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Effects of Early Childhood Intervention on Maternal Employment, Fertility and Well-Being: Evidence from a Randomized Controlled Trial

Preliminary and Incomplete

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Abstract

This paper presents the results of a randomized study of a home visiting program implemented in Germany for low-income first-time mothers. A major goal of the program is to improve the participants' economic self-sufficiency and family planning. I use administrative data from the German Federal Employment Agency and detailed telephone surveys to examine the effects of the intervention on maternal welfare benefits, employment, and household composition. The use of administrative data minimizes sample attrition, which is often prevalent in field experiments investigating low-income populations. The findings of the study reveal that the intervention unintentionally decreased maternal employment and increased subsequent births. The program's effect on fertility can be explained by higher maternal life satisfaction and well-being in the treatment group, which led to fewer abortions compared with the control group. These results are in contrast to those of previous studies from the United States, where home visiting programs increased employment and decreased fertility.

JEL-Classification: J13, J12, I21, H52
Keywords: Early Childhood Intervention, Randomized Experiment, Fertility

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1 Introduction

The outcomes of early childhood intervention programs have gained much attention in the economic literature in recent years. Evidence from experimental studies suggests that these programs improve the cognitive and socioemotional abilities and the health of disadvantaged children (see Almond and Currie, 2011; Karoly et al., 2005, for a review of the literature). Because of the dynamic processes of skill formation, these early investments in children can reduce future inequality and yield high cost-benefit ratios in the long run (Cunha and Heckman, 2007; Heckman et al., 2013; Belfield, 2006).

Despite these promising results for children, so far there has been little research on the impact of early childhood interventions on certain dimensions of the maternal life course, such as maternal well-being, employment, education, fertility, and childcare use, although some interventions primarily focus on these topics. The neglect of maternal outcomes is surprising because changes in birth spacing, maternal employment, or childcare arrangements influence child development (Buckles and Munnich, 2012; Black et al., 2010; Bernal and Keane, 2011). Therefore, investigating these outcomes can provide new insights into how early childhood interventions generate effects on children. Additionally, interventions that influence the welfare dependency and employment decisions of disadvantaged mothers are of high fiscal relevance because these mothers show strong welfare persistence and receive a substantial share of total welfare spending in many countries.[1]

The early childhood interventions with the strongest maternal focus are home visiting programs, in which nurses consult with disadvantaged mothers for a longer period after birth. These programs are popular in many developed countries and particularly in the US, where the Obama administration has requested $500 million for fiscal year 2016 and $15 billion over the next 10 years to continue to expand home visiting for families (U.S. Department of Health and Human Services, 2015). Home visiting programs are intended to enhance maternal skills such as attachment behavior, interactions, and teaching skills and directly target women's personal strengths,

[1] In Germany in 2008, families with children younger than three received € 4.7 billion in welfare payments which represents 16% of total welfare payments in Germany.

including self-efficacy, problem-solving abilities, self-esteem, and the ability to create and maintain social networks.

It is likely that improved maternal skills and personal strengths influence aspects of the maternal life course. However, the direction and size of these effects are unclear. On the one hand, the intervention could lead to higher maternal participation in the workforce or education by improving mothers' awareness of their personal strengths. On the other hand, the intervention could increase women's satisfaction with the maternal role by improving their parenting skills. However, greater maternal satisfaction and well-being could positively influence fertility decisions and, consequently, lead to longer absences from the workforce. The only evidence from randomized field experiments regarding which of the two effects predominates comes from the United States, where home visits decreased fertility and increased maternal employment (Olds et al., 2007, 1997; Brooks-Gunn et al., 1994).

This paper reports the effects of the *Pro Kind* Project, the first randomized experiment of one such home visiting program on the maternal life course in a European context. The intervention aims to improve maternal economic self-sufficiency, family planning and parental competencies to improve child development and health. The *Pro Kind* sample consists of 755 first-time mothers on welfare in three German states. The mothers are randomly assigned to either the treatment group, which received home visits during pregnancy and for the following two years, or to the control group.

My analysis draws on administrative data from the Federal Employment Agency, containing information on employment, wage, welfare benefits and household composition and on biannual telephone interviews. The administrative data are available for over 90% of the sample over the first three years after the birth of the first child. They are objectively measured and should not be biased by the treatment and control groups differentially reporting outcomes. The survey data allow for the examination of a much richer set of outcomes, such as fertility planning, childcare use, and subjective statements about well-being and life satisfaction, allowing me to identify channels for potential findings. However, with a declining effective response rate over time, the data are subject to potential nonresponse bias. My available

evidence on this issue is limited but reasonably reassuring. The obtained data are unique because they offer a particularly close examination of the life outcomes of disadvantaged first-time mothers in the first three years after the birth of their first child.

I find that the *Pro Kind* Project significantly increased the probability of a second birth among the intervention group by 36 percent relative to the mean of the control group. Consequently, the intervention decreased the months employed and increased the months on welfare after birth. The effect on fertility is mainly explained by the lower number of abortions among the women in the treatment group. I do not have evidence that mothers in the treatment group were more likely to welcome subsequent births because of more favorable family environments, such as more stable partnerships, compared with the control group. However, the intervention positively influenced subjective maternal well-being and life satisfaction, which might have influenced fertility decisions.

The results of the *Pro Kind* program differ substantially from the results of previous home visiting studies in the United States. I can show that the content and implementation of the *Pro Kind* program, as well as its participants, are very similar to those in the US studies. Therefore, the most compiling reason for the different results is the arrangement of the German welfare state. This welfare state is characterized by generous social assistance rules that guarantee a fixed welfare amount per child and unconstrained social assistance until the child's third birthday. It is likely that in a welfare state environment in which mothers with small children have no work obligations and incomes that increase with subsequent births, the intervention's impacts on maternal skills and life satisfaction might lead to subsequent births. In contrast, in the United States, the incentives for having another child are low because of the maternal budget constraints induced by stricter welfare regulations, especially since the mid-1990s.[2] Therefore, in the United States,

[2]In 1996, the Temporary Assistance to Needy Families (TANF) program eliminated the legal entitlement to cash welfare by imposing a 60-month lifetime limit on benefits and requiring individuals to leave welfare for work after two years. Furthermore, three of the four stated goals of the TANF program involved reducing non-marital births and encouraging marriage (Blank, 2002). However, even Aid to Families with Dependent Children (AFDC), the program that preceded TANF, was stricter than the welfare system in Germany today. Under AFDC, only single mothers were eligible for cash benefits, which were rather low (the monthly benefits for a single-parent family with two children and no income ranged from $120 in Mississippi to $597 in Vermont). Additionally, AFDC primarily used in-kind transfers, such as food stamps, and included significant work obligations (Moffitt, 1998; Gebhardt and Jacobs, 1997).

home visiting might lead to increased maternal workforce participation instead of increased fertility.

The remainder of the paper is organized as follows: Section 2 reviews the existing literature on the effects of home visiting on the maternal life course. Section 3 provides a description of the *Pro Kind Project*, the experimental design, the baseline sample and the data used in this study. Section 4 presents the results, and section 5 provides concluding remarks.

2 Related Literature

There are few studies in the literature that examine the impact of early childhood programs in general, and of home visiting programs in particular, on parents. For example, in the famous Perry Preschool Program, although home visits were part of the intervention, none of the 715 evaluated outcomes focused on parents (Heckman and Jacobs, 2010). However, the effects on parents might be one undetected link affecting the success of the program. The only program in which effects on parents were systematically evaluated is the research on the Nurse Family Partnership Program (NFP). This program is conceptually similar to the *Pro Kind* program, and like the *Pro Kind* program, it aims to increase maternal economic self-sufficiency.

The NFP was evaluated in three randomized controlled trials located in Elmira, New York, in 1980, in Memphis, Tennessee, in 1990 and in Denver, Colorado, in 1995. In all trials, unemployed and low-income first-time mothers were enrolled (Olds et al., 1997, 2010, 2004), and both the maternal life course and child outcomes were of prime interest. The availability of follow-up outcome data varies among the trials and ranges from four years to 15 years of data. The NFP literature shows a reduction in the rates of subsequent pregnancies and births and an increase in the intervals between first and second pregnancies and births in all three trials for the first four years after mothers entered the program. In all three trials, the intervention reduced women's use of welfare, and in two of the three trials, the intervention increased maternal employment. More stable partnerships and the reduction in subsequent births are channels to explain the effects on welfare and employment. Long-term

follow-up revealed that the impacts on the maternal life course did not diminish over the years. The intervention did not affect the mothers' school graduation rates in any of the trials, although higher school attendance was observed in the Elmira trial. Appendix Table A1 summarizes the three trials' results regarding the maternal life course. Only one study in addition to the NFP analyzed the effects of home visiting on the maternal life course using a randomized experiment (Brooks-Gunn et al., 1994). In that study, home visiting significantly decreased maternal unemployment.

Cost/benefit analyses of the Elmira and Memphis trials indicate that the NFP reaches the fiscal break-even point via its effects on the maternal life course, even before considering effects on the children. In Elmira, the program cost of $3,133 was outweighed by discounted savings of $3,246 (expressed in 1980 US-$) by child age four. The main reason for these savings was increased maternal employment (Olds et al., 1993). In Memphis, the NFP resulted in $12,300 in discounted savings per intervention compared with the program's cost of $11,511 (both expressed in 2006 US dollars) by child age twelve. Higher maternal employment and lower government spending on food stamps, Medicaid, AFDC, and TANF generated these savings (Olds et al., 2010). These results show that home visiting programs, and the NFP in particular, have strong effects on the maternal life course and that these effects are highly fiscally relevant.

