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Helping with the Kids? How Family-Friendly Workplaces Affect Parental Well-Being and Behavior

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Abstract

Despite political efforts, balancing work and family life is still challenging. This paper provides novel evidence on the effect of firm level interventions that seek to reduce the work-life conflict. The focus is on how a specific workplace policy, namely childcare support, affects the well-being, working time, and caring behavior of mothers with young children. We exploit the fact that since the mid 2000s an increasing number of employers have become proactive and implemented more family-friendly workplaces. These changes over time allow us to identify causal effects of childcare support using a difference-in-differences approach combined with matching. Based on a large panel dataset on families with children in Germany (FiD), we find evidence pointing to welfare enhancing effects of childcare support, as it strongly increases both childcare satisfaction and job satisfaction. In particular mothers who worked limited hours before the introduction, possibly due to constraints, increase their working time and use formal care more intensively. Satisfaction levels are also more strongly affected if mothers are career-orientated. In comparison, flexible work schedules, another family-friendly policy, only affect job satisfaction. Paternal well-being and behavior is not affected by the workplace policy.

JEL Classification: I31, J13, J22, J28
Keywords: family-friendly workplace policies, well-being, work-life balance, difference-in-differences, matching

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1 Introduction

Since the 1970s, the labor force participation of women has been increasing steadily in most industrialized countries, reaching a level of 76 percent in the prime-age population of the G7 countries in 2015 (OECD 2016). This development goes hand in hand with the challenge of reconciling work and family (e.g. Kotowska 2010; Lenain et al. 2014). Achieving the dual goal of family and career is shown to be related to lower well-being than only realizing one of these goals (Bertrand 2013).[1] Unfavorable working and childcare conditions force parents, particularly mothers, to reduce working hours, change to less demanding jobs, or to exit the labor market in order to meet their children's needs. These discontinuous work histories not only are disadvantageous for their labor market and financial prospects (Beblo and Wolf 2002; Bertrand et al. 2010), but it also has far-reaching economic consequences, as valuable productivity potential is interlocked (Smeeding 2014) and workers' health and productivity are reduced due to low levels of well-being (e.g Fisher 2010; Oswald et al. 2015).[2]

Solutions to the work-family conflict do not necessarily involve governments, but rather labor market alterations (Goldin 2014). Nowadays in Germany, as well as in other countries, a growing number of employers are responding to their employees' changing requirements by implementing family-friendly workplaces policies. While many public family policies are found to set disincentive to work (Datta Gupta et al. 2008), workplaces policies are explicitly designed to help balance work and family life.

So far, the success of these family-friendly workplace policies in easing the work-life conflict and influencing parental working decisions is not extensively studied. Causal evidence on the effects of distinct policies is largely missing. This paper helps to fill this gap by analyzing the effects of family-friendly workplaces in Germany.[3] We do not consider a general measure of family-friendliness, but in order to derive some guidance for firms and policy makers, we focus on childcare support as one specific workplace policy.

The aim is to shed some light on the effect of this policy on economic welfare. We consider two main aspects. Firstly, we proxy experienced utility by well-established subjective well-being data. A broad set of satisfaction measures that allow an assessment of whether work as well as family related areas benefit from the provision of childcare support is considered. Furthermore, it is addressed whether there is an effect on working time and caring behavior. Including these types of behavior gives us some insights on the adjustments accompanying the changes in well-being. Behavioral effects would also suggest that the benefits of the family-friendly workplace policy go beyond individual utility.

The focus is on mothers with at least one pre-primary school aged child. At this stage children are still mainly a mother's responsibility (e.g. Wall and Arnold 2007) and childcare is of high importance for bal-

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[1] Also see OECD (2007: Chapter 2) on the problems of reconciling work and family in OECD countries.

[2] The work-life conflict might also be related to fertility, which is low or diminishing in many OECD countries (Smeeding 2014).

[3] Germany is an interesting case to study family-friendly workplaces. Support for families provided by the German state is quite generous in international comparison. Since the 1980s parental leave schemes with relatively high compensation rates and long leave periods allow parents to take a considerable amount of time off and, consequently, set disincentives for the dual earner model (see Spieß 2011).

ancing work and family life. We investigate effect heterogeneity with respect to the mother's preferences and constraints. Furthermore, differences between the effects of the availability of slots and a financial subsidy as well as between the provision and the usage of childcare support are discussed. Comparable evidence for fathers is provided. The results are contrasted to the effects of another major family-friendly workplace policy that has been researched more extensively, namely flexible work schedules.

Our empirical approach exploits the expansion of family-friendly workplace policies in German firms since the mid-2000s. Supporting this process the Federal Ministry for Family Affairs, Senior Citizens, Women and Youth introduced the programs *Erfolgsfaktor Familie* (Success Factor Family) and *Familienbewusste Arbeitszeiten* (Family-conscious Working Hours) in autumn 2006. In addition, the program *Betriebliche Kinderbetreuung* (On-site Childcare) promotes the creation of daycare slots within a firm by paying €400 for each newly created full-time slot. By raising public awareness along with informative and financial support, these programs seem to successfully stimulate positive attitudes toward family-friendliness in firms. More and more employers have become members of the ministry's network of family-friendly firms and the number of on-site daycare centers is also increasing (e.g. Lauber et al. 2015).

These changes, over time, allow us to estimate the effects of family-friendly workplace policies using within unit variation. This is an established approach, especially in well-being research, because subjective satisfaction measures are unlikely to be comparable across individuals. However, the fact that it is the firm and not the worker that changes family-friendliness allows us to further reduce the selection bias that is present in many studies. Similar to exploiting plant closures when estimating the effect of unemployment on well-being and other outcomes (e.g. Kassenboehmer and Haisken-DeNew 2009; Marcus 2013; Chadi and Hetschko 2016b), we use an exogenous shock in family support to identify the causal effect of the workplace policy at the worker level. To plausibly claim exogeneity, an appropriate control group for the treated individuals is created via matching.

The analysis relies on a representative German panel dataset (*"Families in Germany"*, FiD) that is incorporated in the well-established German Socio-Economic Panel Study (SOEP). The FiD mainly captures families with young children. Similar to the SOEP, it incorporates a vast amount of information on objective and subjective characteristics of parents and their children, that is crucial for balancing treatment group and control group.[4]

The estimation reveals reasonable and robust positive effects of childcare support on maternal job satisfaction as well as on their satisfaction with childcare. Life satisfaction, usage of childcare, and actual working hours also seem to be higher once childcare support is introduced. In line with theoretical expectations,

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[4]The existing literature reveals that family-friendly firms are larger and have a higher share of female workers and skilled workers. Employees in family-friendly firms have higher occupational positions and qualifications (see Konrad and Mangel 2000; Sharpe et al. 2002; Gray and Tudball 2003; Budd and Mumford 2006; Heywood et al. 2007; Bloom et al. 2011). Tenure (Gray and Tudball 2003; Fakih 2014) and having young children (Sharpe et al. 2002; Heywood et al. 2007) are also positively related to family-friendly workplaces. Gerlach and Schneider (2012) confirm a positive relationship of firm size and also region with family-friendliness in Germany.

the effects are particularly strong for mothers who previously only worked a few hours and those who have high career aspirations. While making use of the childcare support mainly changes the behavior of mothers, the provision and, hence, the increasing choice set also positively affects well-being. Similar to findings on public childcare, the availability of slots induces stronger effects than the financial support. In comparison, flexible working schedules only raise job satisfaction, but do not affect family-relevant areas. There are no robust effects of childcare support for fathers.

The remainder of this paper is structured as follows: Section 2 gives an overview of the related literature. Section 3 provides some theoretical considerations. Section 4 describes the data, sample selection, and the definitions of both the outcomes and the treatment. Section 5 elaborates on the identification strategy and Section 6 provides the empirical results and the sensitivity analyses. Section 7 concludes with a discussion of the main findings.

