The effect of fertility on parents' happiness

FIRST DRAFT (15th DEC 2015)

Gerrit Bauer (LMU)
Josef Brüderl (LMU)
Thorsten Kneip (MPIsoc)

European Population Conference, Mainz, Germany, 31st AUG. – 3rd SEPT. 2016

Abstract

Recently, the effect of fertility on parents' happiness has garnered much attention in scientific papers as well as in the media. We focus on the effects of first births on life satisfaction and make three distinct contributions to the literature:

1) Analysing data from the German Family Panel (pairfam), we estimate separate impact functions (distributed fixed-effects) for women and men and account for the age of the first child in 3-month intervals. This allows us to estimate the time-varying effect in more detail than does previous research which groups children's age in broader categories.

2) We conducted extensive robustness checks and the results are exceptionally robust. This is graphically illustrated by the range of impact functions and confidence bands across many differently specified models.

3) We discuss numerous potential mediators and put them to empirical testing. Besides income, education and health, which already have received attention in previous studies, we also considered stress measures (e.g. average hours of sleep) and frequency of sexual intercourse. These variables could potentially explain why the effect of children on happiness varies with the child's age. We also tested whether (states of) pregnancy can explain a positive anticipation effect, which is the case for women, whereas partner's pregnancy does not moderate the anticipation effect for men.

Overall, we find a positive effect of a first child on happiness. The effect is stronger for women and lasts until the child is 6-9 months old. Men show positive anticipation effects 12 months, women only 6 months before childbirth. The moderating impact of costs (e.g. more stress, less sex, lower income) is weak. Women and men would, by trend, be happier if children did not reduce sleep, income and the satisfaction with sexual intercourse. These factors, however, cannot explain why happiness declines to a baseline-level after 6-9 months.

Introduction

- „Regretting Motherhood“, based on interviews with 23 Israeli biological mothers (Donath 2015):

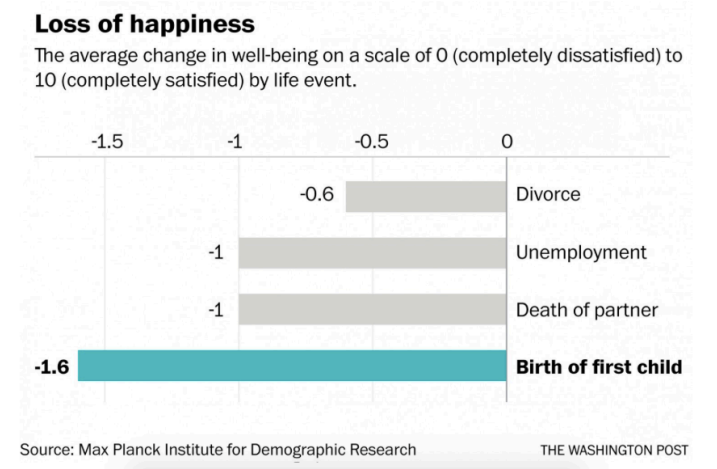
“Already during pregnancy I have sensed regret. (…) I understood it was a mistake, yes.”

“After the first birth I understood that the coupledom relationship will never be the same, that from this day on I need to look after another human being beside me (…).”

Children add “virtually nothing to life, apart from perpetual difficulty and worry”.

Introduction

- „It turns out parenthood is worse than divorce, unemployment — even the death of a partner“
(Washington Post, August 11th 2015, citing Margolis & Myrskylä 2015)



Mechanisms

- Why do we expect a non-constant effect of children on their parents' happiness?
  - **Economic theory**
    - Benefits and costs of children vary with their age:
      - Younger children need more care than older children
      - Higher direct costs of older compared to younger children
      - Opportunity cost compensation by welfare state ("Elterngeld")
      - …
  - **Predetermined setpoint**
    - "Each individual […] tends to restore well-being to a predetermined setpoint after each change in circumstances (Kahneman 1999: 14)
    - "Hedonic treadmill" (Brickman and Campbell 1971)
    - Genetic disposition explains different happiness levels (see twin studies)

Previous research: 3 recent papers

- Myrskylä & Margolis (2014)
  - SOEP & BHPS
    - Positive anticipation effects already 2-3 years before birth
    - Effect lasts 1-2 years
    - Effect of a first child is never significantly negative
- Pollmann-Schult (2014)
  - SOEP
    - Controlling for costs, also older children make their parents happy.
- Mikucka (2015)
  - Russia Longitudinal Monitoring Survey 1994-2012
    - Hardly comparable, all models control for mediating mechanisms

Data & Sample

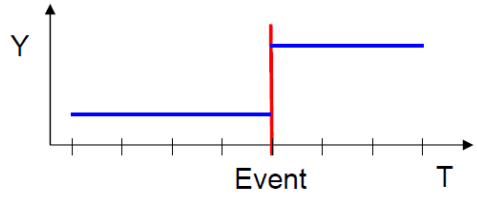
- pairfam - The German Family Panel (v6.0)
- 6 waves, 3 cohorts
- Usually 1 year between interviews
- Separate analyses of women and men
- Censored at second pregnancy

Analytic Sample I	Women	Men
N (Persons)	3.568	3.905
N (Person years)	10.511	11.227
N (first births)	427	393

