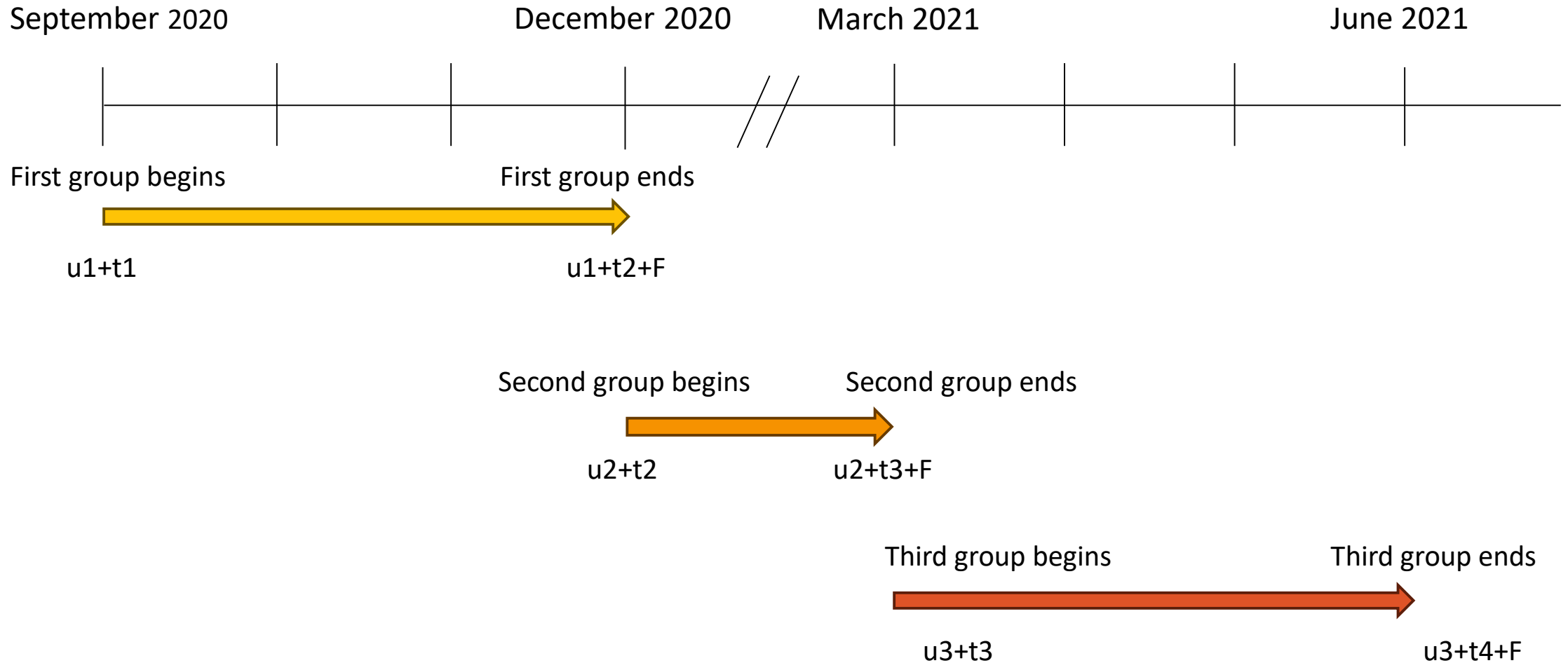Y: analyzed outcome of the parent of child i at time t