2 Related Literature

Our study contributes to the research on the link between labor market or policy interventions and subjective well-being. So far, there is relatively little evidence available on this topic. A few papers analyze the well-being effects of taxation, temporary contracts or welfare-to-work policies (e.g. Frey and Stutzer 2012; Levinson 2012; Akay et al. 2012; Knabe et al. 2015; Chadi and Hetschko 2016a). This paper complements this strand of research, as there is hardly any evidence on how family policies and workplace interventions affect well-being and work-life balance. By considering several aspects of well-being as well as working and caring behavior the analysis explicitly takes into account that interventions might have diverging effects on different life domains.

Research on public family policies provides some evidence that public childcare can have a positive impact on female employment, but not in all settings (e.g. Lefebvre and Merrigan 2008; Havnes and Mogstad 2011; Vandelannoote et al. 2015). There is some recent evidence that public childcare provision can also affect well-being, particularly family satisfaction (Schober and Schmitt 2013; Schober and Stahl 2016), but this aspect is still under-researched. In contrast, with respect to family-friendly workplace policies not only is reliable evidence on well-being limited, but evidence on its behavioral effects is lacking. Studies identifying the causal effects of family-friendly workplace policies in representative settings are largely missing.

Ezra and Deckman (1996) and Saltzstein et al. (2001) analyze a very specific group of government employees in the US. They reveal a positive correlation of on-site care and flexible work schedules with childcare satisfaction for mothers, but not for fathers (Ezra and Deckman 1996) as well as a positive association between job satisfaction and childcare support for mothers and single fathers (Saltzstein et al. 2001). There is no such relationship for flex-time or part-time schedules. This finding is challenged by Artz (2010) and Possenriede and Plantenga (2014) for the US and the Netherlands. They reduce the bias in their estimates

using fixed effect strategies. However, they do not explicitly target differences in characteristics between treatment group and control group. Furthermore, they solely focus on job satisfaction and hence omit family aspects. Artz (2010) reveals a strong positive effect of flexible work schedules and a smaller positive effect of childcare support on job satisfaction. The effect of childcare support only exists for parents but, and in line with Possenriede and Plantenga (2014), flexible work schedules affect job satisfaction of employees with and without children. In particular the possibility to work part-time is found to be beneficial for mothers (Booth and Van Ours 2008).[5]

There is no direct evidence regarding working hours but research suggests that family-friendly workplaces are related to workplace behavior. For various designs of family-friendly workplaces, research reveals that employees show greater commitment, e.g. lower absenteeism rates, higher worker loyalty, and more positive work attitudes (see OECD 2007; Butts et al. 2013). Baughman et al. (2003) find lower turnover rates in firms which offer childcare referrals and sick leave. Most of the studies only provide correlations and do not allow general conclusions about the effectiveness of specific policies.[6]

3 Theoretical Considerations

The effect of childcare support can be analyzed using a simple static labor supply framework. To capture all aspects of well-being and behavior analyzed in this paper, we assume that a mother derives utility from consumption X, working t_w, spending time with her children t_c, and the well-being of her children C:

$$U = U(X, t_w, t_c, C). \tag{1}$$

While it is reasonable to assume that $U_X, U_C, U_{t_c} > 0$ and $U_{XX}, U_{CC}, U_{t_c t_c} < 0$, it is plausible that $U_{t_w} > 0$ at low levels of t_w and $U_{t_w} \leq 0$ at high levels of t_w (see Booth and Van Ours 2008).

The mother spends time either working at wage w or with her children $T = t_c + t_w$. For every hour she works she has to purchase other childcare o_c at the price p_c, such that $T = t_w + o_c$. To describe the childcare market properly, we have to assume that there is an upper limit of childcare provision, hence $o_c \leq \bar{o}_c$.[7] The children's well-being is a function of maternal care, other care, and the quality of other care δ (e.g. teacher's education, flexibility): $C = C(t_c, o_c, \delta)$. We assume $C_{t_c}, C_{o_c} > 0$, $C_{t_c t_c}, C_{o_c o_c} < 0$, and $C_{o_c \delta} > 0$.

In the optimum with an interior solution the mother will choose her time allocation such that:

$$U_{t_c} - U_{t_w} + U_C[C_{t_c} - C_{O_c}] = U_X(w - p_c). \tag{2}$$

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[5]Other work practices (e.g. training supervisors in demonstrating support for employees' private lives) modestly reduce work-life conflict and improve family time adequacy (Kelly et al. 2014) .

[6]Wage effects are not further investigated here. Wages are rigid in Germany. We do not find wage effects in our short-run analysis. In general, there is some, but not unambiguous, evidence on a negative relationship of wages and family-friendly workplace policies (c.p. Baughman et al. 2003; Heywood et al. 2007; Fakih 2014).

[7]Wage income and other income is spent either on childcare o_c or on X. The price of the consumption good is normalized to 1.

In a corner solution, the mother would choose $t_w = \bar{o}_c$, with t_w being lower than optimal.

Childcare support by the employer can have three effects. Firstly, it may reduce the price of other childcare p_c and increase the hourly net wage. Secondly, it can increase the availability of childcare, hence $\bar{o}_c$. Thirdly, it may be of higher quality δ.

A price reduction should positively affect well-being. Depending on the mother's adjustment, different life domains may be differently affected. A positive effect on job satisfaction might be counteracted by an increase in working hours if high working hours reduce job satisfaction (see Booth and Van Ours 2008). An increase in working time is likely as the price reduction triggers a substitution effect and makes other childcare a relatively cheaper factor of production in C. The income effect, on the other hand, would lead mothers to spend more time with their children. Higher availability of childcare leads to a larger choice set which might increase satisfaction, particularly with the job and with childcare. The effect on working hours should be non-negative. In the third case, other childcare becomes more productive. This would lead mothers to substitute maternal care time with other childcare in the production of C, as long as the marginal utility of spending time with their children is relatively low and the marginal utility of working is rather high. Otherwise childcare usage may stay the same or even be reduced. There could still be an positive quality effect on care satisfaction.

These effects are expected to be heterogeneous with respect to preferences and restrictions. Mothers who were highly constrained in the past and, hence, could only work a few hours, face a higher marginal utility of working. Similarly, the marginal productivity of other childcare is relatively high, if it is not heavily used. If a mother works long hours, the income effect may dominate the substitution effect. In an extreme case, she might even reduce her working hours. The benefits of childcare support should also be larger if a mother is more career-orientated and, hence, derives a greater utility from working. Therefore, in the empirical analysis we investigate if the effects differ by whether the mother worked relatively short hours in the period before the treatment as well as differences based on career aspirations.

4 Data

The analysis is based on a unique panel dataset of households with children in Germany, called Families in Germany (*Familien in Deutschland*, FiD). FiD was collected from 2010 through 2013 and is related to the German Socio-Economic Panel Study (SOEP). Therefore, it adheres to the high standards set by the SOEP.[8] The dataset is exceptional in two ways: First, the largest part of the data consists of a "cohort-sample" of families with children born between 2007 and 2010. Second, the dataset includes detailed questions about the employer's family-friendliness.[9] To our knowledge, there are very few international and no other

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[8]From 2014 on the FiD-samples are integrated into the main SOEP. For further details see Schröder et al. (2013).

[9]The questions about family-friendliness at the workplace are designed in the style of the questions in the IAB Establishment Panel, the leading German survey of firms.

German panel surveys of this size on families with children in pre- and primary-school age that include questions about family-friendly workplace policies.

All participating households filled out a household questionnaire, including information on all children in the household. Each household member aged 17 or older filled out a personal questionnaire that included a set of questions about their working behavior and workplace characteristics. In addition, the dataset includes information about life course events, labor market history and general work- and family related attitudes. Consequently, the FiD data is very well suited for analyzing the effect of family-friendliness on parents with young children.

