



The motherhood wage gap and trade-offs between family and work: A test of compensating wage differentials

Nick Wuestenenk^{a,*}, Katia Begall^b

^a Department of Sociology, Utrecht University, Padualaan 14, 3584 CH, Utrecht, the Netherlands

^b Department of Sociology, Radboud University Nijmegen, Thomas van Aquinostraat 4, 6525GD, Nijmegen, the Netherlands

ARTICLE INFO

Keywords:

Motherhood wage gap
Compensating wage differentials
Factorial survey design
Work preferences
Work-family policies

ABSTRACT

The theory of compensating wage differentials may explain part of the motherhood wage gap if mothers are more likely than childless women and men to make a trade-off between monetary and non-monetary rewards when looking for a job. Whereas previous studies focus primarily on jobs that employees currently hold, we present a more accurate test of this theory by studying the extent to which childless (wo)men, fathers and mothers trade off wages and family-friendly working conditions (flexibility, no overtime) in looking for a new job. Using a unique vignette experiment in four European countries (N = 7040), we find that the theory of compensating wage differentials is not supported. When presented with fictional job-openings that vary randomly on family-friendly working conditions and wages, mothers are not more likely than fathers or childless men and women to choose jobs with more family-friendly working conditions and lower pay. Instead, we find that mothers are more likely to apply for jobs with lower wages regardless of other job characteristics. These results suggest that the motherhood wage gap may not be explained by compensating wage differentials, but by mothers' higher likelihood of applying for jobs with lower wages.

1. Introduction

Despite the major expansion of work-family policies in post-industrialized countries, previous research has univocally found that mothers earn less than childless women. The existence and persistence of this wage penalty for motherhood is well established within the literature, with numerous studies finding a difference in earnings across countries and over time (Avellar and Smock, 2003; Davies and Pierre, 2005; Gangl and Ziefle, 2009; Jee et al., 2019; Musick et al., 2020; Pal and Waldfogel, 2016). For example, in their study on 22 industrialized countries, one study finds a net motherhood penalty ranging from 0% in countries such as Finland and Sweden, to 16% in Spain and the United States and 26% in the Netherlands and Austria (Budig et al., 2012). In fact, as motherhood largely accounts for wage differences between men and women, the 'gender wage gap' might be more appropriately termed a 'motherhood wage gap' (Gangl and Ziefle, 2009; Kleven et al., 2019; but see Combet and Oesch, 2019).

The motherhood wage gap is generally explained by demand side (human capital, productivity, job characteristics) and supply side (employer discrimination) factors (Gough and Noonan, 2013). Firstly, according to the human capital theory, mothers may earn less because career interruptions and a reduction in work hours as a traditional primary caregiver slows down their accumulation of human capital (Becker, 1964; Mincer and Polachek, 1974). This explanation generally finds strong support (see recent two meta-analyses:

* Corresponding author.

E-mail addresses: n.h.wuestenenk@uu.nl (N. Wuestenenk), katia.begall@maw.ru.nl (K. Begall).

Cukrowska-Torzewska and Matysiak, 2020; de Linde Leonard and Stanley, 2020).

Secondly, juggling the higher responsibilities of family and work may result in a mother's lower productivity, which ultimately affects their wages as a consequence (Becker, 1985, 1991). Because productivity is hard to measure and compare, this explanation has not been tested widely (but see Kalist, 2008; Kühhirt and Ludwig, 2012). Derived expectations about educational differences and the wage penalty do not support mothers lower work effort either (Anderson et al., 2003).

Thirdly, employers may assign lower wages to mothers because the dominant social norms consider mother's primary role to stay at home or because they assume upfront that mothers are less productive. Experimental and lab studies provide evidence of this type of discrimination (Correll et al., 2007; Hipp, 2020; Oesch et al., 2017).

Lastly, the theory of compensating wage differentials suggests that mothers may be more willing to accept lower wages in return for more desirable working conditions to better combine family and work (Felfe, 2012; Glauber, 2012). Previous studies find little support for this theory the motherhood wage gap being explained by adjustments in working conditions (Budig and England, 2001; Felfe, 2012). For example, a recent study finds that, even though differences in family-friendly work conditions explain wage differences between occupations, these characteristics do not account for the motherhood wage gap (Yu and Kuo, 2017). Similarly, Glauber (2012) finds that mothers pay a larger wage penalty when they work in female-dominated jobs, but that this penalty is not compensated by job satisfaction or other job amenities.