$FACE$: dummy equal to 1 when the course has been attended

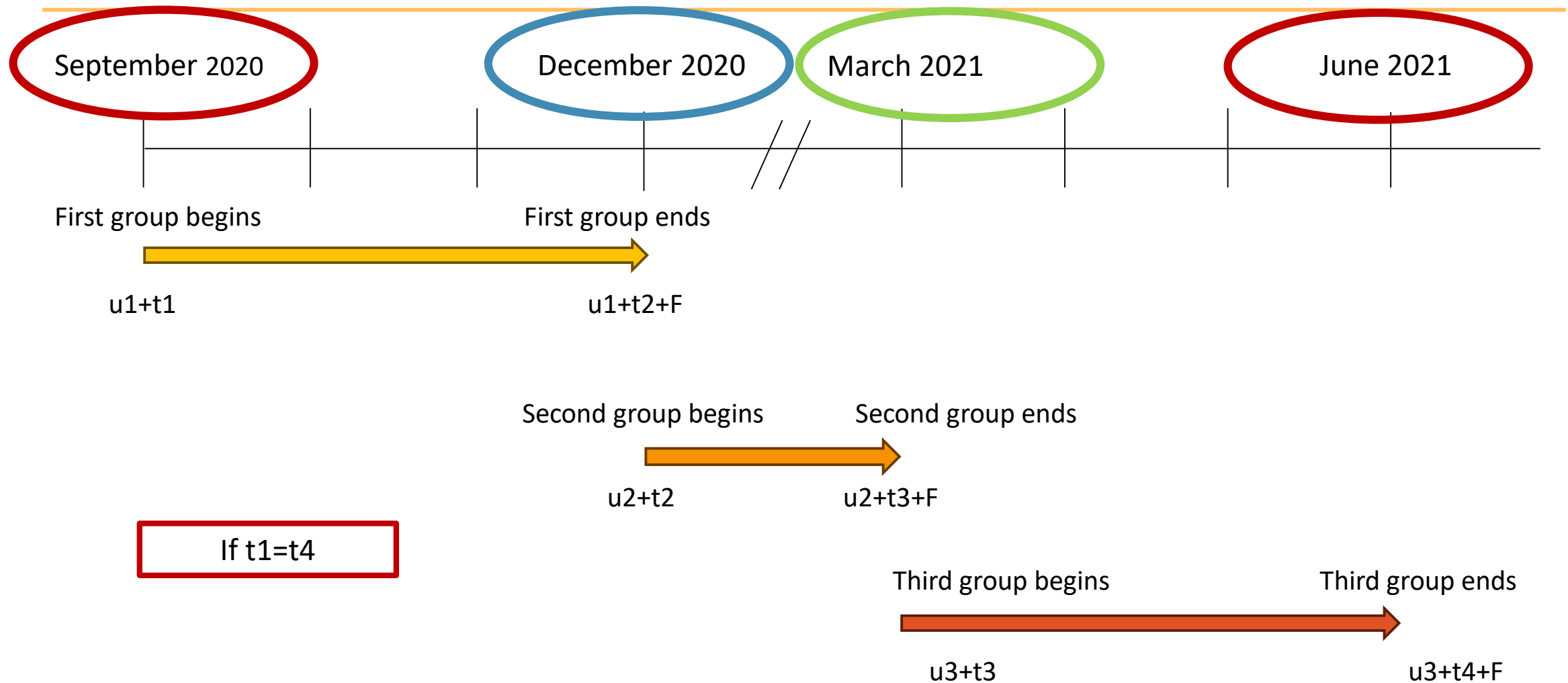C : vector of dummies for TC group identification per municipality

X : vector of controls (gender and age of the child, respondents' work and education, mothers' age at birth,

whether the respondent is the mother)

Evaluation design 2020-21

September 2020   December 2020   March 2021   June 2021

First group begins   First group ends

$u1+t1$ $u1+t2+F$

Second group begins   Second group ends

$u2+t2$ $u2+t3+F$

Third group begins   Third group ends

$u3+t3$ $u3+t4+F$

Evaluation design 2020-21 : Child-Parent Fe

September 2020   December 2020   March 2021   June 2021

First group begins   First group ends

u1+t1   u1+t2+F

Second group begins   Second group ends

u2+t2   u2+t3+F

If t1=t4

Third group begins   Third group ends

u3+t3   u3+t4+F

Empirical strategy 2020-21 : Child-Parent Fe

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

With i = child, t = time

Y: analyzed outcome of the parent of child *i* at time *t*

FACE : dummy equal to 1 when the course has been attended

age : age in months of the child i

winter : dummy equal to 1 if the assessment questionnaire has been filled in during winter

fall : dummy equal to 1 if the assessment questionnaire has been filled in during fall

ζ : individual fixed effects

Treated & Controls vs Child-Parent Fe

Treated & Controls

➢ Cross-sectional information

➢ Weaker assumptions about the temporal component

➢ Strong assumption on unobservable characteristics, families who participate in the first course are not systematically different from those who participate in a following one