The analysis focuses on households with two parents and at most four children.[10] Biological and social parents are not distinguished. The sample only includes employed parents, as only these parents can be offered childcare support by an employer.[11] Effects are estimated for families with a youngest child who is at most six years old and not yet in school in the pre-treatment period. This way, families are captured for whom childcare is crucial for balancing work and family life. Most mothers in the resulting sample have children who are at least two years old because many mothers with younger children do not participate in the labor market. Parents who could clearly influence the introduction of childcare support at the workplace, i.e. self-employed individuals, are excluded from the analysis.

4.1 Well-Being and Behavioral Outcomes

In order to understand whether family-friendly workplace policies have an effect on work-life balance and overall well-being, it is necessary to capture aspects related to the job as well as to family life. We proxy experienced utility in different life domains by:

- Life satisfaction: Satisfaction with *your life*.
- Job satisfaction: Satisfaction with *your work/job*.
- Family satisfaction: Satisfaction with *your family life*.
- Childcare satisfaction: Satisfaction with *the existing childcare options/possibilities*.

All satisfaction items are measured on a 11-point Likert scale from 0 (absolutely unsatisfied) to 10 (absolutely satisfied).

Analyzing behavioral changes completes the picture of the adjustments that take place when childcare support is introduced at the workplace. Behavioral changes tell us whether the benefits of this investment stick with the individual or spill over to other areas and, hence, broadly affect economic welfare. The following measures of behavior are included in the analysis:

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[10]Single parents are excluded, as they are likely to react to family-friendly workplace policies with different magnitudes. Additionally, despite oversampling, the group of *employed* single parents in the FiD data is too small for a separate analysis. There are very few parents with more than four children. Therefore this group is difficult to balance.

[11]The partner is allowed to work zero hours.

- Agreed Hours: *Agreed* working hours per week.

- Actual Hours: *Actual* working hours per week.

- Daycare Hours: Hours in *formal childcare* by the youngest child in the household.

4.2   Childcare Support at the Workplace

Whether an individual is offered childcare support as a family-friendly policy at the workplace is identified by the answer to the following question:

"In some firms family-friendly policies are supported. How is it at your workplace: Are the following support policies offered by your employer?"

Childcare Support is defined as ticking at least one of the following two options:

- "Workplace childcare facilities (e.g. daycare (in-house kindergarten, crèche, day nursery), homework supervision in the company, slot in non-in-house daycare center)."

- "Sponsoring childcare."[12]

In addition it is observed whether parents make use of the provided support. We examine the difference between the effects of usage and provision in Section 6.2.2.

5   Econometric Framework

Several indicators, such as the membership in the network initiated by the Ministry of Family Affairs, Senior Citizens, Women and Youth, reveal a clear increase in family-friendly workplaces in the time period relevant for the present analysis (see Lauber et al. 2015). To estimate a causal effect of *Childcare Support* we exploit these changes in family support using a difference-in-differences (DiD) approach.

In the panel setting, the DiD-estimator can be estimated using a first difference specification:

$$\Delta Y_{i,t} = \alpha + \beta \Delta CS_{i,t} + \Delta \varepsilon_{i,t} \qquad t=2011,2012,2013 \qquad (3)$$

with Y referring to the measures of satisfaction or behavior and CS to *Childcare Support* provided by the employer. The intercept α captures the period effect. CS is equal to zero for all individuals in the pre-treatment period.[13] Hence β measures the treatment effect of the introduction of *Childcare Support*.[14]

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[12]The answer "I do not know" is coded as "no provision" because the individual cannot be affected by the provision. Only one percent of all individuals do not know whether a family-friendly policy is provided by the employer.

[13]If family-friendly workplace policies have a long-term effect, the group of individuals who work in a firm that provides *Childcare Support* throughout the observation period is not an appropriate comparison group.

[14]Three periods of change are observed in the data: 2010 to 2011, 2011 to 2012, and 2012 to 2013. However, in 2011 only individuals who changed their employer were asked about family-friendly policies. For parents who did not change their employer in 2011, only changes from 2010 to 2012 and 2012 to 2013 can be identified. Hence, if t refers to the post-treatment period, for most observations the pre-treatment period is given by $(t-1)$. For observations in 2012 that belong to individuals who did not change their job in 2011, the pre-treatment period is given by 2010, hence $(t-2)$. This applies to treated as well as to untreated individuals. A control is added for different time spans between two observation points.

The DiD-approach captures time-invariant difference between individuals using fixed effects. In the present setting, the bias arising due to selection into the treatment is also strongly reduced because firms decide about introducing *Childcare Support*, such that most employees perceive the change in family support as an exogenous shock.[15] Still employees in firms that become more family-friendly may differ from employees in firms without a change in family support. In order to create a valid counterfactual comparison group, we balance the characteristics of treatment group and control group using matching. The general idea behind this DiD-matching estimator is to combine individuals who receive *Childcare Support* from one period to another with nearly identical individuals who do not receive *Childcare Support* and to compare the changes in well-being and behavior between these groups.

The DiD-matching estimator has the advantage of eliminating unobserved differences between treated and non-treated individuals that cross-section matching estimators fail to eliminate (see Smith and Todd 2005; Lechner 2011)[16]. Causality does not hinge on the assumption that there are no unobserved factors connecting the *level* of the outcome to the treatment, but relies on the weaker assumption that the treatment status does not predict the *change* in the outcome conditionally on the set of observable characteristics. Heckman et al. (1999: chapter 8) characterize three sources of selection bias in evaluation studies. With matching, we target the lack of common support and the differences in explanatory variables. The DiD specification addresses the differences in unobservable characteristics.

There is no agreement on whether one should exploit the panel structure by conditioning on lagged dependent variables (LDV) (Imbens and Wooldridge 2009; Lechner 2011).[17] Estimates based on unconfoundedness given lagged outcomes seem to be more likely to be biased than the DiD-estimates (Chabé-Ferret 2015). Both estimates may enclose the true causal effect (see Guryan 2001). Therefore, in addition, we estimate a model including the LDV.

As the matching is not perfect, we perform a bias adjustment. This is a weighted regression using the weights derived in the matching process (see e.g. Imbens and Rubin 2015). The combination of matching with regression adjustment is shown to reduce problems of misspecification and to improve the precision of the estimates (Stuart 2010; Kreif et al. 2013).[18]

5.1 Propensity Score Matching

Since direct matching on a large set of covariates is difficult, the analysis proceeds with propensity score matching (PSM, see Rosenbaum and Rubin 1983). PSM is a semi-parametric approach that allows for arbitrary heterogeneity related to the control variables. The matching estimator is particularly beneficial if

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[15]We control for and investigate the role of individuals who changed their employer in Section 6.3.

[16]Famous implementations of similar DiD-matching estimators are Heckman et al. (1997) and Smith and Todd (2005).

[17]Including the lagged dependent variable in the difference-in-differences model is essentially the same as matching without differencing (Lechner 2011).