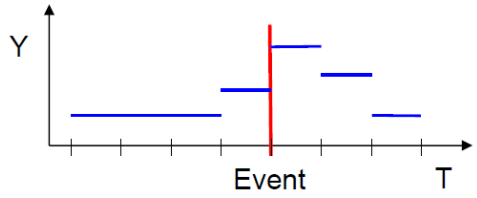
The Basic Fixed-Effect-Model

- Dependent Variable
  - Life satisfaction (happiness)
- Explanatory variable
  - Age of first biological child, in 3-month-intervals
  - Dummy impact function with anticipation effects

Step- vs. Dummy-Impact-Function



Step impact function
Immediate and permanent impact
- event dummy (0,0,0,0,1,1,1)

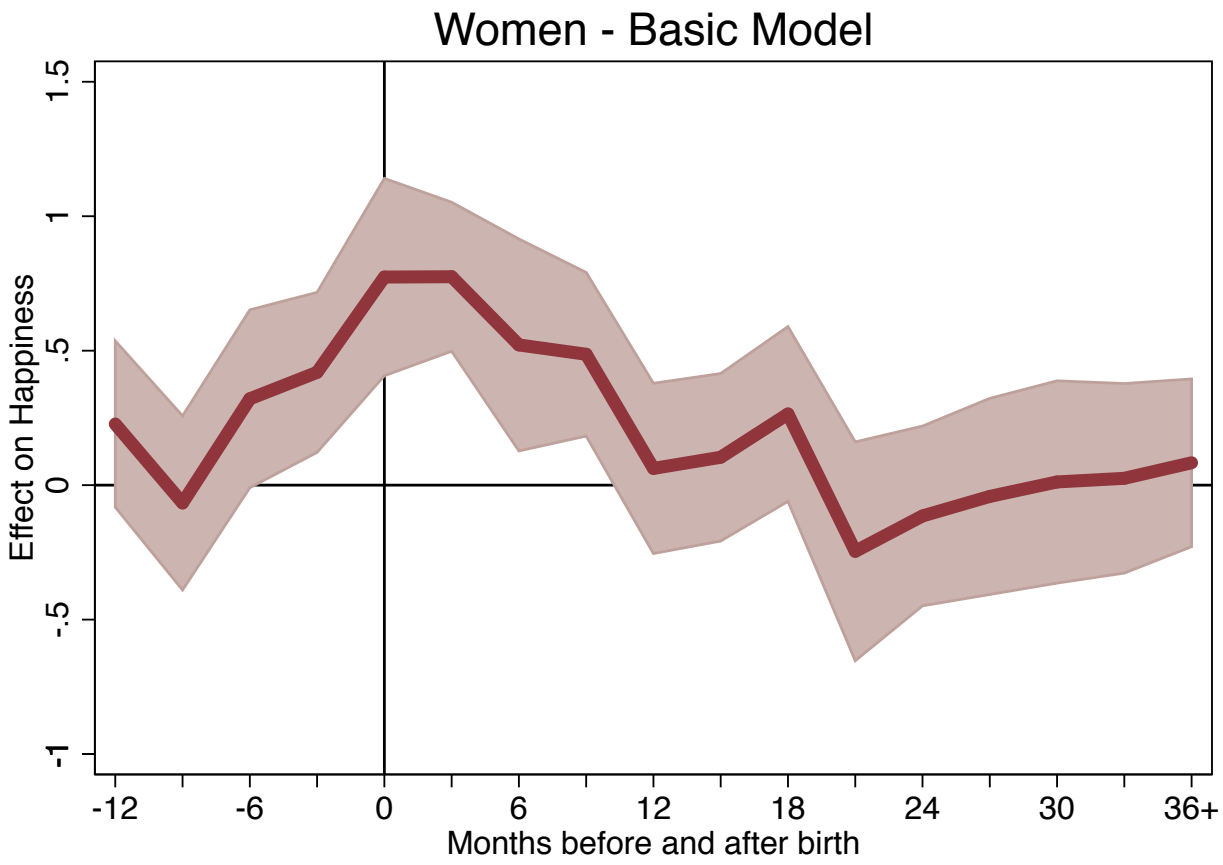


Dummy impact function
Arbitrary impact (including anticipation effect)
- dummy event time
  - -1 dummy (0,0,0,1,0,0,0)
  - 0 dummy (0,0,0,0,1,0,0)
  - 1 dummy (0,0,0,0,0,1,0)
  - 2 dummy (0,0,0,0,0,0,1)

(c.f. Brüderl 2015)