Child-Parent Fe

➢ Panel dataset

➢ Stronger assumptions about the temporal component (assuming the same effect at different points in time t1=t4)

➢ Weaker assumptions about the unobservable characteristics of the families

Placebo test

$$y_{ibefore} = \mu + \beta_{PL}FIRST_{ibefore} + City'_{ibefore}\sigma + X'_{ibefore}\omega + v_{ibefore}$$

With i = child, before = before starting the course

Y: analyzed outcome of the parent of child *i* before attending the course

FIRST : dummy equal to 1 if belonging to the first group

City : City of residence

X : vector of controls (gender and age of the child, respondents' work and education, mothers' age at birth,

whether the respondent is the mother)

Results 2020-21 : Parents' opinions and attitudes

	(1) Value of the outcome at the beginning		(2) Impact of FACE Treated-controls		(3) Impact of FACE Child-parent fe		(4) Placebo	
OUTCOMES	mean	sd	beta	sd	beta	sd	beta	sd
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)
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				127				

Note: Robust standard errors in parentheses. *** p<0.01, ** p<0.05

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	mean	sd	beta	sd	beta	sd	beta	sd
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)
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Note: Robust standard errors in parentheses. *** p<0.01, ** p<0.05

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Results 2020-21 : time use of children and parents

OUTCOMES	(1) Value of the outcome at the beginning		(2) Impact of FACE Treated-controls		(3) Impact of FACE Child-parent fe		(4) Placebo	
	mean	sd	beta	sd	beta	sd	beta	sd
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)
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OUTCOMES	(1) Value of the outcome at the beginning		(2) Impact of FACE Treated-controls		(3) Impact of FACE Child-parent fe		(4) Placebo	
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Note: Robust standard errors in parentheses. *** p<0.01, ** p<0.05

Conclusions

RCT experiment design (2019-20)

➢ Assessment at the end (begin) of the program for the treated (controlled)

➢ Results: ↑ awareness of the importance of educational activities for children, ↑ frequency parents read to their child,
   ↑ desire to spend more time with the child

Treated-controls / Child-Parent Fe (2020-21)

➢ Data were collected before and after the program

➢ Two different empirical strategies

➢ Results: ↑ importance of living in an area that offers opportunities and of having good-quality relationship,
   ↑ self-confidence in sharing with other parents, ↑ acknowledgment of the educational contribution of some digital
   devices, ↑ digital devices can allow parents to do sth and calm children, ↓ dancing child-parent together

Thank you for your attention!

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Appendix

Randomizzazione

VARIABILI	TRATTATI Media	CONTROLLI Media	Diff. Significative
Femmina	0.435	0.498	
Età	3.004	3.079	
No fratelli	0.175	0.158	
Fratelli missing	0.279	0.336	
Genitori insieme	0.937	0.925	
Madre	0.896	0.864	
Napoli	0.275	0.249	
Palermo	0.167	0.196	
Reggio	0.260	0.260	
Teramo	0.297	0.294	
N	269	265	

Note: livelli di significatività *** 0.01, ** 0.05, * 0.1

Attrition

VARIABILI	ATTRITION Effetti Marginali	Diff. Significative
Femmina	0.039	
Età	-0.003	
No fratelli	-0.025	
Fratelli missing	0.005	
Genitori insieme	-0.082	
Madre	-0.026	
Reggio	0.261	***
Napoli	0.375	***
Palermo	-0.020	
Teramo	Omitted	

Note: livelli di significatività *** 0.01, ** 0.05, * 0.1

Caratteristiche ancora bilanciate?

VARIABILI	TRATTATI Media	CONTROLLI Media	Diff. Significative
Femmina	0.402	0.462	
Età	2.916	3.282	
No fratelli	0.197	0.154	
Fratelli missing	0.273	0.333	
Genitori insieme	0.924	0.940	
Madre	0.894	0.846	
Reggio	0.182	0.231	
Napoli	0.205	0.094	**
Palermo	0.235	0.265	
Teramo	0.379	0.410	
N	132	117	

Note: livelli di significatività *** 0.01, ** 0.05, * 0.1