[18]The hybrid procedure of combining regression adjustment with reweighting methods is also referred to as 'double-robust' (Bang and Robins 2005). This approach leads to consistent estimates if either the propensity score, i.e. the estimation leading to the weights, or the outcome equation is correctly specified.

the covariate distributions differ substantially between treatment group and control group (Imbens 2014). The conditional probability of receiving *Childcare Support* (the propensity score) is estimated based on a probit model.[19] The set of variables $\mathbf{X}^M$ included in the estimation of the propensity score (see Section 5.2) contains only variables that are measured before the treatment took place or unaffected by the treatment. Given the set of variables $\mathbf{X}^M$, it is assumed that the conditional independence assumption holds:

$$E_{P(\mathbf{X}^M)|CS=1}[\Delta Y^{NT}|P(\mathbf{X}^M), CS = 1] = E_{P(\mathbf{X}^M)|CS=1}[\Delta Y^{NT}|P(\mathbf{X}^M), CS = 0]. \tag{4}$$

$CS = 1$ indicates that an individual received the treatment *Childcare Support*. $\Delta Y^{NT} = Y^{NT,post} - Y^{NT,pre}$ gives the change in the outcome in absence of the treatment (T =treated, NT =non-treated). $P(\mathbf{X}^M)$ refers to the propensity score. The estimates should be interpreted as the average treatment effect on the treated (ATT) because the observations for the non-treated individuals are weighted such that they provide an appropriate comparison group for the treated individuals. This estimate is given by:

$$\beta_{ATT} = E[\Delta Y^T - \Delta Y^{NT}|CS = 1, P(\mathbf{X}^M)] = E[\Delta Y^T|CS = 1) - E[\Delta Y^{NT}|CS = 1, P(\mathbf{X}^M)] \tag{5}$$

$$= \frac{1}{n_T} \sum_{i \in G_T} \left[\Delta Y_i^T - \sum_{j \in G_{NT}} \omega(i,j) \Delta Y_j^{NT} \right]$$

where n_T is the number of cases in the treatment group G_T. The observation for an individual i in the treatment group is matched to a counterfactual observation that is created using a weighted average of observations j in the control group G_{NT}. ω refers to the matching weights.

The main results are based on local linear regression matching, which has some advantages over standard kernel matching (see e.g. Heckman et al. 1997; Caliendo 2006).[20] Unlike pair-wise matching, kernel matching not only relies on the one nearest neighbor for the match, but uses kernel-weighted averages over multiple observations in the comparison group.[21]

The robustness of our results to the weighting procedure is verified by applying a different weighting approach to the main analysis, called entropy balancing (Hainmueller 2012). This optimization procedure derives weights such that the reweighted control group satisfies a pre-specified balancing condition. In our case, this condition is the equality of the sample means in treatment group and control group. By imposing this condition, the essential criterion that is usually applied to judge the success of matching is automatically fulfilled.[22] The results are robust to this change in the weighting procedure (see Section C).

Other than nearest-neighbor matching, these non-parametric estimators of the ATT are relatively smooth. We consider the matching process as a data pre-processor (see e.g. Ho et al. 2007) and derive inference

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[19]The results are robust to using a logit model.

[20] Local linear and kernel regression only differ in terms of the weights. Other than standard kernel matching, an intercept and a linear term is included (see Heckman et al. 1997; Todd 1999). Results are very similar using standard kernel matching.

[21]Asymptotically, all matching procedures produce the same results because they reduce to exact matching in infinite samples (Caliendo and Kopeinig 2008). We use a Gaussian kernel with a bandwidth of 0.05. The bandwidth is the smoothing parameter; its choice is analogous to the choice of the number of neighbors. A smaller bandwidth implies higher variance and lower bias. In line with Smith and Todd (2005), our results are robust to slight variations in the bandwidth.

[22]See Marcus (2013) for an implementation of this procedure.

based on analytical standard errors.[23] There is no agreement on whether bootstrap standard errors are valid for these non-parametric matching estimator, particularly as bootstrapping might overestimate the variance (see e.g. Imbens 2004).[24] Bootstrapping the whole procedure gives us slightly larger standard errors, but does not lead us to reject the main conclusions. We provide these standard errors only for the main results. Additional confirmation is given using Abadie (2005)'s semi-parametric difference-in-difference estimator and the corresponding standard errors (see Section C).

5.2 Control Characteristics

Three major groups of variables are expected to affect the treatment probability as well as the trend in well-being and behavior. Firstly, there are the characteristics of the children. We flexibly control for the age and number of children. Secondly, there are job relevant characteristics, i.e. education and age as a proxy for experience, job position, tenure, firm size and occupation (ISCO coding). Finally, there is the general environment, which defines outside options with respects to employment and childcare. To capture these aspects we control for the partner's age, academic degree and working hours, household income, availability of publicly subsidized childcare for children below the age of three, unemployment rate, living in West Germany, and being located in a city or rural area.[25] We include higher order terms and interaction terms for some of these variables (see Table B1 for the exact specification). For example, we interact the age of the youngest child with having an academic degree to ensure that the age of the children is also balanced within educational groups.

Based on this specification we find a significant region of common support (see Figure B1). Overlap is imposed by dropping treated observations whose propensity score is higher than the maximum value or lower than the minimum value in the control group. In some regions the propensity score density is rather low, something that is not uncommon (see Caliendo and Kopeinig 2008). With trimming, those three percent of the treated observations are dropped at which the propensity score density in the control group is lowest. The estimated treatment effects are only defined in the region of common support.

5.3 Balancing and Common Trend

In order to compare the covariate distribution across the matched groups and to test whether the groups are adequately balanced, the two-sample t-test proposed by Rosenbaum and Rubin (1985) is conducted. In addition, the quality of the matching is verified by analyzing the standardized percentage bias. This standardized percentage bias is defined as the difference of the sample means in the treated and non-treated subsamples as a percentage of the square root of the average of the sample variance in the treated group and

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[23]Abadie and Imbens (2016) do not even refer to kernel matching as a "matching method" but rather as a regression imputation method using non-parametric smoothing techniques.

[24]Other than for nearest-neighbor matching (see Abadie and Imbens 2006) there is no clearly preferable estimator proposed for kernel matching so far.

[25]Information on childcare and unemployment at the district level stems from the Federal Statistical Office.

in the non-treated group (see Rosenbaum and Rubin 1985).[26]
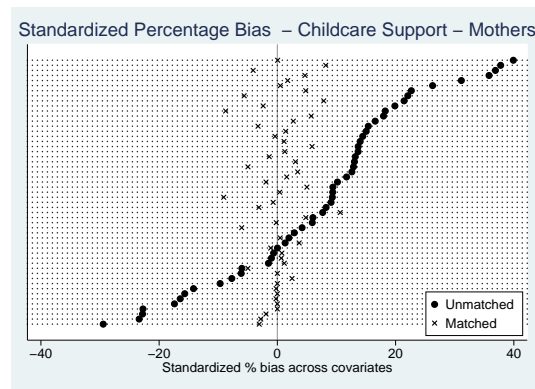
(a) Balancing *Childcare Support*

Figure 1: Standardized Percentage Bias before and after Matching - Mothers

Overall we achieve a much better balancing of characteristics after matching.[27] Mean and median standardized bias ar below three. For most variables, the standardized bias is lower than five. A large part of the remaining differences will be captured by the bias adjustment. If we divide the set of variables into the three subgroups children, job, and environment, we find that the mean standardized bias decreases strongly for all categories due to matching (Table 1). In addition, other indicators, such as the joint significance test and the percentage of continuous variables that have variance ratios exceeding the 2.5th and 97.5th percentiles of the F-distribution, reveal a good matching performance (cp. Imbens and Rubin 2015).

Table 1: Differences before and after Matching - Mothers

	Joint Significance (p>chi2)	Mean Bias	Median Bias	%Var
All Variables				
Unmatched	0.182	14.4	13.4	6.00
Matched	0.017	2.9	2.5	0.00
Age and Number of Children				
Unmatched	0.016	10.9	13.0	0.00
Matched	0.002	1.9	1.2	0.00
Education and Job				
Unmatched	0.086	17.3	14.2	25.00
Matched	0.011	3.1	2.5	0.00
Partner and Environment				
Unmatched	0.041	12.8	10.2	0.00
Matched	0.006	3.5	3.3	0.00
Observations	79	862		

Source: FiDv4.0.

Even thought the variables included in the matching process are theoretically well motivated, there is still some arbitrariness in the exact specification. Therefore, we additionally assess the matching quality by

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[26]The matching weights and the test statistics are derived using the user written package psmatch2 in Stata (see Leuven and Sianesi 2014).

[27]The differences between treatment and control group are in line with the literature, in particular determinants of socioeconomic status, firm size, and tenure are positively correlated with the probability to be treated (cp. Table B1).

examining the differences between treatment group and control group in variables that are not included in the matching procedure. In the DiD-setting it is not required that the pre-treatment levels of the outcomes are similar; still we regard their similarity as an indicator of a good match. As depicted in Table 2 there is no longer any significant difference in any of the pre-treatment outcomes after matching.