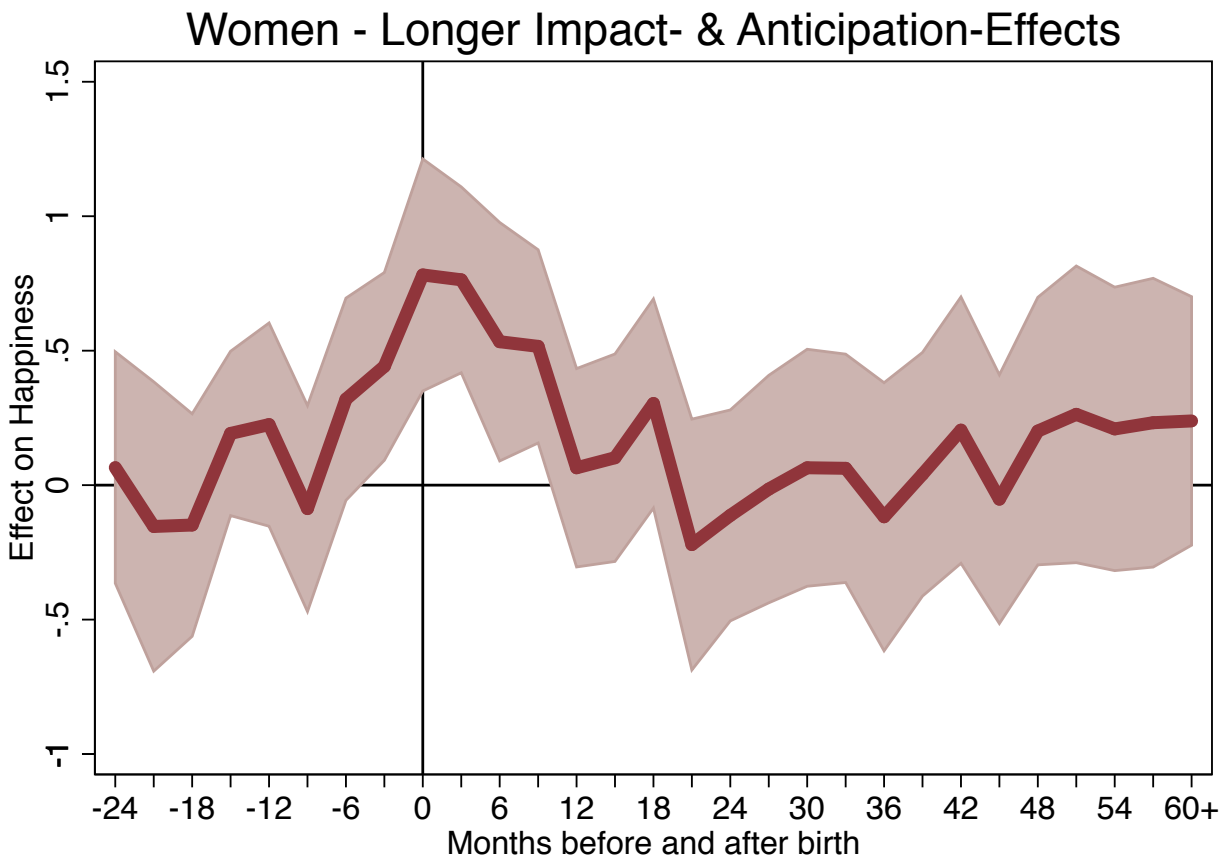
The Basic Fixed-Effect-Model

- Dependent Variable
  - Life satisfaction (happiness)
- Explanatory variable
  - age of first biological child, in 3-month-intervals
  - Dummy impact function
- Controls
  - Period (wave dummies)
  - Age (lin., sq., cub.)
  - Relationship-, cohabitation- and marriage-duration (categories)
  - Infertility (of respondent and/or partner)



Robustness of Findings

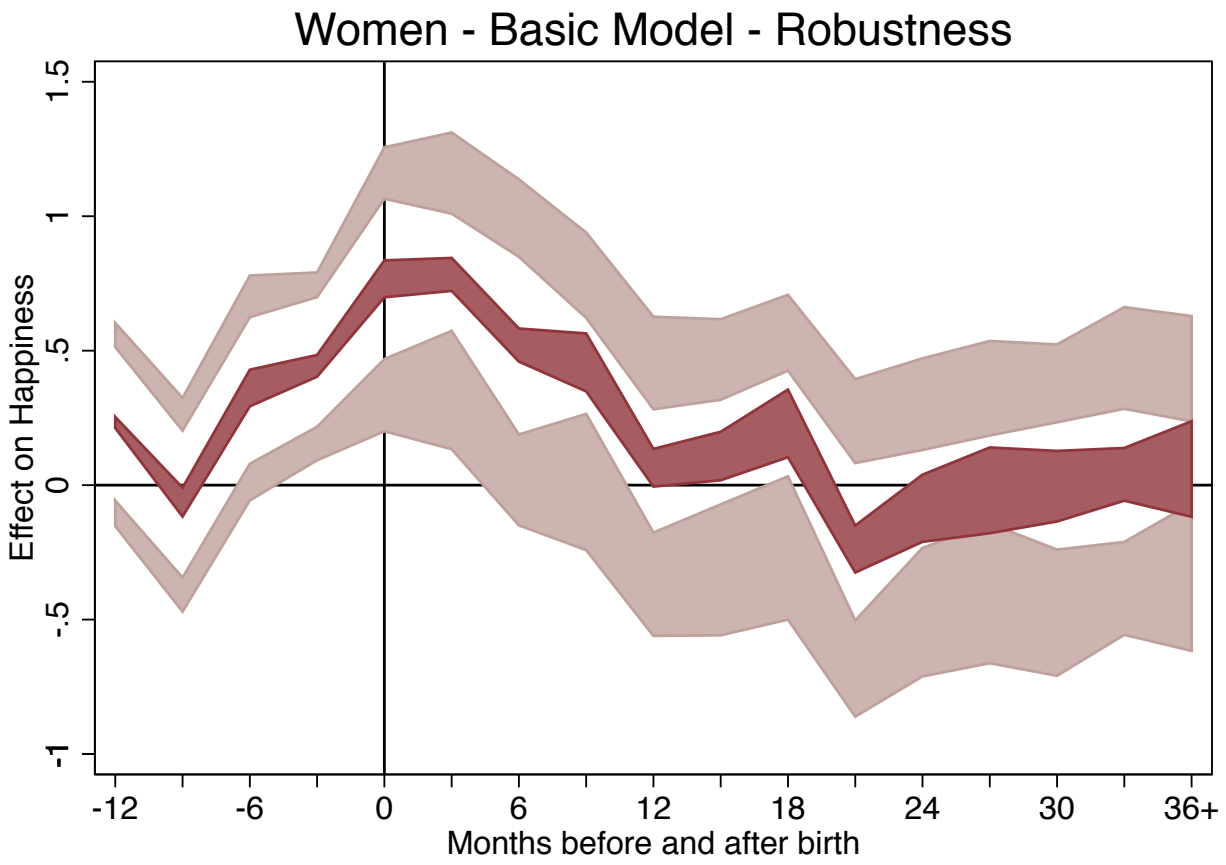
- Alternatives in preparing and analysing data:
  - Longer impact and anticipation-effects



