

Parental Time Investments and Instantaneous Well-being

J. Ignacio Gimenez-Nadal¹ Almudena Sevilla²

¹Economic Analysis Department
University of Zaragoza, Spain

²School of Business and Management
Queen Mary University of London

ASSA meeting, 2018

Comitee for the Status of Women in the Economics Profession
Session: Intrahousehold Decision-making and Well-being: Measurement
and Evidence

Outline

Introduction

Data

Maternal Instantaneous Well-being and Educational Attainment

Conclusions

Why We Care?

- ▶ The time that parents invest in their children is a major determinant of human development (Lundberg, 2015; Francesconi and Heckman, 2016).
- ▶ In most developed countries more educated mothers tend to do more child care, particularly the kind of child care related to developmentally enhancing activities (Guryan et al., 2008).
- ▶ Education gradient in parental time investments may lead to the perpetuation of inequalities.
- ▶ It is important to unpack the determinants of parental time investments, and in particular the education gradient in parental time investments.

Question

- ▶ Traditional theories based on opportunity cost of time cannot easily explain why higher educated mothers spend more time in child care activities (Guryan et al., 2008).
- ▶ Can preferences explain the education gradient in child care?

2012-2013 ATUS Well-Being Modules

- ▶ The 2012 and 2013 American Time Use Survey (ATUS) Well-being Modules.
- ▶ ATUS respondents are asked to elicit time diary information over a recall telephone conversation of the previous days activity.
- ▶ In 2012 and 2013 respondents were additionally asked about how they felt during three-randomly selected diary episodes, using the day reconstruction method (Kahneman and Krueger, 2006).

Instantaneous Well-Being Scores

1. Happiness: How happy did you feel during this time?
 2. Meaning: How meaningful did you consider what you were doing?
 3. Sadness: How sad did you feel during this time?
 4. Stress: How stressed did you feel during this time?
 5. Tiredness: How tired did you feel during this time?
- ▶ Responses to these questions ranged from 0 (e.g., did not experienced the emotion at all) to 6 (e.g., the emotion was extremely strong).
 - ▶ We standardize these instantaneous well-being scores by subtracting the mean and dividing by the standard deviation (Sacks, Stevenson, and Wolfers 2012).

Child Care/ Maternal Education Variables

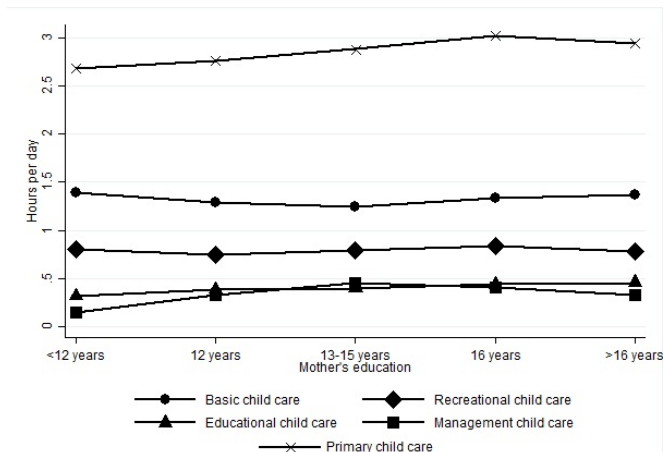
- ▶ Child-related episode: Child care reported as the primary activity.
- ▶ Basic, educational, recreational, and management child care (Guryan, Hurst, and Kearney 2008).
- ▶ We categorize maternal education into:
 1. below high school (<12 years; reference category)
 2. high school (12 years)
 3. more than high school but below college (13-15 years)
 4. college (16 years)
 5. more than college (+16 years)

Mothers between 21 and 55 with children under the age of 13 in the household who reported instantaneous well-being scores during at least one child-related episode.

1,622 child care episodes from 1,326 mothers.