Table 2: Pre-Treatment Outcomes after Matching - Mothers

| | Mean | | | t-test | |
Variable	Treated	Control	Difference	t	p>|t|
Life Satisfaction	8.00	8.04	-0.04	-0.23	0.82
Job Satisfaction	7.83	7.83	0.00	-0.01	0.99
Care Satisfaction	7.74	7.82	-0.08	-0.24	0.81
Family Satisfaction	8.62	8.69	-0.07	-0.33	0.74
Agreed Working Hours	23.29	23.64	-0.35	-0.20	0.84
Actual Working Hours	26.05	26.29	-0.24	-0.12	0.90
Daycare Hours	5.25	5.19	0.06	0.11	0.91

Source: FiDv4.0.

Crucial in the DiD-setting is the common trend assumption. Unfortunately, as we only have four periods of data, we cannot directly show that there is a common trend in well-being and behavior in the pre-treatment periods. However, the data provides retrospective information on employment and leave taking, which can be assumed to be correlated with working and caring behavior as well as well-being. After matching we find very comparable trends in these two measures (Table 3).

Table 3: Pre-Treatment Trends after Matching - Mothers

| | Mean | | | t-test | |
Variable	Treated	Control	Difference	t	p>|t|
Employed (lag 1)	1.00	1.00	0.00	.	.
Employed (lag 2)	0.95	0.95	-0.01	-0.14	0.89
Employed (lag 3)	0.81	0.86	-0.06	-0.94	0.35
Employed (lag 4)	0.74	0.72	0.01	0.21	0.84
On leave (lag 1)	0.12	0.11	0.00	0.04	0.97
On leave (lag 2)	0.32	0.29	0.03	0.44	0.66
On leave (lag 3)	0.49	0.52	-0.03	-0.36	0.72
On leave (lag 4)	0.55	0.57	-0.02	-0.25	0.80

Source: FiDv4.0.

6 Empirical Results

6.1 Basic Results for Maternal Well-Being and Behavior

Overall our findings show that mothers benefit in work and family relevant areas when the employer provides childcare support (Table 4). Particularly pronounced are the effects on job satisfaction and care satisfaction. In both cases, the effect corresponds to approximately a quarter of a standard deviation, which is non-negligible. Positive satisfaction effects, both on the family and on the job side, suggest that these mothers experience a better work-life balance. Even though only marginally significant, these positive effects also seem to influence overall life satisfaction.

In the whole sample behavioral effects are not highly significant, but highlight that the increase in well-being is accompanied by an increase in actual working time. This additional working time could be interpreted as stronger commitment, as the amount of working time agreed by contract is not strongly affected. The change in behavior becomes a little clearer when the use of formal childcare is considered. The youngest child spends 0.3 hours per day more in a daycare center or kindergarten when *Childcare Support* is available.

Table 4: Effects of *Childcare Support* - Mothers

| | Life | Satisfaction with... | | | Agreed Hours | Actual Hours | Daycare Hours |
		Job	Care	Family			
DiD with Bias Adjustment							
Childcare Support	0.231	0.498	0.541	0.128	0.240	1.186	0.309
	(0.140)*	(0.199)**	(0.259)**	(0.135)	(0.710)	(0.786)	(0.152)**
	[0.175]	[0.266]*	[0.312]*	[0.176]	[0.960]	[1.018]	[0.217]
Observations	939	919	801	939	934	930	939
DiD with Bias Adjustment and LDV							
Childcare Support	0.202	0.529	0.522	0.076	0.174	1.140	0.290
	(0.121)*	(0.163)***	(0.182)***	(0.106)	(0.644)	(0.734)	(0.155)*
	[0.160]	[0.219]**	[0.227]**	[0.140]	[0.882]	[0.898]	[0.222]
Observations	939	919	801	939	934	930	939
Mean	8.02	7.83	7.78	8.66	23.47	26.17	5.22
Sd	1.12	1.66	2.05	1.27	10.80	12.09	3.09

Notes: Robust standard errors in parentheses. Bootstrap standard errors in brackets (500 replications). * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.
Source: FiDv4.0.

6.2 Heterogeneous Effects

6.2.1 Working Time and Career Preferences

Given the constraints faced by the mother and depending on her preferences the effects of *Childcare Support* are likely to vary. This is examined in the following.

We proxy constraints using working hours in the pre-treatment period. For some mothers low working hours may be an optimal outcome given their preferences. However, for many mothers low working hours can be seen as an indicator of constraints at either the childcare or the labor market that force them to work fewer hours than optimally desired. As argued in Section 3, *Childcare Support* can be expected to affect behavior relatively more strongly among mothers who worked few hours pre-treatment. The prediction for well-being is not unambiguous, as higher working hours may counteract positive policy effects on job satisfaction (see Booth and Van Ours 2008). Due to the interplay of income and substitution effect, there may be no behavioral adjustment for mothers with high working hours. There may still be benefits from higher quality or more flexible childcare.

The results given in Table 5 are derived by fully interacting the regression model with a dummy indicating whether a mother worked at least 20 hours. About 58 percent of mothers worked less than 20 hours per week in the pre-treatment period. The predicted marginal effects are in line with expectations. Mothers who

were working few hours in the pre-treatment period show much stronger increases in working time and use of daycare.[28] The effects on life satisfaction and family satisfaction are also larger (Table 5). This is not the case for job satisfaction. Mother who already worked long hours show no behavioral adjustment but a strong increase in care satisfaction.[29]

Table 5: Marginal Effects of *Childcare Support* by Pre-Treatment Working Behavior - Mothers

		Satisfaction with...			Agreed	Actual	Daycare
	Life	*Job*	*Care*	*Family*	Hours	Hours	Hours
DiD with Bias Adjustment							
Low Work Hours	0.499	−0.018	0.320	0.564	1.461	2.270	0.728
	(0.155)***	(0.276)	(0.334)	(0.173)***	(1.023)	(1.214)*	(0.293)**
High Work Hours	−0.033	0.291	0.709	0.066	−0.641	−0.101	−0.178
	(0.172)	(0.246)	(0.296)**	(0.212)	(0.560)	(0.747)	(0.152)
Observations	939	919	801	939	934	930	939

Notes: Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Results are derived by fully interacting the regression model with the group indicator. Effect presented in the table are group-wise marginal effects of *Childcare Support*.
Source: FiDv4.0.

Table 6: Marginal Effects of *Childcare Support* by Pre-Treatment Career Preferences - Mothers

		Satisfaction with...			Agreed	Actual	Daycare
	Life	*Job*	*Care*	*Family*	Hours	Hours	Hours
DiD with Bias Adjustment							
Low Career Aspiration	−0.229	0.268	0.598	−0.172	−0.679	−0.308	−0.213
	(0.186)	(0.279)	(0.348)*	(0.200)	(0.769)	(0.884)	(0.205)
High Career Aspiration	0.399	0.636	0.329	0.498	1.047	2.620	0.589
	(0.151)***	(0.257)**	(0.264)	(0.168)***	(1.056)	(1.045)**	(0.217)***
Observations	939	919	801	939	934	930	939

Notes: Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Results are derived by fully interacting the regression model with the group indicator. Effect presented in the table are group-wise marginal effects of *Childcare Support*.
Source: FiDv4.0.

Another important aspect determining the effectiveness of *Childcare Support* are the mother's preferences. Depending on her utility function, she might benefit more or less form *Childcare Support*. We assume that mothers who argue that career opportunities are important for their job choice are likely to derive a higher marginal utility from working and, hence, may react more strongly to the introduction of *Childcare Support*. About two-thirds of mothers consider their career to be important for their job choice in the pre-treatment period. The analysis reveals that mothers with relatively low career aspirations value the additional childcare support, but do not show any other clear reaction. On the other hand, mothers with high career aspirations benefit in all areas and also exploit this childcare opportunity to increase their working hours (Table 6).