3 The *Pro Kind Project*: A Social Experiment

3.1 Background

Pro Kind is an adaptation of the previously described NFP program, which provides instructions for home visit frequency, employee selection, teaching material, and guidebooks (see Jungmann et al., 2009; Olds, 2006, for additional information on the *Pro Kind* project and NFP). The intervention begins between the 12th and 28th weeks of pregnancy and ends at the child's second birthday. Midwives conduct the home visits either continuously or in a tandem model with social pedagogues and a pediatric nurse (Brand and Jungmann, 2012). The frequency of the home visits varies according to the NFP model prescription between weekly, biweekly,

and monthly visits, with the highest visit frequency occurring directly before and after birth.

Overall, 52 home visits with an average duration of 90 minutes are scheduled between pregnancy and the child's second birthday. Teaching materials and visit-by-visit guidelines structure the theme and aim of each home visit. Nevertheless, home visitors have the flexibility to adapt the contents to maternal needs and the familial situation. All home visitors regularly receive feedback, encouragement, reflection, and support from nurse supervisors.

The *Pro Kind Project* only registers first-time mothers between their 12th and 28th weeks of gestation. All participants must receive social welfare or unemployment benefits, have an income that qualifies them for social welfare benefits or have excessive debt. Additionally, all participants must have one of the following social risk factors: a low educational level, teenage pregnancy, isolation, health problems, or having been a victim of violence. Project partners, such as gynecologists, job centers, pregnancy information centers, and youth welfare offices, referred approximately 75% of the participants to Pro Kind, and approximately 25% self-registered in the program.

The *Pro Kind* project was implemented in three German federal states at 13 implementation sites between 2006 and 2012 (see Appendix Table A1 and Figure A1). Although the chosen sites are not fully representative of Germany, the communities cover both rural and urban regions as well as regions in both Eastern and Western Germany. This mixture of sites ensures that the program is implemented under varying regional conditions in terms of availability of childcare, healthcare provision, and labor market conditions.

A major goal of the *Pro Kind* program is to improve families' economic self-sufficiency by helping parents develop a perspective for their future and make appropriate decisions about planning future pregnancies, finishing their education, and finding employment. A legitimate question is why home visiting in general, and *Pro Kind* in particular, would produce effects in these domains. This question is especially crucial because the German welfare state offers generous benefits to the mothers of infants and toddlers. For example, there are no work obligations or

welfare cuts as long as a mother lacks childcare arrangements. As a result, there are few incentives for mothers to participate in the labor market. Furthermore, in addition to the *Pro Kind* program, various services offer help and support, especially for mothers (e.g., the labor agency provides special programs for unemployed people who are younger than 25 years of age and for single mothers).

The main answer why the *Pro Kind* program could have additional effects on maternal life course and employment can be explained by the relationships that the home visitors develop with the mothers during their pregnancies and their children's early years. The strongest factor that initiates and deepens this relationship is the mother's first experience with a newborn child. Olds et al. (2010) state that through this relationship, nurses can help parents to gradually gain a sense of mastery for overcoming challenges and position themselves to create the kind of life they want. Furthermore, mothers with newborns are often open-minded to guidance during this fundamental life transition, during which they make important choices that shape the trajectories of their lives and those of their children. Thus, the home visitors' ability to build relationships and meet clients at their most open-minded are home visiting programs' greatest advantages compared with other interventions.

3.2 Randomization Process and Sample Description

The causal effects of the *Pro Kind* intervention are evaluated using a randomized controlled trial. At the beginning of the randomization process, all women answered a brief screening questionnaire, typically by telephone, to assess whether the affiliation criteria were fulfilled. If these criteria were met, the supervisor visited the mother at her home. During this visit, participants or, if they were underage, their parents, signed an informed consent form for participating in the study. Thereafter, participants completed a baseline questionnaire to assess demographic and psychological characteristics, as well as risk factors. Up to this point, the mothers had only received information on the research study and as little information as possible on the home visits to minimize the "John Henry" effect for mothers in the control group.[3] After answering the baseline questionnaire, women received the results of

[3]The "John Henry" effect explains an unexpected outcome of an experiment caused by the control group's knowledge of its role in the experiment. This knowledge encourages the group to perform differently and often

the randomization that assigned them either to the home visit or the control group. The final sample for the *Pro Kind* experiment consists of 755 mothers, of whom 394 were assigned to the treatment group and 361 to the control group.

After randomization, mothers in both research groups had access to the regular German welfare state services. They received an address list with support services in their communities and monetary incentives for participating in the study.[4] Therefore, families in the control group also received more support than the average first-time low-income family in Germany. However, only women in the treatment group received the *Pro Kind* home visits.

Table 1 reports the means and the differences in means according to treatment status for the baseline variables. Sample means or values from a multivariate imputation procedure are used in the case of missing values for baseline variables. However, complete data are available for most variables, and missing values are equally distributed between the control and treatment groups (see Appendix Tables A4 and A5). The results only hardly change when the missing values are used instead of the sample means or imputed values.

Differences in the average characteristics of the control and treatment groups are small and generally not statistically significant. Migrant status, defined among the mothers as not having German citizenship or not having been born in Germany, is the only demographic characteristic that is significantly different; the control group having a higher proportion of immigrants compared with the treatment group. None of the differences in psychological or physical risk characteristics are statistically significant. Furthermore, I conduct a test of joint significance of all the baseline characteristics. The F-statistic is 1.19; thus, the possibility that the characteristics of the treatment and control groups are the same could not be rejected. Hence, overall, the randomization appears to have successfully created comparable treatment and control groups.

An analysis of the demographic and psychological characteristics of the participants reveals that the women in both groups are young and highly disadvantaged.

better than they would have otherwise, eliminating the effect of the experimental manipulation (Salkind, 2010).

[4]The monetary incentive was €15 for the interview during pregnancy and at 6 months, €20 for the interview at 12 months, and €25 for the interview at 24 months.

Table 1: Descriptive Statistics

	Control Group Means (1)	**Treatment Group Means** (2)	**Treatment vs. Control** (3)
Demographic Characteristics			
Age in Years	21.53	21.27	-0.27 (0.31)
Week in Pregnancy	20.30	19.76	-0.53 (0.42)
Underage	0.18	0.21	0.04 (0.03)
Migration Background	0.18	0.12	-0.05* (0.03)
HH-Income per Month (€)	916.62	937.28	17.54 (40.60)
Debt Over €3,000	0.17	0.19	0.02 (0.03)
No Graduation	0.75	0.78	0.06 (0.04)
Low Income	0.81	0.82	0.01 (0.03)
No Employment	0.86	0.82	-0.04 (0.03)
No Partner	0.28	0.29	0.01 (0.03)
Living with Parents	0.27	0.28	0.01 (0.03)
Persons in HH	2.45	2.55	0.09 (0.12)
Selected Psychological and Physical Characteristics			
Unwanted Pregnancy	0.17	0.18	0.01 (0.03)
Daily Smoking	0.34	0.34	-0.01 (0.03)
Social Isolation	0.08	0.06	-0.02 (0.02)
Foster Care Experience	0.19	0.23	0.04 (0.03)
Experience of Neglect	0.39	0.38	-0.01 (0.04)
Experience of Loss	0.54	0.49	-0.05 (0.04)
Experience of Violence, ever	0.09	0.08	-0.01 (0.04)
Depression	0.13	0.10	-0.03 (0.02)
Anxiety	0.18	0.17	-0.01 (0.03)
Stress	0.29	0.31	0.03 (0.03)
Aggression	0.19	0.14	-0.04 (0.03)
Med. Indicated Risk Preg.	0.11	0.11	-0.01 (0.02)
Body Mass Index (BMI)	25.31	25.22	0.16 (0.39)
Sum Risk Factors	5.86	5.73	0.04 (0.03)
Observations	361	394	755

Notes: Robust standard errors are reported in parentheses in column 3. Column 3 presents the coefficient on the treatment dummy from a regression model with the treatment dummy plus community dummies. See Appendix Tables A2 and A3 for variable definitions.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Most of the mothers were unemployed at the time of the baseline interview and have never been regularly employed. The low employment levels seem to be a consequence of the fact that a high percentage of the mothers (approximately 75%) have less than eleven years of schooling; many of them have dropped out of school. Furthermore, the average monthly household income is €928.60. Considering the mean household size of 2.49 persons, the participants' average income is below the poverty line in Germany. These figures indicate that *Pro Kind* was successful in recruiting families on welfare and those with low education levels, who were the target population of this intervention.

In comparison to the populations in the NFP randomized trials, the *Pro Kind* sample seems similar with respect to marriage status, years of education and poverty

level. Only the average age of the participants appears slightly younger. At affiliation the participants in the NFP trials were, on average, between 18 and 19 years old in comparison with 21 years in the *Pro Kind* study. However, it is important to note that in both *Pro Kind* and NFP, all participants were disadvantaged, first-time mothers and pregnant. These criteria alone should result in highly comparable populations in the US and German studies.