Robustness of Findings

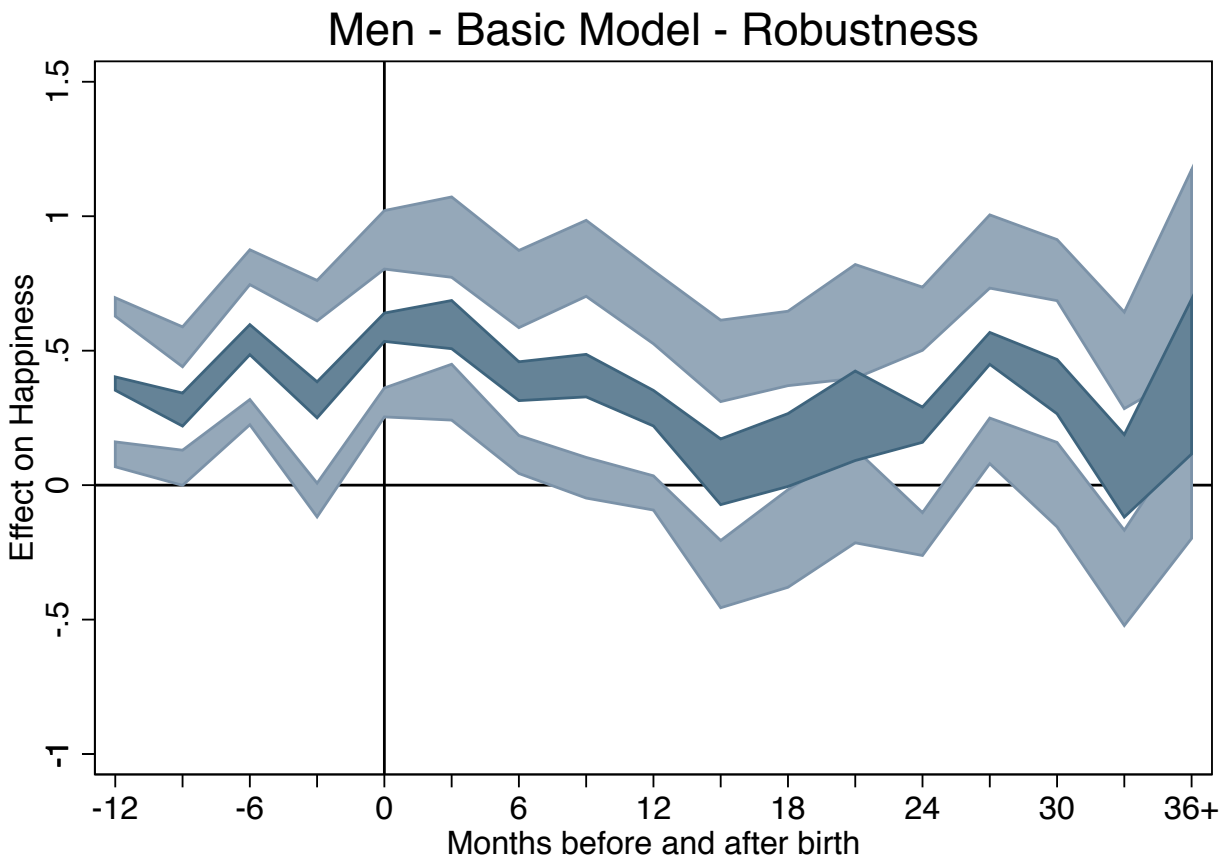
- Alternatives in preparing and analysing data:
  - Longer impact and anticipation-effects
  - Alternative definitions of first births
  - Not censoring at the second pregnancy or birth
  - Controlling for higher order births with impact functions
  - Alternative or no controls for age and/or period
  - No controls for partnership-, cohabitation and marriage duration