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[28]Effects on working time are more significant if we estimate separate models for each group. Results are available on demand.

[29]We find a very similar pattern using high levels of reported time pressure as an indicator of constraints and sub-optimal allocation of time. As expected mothers who face a high stress level before the treatment react the most to the introduction of *Childcare Support* particularly in terms of well-being. Results are not presented here, but available on demand.

6.2.2 Actual Usage of Childcare Support

Childcare Support may have a direct effect if mothers make use of it, but the effect could also be more indirect, as the possibility to use childcare support in the future may already affect well-being and behavior today. Furthermore, introducing such a policy can alter the workplace climate. Butts et al. (2013), one of the few studies investigating differences between provision and usage, claim that the effect of provision of family-friendly workplace policies is at least as large as the effect of actual usage, particularly for job satisfaction.

About 40 percent of mothers with *Childcare Support* available make direct use of it. The FiD does not ask whether mothers intend to use *Childcare Support* in the future. However, for the 2011 and 2012 waves we see that the same number of mothers begin to use *Childcare Support* directly in the year in which they report the offer the first time as mothers begin to use it one year later.

Table 7: Effects of Usage and Provision of *Childcare Support* - Mothers

	Life	Satisfaction with... Job	Care	Family	Agreed Hours	Actual Hours	Daycare Hours
DiD with Bias Adjustment - Usage as the Treatment							
Usage of CS	0.077	0.509	1.316	0.215	1.559	2.012	0.623
	(0.156)	(0.209)**	(0.315)***	(0.137)	(0.693)**	(0.817)**	(0.171)***
Observations	941	921	780	941	936	932	941
DiD with Bias Adjustment - Provision as the Treatment							
Provision of CS	0.318	0.503	0.233	0.143	−0.927	0.559	0.033
	(0.166)*	(0.267)*	(0.265)	(0.177)	(0.899)	(0.954)	(0.181)
Usage of CS	−0.204	−0.012	0.749	−0.035	2.733	1.451	0.648
	(0.267)	(0.433)	(0.491)	(0.243)	(1.409)*	(1.639)	(0.246)***
Observations	939	919	801	939	934	930	939

Notes: Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.
Source: FiDv4.0.

Table 7 presents a specification using *Usage of Childcare Support* as the actual treatment in the upper part, while the lower part shows a specification using provision as the treatment but including usage as an additional variable. Usage has stronger effects than provision, in particular on care satisfaction and on all behavioral outcomes. Mothers who use *Childcare Support* increase both their working hours and the time the youngest child spends in daycare. For family satisfaction and job satisfaction usage does not add to the positive effect of provision, as the lower part of Table 7 reveals. Overall it seems that the provision of *Childcare Support* has some effects on well-being, however, in order to achieve the full benefits of *Childcare Support* one should ensure that mothers are able to actually use it.

6.2.3 Availability vs. Financial Support

In the literature about public childcare, some studies established that the availability of childcare has a stronger effect, particularly on maternal employment, than changes in prices (e.g. Del Boca 2015; Vande-

lannoote et al. 2015). This might especially be the case in a rationed childcare market, such as Germany (see Wrohlich 2011). Well-being and childcare provided by firms is not yet part of this literature.

In many, but not in all cases, mothers state that if slots are provided, they are also subsidized, meaning that the firm bears a share of the childcare costs. In some cases, mothers report that the firm offers either a provision of slots or financial support. Including provision of slots and financial support separately in the model reveals that, like public childcare, the provision of childcare slots by the employer has a stronger positive effect on working time, as well as on well-being (Table 8).

Table 8: Effects of Availability and Financial Support - Mothers

	Life	Satisfaction with... Job	Care	Family	Agreed Hours	Actual Hours	Day Care Hours
DiD with Bias Adjustment							
Provision of Slots	0.367	0.579	0.567	0.191	1.398	2.410	0.291
	(0.144)**	(0.250)**	(0.264)**	(0.169)	(0.943)	(0.983)**	(0.161)*
Childcare Subsidy	0.072	0.148	0.375	0.097	−1.082	−1.378	0.350
	(0.233)	(0.310)	(0.416)	(0.203)	(0.777)	(0.947)	(0.218)
Observations	939	919	801	939	934	930	939

Notes: Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.
Source: FiDv4.0.

6.2.4 The Effect of Childcare Support for Fathers

It is not obvious how childcare support at the workplace would affect fathers. In most families, the organization of family life is mainly a mother's responsibility (see e.g. Wall and Arnold 2007). From the fact that a large majority of fathers works full-time, one can conclude that they are less restricted by family duties in their choice of working time. While fringe benefits may be valued positively by fathers in principle, they may not become more satisfied if the benefits come with a burden-shifting from mothers to fathers; for example if fathers become responsible for dropping off and picking up the children at the daycare center.

Table 9: Effects of *Childcare Support* - Fathers

	Life	Satisfaction with... Job	Care	Family	Agreed Hours	Actual Hours	Daycare Hours
DiD with Bias Adjustment							
Childcare Support	−0.013	0.131	−0.316	0.031	−0.458	−0.582	0.267
	(0.093)	(0.153)	(0.214)	(0.105)	(0.289)	(0.447)	(0.193)
Observations	1624	1619	1253	1625	1612	1593	1625
DiD with Bias Adjustment and LDV							
Childcare Support	−0.037	0.143	−0.179	0.040	0.057	−0.199	0.251
	(0.075)	(0.125)	(0.163)	(0.079)	(0.247)	(0.420)	(0.183)
Observations	1624	1617	1252	1625	1613	1589	1626

Notes: Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. In the estimation of the propensity score it is controlled for the same characteristics as in the model for mothers, but the specification varies slightly. The model is interacted with whether the mother is employed.
Source: FiDv4.0.

We do not find any significant effect of childcare support for fathers (Table 9). There seem to be mechanisms

at work that counteract positive satisfaction effects. Overall, the evidence is not strong and does not allow for compelling interpretations, but it shows that fathers, on average, do not benefit as much as mothers from childcare support. More research is needed to determine whether the work-life conflict does not exists for the majority of fathers or whether this policy is not suitable to reduce their problems of balancing work and family life.[30]

6.3 Sensitivity of the Treatment Effects

6.3.1 Controlling for Other Changes at the Workplace

Childcare Support may capture other aspects of the job. A particular concern would be that *Childcare Support* is part of a promotion package, such that all positive effects are mainly driven by a more satisfying and better paid position. A second concern would be that mothers select firms that ease work-life balancing in ways that are unobservable to the researcher but correlated with *Childcare Support*.

There is no obvious way address these issues. One could only consider individuals who remain with the same employer, such that most employer characteristics remain fixed. This would be a selective group. One could also control for a broader set of job characteristics and post-treatment occupational characteristics. In this case, it could be that the estimates only capture a partial effect, for example if *Childcare Support* allows mothers to accept a more challenging position. Table 10 presents the results for both approaches.

Table 10: Effects of *Childcare Support* and Job Characteristics - Mothers

		Satisfaction with...			Agreed	Actual	Daycare
	Life	*Job*	*Care*	*Family*	Hours	Hours	Hours
DiD with Bias Adjustment - Same Job							
Childcare Support	0.265	0.433	0.342	0.096	−0.491	0.638	0.118
	(0.135)**	(0.207)**	(0.258)	(0.139)	(0.635)	(0.792)	(0.153)
Observations	637	629	556	637	633	630	637
DiD with Bias Adjustment - Additional Controls							
Childcare Support	0.187	0.431	0.553	0.099	−0.375	0.307	0.222
	(0.138)	(0.188)**	(0.250)**	(0.129)	(0.540)	(0.674)	(0.142)
Observations	934	915	796	934	934	930	934

Notes: Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Additional controls are indicators of whether someone remained with the same job, changed the job within the same firm or changed the employer, pre-treatment and post-treatment wages and ISCO88 occupation information post-treatment.
Source: FiDv4.0.