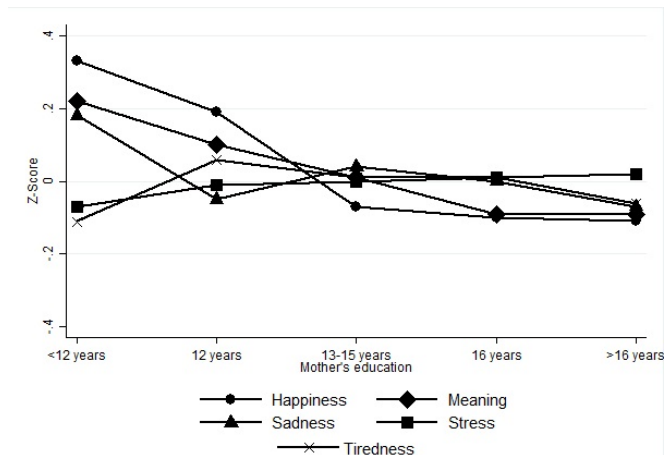
Child Care

Figure 1. Hours per day in child care



Instantaneous Well-Being

Figure 2. Instantaneous Well-being in child care activities



Raw Evidence: Puzzle

- ▶ Mothers engage in more child care as their educational levels go up, but maternal instantaneous well-being during child-related activities decreases with maternal education.
- ▶ Mothers with a college degree or more spend almost 3 hours per day in child care, whereas mothers with less than a high school degree spend a bit more than 2 and a half hours (Ramey and Ramey 2010).
- ▶ Negative education gradient ranging between 30 and 40 percent of a standard deviation in instantaneous happiness and meaning scores during child care activities between the two extremes of the education distribution.

Possible Explanations

- ▶ A simple model of time allocation would predict that child care decreases with maternal education because the opportunity cost of time is generally higher for higher-educated mothers.
- ▶ Allowing preferences for time spent with children (relative to other uses of time such as leisure) to vary by maternal education would tautologically explain the education gradient in maternal time investments.
- ▶ Economic Identity Model: Higher educated mothers experience utility losses as they deviate from the behavioral prescriptions about best mothering practices.
- ▶ Identity considerations around what constitutes best parenting practices can explain higher parental time investments on the part of college-educated mothers despite being a behavior that appears detrimental, if the reason for this behavior is to bolster a sense of self or to salve a diminished self-image ▶

Empirical Model

- ▶ We estimate separate random-effect models for each instantaneous well-being score as:

$$W_{j,i} = \alpha_0 + \alpha_1 E_i + \alpha_2 X_j + \alpha_3 Z_j + \epsilon_{j,i}$$

- ▶ $W_{j,i}$ represents mothers i reported instantaneous well-being during a given child-related episode j .
- ▶ E_i is a vector of maternal education dummies.
- ▶ Z_i is a vector of person-level controls commonly used in the literature (including a standardized measure of life satisfaction).
- ▶ X_j is a vector of episode-level controls that controls for the duration of the activity and the type of child-related activity.

Main Results

Table 1. Main results

Dependent variable	(1) Happiness	(2) Meaning	(3) Sadness	(4) Stress	(5) Tiredness
Primary child care					
12 years	-0.14	-0.09	-0.08	0.03	0.10
13-16 years	-0.27**	-0.15	-0.13	0.04	0.13
16 years	-0.33***	-0.23*	-0.10	0.00	0.14
16+ years	-0.38***	-0.32**	-0.21	0.04	0.13
N episodes	1,622	1,622	1,622	1,622	1,622
Number of mothers	1,326	1,326	1,326	1,326	1,326
R-Squared	0.13	0.06	0.06	0.06	0.07

Notes: 2012 and 2013 ATUS Well-Being Modules. Our sample consists of all child-related episodes in the diary of mothers between 21 and 55 with children under 13 in the household. Estimates refer to Equation (1). *** Significant at the 1 percent level. ** Significant at the 5 percent level. * Significant at the 10 percent level.

Main Results

- ▶ More educated mothers consistently report lower levels of instantaneous well-being, particularly lower levels of instantaneous happiness and instantaneous meaning, even after controlling for a wide set of controls:
 - ▶ Socio-economic characteristics
 - ▶ Decreasing marginal utility from spending more time in child-related activities
 - ▶ Higher general levels of maternal life satisfaction
- ▶ The instantaneous well-being gap between higher and lower educated mothers increases as we move up the education distribution.
- ▶ The education gradient holds for working and non-working mothers, and for mothers with children of different ages.

Falsification Tests

- ▶ Can our results be explained by nobservable factors correlated with educational attainment and instantaneous well-being, and not necessarily with being a mother?

Type of child care activity

- ▶ Child-related activities in which child care is not reported as the primary activity, but the mother reports to have a child in her care or to be in the presence of a child during the activity.
- ▶ The fact that mothers record an activity as non-primary child care may suggest a lower quality value that mothers place onto non-primary child care, which tends involve less active interactions than parental time in primary child care. Non-primary child care has also been shown not to be as human capital enhancing for the child as primary child care activities.
- ▶ Spending time in child-related activities that are not necessarily conducive to higher human capital may have a stronger negative impact on maternal instantaneous well-being than spending time in high-quality human-capital enhancing child care activities.