→ 19 alternative model specifications tested



Men

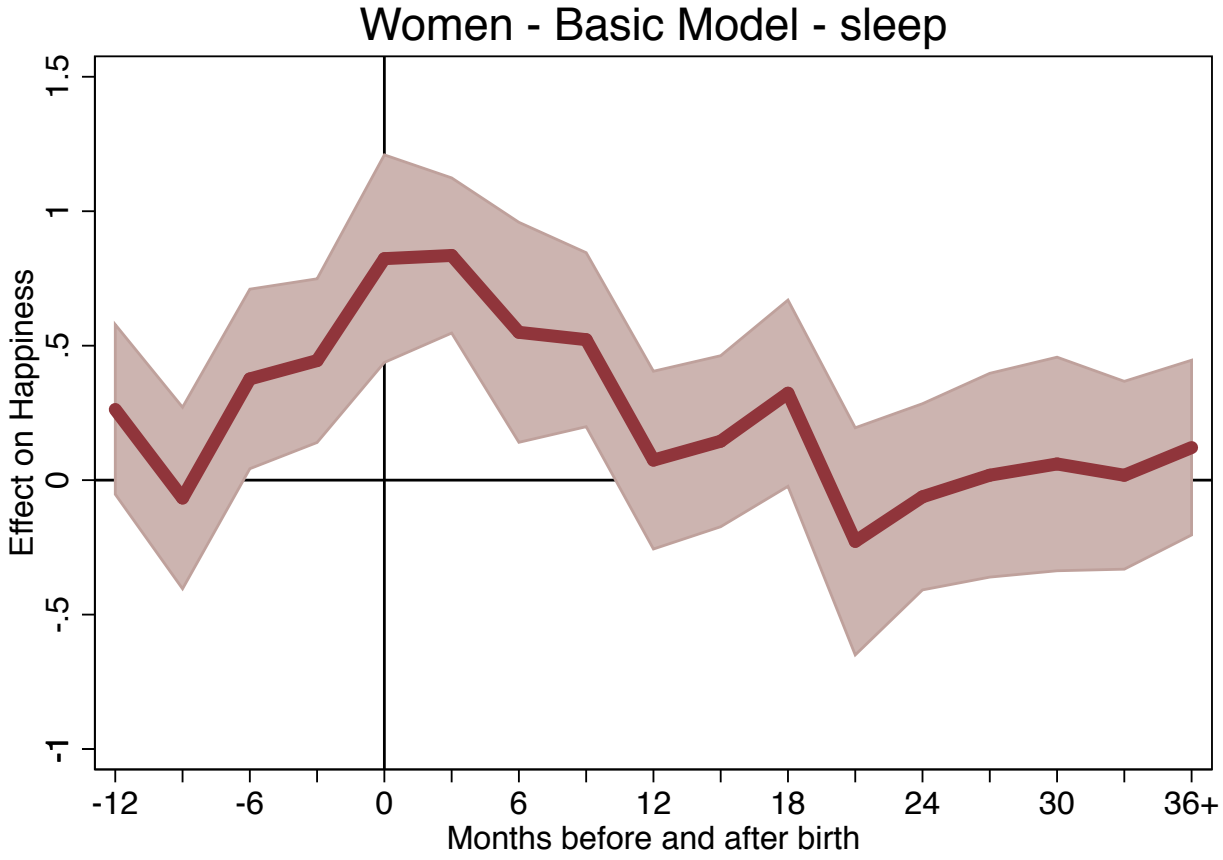
- Results for men compared to women
  - Similar patterns
  - Equally robust
  - Weaker effects
    (0.6 versus 0.8, 0-3 months after the first birth)
  - Anticipation effect not as strong, but longer
    (happiness increases already 12 versus 6 months before the birth)