3.3 Utilization of the *Pro Kind* Home Visiting

To monitor the *Pro Kind* program fidelity and service utilization, the home visitors documented each visit (e.g., duration, covered topics, maternal interest).[5] In total, 12,894 home visits with an average duration of 82 minutes were conducted. The families in the treatment group received 32.7 home visits on average (SD = 19, range: 0-94). Only 9 of the 394 mothers in the treatment group received no home visit. Because participation in the *Pro Kind* program is voluntary, 166 (42.2%) mothers decided to leave the program before the child's second birthday (main reasons: no further interest [n = 68], not reachable [n = 37], and moving away from a *Pro Kind* community [n = 28]). Considering only families who received the *Pro Kind* home visits until the child's second birthday increases the average number of home visits to 45.3 (SD = 10.7, range: 11-94) showing that the intervention was well implemented for families who stayed in the program until the child's second birthday. The home visiting documentation demonstrates that at all developmental stages, home visitors invested 40% of their time with the family to addressing issues related to the maternal life course and employment (Appendix Table A3). This indicates that maternal life course issues and economic self-sufficiency are fundamental topics of the *Pro Kind* program.

Differences in the implementation between the *Pro Kind* program and the NFP might explain the different effects on maternal outcomes. However, I can reject this explanation for several reasons. First, the *Pro Kind* home visitors used the same materials and guidebooks, translated into German, during their home visits as the NFP home visitors. Second, the implementation data show that the home visitors

[5] See Brand and Jungmann (2014) for further description of program design and implementation.

spent a similar amount of time on the various program topics in *Pro Kind* and NFP (Appendix Table A3). Third, the average number of conducted home visits in the *Pro Kind* program ($\bar{x} = 33$) is close to the average number of home visits in the NFP trials (Elmira: $\bar{x} = 32$, Memphis: $\bar{x} = 33$, Denver: $\bar{x} = 27.5$). Finally, the similar average number of home visits leads to very similar program costs. As discussed above, the average intervention costs in the Memphis trial amounted to $11,511 (expressed in 2006 US dollars). The average costs of the *Pro Kind* intervention was €8,705 (expressed in 2008 Euros), or approximately $11,752 assuming an exchange rate of 1.35 €/$ (Maier-Pfeiffer et al., 2013). All of these aspects, demonstrate that the *Pro Kind* program was comparable in material, content and dosis to the NFP. Therefore, it is unlikely that difference in the implementation of the *Pro Kind* program can explain different effects from those of the US studies.

4 Data

4.1 Administrative Data

I obtained individual-level data on the integrated labor market biographies from the Federal Employment Agency. The data contain information on maternal outcomes, such as employment, type of employment, wage, welfare benefit use, job search, age, community of residence and household composition. Studies that have also used these Federal Employment Agency data are, for example, Schmieder et al. (2012) and Card et al. (2013). The Record Linkage Center of the Federal Employment Agency used the full name, full address, and date of birth to match the treatment indicator and quarter of affiliation of 740 participants to their labor market biographies.[6] The Agency was able to track 703 participants. For all tracked participants data are available from affiliation into the project until 36 months after the birth of the treatment child. My primary outcomes of employment and welfare use thus have an effective postrandomization "attrition rate" of 7%. Only household composition, which I use as measure of fertility, has a slightly higher "attrition rate" of 11% because the information is only available if the mother was either engaged in a job

[6] 15 participants of the 755 participants in the baseline sample refused participation in the informed content and were not used for the merging process.

search, or received welfare benefits. [7]

4.2 Telephone Survey Data

In addition to the administrative data, I use data from biannual telephone interviews with the mothers. The telephone interviews begin during pregnancy and continue at six-month intervals until the child's third birthday. The interviews are computer-assisted and contain all of the questions that are recommended when using the German Socioeconomic Panel (SOEP) as a reference data set, including questions on the participants' household, income, employment, childcare use, family planning and partnership, maternal well-being, and life satisfaction (Siedler et al., 2009). Furthermore, the interviews contain the SOEP activity calendar to record the participants' employment status on a monthly basis, and the SOEP mother-child questionnaire to record maternal attitudes toward each newborn child of the mother (Anger et al., 2009).

The telephone interviewers attempted to contact all of the mothers at each time point, except in cases of miscarriage or infant death. To guarantee a high participation rate, the interviewer attempted to contact the participant four times within two months near the interview date. If no contact could be made during this time span, the interviewer attempted to contact the mother for the next scheduled interview four months later. If contact could be made for this interview, a combined interview regarding the time span for the two interviews was conducted. However, no interview covered a period longer than 12 months to avoid recall bias. Therefore, some participants missed one or two telephone interviews and continued to participate in subsequent telephone interviews. The main reasons for missed interviews were switching telephone numbers or refusing to participate. Overall, nearly 80% (n=602) of the mothers were interviewed at least once after pregnancy, and for 71% (n=539) of the mothers, data are available for at least 12 months after birth. 39% (n=296) participated in all interviews without missing data for any months after birth.

[7] Information on age and community of residence is only available if the mother was employed, engaged in job search, or received welfare benefits. The information is not available if the mothers simply "stayed at home" without being employed, looking for a job or receiving welfare benefits.

5 Validity of the Experimental Design

Table 2: Sample Composition Telephone Interviews

	Control Mean (std. dev.) for Full Sample (1)	Difference Between TG and CG (2)
Panel A: Administrative Data		
Complient to Merging	0.986	-0.012
	(0.117)	(0.010)
		[0.257]
Merged	0.945	-0.026
	(0.229)	(0.018)
		[0.162]
Panel B: Telephone Survey Data		
At Least One Interview After Birth	0.784	0.026
	(0.412)	(0.029)
		[0.381]
Data Available for 12 Months After Birth	0.698	0.030
	(0.460)	(0.033)
		[0.357]
Data Available for 24 Months After Birth	0.557	0.045
	(0.497)	(0.036)
		[0.214]
Complete Data from Birth Until Third Birthday	0.380	0.024
	(0.486)	(0.036)
		[0.500]
Observations	*755*	*394*

Notes: Robust standard errors in parentheses and p-values in brackets. Administrative data in Panel A is available for 36 months after birth of treatment child. TG = Treatment Group; CG = Control Group.

Differences in attrition or in the prerandomization characteristics of the treatment and control analysis samples would raise concerns regarding the validity of the experiment for identifying causal inference. Therefore, Table 2 summarizes the sample composition from the administrative (Panel A, Column 1) and the survey data (Panel B, Column 1) and analyzes the treatment-control balance (Column 2). The results in Column 2 indicate no significant differences between treatment and control groups in the response rates either for the merged administrative data or the survey data.

Table 3 presents the differences in the baseline demographic characteristics between the treatment and control groups for the administrative data (Column 1) and the survey data grouped by the data availability (Columns 2-5). Appendix Table A6 shows the differences in psychological characteristics. The results reveal that the equal distribution of the baseline characteristics is only slightly reduced by attrition.

Table 3: Selective Attrition between TG and CG Demographic Characteristics - Administrative and Survey Data

		Difference TG/CG for:			
	Merged	At Least One Interview After Birth	Data Available for 12 Months After Birth	Data Available for 24 Months After Birth	Complete data from Birth Until Third Birthday
	(1)	(2)	(3)	(4)	(5)
Demographic Characteristics					
Age in Years	-0.314	-0.0637	0.0411	0.0872	0.313
	(0.329)	(0.364)	(0.393)	(0.445)	(0.578)
Week in Pregnancy	-0.423	-0.623	-0.429	-0.164	0.0986
	(0.433)	(0.466)	(0.495)	(0.548)	(0.665)
Migration	-0.0594**	-0.0592**	-0.0546*	-0.0548	-0.0701
	(0.0259)	(0.0298)	(0.0317)	(0.0355)	(0.0462)
Underage	0.0371	0.0243	0.0150	0.0344	0.0342
	(0.0296)	(0.0318)	(0.0325)	(0.0346)	(0.0399)
Mon. HH-Inc. in €	18.24	33.60	5.046	-3.292	31.79
	(43.69)	(48.27)	(48.63)	(54.22)	(67.26)
Debt over 3000 €	0.0259	0.0275	0.0230	0.0319	0.0565
	(0.0294)	(0.0319)	(0.0342)	(0.0381)	(0.0478)
Education Risk	0.0310	0.0213	0.0214	0.0223	0.0505
	(0.0319)	(0.0359)	(0.0387)	(0.0441)	(0.0552)
Income Risk	0.0193	0.00392	0.0117	0.0229	0.0102
	(0.0291)	(0.0327)	(0.0349)	(0.0399)	(0.0506)
Employment Risk	-0.0272	-0.0353	-0.0429	-0.0495	-0.0734
	(0.0279)	(0.0312)	(0.0336)	(0.0384)	(0.0495)
No Partner	0.0163	0.0324	0.0422	0.0351	0.0268
	(0.0346)	(0.0369)	(0.0386)	(0.0435)	(0.0546)
Living with Parents	0.00674	0.0104	-0.00503	-0.0155	-0.0311
	(0.0336)	(0.0365)	(0.0383)	(0.0422)	(0.0508)
Persons in HH	0.0508	0.148	0.0897	0.0316	-0.0784
	(0.126)	(0.136)	(0.136)	(0.148)	(0.181)
Lower Saxony	0.0319	0.0189	0.0346	0.0238	0.00308
	(0.0365)	(0.0395)	(0.0416)	(0.0460)	(0.0570)
Bremen	-0.0234	-0.00335	-0.0178	-0.00195	0.0247
	(0.0345)	(0.0377)	(0.0399)	(0.0447)	(0.0552)
Saxony	-0.00851	-0.0155	-0.0167	-0.0219	-0.0278
	(0.0356)	(0.0383)	(0.0406)	(0.0451)	(0.0523)
	703	602	539	438	296

Notes: Robust standard errors are shown in parentheses. Dependent variables shown in the first column. The treatment indicator has the value one if the mother is in the treatment group. Column (1) contains estimates of the average difference in characteristics between mothers in the control and treatment group including community fixed effects for the participants merged with the administrative data. Column (2)-(5) contain these estimates for the survey data. See Appendix Tables A4 and A5 for variable definitions. TG = Treatment Group; CG = Control Group.
* p < 0.1, ** p < 0.05, *** p < 0.01

Only the difference in the proportion of mothers with migrant backgrounds, which is already significant at baseline, remains significant for almost all of the interviews.[8]

[8]Appendix Table A7 shows that some characteristics and risk factors differ between those who dropped out and those who participated in the follow-up interviews. Generally, the participating mothers are older and have fewer cumulative risk factors. The only difference between the participants who are merged and those who are not merged with the administrative data is migration status. This likely because migrants participate less frequently in the labor market and are less frequently eligible for welfare benefits.