Results for non-primary child care

Table 1. Results for non-primary child care

Dependent variable	(1) Happiness	(2) Meaning	(3) Sadness	(4) Stress	(5) Tiredness
Non-primary child care					
12 years	-0.23***	-0.20***	-0.07	0.11	0.17**
13-16 years	-0.31***	-0.21***	-0.10	0.16**	0.26***
16 years	-0.43***	-0.38***	-0.12	0.20**	0.30***
16+ years	-0.49***	-0.53***	-0.13	0.23***	0.31***
N episodes	5,630	5,630	5,630	5,630	5,630
Number of mothers	2,763	2,763	2,763	2,763	2,763
R-Squared	0.12	0.10	0.06	0.09	0.05

Notes: 2012 and 2013 ATUS Well-Being Modules. Our sample consists of all child-related episodes in the diary of mothers between 21 and 55 with children under 13 in the household. Estimates refer to Equation (1). *** Significant at the 1 percent level. ** Significant at the 5 percent level. * Significant at the 10 percent level.

Other Identity considerations

- ▶ Can our results be explained by other identity considerations unrelated to being a mother (such as prescriptions and ideals about gender roles and identity considerations in relation to work and being a good wife) (Akerlof and Kranton 2000)?

Non-Child care activities

Table 1. Results for non-child care activities

Dependent variable	(1) Happiness	(2) Meaning	(3) Sadness	(4) Stress	(5) Tiredness
Non child care					
12 years	-0.07	-0.19*	-0.15	-0.12	-0.05
13-16 years	-0.17	-0.16	-0.13	-0.07	-0.06
16 years	-0.17	-0.31***	-0.23*	-0.08	-0.09
16+ years	-0.20	-0.35***	-0.30**	-0.04	-0.07
N episodes	2,587	2,587	2,587	2,587	2,587
Number of mothers	1491	1491	1491	1491	1491
R-Squared	0.04	0.08	0.03	0.07	0.04

Notes: 2012 and 2013 ATUS Well-Being Modules. Our sample consists of all child-related episodes in the diary of mothers between 21 and 55 with children under 13 in the household. Estimates refer to Equation (1). *** Significant at the 1 percent level. ** Significant at the 5 percent level. * Significant at the 10 percent level.

Fathers

- ▶ Compared to mothers, fathers are generally less involved in child-related activities (Guryan, Hurst, and Kearney 2008), and arguably less likely to consider intensive parenting practices as part of their identity.

Results for fathers

Table 1. Results for fathers

Dependent variable	(1) Happiness	(2) Meaning	(3) Sadness	(4) Stress	(5) Tiredness
Fathers in child care					
12 years	0.08	-0.05	-0.22	-0.26	-0.34
13-16 years	-0.08	-0.03	-0.21	-0.01	0.02
16 years	-0.17	-0.31*	-0.09	0.05	-0.07
16+ years	-0.20	-0.12	-0.06	0.03	-0.03
N episodes	1,179	1,179	1,179	1,179	1,179
Number of fathers	445	445	445	445	445
R-Squared	0.10	0.07	0.09	0.12	0.07

Notes: 2012 and 2013 ATUS Well-Being Modules. Our sample consists of all child-related episodes in the diary of mothers between 21 and 55 with children under 13 in the household. Estimates refer to Equation (1). *** Significant at the 1 percent level. ** Significant at the 5 percent level. * Significant at the 10 percent level.

Non-mothers

- ▶ Are our results are due to some unobservable characteristic that is correlated with having higher levels of education for women, and not necessarily with being a mother?

Results for non-mothers

Table 1, Results for non-mothers

Dependent variable	(1) Happiness	(2) Meaning	(3) Sadness	(4) Stress	(5) Tiredness
Non-mothers					
12 years	-0.08	-0.09	-0.20	-0.17	-0.03
13-16 years	-0.07	-0.03	-0.37**	-0.23	-0.09
16 years	-0.17	-0.10	-0.32*	-0.18	0.02
16+ years	-0.30**	-0.23	-0.33*	-0.10	0.05
N episodes	2,537	2,537	2,537	2,537	2,537
Number of non-mothers	900	900	900	900	900
R-Squared	0.09	0.09	0.12	0.12	0.07

Notes: 2012 and 2013 ATUS Well-Being Modules. Our sample consists of all child-related episodes in the diary of mothers between 21 and 55 with children under 13 in the household. Estimates refer to Equation (1). ***

Significant at the 1 percent level. ** Significant at the 5 percent level. * Significant at the 10 percent level.

Conclusions

- ▶ We propose an economic identity model of intensive mothering that is consistent with more educated mothers investing more time in children, as well as reporting lower levels of instantaneous well-being during child care.
- ▶ Falsification tests rule out alternative hypotheses unrelated to motherhood.
- ▶ Overall, these results emphasize the importance of incorporating identity consideration into parental time investment models.