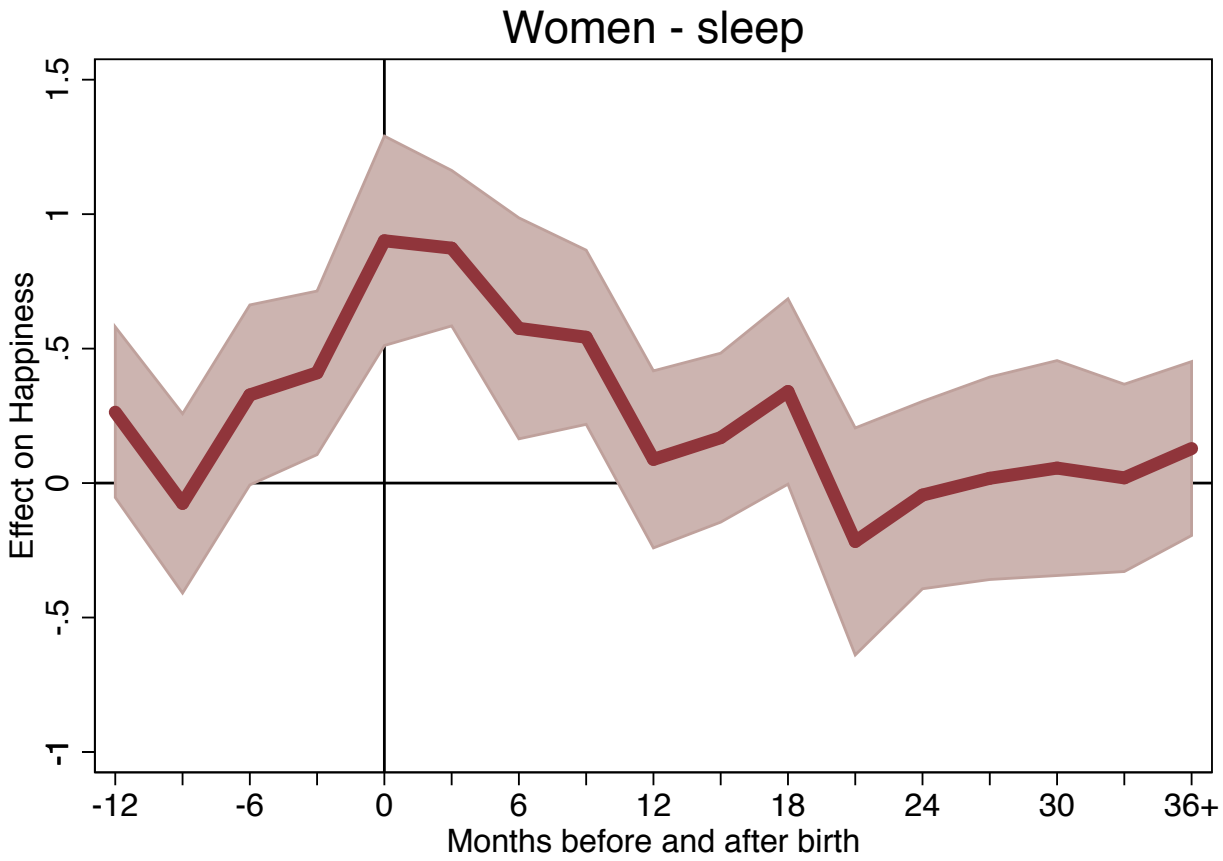


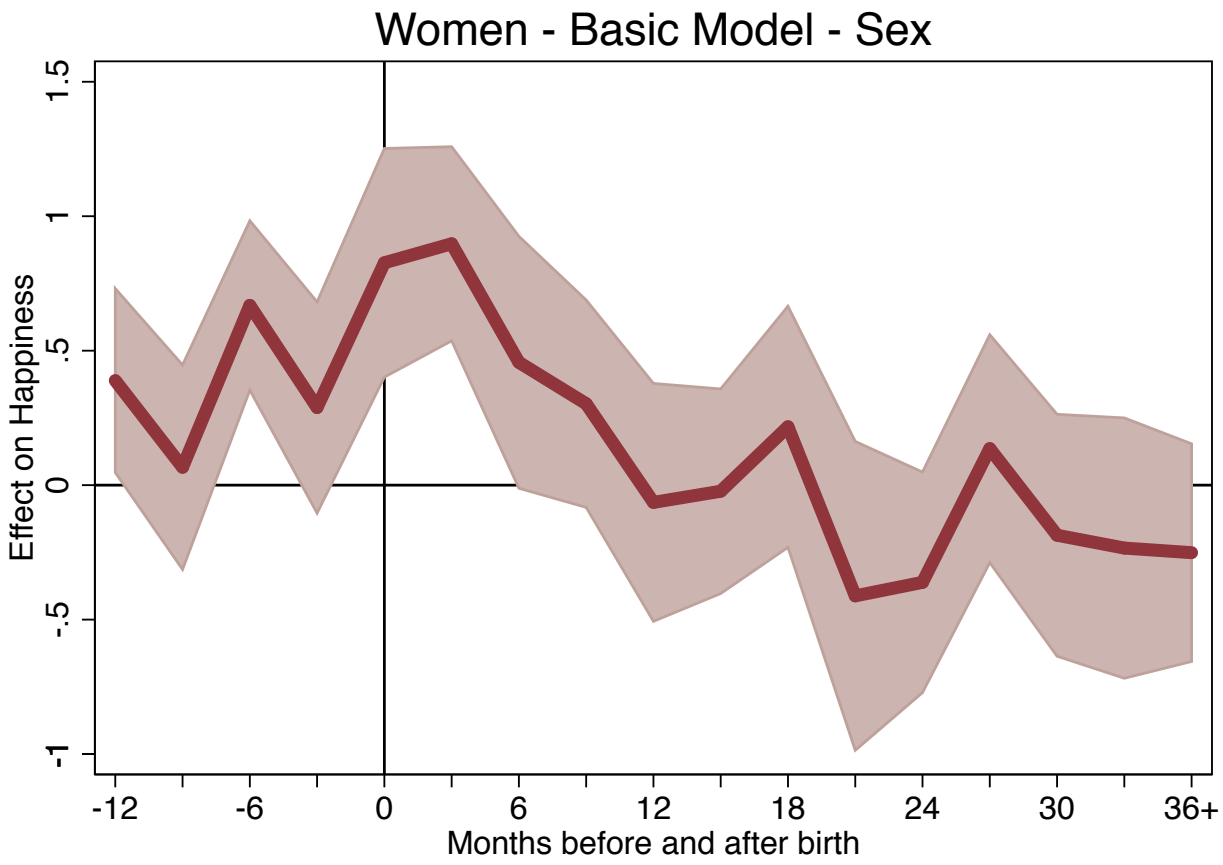
Mechanisms

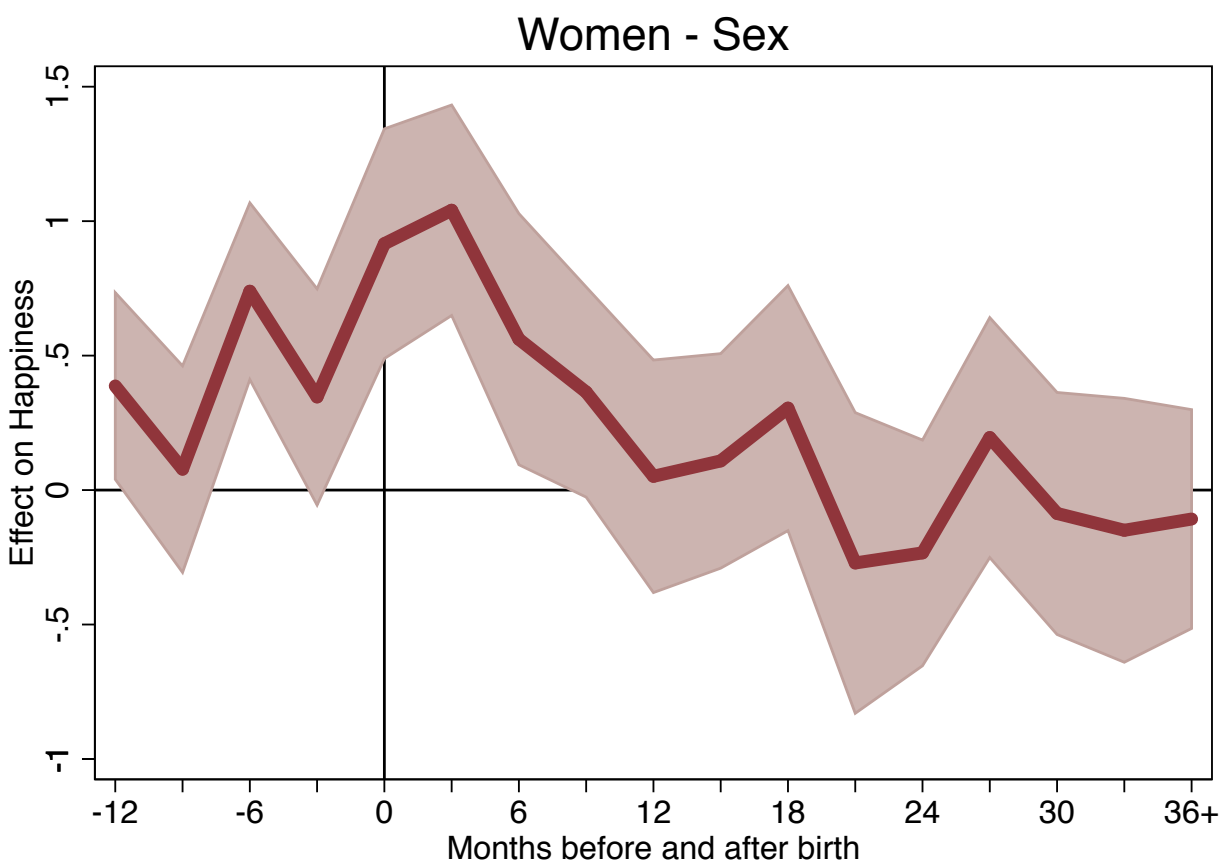
- Potential mediators (controls for costs): Change in
  - Objective income (household net income, personal net income)
  - Subjective income (making ends meet, 2 items)