More than two-thirds of mothers do not experience a job change and about three quarters of mothers remain with the same employer from one period to the next. Using only the group of mothers who remain with the same employer and job position does not make a big difference in comparison to using the whole sample (Table 10 upper part). Most effects are slightly smaller, but even with the reduced sample size the estimates for life satisfaction, job satisfaction and care satisfaction are sizable. The behavioral changes are a little

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[30] It might also be less accepted if fathers make use of these policies (see e.g. Coltrane et al. 2013; Williams et al. 2013). The finding that 40 percent of mothers but less than 20 percent of fathers use *Childcare Support* supports this hypothesis.

less pronounced; hence mothers who start with a new employer or job position might adjust their working and caring hours more strongly. As similar picture arises when we additionally control in the regression for whether and what kind of job change happened, the hourly net wage pre- and post-treatment, as well as the post-treatment occupation (Table 10 bottom part).

6.3.2 Flexible Work Schedules as a Comparison

There are not many studies that analyze childcare support as a family-friendly workplace policies. Previous studies in this area more often focused on working time flexibility. To offer some evidence on how transferable our results are, we additionally estimate the effect of flexible work schedules in our sample. The measure we exploit is whether parents report that the employer offers "Flexible organization of working hours (e.g. part-time, working time account (flex-time), save working time to a long-term account)." Flexible work schedules mainly increase the feasible choices of working time. It is not obvious that the amount of working time would have to increase. In particular, given that our measure includes part-time work, working hours may even decrease. Job satisfaction can be expected to increase because the mother can choose a more optimal labor supply.

Table 11: Effects of *Flex Schedule* - Mothers

		Satisfaction with...			Agreed Hours	Actual Hours	Day Care Hours
	Life	Job	Care	Family			
DiD with Bias Adjustment							
Flex Schedule	−0.121	0.315	0.066	−0.090	−0.099	−0.078	0.364
	(0.131)	(0.166)*	(0.210)	(0.131)	(0.636)	(0.668)	(0.188)*
Observations	536	521	467	536	531	529	536
DiD with Bias Adjustment and LDV							
Flex Schedule	−0.119	0.435	0.006	−0.108	−0.210	−0.097	0.334
	(0.112)	(0.150)***	(0.175)	(0.117)	(0.561)	(0.595)	(0.180)*
Observations	536	521	467	536	531	529	536

Notes: Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. In the estimation of the propensity score it is controlled for the same characteristics as in the model for *Childcare Support*, but the specification varies slightly.
Source: FiDv4.0.

Results derived by DiD-matching show that flexible work schedules mainly increase job satisfaction (Table 11). The effect is more strongly driven by mothers of relatively older children.[31] This is not the case for *Childcare Support*. These findings are very much in line with Saltzstein et al. (2001), Artz (2010), and Possenriede and Plantenga (2014) who reveal positive job satisfaction effects of flexible work schedules not solely for parents with young children, but for a mixed group of employees.[32]

One should be careful with these results as the sample is much smaller and the selection process is more complex than in the analysis of *Childcare Support*. It is difficult to draw clear policy conclusions from such

[31]The effect would even become stronger if we included primary school age children.

[32]Saltzstein et al. (2001) find, for example, that a positive relationship of flexible schedules with job satisfaction only exists in dual-earner households without children. Similarly Possenriede and Plantenga (2014) argue that flexible work schedules appeal more generally to employees and are not a policy explicitly targeted at parents.

an aggregate measure. More detailed measures of flexibility may also reveal benefits for parents with young children and effects related to family life.

7   Conclusions

This paper examines the impact of family-friendly workplace policies, more specifically childcare support, using a large representative German panel dataset, *"Families in Germany (FiD)"*. The analysis expands the scarce previous research by explicitly addressing the challenges of causality in this setting. Exploiting changes over time in the family-friendliness of German firms using a difference-in-differences-matching approach allows us to generate several important findings about the effect of family-friendly workplace policies on the well-being of employees with young children as well as on their behavioral adjustments in terms of working hours and caring time. With a focus on well-being this study contributes to the developing literature on the relationship between policy interventions and experienced utility.

The main analysis reveals that childcare support is valued by mothers. It affects both work and family life, as it strongly increases maternal childcare and job satisfaction. These effects seem to spill over to overall life satisfaction. Subgroup analyses reveal that, in particular, mothers who worked only a few hours before the introduction as well as mothers with strong career aspirations, react the most in terms of well-being and behavior. Turning to the design of childcare support, we find that the availability of childcare seems to play a stronger role than the financial support. Behavioral adjustments mainly take place when mothers make use of the childcare support, while job satisfaction already increases with the provision.

In comparison, the more often analyzed policy of flexible work schedules, does not clearly impact family related areas and working behavior, though it raises job satisfaction. We find barely any effect of childcare support for fathers. This leaves us with the question of whether fathers do not experience the work-life conflict or whether childcare support is not the right instrument to support them.

The findings in this paper suggest that childcare support is a comparatively effective workplace policy for mothers and a valuable asset in countries, such as Germany, where public childcare does not always sufficiently meet parental needs in terms of availability, flexibility and quality. Subsidies for setting up childcare slots at the workplace, such as currently paid to firms by the German government, may actually achieve the goal of helping mothers to reconcile work and family life. In line with the political objective, it positively affects working time, particularly of mothers who are more constrained in their allocation of time. Furthermore, it allows mothers who value their career highly to participate more intensively. It proves to be crucial to enable mothers to make use of the support, thus generating these behavioral adjustments and related economic benefits.

Our findings show that labor market policies, in this case a family policy, can have considerable effects on several life domains and also suggest that such an intervention could create positive welfare effects. One must bear in mind that a final assessment of the benefits of the workplace policy is only possible after eval-

uating well-being and behavioral effects in the long-run, while also considering further economics aspects, such as productivity and tax revenues. Research is needed to investigate whether childcare support also affects the labor market participation decision of parents and helps to recruit and retain skilled employers. The results further imply that the effectiveness of specific family-friendly policies depends on the characteristics of the parent targeted by the intervention.

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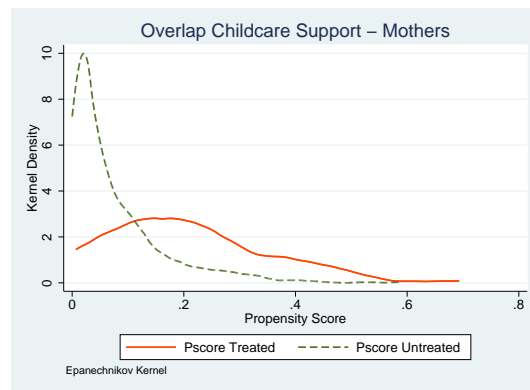# A *Success Factor Family* Network

Figure A1: New Members of *Success Factor Family* Network
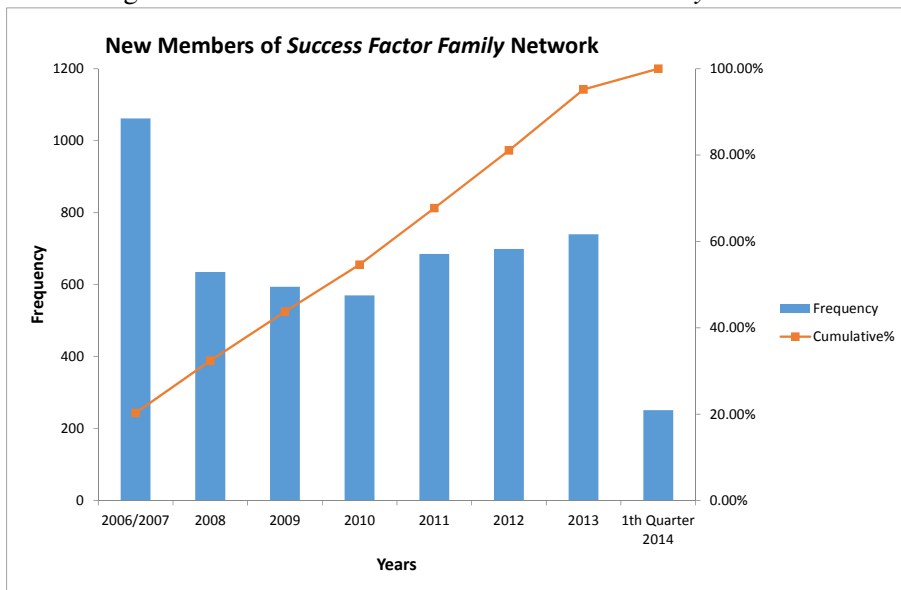
Note: Number of new members per year & cumulative members in %. Own calculations.
Source: Data provided by *Deutscher Industrie- und Handelskammertag (DIHK)*.