6 Estimation Strategy

To analyze the effects of the intervention on maternal employment, fertility, childcare use, and partnership stability, I estimate the intent-to-treat (ITT) effects of the *Pro Kind* intervention using the multivariate model in Equation 1:

$$Y_{ic} = \beta_0 + \beta_1 HV_{ic} + \beta_2 h_{ic} + \alpha_c + \epsilon_{ic}, \tag{1}$$

where Y_{ic} denotes an outcome variable for mother i from community c. HV_{ic} is a dummy variable that takes a value of one if the mother receives the home visits. h_{ic} is a vector of demographic and psychological family characteristics at baseline; α_c are community dummies; and ϵ_{ic} is the error term. β_1 measures the difference in outcome Y between the treatment and control groups.

I estimate the extensive and intensive margin of employment and welfare benefits with linear models. The results are not sensitive for estimating nonlinear models for the binary outcomes instead. In a first step, I estimate models without h_{ic} and α_c and than I include h_{ic} and α_c as a robustness check. In the estimations with the administrative data, the only available baseline characteristics are maternal age and community of residence at baseline whereas in the survey data several baseline characteristics can be included to give more precision to the estimates.

7 Results

7.1 Administrative Data

Table 4 examines the effects of *Pro Kind* on occupations, public assistance and household composition using administrative data from the Federal Employment Agency. Column 1 in the first row presents the percentage of mothers who were employed for at least one month. The next three rows separate employment into part/full time employment, apprenticeship or marginal employment. Column 4 shows the mean total number of months in one of the occupations in the first three years after the birth of the treatment child.

Among mothers in the control group, 52 percent worked in an occupation in the

first 36 months after birth. This is a high rate, as employment incentives are small for low-income new mothers in Germany. In contrast, the mothers are only employed for 6.39 months on average during these 36 months, indicating a high amount of job fluctuation and short employment periods in the sample. Participants are most frequently employed in marginal employment, but apprenticeship also plays a large role, in particular when total months employed are considered. The prevalence of apprenticeship demonstrates that many participants have not completed their vocational training before giving birth and that they are oriented towards completing it after the birth.

Table 4: Maternal Life Course Outcomes 36 Months after the Birth of the Treatment Child - Administrative Data

	Extensive Margin (any)			Total Months		
	Control Mean	Diff. TG/CG	p-values	Control Mean	Diff. TG/CG	p-values
	(1)	(2)	(3)	(4)	(5)	(6)
Any Occupation	0.521	-0.088**	0.019	6.392	-1.550**	0.018
	[0.479]	(0.038)		[9.086]	(0.652)	
Parttime/Fulltime Employed	0.191	-0.052*	0.061	1.642	-0.645**	0.043
	[0.393]	(0.028)		[4.826]	(0.319)	
Apprenticeship	0.202	-0.012	0.696	2.369	-0.223	0.620
	[0.402]	(0.030)		[5.999]	(0.449)	
Marginal Employment	0.305	-0.054	0.114	2.299	-0.664*	0.055
	[0.461]	(0.034)		[5.071]	(0.345)	
Welfare	0.964	0.030**	0.023	31.92	1.840**	0.042
	[0.295]	(0.013)		[12.71]	(0.904)	
Observations	*341*	*703*		*341*	*703*	
Second Child in HH	0.183	0.066**	0.037			
	[0.363]	(0.032)				
Observations	*323*	*677*				

Notes: Standard deviations in square brackets; robust standard errors in parentheses. Columns (2) and (5) report the coefficient and standard error on Home Visiting (HV) from estimating equation (1) by OLS. Data is available on a monthly base from affiliation to 36 months after birth. TG = Treatment Group; CG = Control Group; HH=Household.
* p < 0.1, ** p < 0.05, *** p < 0.01

Analyzing the treatment impact on employment reveals that home visiting reduces the percentage of mothers with any employment and the number of months employed. These effects are large and significant. The treatment reduced the rate of mothers who are employed for at least one month by 8.7 percentage points to a rate of 43.4 percentage points; the average number of months employed is reduced by 1.5 months to 4.87 months, which is a 23.8 percent decrease relative to the mean time worked by the mothers in the control group. When analyzing the different

types of employment, the effect is strongest for part time/full time employment. The extensive margin is reduced by 27.2 percent and the intensive margin by 39.3 percent relative to the mean of the control group.

The fourth row, "Welfare", indicates whether and for how many months on average a mother lived in a household that received public assistance. The figure in column 1 shows, corresponding with the affiliation criteria, that 96.4 percent of the mothers in the control group received public assistance for at least one months during the first 36 months after birth. Moreover, the total number of months (31.92) indicates that the participants' households received welfare in 88.6 percent of the months during this period. In line with the reduction in employment, the treatment significantly increased the share of participant households on welfare and the number of months on welfare.

Next, I turn to the outcome fertility. "Second Child in HH" is a binary variable that takes value 1 if two or more children are living in the household and 0 with one child or no children living in the household.[9] Because data on household composition are only recorded for households that receive welfare benefits or were engaged in job seeking, the number of observations is slightly reduced. The results show that while 18.3 percent of control group participants live in a household with two or more children within the 36 months after the birth of the treatment child, this rate is 6.5 percentage points higher in the treatment group, leading to 24.8 percent of households with more than one child.

Overall, the results from the administrative data indicate that the intervention has unintended effects which are in contrast to the results of studies from the US. Instead of the intended higher level of maternal employment and economic self-sufficiency and a lower rate of second births, the opposite is observed. The reduction in employment and the increase in welfare dependency are likely caused by the increased maternal fertility. All effects from the administrative data also hold and become slightly larger if the models include the community and age of the mother as controls (Appendix A7). The results could not be caused by the selective attrition or reporting bias because employment data and public assistance are available for

[9]There can be no children in the household in the event of a miscarriage of the first pregnancy or the adaption of the treatment child.

all mothers for the 36 months after the birth of the treatment child. Only household composition is not available for all participants. However, bias is unlikely because most households with a second child in the *Pro Kind* sample will receive welfare benefits, and therefore, they are included in the administrative data. In the next section, I use survey data to examine which channels most likely explain the identified results.

7.2 Survey Data

Table 5 presents results of the telephone survey including the 296 mothers who participated in all interviews until the third birthday of the treatment child.[10] The first six rows of Table 5 include the same outcomes as Table 4. The only difference is that the variable "Second Child in Household" is labeled "Second Birth" because the survey directly asks for second births and not only for household composition.

In the survey data, the rate of employment in the control group is quite similar to the rate in the administrative data (Table 5, Column 1). However, there are larger differences between the two data sources with respect to the different types of employment. The largest difference in comparison to the administrative data is the self-stated rate of part time/full time employment with a ten percentage-points larger share in the survey data than in the administrative data. Additionally, in all categories, the mother reports more total months employed in the survey than in the administrative data. The differences in employment between the treatment and control groups are smaller in the survey than in the administrative data and are not statistically significant. However, the signs of the coefficients are in the same direction in the two datasets with the sole exception being months of apprenticeship. The lower number of risk characteristics in the survey sample relative to the administrative data sample might explain the differences in the level of employment and the size of the treatment effects (see Appendix A7). When the estimation models include baseline characteristics and community fixed effects, the results are more similar to the results from the administrative data.

In line with the higher employment, fewer mothers than indicated by the admin-

[10] I include only mothers who participated in all interviews to ensure that the outcomes can be interpreted in the same way as the outcomes from the administrative data.

istrative data report receiving welfare in the interviews. However, in this category, the treatment effect corresponds in size and significance to that in the administrative data. Analyzing second births in the survey data shows that the rate of second births in the control group is comparable to the respective figure in the administrative data. The difference between the treatment and control groups in the survey data is 10.2 percentage points, which is even higher than in the administrative data.