  - Hours of sleep on an average day during the week
  - Subjective health
  - Frequency of sexual intercourse and satisfaction with sex

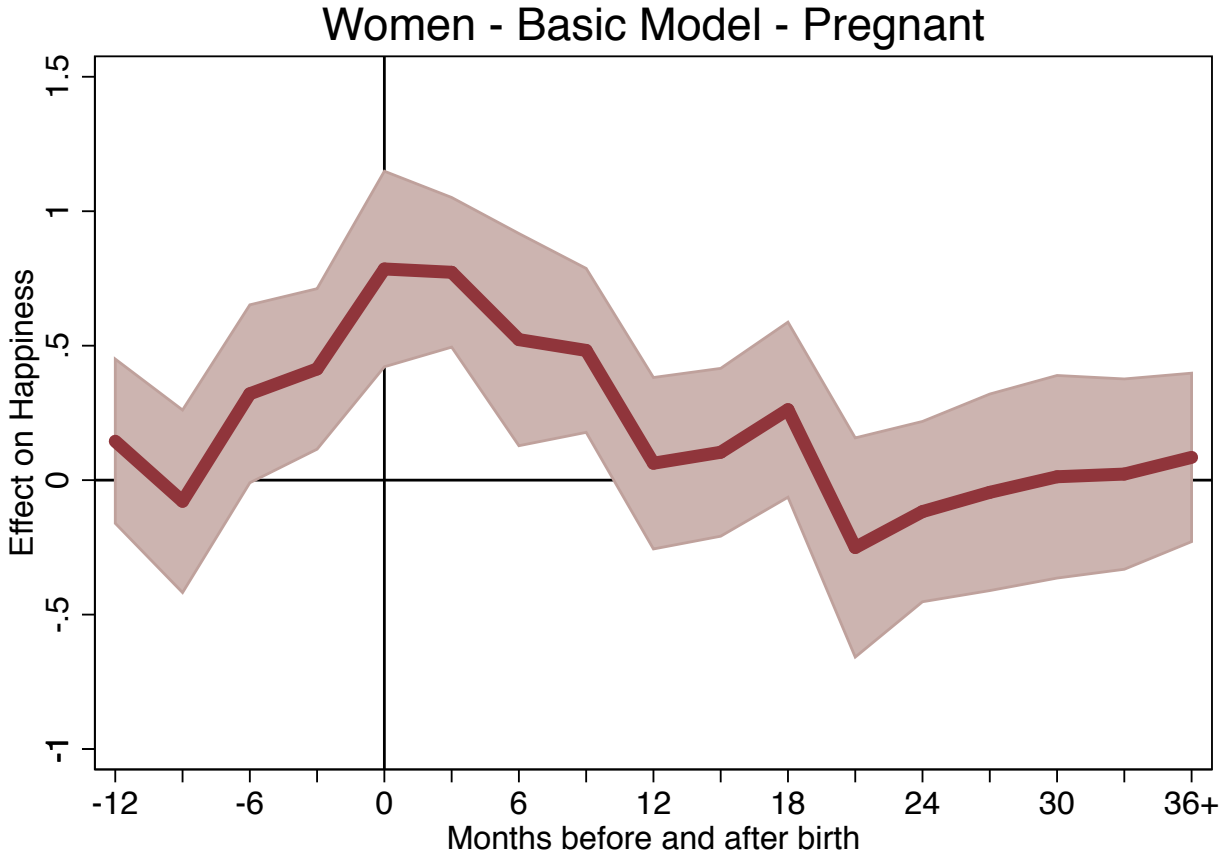
  - Pregnancy as explanation for anticipation effects (women)
  - Pregnancy of the partner as explanation for anticipation effects (men)