The limited support for compensating wage differentials is primarily derived from survey data which analyses wages in conjunction with a variety of working conditions, based on the assumption that working conditions coincide with working preferences (Filer, 1985). However, this premise does not necessarily hold true: even though mothers have been shown to be more willing than men to make work adjustments in response to child-rearing (Schober, 2013; Van Breeschoten, Roeters, & Van Der Lippe, 2018), they are not more likely than others to work in family-friendly jobs (Glass and Camarigg, 1992; Glauber, 2012). This could be because mothers are less likely to occupy high-status jobs which provide such work amenities (Abendroth et al., 2014) and because they are discriminated against on the basis of their parental status (Budig and Hodges, 2010; Correll et al., 2007; Cuddy et al., 2004).

To adequately test the theory of compensating wage differentials, we study which jobs mothers choose, rather than the working conditions they actually experience using a factorial survey. This research method better emulates real-life decision-making by posing a series of hypothetical situations to respondents, and asking them to make a judgement based on the information provided. These vignettes consist of several attributes which can be experimentally varied, thereby allowing the researcher to disentangle how individual dimensions influence respondents' evaluations (Rossi and Anderson, 1982; Wallander, 2009). Furthermore, because the respondents are unlikely to be attentive to this manipulation, this method is less subject to social desirability than other survey methods (Alexander and Becker, 1978).

To test the theory of compensating wage differentials, we will make use of factorial survey data included in the first wave of the European Sustainable Workforce Survey (Van der Lippe et al., 2016). The experiment on job choice was conducted in Germany, Hungary, Finland and Spain in a total of 73 organizations comprising 140 teams and 1980 individual employees. The employees were asked to choose between fictitious jobs which differed in terms of wages, contract type, flexibility, training, overtime and benefits. If the theory of compensating wage differentials holds true, this study should find that mother more often than other groups choose jobs which offer lower wages if this is counterbalanced by more family-friendly working conditions, such as flexibility and no overtime.

2. Theoretical background

Originally coined by Adam Smith (1976 [1776]), the theory of compensating wage differentials states that workers seek a job that yields the highest possible combination of monetary and non-monetary rewards. As jobs with adverse working conditions (e.g. dangerous, no flexibility) are less interesting for workers, firms will compensate this by providing higher wages. According to this theory, if two groups of workers value monetary and non-monetary rewards to a different extent, this may lead to wage differences between these groups through economic efficiency (Filer, 1985). Hence, if mothers differ in their relative inclination to choose particular wages or family-friendly working conditions compared to childless women and men, the theory of compensating wage differentials may serve as an explanation for the motherhood wage gap.

In this section, we will elaborate on two theoretical approaches to explain why we expect this difference: a model in which partners make decisions to maximize a shared utility function (rational choice), and a model in which individuals make decisions in response to dominant gender norms (gender ideology).

2.1. Specialization

Having children is associated with a dramatic increase in caregiving duties which households without children do not have to meet (Craig and Mullan, 2010). According to the neoclassical economic approach, the extent to which partners adjust their paid and unpaid labour to (increases in) family responsibilities is the result of a rational specialization process. In its first formalization, Becker (1964) hypothesized that, if one partner receives relatively higher returns from market work, the overall household utility will be maximized if that person specializes in paid labour, while the other partner specializes in unpaid labour. In pursuing an optimal output through specialization, Becker (1991) therefore suggests that men's higher relative income to women will typically lead to their concentration on paid labour, while women's comparative advantage in unpaid labour will lead them to focus on unpaid labour. This divergence has been suggested to result largely from women's role as mothers: the inevitable career interruption hinders the accumulation of human capital on the one hand, and increases the payoffs from household work on the other.