Table 5: Maternal Life Course Outcomes 36 Months after the Birth of the Treatment Child - Survey Data

	Extensive Margin (any)			Total Months		
	Control Mean	Diff. TG/CG	p-values	Control Mean	Diff. TG/CG	p-values
	(1)	(2)	(3)	(4)	(5)	(6)
Any Occupation	0.555	-0.008	0.896	7.569	-0.752	0.481
	[0.499]	(-0.13)		[9.231]	(-0.70)	
Parttime/Fulltime Employed	0.299	-0.010	0.852	2.365	-0.522	0.339
	[0.460]	(-0.19)		[5.087]	(-0.96)	
Apprenticeship	0.255	-0.035	0.479	2.672	0.442	0.554
	[0.438]	(-0.71)		[5.810]	(0.59)	
Marginal employment	0.248	-0.015	0.757	2.533	-0.671	0.272
	[0.434]	(-0.31)		[5.705]	(-1.10)	
Welfare	0.912	0.050*	0.084	26.511	1.274	0.301
	[0.284]	(1.73)		[11.017]	(1.04)	
Second Birth	0.175	0.102**	0.036			
	[0.382]	(2.10)				
Second Pregnancy	0.321	0.031	0.574			
	[0.469]	(0.56)				
Constant Partnership	0.401	-0.005	0.927			
	[0.491]	(0.057)				
Childcare Utilization	0.584	0.083	0.144	7.175	1.894*	0.071
	[0.495]	(1.46)		[8.571]	(1.81)	
School	0.102	-0.014	0.681	0.934	0.072	0.879
	[0.304]	(-0.41)		[3.877]	(0.15)	
Observations	*137*	*296*		*137*	*296*	

Notes: Standard deviations in parentheses; standard errors in square brackets. Columns (2) and (5) report the coefficient and standard error on Home Visiting (HV) from estimating equation (1) by OLS. Data is available on a monthly base from affiliation to 36 months after birth. TG = Treatment Group; CG = Control Group; HH=Household.
* p < 0.1, ** p < 0.05, *** p < 0.01

The last four rows in Table 5 contain information which is only measured through the telephone surveys including the occurrence of a second pregnancy, constant partnership, childcare use, and school attendance. These four outcomes can help to explain why the intervention has the unintended effects on employment, welfare use and fertility which were observed in the administrative data.

Analyzing the rate of second pregnancies reveals that, in contrast to the rate

of second births, it does not differ between the treatment and control groups. In both groups approximately one third of the mothers become pregnant a second time within 36 months after the birth of the treatment child. This finding indicates that a difference in pregnancy outcomes must be present at least to some extent. The next row examines partner stability, measured as the percentage of women who stayed with the same partner from pregnancy until the third birthday of the treatment child. This indicator can provide an initial indication of whether a more stable family situation leads to more births or whether a partner who can possibly increase family income is the reason for lower maternal employment. However, the rate of mothers who are in a constant partnership during the 36 months after birth does not differ between the two groups.

Another channel through which home visiting might influence fertility is easier access to childcare because the home visitor supports the treated mothers in the childcare application process.[11] This improved childcare access might positively influence a mother's fertility decision if she perceives external childcare as a relief of strain. The data shows that the intervention slightly increased the average months in childcare. Nevertheless, the effect does not appear strong enough to explain the interventions impact on total fertility. Finally, school attendance is an indicator that could explain the lower employment rate in the treatment group in addition to the higher birth rate. Furthermore, increased school attendance would be in line with the goals of the intervention. However, the survey data reveal no increase in school attendance for the mothers in the treatment group.

Overall, the results of the survey data confirm the findings from the administrative data that the intervention increases second births and welfare dependency. The results on employment are not as strong as in the administrative data, which might be explained by the survey participants having fewer risk characteristics. Investigating the channels for the results indicates that a change in second pregnancy outcomes most likely explains the increase in second births, while partner stability, school attendance and childcare use are unlikely to be the explanation. However, the analyses only included mothers who participated in all interviews. Although

[11] Childcare utilization is a broad measure of whether a child attends childcare. It does not include hours or quality of childcare. Childcare for welfare receiving mothers is usually completely financed by the state in Germany.

there are no differences between treatment and control group baseline characteristics in this sample, the results require careful interpretation because the survey sample does not have the same characteristics as the baseline sample. Therefore, in the next section, I include all mothers who participated in at least one interview after birth to examine how pregnancy outcomes, as the main driver of the fertility effect, differ between the treatment and control groups.

7.2.1 Pregnancy Outcomes

Table 6, Panel A shows that the rate of second pregnancies in this sample of control group mothers is slightly lower than in the sample that only includes mothers who participated in all interviews (Table 5). The lower rate can be explained by some mothers only participating in one interview after birth, which is most likely before a further pregnancy occurred. The rate in the treatment group is 5.5 percentage points higher, but the difference is statically not significant at the ten percent level, thereby confirming the results from the analyses with the mothers who participated in all interviews. Altogether, 175 second pregnancies occurred among the mothers who participated at least in one interview after birth.[12]

Table 6: Second Pregnancy Outcomes in Treatment and Control Groups

Panel A: Second Pregnancy Occurred			
	Control Mean	Diff. TG/ CG	p-value
Pregnancy after First Birth	0.261	0.055	0.136
	[0.440]	(0.037)	
Obs.	*283*	*602*	
Panel B: Second Pregnancy Outcome			
	Control Mean	Treatment Mean	Overall Mean
Life Birth	0.527	0.634	0.589
Abortion	0.243	0.149	0.189
Misscarriage	0.135	0.089	0.109
Unobserved	0.095	0.129	0.114
Obs.	*74*	*101*	*175*
Panel C: Multinomial Logit			
	Birth vs. Abortion	Birth vs. Miscarriage	Birth vs. Unobserved
Home Visiting	-0.677*	-0.600	0.123
	(0.405)	(0.503)	(0.512)
Obs.	*175*	*175*	*175*

Notes: Standard errors in parentheses; Standard deviations in square brackets. All mothers with at least one interview after birth are included. In Panel B all pregnancies from Panel A. Panel C is a multinomial logit estimation with Life Birth as baseline category. TG = Treatment Group; CG = Control Group; * p < 0.1, ** p < 0.05, *** p < 0.01

[12]The 175 pregnancies only include the first pregnancy of each participant after the birth of the treatment child.

Panel B investigates the outcomes of these 175 second pregnancies, which can be live birth, abortion, miscarriage and unobserved pregnancy outcome. Along with the results of the previous sections, the results of Panel B reveal that the percentage of pregnancies that led to a live birth is higher in the treatment group (63%) than in the control group (53%). Overall, I observe 103 births resulting from the first pregnancy after the birth of the treatment child. Additionally, the table demonstrates that abortions (24% vs. 15%) and miscarriages (14% vs. 9%) were more common in the control group than in the treatment group. However, the percentage of pregnant women whose pregnancy outcomes were not observed is only slightly higher in the treatment group.

Panel C uses a multinomial logit function to examine the differences in the pregnancy outcomes in greater detail. I am interested in whether the treatment influences the probability of a live birth relative to the other three outcomes. The comparison between the treatment and control groups reveals that the probability that a pregnancy ended in an abortion instead of a live birth is significantly lower in the treatment group than in the control group. For miscarriage the coefficient is in the same direction and of approximately the same size but not significant. Finally, the probability of not observing the outcome of the pregnancy relative to that of a live birth is only slightly higher in the treatment group. These findings confirm that the differences in fertility between the two groups were not caused by selective attrition; rather, they were the result of a reduced number of abortions and miscarriages in the treatment group.

Placing the rate of abortions in the *Pro Kind* program in relation to the abortion rates in average populations can help to interpret the results. From 2008 to 2011, there were approximately 16 abortions per 100 live births in the overall German population.[13] Ratios for at risk mothers who are comparable to the *Pro Kind* sample are not available. However, data for unmarried women who might be more similar to the *Pro Kind* sample than data on the population average indicate 27 abortions per 100 live births (Statistisches Bundesamt, 2015). The control group of the *Pro Kind* sample has a ratio of 46 abortions per 100 live births, whereas in the treatment

[13]German official statistics only report the rate of abortions in comparison to live births and not the rate of pregnancies that end in abortion.

group the ratio is 23 to 100, which is close to the population average and lower than average for unmarried mothers. This might indicate that mothers in the treatment group are as confident in their ability to raise a second child as average mothers.

Despite the finding that a lower percentage of pregnancies in the treatment group ended in an abortion, it remains unclear whether this is the result of appropriate family planning decisions, which is a goal of the *Pro Kind* program. In this context, appropriate decisions mean that only mothers who planned a second birth and who are able to meet the challenges of another child give birth to a second child. An analysis of the survey data indicated that partner stability, which might be an indicator of appropriate family planning, was not affected by the treatment. To investigate the question of appropriate decisions in greater detail, I analyze the life situations of the *Pro Kind* mothers who gave birth to a second child.

Table 7: Life Situations of Mothers who Gave Birth to a Second Child

	Control		Treatment		P-value
	n	%	n	%	Diff. C-T
After Birth of sec. Child					
Unplanned Preg.	35	0.57	62	0.61	0.689
Father Does not Live In HH	35	0.29	60	0.40	0.262
No Other Care Apart From Mother	35	0.31	62	0.48	0.104
Mother has no Partner	33	0.06	58	0.17	0.130
Age of the Sec. Child in Mo.	32	8.41	62	6.49	0.352
Age of the Moth. at Births in Years	35	23.4	62	23.9	0.594

Notes: P-values base on z-statistic of a two-group test of proportions. The presented data contains all second children for who data is available. C=Control Group; T=Treatment Group.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 7 includes data on 97 of the 103 second children from the first pregnancy after the birth of the treatment child. The first two rows present responses to questions concerning whether the child was unplanned or whether the mother had a partner. These questions were asked after the birth of the second child. If the mothers had made appropriate family planning decisions, one would expect that unplanned pregnancies and pregnancies among women without partners would be uncommon among second-time mothers. However, 61% of the mothers in the treatment group stated that their second child was unplanned. In the control group, this rate was 57%. Furthermore, the other characteristics, such as "no partner" or "father does not live in the household," occurred more often in the treatment group. Although none of the differences is statistically significant, the results may indicate

that mothers with fewer resources had a second child in the treatment group and that these mothers were less responsible with respect to family planning compared with the mothers in the control group. However, these group differences are difficult to interpret because analyzing the characteristics of the mothers who aborted their pregnancies reveals, for example, that two-thirds of these mothers had no partner. This suggests that they are in a worse situation than mothers who gave birth to a second child. Including the characteristics of the mothers who aborted would therefore likely change the picture.