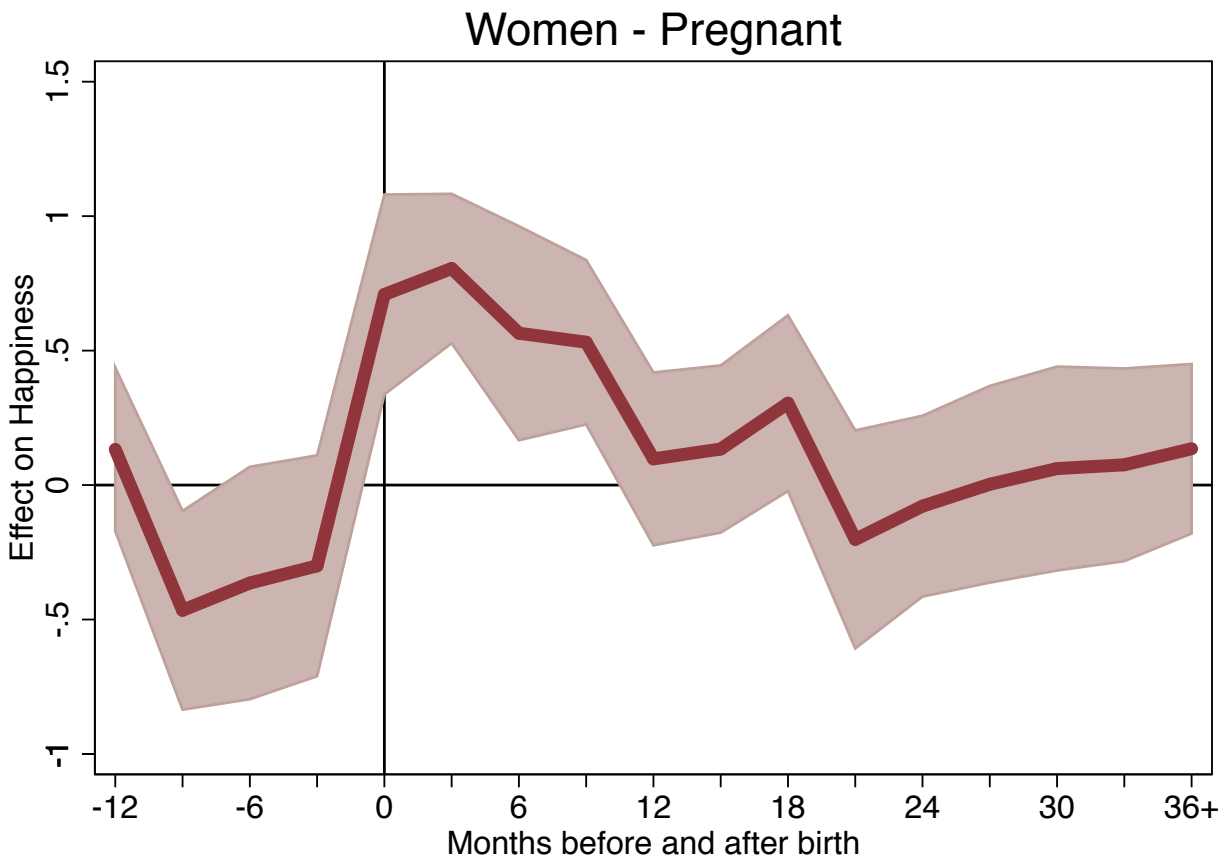

Women - Basic Model - sleep
Effect on Happiness
-1
-.5
0
.5
1
1.5
-12
-6
0
6
12
18
24
30
36+
Months before and after birth


Women - sleep
Effect on Happiness
-1
-.5
0
.5
1
1.5
-12
-6
0
6
12
18
24
30
36+
Months before and after birth


Women - Basic Model - Sex
Effect on Happiness
1.5
1
.5
0
-.5
-1
-12
-6
0
6
12
18
24
30
36+
Months before and after birth


Women - Sex
Effect on Happiness
1.5
1
.5
0
-.5
-1
-12
-6
0
6
12
18
24
30
36+
Months before and after birth


Women - Basic Model - Pregnant
Effect on Happiness
-1
-.5
0
.5
1
1.5
-12
-6
0
6
12
18
24
30
36+
Months before and after birth


Women - Pregnant
Effect on Happiness
-1
-.5
0
.5
1
1.5
-12
-6
0
6
12
18
24
30
36+
Months before and after birth

Mechanisms

Mediators	Women	Men
Objective income	✗	✗
Subjective income	✗	✗
Health	✗	✗
Hours of sleep	✗	✗
Sexual freq. & sat.	✗	✗
Pregnant	✓	
Partner pregnant		✗

Summary & Discussion

- Time-varying effect of children on parents‘ happiness
- Successful reproduction of Myrskylä & Margolis (2014)
  - with a more detailed impact function
- Costs (as far as already controlled for) do not significantly moderate the impact function.

- Possible remaining explanations:
  - Variation in unobserved costs
  - Variation in benefits: Cuteness
  - Setpoint theory