B Balancing

(a) Overlap *Childcare Support*

Figure B1: Overlap of Propensity Scores for Treated and Non-Treated (kernel density)

Table B1: Balancing for *Childcare Support* - Mothers

Variable	Mean Treated	Mean Control	Standardized-%Bias	t-test t	t-test p>|t|
Age and Number of Children					
Age of youngest child (month)	40.01	39.94	0.5	0.03	0.98
Age of youngest child^2	1843.50	1827.90	1.2	0.07	0.94
Age youngest child < 3 years	0.42	0.40	2.5	0.16	0.88
Youngest child in school (post)	0.95	0.95	−0.4	-0.03	0.98
One child (0,1)	0.30	0.29	2.7	0.16	0.87
Two children (0,1)	0.49	0.50	−1.1	-0.07	0.95
Age of youngest child * One child	9.56	9.07	3.1	0.19	0.85
Age of oldest child (years)	6.13	6.14	−0.2	-0.01	0.99
ISCED 6 * Age of youngest child	13.97	13.32	3.4	0.20	0.84
ISCED 6 * One child	0.12	0.10	5.7	0.32	0.75
New child (0,1)	0.00	0.00	0.0	.	.
Education and Job					
Age (years)	35.91	35.87	0.8	0.05	0.96
ISCED 3 (vocational) (0,1)	0.38	0.38	−0.2	-0.01	0.99
ISCED 4+5 (high vocational) (0,1)	0.25	0.26	−2.4	-0.14	0.89
ISCED 6 (academic) (0,1)	0.36	0.34	5.0	0.30	0.77
Equally contribute to work and family$^+$ (0,1)	0.77	0.79	−5.0	-0.34	0.74
Working mother provide emotional warmth$^+$ (0,1)	0.91	0.90	1.4	0.09	0.93
Career important for job choice$^+$ (0,1)	0.61	0.63	−5.0	-0.31	0.76
High or medium high position‡	0.27	0.29	−3.1	-0.18	0.86
Tenure (years)	6.83	7.40	−8.7	-0.54	0.59
Days absent	7.00	6.95	0.5	0.03	0.98
Working overtime (0,1)	0.75	0.71	8.2	0.54	0.59
Working overtime * Age youngest child < 3	0.27	0.23	10.6	0.67	0.50
Manager (0,1)	0.04	0.03	2.7	0.15	0.88
Professional (0,1)	0.30	0.29	1.6	0.09	0.93
Technician (0,1)	0.32	0.30	5.9	0.36	0.72
Clerical (0,1)	0.21	0.23	−5.6	-0.34	0.74
Service (0,1)	0.10	0.11	−3.1	-0.21	0.83
Agrarian (0,1)	0.00	0.00	0.0	.	.
Craft (0,1)	0.00	0.00	0.0	.	.
Machine Operator (0,1)	0.00	0.00	0.0	.	.
Elementary (0,1)	0.03	0.03	−1.9	-0.17	0.87
Company size	1947.40	1848.70	4.7	0.27	0.79
Information Support (0,1)	0.39	0.39	0.0	0.00	1.00
Equal opportunities commissioners (0,1)	0.36	0.38	−4.1	-0.23	0.82
Partner and Environment					
Married (0,1)	0.91	0.89	4.8	0.31	0.76
Household income (1000 €)	3.62	3.65	−1.9	-0.11	0.91
Household income ^{2}	15.62	15.72	−0.7	-0.04	0.97
Partner's age (years)	39.30	39.28	0.4	0.03	0.98
Partner ISCED 6 (0,1)	0.27	0.26	3.7	0.23	0.82
Partner's working hours	37.47	38.19	−6.0	-0.40	0.69
Parental Leave (0,1)	0.14	0.15	−1.4	-0.08	0.94
Daycare used (0,1)	0.78	0.79	−3.3	-0.21	0.83
Daycare used * ISCED 6	0.29	0.28	1.3	0.07	0.94
Unemployment Rate	7.19	7.16	1.1	0.07	0.95
West Germany (0,1)	0.71	0.73	−2.8	-0.16	0.87
Slot-Child Ratio for age 0-3	0.30	0.30	1.7	0.10	0.92
Rural Area (0,1)	0.31	0.35	−9.1	-0.55	0.58
Big City (0,1)	0.34	0.30	7.8	0.45	0.65
Other					
Year between observation points	1.31	1.29	4.8	0.27	0.79
2012 (0,1)	0.43	0.43	0.7	0.04	0.97
2013 (0,1)	0.52	0.52	−0.2	-0.01	0.99

Notes: All variables are measured in the pre-treatment period if not indicated as "post". Occupations are coded according to the ISCO 88 classification. Units of measurement in parenthesis. (0,1) indicates a dummy variable. $^+$Attitudes were reported on a four point scale and coded such that 1 refers to agreement or strong agreement.
Source: FiDv4.0.

C Weighting by Entropy Balancing and Abadie's Semiparamteric DiD

Two other weighting methods are implemented to ensure that our results are not mainly driven by the choice of the matching strategy. Entropy balancing (Hainmueller 2012) with the target to balance the mean of all control variables (Table C1) and Abadie's semiparamteric Difference-in Difference estimator (Abadie 2005) with a logistic function to estimate the propensity score and trimming at 99 percent and 1 percent (Table C2) confirm our findings. We find similar strong effects for job satisfaction and care satisfaction as with matching. The estimated effect of *Childcare Support* on life satisfaction and hours in daycare are slightly smaller. Still, all coefficients and standard errors are comparable in size.

Table C1: Effects of *Childcare Support* using Entropy Balancing - Mothers

| | | Satisfaction with... | | | Agreed | Actual | Daycare |
	Life	Job	Care	Family	Hours	Hours	Hours
DiD Estimation with Entropy Balancing (w/o LDV)							
Childcare Support	0.168	0.443	0.676	0.109	0.256	1.097	0.199
	(0.137)	(0.200)**	(0.283)**	(0.135)	(0.694)	(0.781)	(0.160)
Observations	999	976	851	999	993	989	999

Notes: Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Results are derived using user written Stata command *ebalance*. Targeted is the mean.
Source: FiDv4.0.

Table C2: Effects of *Childcare Support* using Abadie's Semiparametric DiD Estimator - Mothers

| | | Satisfaction with... | | | Agreed | Actual | Daycare |
	Life	Job	Care	Family	Hours	Hours	Hours
Abadie's Semiparametric DiD (w/o LDV)							
Childcare Support	0.194	0.478	0.731	0.156	0.248	1.185	0.272
	(0.170)	(0.243)**	(0.325)**	(0.150)	(0.868)	(0.981)	(0.228)
Observations	799	784	688	799	798	776	799

Notes: Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Results are derived using user written Stata command *absdid* with a logistic specification of the propensity score and trimming above 0.99 and below 0.01 of the propensity score.
Source: FiDv4.0.