Nevertheless, there is no indication of appropriate family planning in the treatment group, which is emphasized by the fact that only 39 percent of the mothers planned their second pregnancy and 48 percent have no care support from another person. These figures are even more illustrative when compared to SOEP mothers; 81% of these mothers (n=799) state that the pregnancy that led to a second child was planned, and only 8% state that they are alone responsible for the child.

Now the question is why the mothers in the treatment group decide to have another child despite not having planned a second birth and seeming to be unable to meet the challenges of having another child. In the literature on further parity progression, life satisfaction and well-being play important roles. As Margolis and Myrskylä (2015) show a decline in life satisfaction during transition to parenthood reduces the probability of subsequent births. Therefore, a potential reason why the *Pro Kind* program increased fertility is increased satisfaction with their lives and their role as mothers. This higher satisfaction might have resulted from more positive experiences with the first child and a greater awareness of personal strengths in the treatment group. To test this hypothesis, the next section investigates whether the *Pro Kind* intervention influences reports of maternal life satisfaction and well-being.

7.2.2 Life Satisfaction and Well-being

I begin the analysis with a descriptive overview of the treatment and control groups' outcomes and the SOEP data for first-time mothers. These outcomes were obtained at the interview 27 months after the birth of the treatment child. Appendix Table A10 shows that on eight of the nine satisfaction dimensions, the mothers in the

treatment group reported being more satisfied than the mothers in the control group. The results are similar for the four questions regarding well-being. The mothers in the treatment group reported feeling sad, angry, or worried less often and happy more often. Compared with the mothers in the *Pro Kind* treatment group, the first-time mothers from the SOEP sample were sad less often, happy more often and more satisfied in most categories. The only category in which the *Pro Kind* mothers were more satisfied was housework, possibly because they have fewer opportunities in the labor market and consequently derive greater satisfaction from their work within the home production. Table 9 shows that the differences between the control and treatment groups are significant at the 10% level for the well-being index, which captures satisfaction with life in a variety of specific areas and in general.[14] The standardized effect sizes are meaningful, with values near 0.15 SD.

Table 8: Well-Being and Satisfaction with Life

	(1)	(2)	(3)	(4)	(5)	(6)
	Index of Well-Being		Index of Life Satisfaction in Different Areas		Satisfaction with Life in General	
Home Visiting	0.189***	0.167***	0.118*	0.106*	0.155*	0.147**
	(0.069)	(0.043)	(0.061)	(0.051)	(0.097)	(0.062)
Household Controls	No	Yes	No	Yes	No	Yes
N	434	429	430	425	432	427
R^2	0.02	0.18	0.01	0.26	0.01	0.18

Notes: Standard errors (in parentheses). Well-Being is an index of less often sad, angry, worried and more often happy. Life Satisfaction in Different Areas is an index of eight questions concerning satisfaction with health, housework, household income, personal income, place of dwelling, free time, child care availability and family life. All dependent variables are standardized with mean of zero. Controls include extended baseline variables, community fixed effects and age of the treatment child. Measurement is in average at 28 months after birth of the treatment child. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

After showing that the *Pro Kind* program increased maternal life satisfaction and well-being, the investigation sought to determine whether these subjective measures are related to fertility decisions. In line with the literature showing that unhappier women are more likely to have an abortion, mothers who abort their pregnancy in the *Pro Kind* sample have a general satisfaction value of 5.74. Although it is unclear whether low life satisfaction caused the abortions or the abortions led to low life satisfaction, this association provides a first indication that low life satisfaction is correlated with abortions. Further evidence that the greater life satisfaction in the

[14] Well-being is based on an index indicating how often one is happy versus sad, angry, or worried. Life satisfaction in different areas is based on an index of eight questions related to satisfaction with health, housework, household income, personal income, place of dwelling, free time, childcare availability and family life.

treatment group is related to fertility comes from comparing the mothers who gave birth to a second child in the treatment group with those in the control group. Their life satisfaction levels differed significantly, with a value of 7.61 in the treatment group and 6.42 in the control group (T=- 3.06; nTG=60; nCG=33). It is possible that the birth of the second child caused this increase in happiness. However, it is likely that greater life satisfaction was also influenced by better experiences with the first child and that, as a result, the mothers were already happier before they became pregnant a second time. If this is the case, this higher level of happiness could be an explanation for the lower rate of abortions in the treatment group.

8 Conclusion

Home visiting programs are a popular type of early childhood intervention for supporting disadvantaged families. While many studies have investigated how these programs affect child outcomes, this study uses a randomized experiment to answer the much less thoroughly investigated question of how home visiting programs affect the maternal life course. The few previous studies that investigated this topic found that home visiting programs had positive effects on maternal employment and reductions in fertility. In contrast, this analysis of the *Pro Kind* program reveals that the intervention had negative effects on employment and positive effects on fertility. The effects on fertility are mainly driven by the lower number of abortions in the treatment group. Furthermore, the *Pro Kind* program increased the life satisfaction and well-being of the participating mothers.

A randomized experiment is used to evaluate the effects of *Pro Kind* on the maternal life course. Therefore, the effects can be causally linked to the intervention. For the main analysis, I use administrative data that are not subject to the risk of missing data or reporting error. For the analysis of the channels that lead to the unintended outcomes, I rely on survey data that suffered from survey non-response. Nevertheless, a comparison of the baseline characteristics for the treatment and control groups indicates that this attrition was not selective. Therefore, it is unlikely that the sample attrition resulted in problems with the validity of the results.

Previous studies that examined the effect of home visiting on the maternal life course were performed in the United States, whereas the *Pro Kind* program is located in Germany. The content and implementation of the program and the program participants are very similar in *Pro Kind* and the US studies. Therefore, the differences in the two countries' welfare state systems might explain much of the variation in outcomes between the previous studies and the *Pro Kind* study. In the US welfare state, mothers who receive welfare have fewer incentives to give birth to a second child compared with mothers in Germany. In this European country, each additional child increases the amount of welfare a mother receives, and there are no work obligations or benefit cuts until the child's third birthday. Therefore, the increased maternal skills and life satisfaction that result from the intervention could lead to more births in Germany, whereas in the United States, these improved skills might be directed toward increased labor market participation instead.

The results of this study can increase our understanding of the mechanisms through which early childhood interventions operate. On the one hand, it is likely that improved maternal life satisfaction and well-being can contribute to positive effects on child outcomes.[15] On the other hand, especially in disadvantaged populations, shorter birth spacing can have a negative effect on child development that counteracts the positive effects (Buckles and Munnich, 2012). Which of the two effects will predominate requires further investigation. For the *Pro Kind* program, it seems that the positive effects of the intervention on child development are diminished by the increased fertility. While the treatment increases cognitive development at ages 6 and 12 months for girls, these effects vanish at age 24 months(Sandner and Jungmann, 2015).

Furthermore, the results provide new insights into how welfare systems influence fertility. Although the literature presents inconclusive findings, if welfare itself affects fertility (Moffitt, 1998; Kearney and Levine, 2012), the results could be different than those that occur if the welfare system interacts with an early childhood intervention. A consideration of these results might be helpful when considering other policies from the United States that may be implemented in Europe in the

[15]Berger and Spiess (2011) and Yu and Wilcox-Gök (2015) show that higher maternal life satisfaction and fewer depression syndromes are related to improved child cognitive development.

future.

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Appendix A

See Tables A1-A10 and Figures A1-A2.

Table A1: NFP Results Elmira, Memphis and Denver

NFP Results Elmira

Outcome	Observation Period		
	6 Months	**4 Years**	**15 Years**
School:	More School Enrollment of School Dropouts		
Employ.:		More Employment (15.54 Months vs. 8.64 Months)	More Employment (95 months vs. 80 Months) (p<0.1)
Fertility:		Fewer Subsequent Pregnancies (0.58 vs. 1.02)	Fewer Subsequent Births (1.3 vs. 1.6) Longer Interval Between First and Subsequent Birth (65 Months vs. 37 Months)
Transfer:			Less Months Eligible to Transfer (60 Months vs. 90 Months)

NFP Results Memphis

Outcome	Observation Period			
	2 Years	**6 Years**	**9 Years**	**12 Years**
Employ.:		More Employment (p<0.1)	More Employment (p<0.1)	More Employment (p<0.1)
Fertility:	Fewer Subsequent Pregnancies (0.36 vs. 0.47)	Fewer Subsequent Pregnancies (1.16 vs. 1.38) *Births...*	Fewer Cumulative Subsequent Births per Year (0.81 vs. 0.93)	
Transfer:		Less Months Eligible to Transfer per Year (7.21 Months vs. 8.96 Months)	Less Months Eligible to Transfer per Year (5.21 Months vs. 5.92 Months)	

NFP Results Denver

Outcome	Observation Period	
	2 Years	**4 Years**
Employ.:	More Employment (6.83 Months vs. 5.65 Months)	More Employment (15.13 Months vs. 13.38 Months)
Fertility:	Fewer Subsequent Births (0.12 vs. 0.19) *pregnancies 29% vs 41%*	Longer Interval Between First and Subsequent Birth (24.51 Months vs. 20.39 Months)

Notes: If not indicated differently, all treatment effects are significant with p<0.05. Employ. = Employment.
Source: NFP Results Elmira (Olds et al., 1988, 1997), Memphis (Kitzman et al., 1997; Olds et al., 2004, 2007, 2010), Denver (Olds, 2002; Olds et al., 2004)

Table A2: Randomization Outcomes per Municipality

Federal State	Community	CG	TG	Enrollment Period
Lower Saxony	Braunschweig	26	32	1.11.2006 - 30.4.2009
	Celle	15	25	
	Garbsen	10	12	
	Göttingen	12	13	
	Laatzen	4	4	
	Wolfsburg	11	15	
	Hannover	54	52	
Bremen	Bremen	77	83	15.4.2007 - 15.3.2009
	Bremerhaven	31	29	
Saxony	Leipzig	36	44	1.1.2008 - 31.12.2009
	Plauen	13	18	
	Muldentalkreis	16	12	
	Dresden	46	43	
	Vogtlandkreis	10	12	
$\sum$		**361**	**394**	

Table A3: Topical Focus of the Home Visits in NFP and *Pro Kind*

	***Pro Kind* Average**	**NFP-Average**	**Recommended Average by NFP**
During Pregnancy			
Maternal Health	28%	37%	35%-40%
Maternal and Parental Role	19%	23%	23%-25%
Environmental Health	10%	11%	5%-7%
Life Course Development	16%	13%	10%-15%
Family and Friends	15%	16%	10%-15%
Social and Health Services	12%	-	-
During Infancy			
Maternal Health	16%	20%	14%-20%
Maternal and Parental Role	30%	36%	45%-50%
Environmental Health	11%	14%	7%-10%
Life Course Development	17%	15%	10%-15%
Family and Friends	14%	15%	10%-15%
Social and Health Services	11%	-	-
During Toddlerhood			
Maternal Health	13%	17%	10%-15%
Maternal Role	30%	37%	40%-45%
Environmental Health	10%	14%	7%-10%
Life Course Development	22%	17%	18%-20%
Family and Friends	14%	15%	10%-15%
Social and Health Services	11%	-	-

Notes: The percentage rates give the share of the total time in the family, which the home visitors spent for a certain topic. The data is collected by a documentation system, in which the home visitors note the duration and the covered topic for each home visit. Source: Jungmann et al. (2009); The National Center for Children Families and Communities (2005)

Table A4: Baseline Variable Definitions - Demographic Characteristics

Variable	Type	Description	n
Age in Years	Metric	Participants' Age in Years at Baseline	755
Week in Pregnancy	Metric	Week in Pregnancy at Randomization	755
Underage	Binary	1 if Participant is Younger than 18 Years	755
Migration	Binary	1 if Participant is not Born in Germany or has no German Nationality	755
Monthly HH-Income in €	Metric	Monthly Net-Income in Participants' Household	647
Debt over € 3000	Binary	1 if Debt is over € 3000 in Participants' Household	728
Education Risk	Binary	1 if Participant has less than 11 Years of Schooling	755
Income Risk	Binary	1 if Net-Income is below € 1250 in Participants' Household	647
Employment Risk	Binary	1 if Participant has no Regular Employment	755
No Partner	Binary	1 if Participant is in a Partnership	755
Living with Parents	Binary	1 if Participant Lives in her Parents Household	751
Persons in HH	Metric	Number of Persons in Participants' Household at Baseline	737

Table A5: Baseline Variable Definitions - Psychological and Physical Characteristics

Variable	Type	Description	n
Unwanted Pregnancy	Binary	1 if Participant States that Pregnancy was Unwanted	747
Daily Smoking	Binary	1 if Participant Smokes Daily	755
Isolation	Binary	1 if Participant has Infrequently Contact to Friends or Relatives	747
Foster Care Experience	Binary	1 if Participant Lived at Least Once in a Foster Family or Foster Care	735
Neglect Experience	Binary	1 if Indication of Neglect Experience during Childhood	730
Lost Experience	Binary	1 if Participant Lost an Attachment Figure due to Death or Divorce	736
Violence Experience	Binary	1 if Participant ever Experienced Violence in her Life	751
Depression	Binary	1 if Value higher 20 for Depression on the Depression Anxiety Stress Scale (DASS)	749
Anxiety	Binary	1 if Value higher 15 on Anxiety on the DASS	744
Stress	Binary	1 if Value higher 25 on Stress on the DASS	749
Aggression	Binary	1 if Value higher 10 on the *Fragebogen zur Erfassung von Aggressivitätsfaktoren (FAF)*	743
Medically Indicated Risk Preg.	Binary	1 if participant has physical problems or if participant is older than 35	724
Body-Mass-Index	Metric	Participants' $Weight/Height^2$ (Weight Before Pregnancy)	750
Sum Risk Factors	Metric	Sum of Risk Factors	755

Table A6: Selective Attrition between TG and CG Psychological Characteristics - Administrative and Survey Data

	Difference TG/CG for:				
	Merged	At Least One Interview After Birth	Data Available for 12 Months After Birth	Data Available for 24 Months After Birth	Complete data from Birth Until Third Birthday
	(1)	(2)	(3)	(4)	(5)
Unwanted Pregnancy	0.0122	0.0224	0.0318	0.0183	-0.00863
	(0.0288)	(0.0310)	(0.0313)	(0.0333)	(0.0416)
Daily Smoking	0.00186	0.000532	-0.0133	-0.00888	-0.0256
	(0.0360)	(0.0384)	(0.0407)	(0.0442)	(0.0540)
Isolation	-0.00685	-0.0146	-0.00474	-0.00712	0.0151
	(0.0189)	(0.0204)	(0.0213)	(0.0246)	(0.0319)
Foster Care Exper.	0.0409	0.0471	0.0424	0.0548	0.0573
	(0.0313)	(0.0321)	(0.0338)	(0.0359)	(0.0430)
Neglect Experience	0.00810	-0.00346	-0.0136	-0.00800	0.0396
	(0.0368)	(0.0393)	(0.0416)	(0.0460)	(0.0565)
Lost Experience	-0.0474	-0.0679*	-0.0667	-0.0485	0.000505
	(0.0377)	(0.0408)	(0.0431)	(0.0480)	(0.0585)
Violence Ever	-0.00510	-0.00210	-0.0127	-0.0247	-0.0393
	(0.0211)	(0.0213)	(0.0219)	(0.0239)	(0.0318)
Depression	-0.0154	-0.00256	0.00532	0.0110	0.0173
	(0.0241)	(0.0250)	(0.0262)	(0.0289)	(0.0368)
Anxiety	-0.00761	0.00400	0.00552	0.00189	0.00193
	(0.0287)	(0.0301)	(0.0315)	(0.0348)	(0.0438)
Stress	0.0329	0.0277	0.0214	0.0202	0.00161
	(0.0348)	(0.0374)	(0.0394)	(0.0438)	(0.0540)
Aggression	-0.0328	-0.0450	-0.0462	-0.0652*	-0.0819**
	(0.0282)	(0.0294)	(0.0312)	(0.0336)	(0.0401)
Body-Mass-Index	-0.0154	-0.265	-0.114	-0.170	0.391
	(0.401)	(0.445)	(0.477)	(0.519)	(0.652)
Medic. Indic. Risk Preg.	0.00459	0.0135	0.0113	-0.0132	-0.00358
	(0.0240)	(0.0255)	(0.0274)	(0.0297)	(0.0373)
Sum Risk Factors	-0.0336	-0.120	-0.140	-0.121	-0.0928
	(0.184)	(0.192)	(0.200)	(0.217)	(0.271)
	703	602	539	438	296

Notes: Robust standard errors are shown in parentheses. Dependent variables shown in column (1). The treatment indicator has the value one if the mother is in the treatment group. Column (2) contains estimates of the average difference in characteristics between mothers in the control and treatment group including community fixed effects for the participants merged with the administrative data. Column (3)-(6) contain these estimates for the survey data. See Appendix Tables A4 and A5 for variable definitions.
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table A7: Selective Attrition between Compliers and Non-Compliers

	Difference Compliers/ Non-Compliers for:				
	Merged	At Least One Interview After Birth	Data Available for 12 Months After Birth	Data Available for 24 Months After Birth	Complete data from Birth Until Third Birthday
	(1)	(2)	(3)	(4)	(5)
Age in Years	0.801	1.261**	1.679***	1.858***	2.180***
	(0.623)	(0.390)	(0.344)	(0.313)	(0.313)
Week in Pregnancy	-0.480	1.404**	1.162*	0.808	1.060*
	(0.829)	(0.520)	(0.463)	(0.424)	(0.428)
Migration	-0.190***	0.0484	0.0410	0.0350	0.0761**
	(0.0509)	(0.0323)	(0.0287)	(0.0263)	(0.0265)
Underage	-0.0800	-0.0427	-0.0839**	-0.0994***	-0.0980***
	(0.0569)	(0.0359)	(0.0318)	(0.0290)	(0.0293)
Mon. HH-Inc. in €	-61.91	194.9***	111.0*	135.3**	158.7***
	(85.35)	(53.59)	(47.53)	(42.64)	(42.55)
Debt over 3000 €	0.0902	0.0374	0.0513	0.0386	0.0538
	(0.0552)	(0.0348)	(0.0309)	(0.0283)	(0.0286)
Education Risk	0.0167	-0.130***	-0.153***	-0.159***	-0.170***
	(0.0610)	(0.0381)	(0.0337)	(0.0307)	(0.0310)
Income Risk	0.0693	-0.0686	-0.0652*	-0.0858**	-0.106***
	(0.0559)	(0.0351)	(0.0312)	(0.0285)	(0.0288)
Employment Risk	-0.00974	-0.0732*	-0.0790**	-0.0905***	-0.121***
	(0.0531)	(0.0334)	(0.0296)	(0.0271)	(0.0272)
No Partner	0.164*	-0.00840	-0.0384	0.000605	0.0552
	(0.0648)	(0.0410)	(0.0365)	(0.0334)	(0.0337)
Living with Parents	-0.0840	-0.00294	-0.0267	-0.0346	-0.0352
	(0.0648)	(0.0410)	(0.0363)	(0.0331)	(0.0334)
Persons in HH	-0.312	-0.0562	-0.195	-0.194	-0.163
	(0.234)	(0.151)	(0.133)	(0.122)	(0.124)
Unwanted Pregnancy	0.0418	0.00448	-0.0617*	-0.0816**	-0.0409
	(0.0545)	(0.0343)	(0.0305)	(0.0278)	(0.0282)
Daily Smoking	0.158*	-0.0502	-0.0309	-0.0844*	-0.0520
	(0.0679)	(0.0429)	(0.0382)	(0.0348)	(0.0353)
Isolation	-0.0485	-0.0185	-0.0184	0.00138	0.0179
	(0.0367)	(0.0232)	(0.0206)	(0.0189)	(0.0191)
Foster Care Exper.	0.0859	-0.116**	-0.0885**	-0.109***	-0.0862**
	(0.0590)	(0.0370)	(0.0329)	(0.0301)	(0.0305)
Neglect Experience	0.119	-0.0889*	-0.0641	-0.0625	-0.0140
	(0.0697)	(0.0439)	(0.0391)	(0.0358)	(0.0362)
Lost Experience	0.0587	0.00802	0.00973	-0.0509	-0.0322
	(0.0718)	(0.0453)	(0.0403)	(0.0368)	(0.0373)
Violence Ever	0.00843	-0.0576*	-0.0564*	-0.0442*	-0.00606
	(0.0401)	(0.0252)	(0.0224)	(0.0205)	(0.0208)
Depression	-0.0194	-0.0587*	-0.0507*	-0.0383	-0.00834
	(0.0462)	(0.0290)	(0.0258)	(0.0237)	(0.0240)
Anxiety	0.0211	-0.0611	-0.0553	-0.0435	-0.00755
	(0.0545)	(0.0343)	(0.0305)	(0.0279)	(0.0283)
Stress	0.0765	-0.0229	-0.0309	-0.0178	0.00896
	(0.0660)	(0.0416)	(0.0370)	(0.0339)	(0.0343)
Aggression	0.0525	-0.0563	-0.0358	-0.0486	-0.0423
	(0.0533)	(0.0335)	(0.0298)	(0.0273)	(0.0276)
Body-Mass-Index	0.200	0.433	1.015*	0.908*	0.882*
	(0.766)	(0.483)	(0.428)	(0.392)	(0.396)
Medic. Indic. Risk Preg.	-0.00159	-0.0211	-0.00257	-0.0157	0.00158
	(0.0457)	(0.0288)	(0.0256)	(0.0235)	(0.0237)
Sum Risk Factors	0.752*	-0.772***	-0.837***	-0.879***	-0.587**
	(0.349)	(0.219)	(0.194)	(0.177)	(0.180)
Lower Saxony	-0.110	-0.0413	-0.0530	-0.0539	0.0160
	(0.0697)	(0.0440)	(0.0391)	(0.0358)	(0.0362)
Bremen	0.0843	0.0769	0.0626	0.0650	0.0730*
	(0.0652)	(0.0410)	(0.0365)	(0.0334)	(0.0338)
Saxony	0.0252	-0.0356	-0.00958	-0.0111	-0.0890*
	(0.0677)	(0.0426)	(0.0379)	(0.0347)	(0.0350)
	755	755	755	755	755

Notes: Robust standard errors are shown in parentheses. Dependent variables shown in column (1). The treatment indicator has the value one if the mother is merged or participated in the intervviews. Column (2) contains estimates of the average difference in characteristics between complient and non-complient mothers including community fixed effects for the participants merged with the administrative data. Column (3)-(6) contain these estimates for the survey data. See Appendix Tables A4 and A5 for variable definitions.
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table A8: Maternal Life Course Outcomes 36 Months after Birth of the Treatment Child - Administrative Data

	Extensive Margin (any)			Total Months		
	Control Mean	Diff. TG/CG	p-values	Control Mean	Diff. TG/CG	p-values
	(1)	(2)	(3)	(4)	(5)	(6)
Any Occupation	0.528	-0.092***	0.008	6.526	-1.598***	0.007
	[0.499]	(0.027)		[9.180]	(0.476)	
Parttime/Fulltime Employed	0.194	-0.058**	0.033	1.689	-0.636*	0.099
	[0.396]	(0.023)		[4.902]	(0.351)	
Apprenticeship	0.207	-0.016	0.606	2.426	-0.294	0.555
	[0.406]	(0.030)		[6.078]	(0.482)	
Marginal employment	0.304	-0.054*	0.093	2.328	-0.651**	0.048
	[0.461]	(0.029)		[5.142]	(0.289)	
Welfare	0.964	0.013	0.235	32.78	1.223	0.238
	[0.295]	(0.010)		[11.91]	(0.975)	
Observations	*329*	*684*		329	684	
Second Child in HH	0.187	0.065**	0.032			
	[0.363]	(0.026)				
Observations	*316*	*663*				

Notes: Robust standard errors in square brackets; Standard deviations in parentheses. Columns (2) and (5) report the coefficient and standard error on Home Visiting (HV) from estimating equation (1) by OLS. Data is available on a monthly base from affiliation to 36 months after birth. Estimations include community fixed effects and controls for age and being underaged. TG = Treatment Group; CG = Control Group; HH=Household.

Table A9: Maternal Life Course Outcomes 36 Months after Birth of the Treatment Child - Survey Data

	Extensive Margin (any)			Total Months		
	Control Mean	Diff. TG/CG	p-values	Control Mean	Diff. TG/CG	p-values
	(1)	(2)	(3)	(4)	(5)	(6)
Any Occupation	0.555	-0.018	0.681	7.569	-1.049	0.403
	[0.499]	(0.042)		[9.231]	(-1.210)	
Parttime/Fulltime Employed	0.299	-0.000	0.994	2.365	-0.380	0.564
	[0.460]	(0.060)		[5.087]	(0.640)	
Apprenticeship	0.255	-0.052	0.241	2.672	-0.135	0.862
	[0.438]	(0.042)		[5.810]	(0.761)	
Marginal employment	0.248	-0.017	0.700	2.533	-0.534	0.355
	[0.434]	(0.044)		[5.705]	(0.555)	
Welfare	0.912	0.053**	0.043	26.511	1.622	0.131
	[0.284]	(0.023)		[11.02]	(-1.001)	
Second Birth	0.175	0.098***	0.000			
	[0.382]	(0.019)				
Second Pregnancy	0.321	0.025	0.567			
	[0.469]	(0.043)				
Constant Partnership	0.401	-0.005	0.927			
	[0.491)	(0.057)				
School	0.102	-0.009	0.682	0.934	0.206	0.555
	[0.304]	(0.022)		[3.877]	(0.340)	
Childcare	0.584	0.076	0.182	7.175	1.778	0.217
	[0.495]	(0.054)		[8.571]	(-1.364)	
Observations	137	296		137	296	

Notes:Robust standard errors in parentheses; Standard deviations in square brackets. Columns (2) and (5) report the coefficient and standard error on HOME VISITING (HV) from estimating equation (1) by OLS. Estimations include community fixed effects and *baseline controls*. TG = Treatment Group; CG = Control Group; HH=Household.

Table A10: Descriptive Statistics for Well-Being and Life-Satisfaction

	Control Group			Treatment Group			GSOEP		
	Mean	sd	n	Mean	sd	n	Mean	sd	n
How Often or Seldom Have You Experienced this Feeling in the Last Four Weeks?									
Angry	3.05	1.00	195	2.91	1.09	239	3.09	0.89	394
Worried	2.09	1.04	194	1.77	0.94	238	1.99	0.91	393
Happy	3.66	0.90	195	3.76	0.88	237	3.90	0.78	394
Sad	2.71	1.07	195	2.49	1.03	237	2.40	0.98	394
How Satisfied are you Today with the Following Areas of Your Life?									
Health	6.55	2.97	194	6.83	2.88	235	7.38	1.89	601
Housework	6.92	2.33	193	7.37	2.32	231	6.39	2.19	579
Household Income	4.92	2.70	193	5.58	2.89	235	5.47	2.77	578
Personal Income	4.14	2.90	191	4.57	3.05	233	6.42	2.82	582
Place of Dwelling	6.56	3.16	194	6.63	3.12	235	6.83	2.34	599
Free Time	5.67	2.91	195	6.23	2.87	234	6.77	2.51	563
Child Care Availability	6.73	3.01	192	6.68	3.33	228	7.36	2.18	590
Family Life	7.46	2.35	195	7.63	2.52	234	7.43	2.19	509
Life in General	7.13	2.10	195	7.44	1.91	237	7.41	1.56	601

Notes: For the outcomes in the first four rows the scale is: 1=Very Rarely, 2=Rarely, 3=Occasionally, 4=Often, 5=Very Often. For the other outcomes the scale is: 0=totally unhappy to 10=totally happy. GSOEP includes mothers whose first child has an age between two and three years. The average age of the first child in the *Pro Kind* sample is 30.06 months. sd=standard deviation.