This notion has received criticism from feminist scholars who admonished the deterministic nature of this assumption and its

potential for legitimizing gender-discrimination in the labour market (Blau et al., 2006; England and Budig, 1998). Nevertheless, because in the majority of heterosexual couples the male partner earns more than their female partner before childbirth, couples applying this rational specialization approach will meet the increased need for care after childbirth with a reduction of the female partners' effort towards paid employment. In support of this theory, studies have shown that both men and women take their partner's income into account when making work adjustments after childbirth (Goldin, 2014; Kanji, 2010, 2013; Van Breeschoten et al., 2018; Wood et al., 2018).

2.2. Gender ideology

It has been well-established that work decisions are not based on rational considerations alone. Despite the massive entry of women into the labour market in recent decades, a traditional division of (un)paid labour prevails in which men are defined as primary breadwinners and women as primary caregivers (Cotter et al., 2011). Much of the cultural definition of what it means to be the 'ideal worker' revolves around this traditional division of labour: while a man's life typically centres around his full-time job, the woman takes care of his personal needs and the children (Acker, 1990; Townsend, 2002; Williams, 2000). Fathers are therefore able to justify their absence from home by the social legitimacy of their breadwinning role (Blair-Loy, 2003). In contrast, many working mothers feel unable to reconcile the tension between their identities as mothers and workers (Glavin et al., 2011; Johnston and Swanson, 2007; Meisenbach, 2010).

There are two mechanisms through which the pervasiveness of gender ideology may impact work decisions: firstly, an individual may internalize the prevailing cultural gender schemas to which they are generally exposed and which benefits their defined interests (Myers and Bolzendahl, 2004). This can be shaped through for example parental socialization (Myers and Booth, 2002), education (Bryant, 2003) and labour force participation (Corrigall and Konrad, 2007). These domains directly impact the labour market aspirations and expectations of men and women, through the formation of the perceived constraints they expect to face in their career and the expectations of their own abilities (Damaske, 2011). Consequently, in line with the dominant gender norms, more traditional women (with children) have been found to have lower ambitions in education (Davis and Pearce, 2007) and paid labour (Kan, 2007; Kangas and Rostgaard, 2007; Steiber and Haas, 2009) relative to egalitarian women.

Secondly, it has been well established that behaviour is not only guided by attitudinal beliefs, but also by the likelihood that important referent individuals or groups approve of a given behaviour (Ajzen, 1991). Akerlof and Kranton (2000, p. 68) argue that gender identity changes the payoffs from different actions, as "violating the behavioural prescriptions for social categories such as 'man' or 'woman' evokes anxiety and discomfort in oneself and in others" (see also West and Zimmerman, 1987). Indeed, when men make work adjustments to fulfil family obligations, they are subjected to more negative judgments about their character and professional ability than women (Berdahl and Moon, 2013; Rudman and Mescher, 2013; Vandello et al., 2013; Wayne and Cordeiro, 2003). Inversely, working mothers have been found to experience more mistreatment (Berdahl and Moon, 2013) and are judged more negatively as both a professional (Correll et al., 2007; Cuddy et al., 2004) and a person (Benard and Correll, 2010). Consequently, even though some studies show that men and women value work-family policies equally, women reported greater intentions to make such adjustments in their careers (Gerson, 2010; Vandello et al., 2013), potentially at the cost of wages.

These studies suggest that the pervasiveness of gender ideology may lead to gender-conforming trade-offs either to avoid stigma and disapproval or because it is in line with the individual's preference. Within the context of the higher caregiving responsibilities of parents, these processes may lead mothers to make more work-family adjustments compared to childless women and men. Therefore, together with the rational approach to trade-offs between family and work, we expect the following:

H1. Mothers are more willing than men or childless women to accept a trade-off between family-friendly employment conditions and monetary rewards when choosing a job.

2.3. Institutional context

The survey-experiment of this study has been conducted in four countries, namely Finland, Germany, Hungary and Spain. This means that we are able to assess the robustness of our findings across institutional contexts, and thus are able to assess in how far the results we report are context-specific. The national 'gender culture' – cultural ideas about the valuation of (un)paid labour for men and women – may on the one hand directly affect the norms that shape mothers' employment patterns (Yu and Lee, 2013), but also the policies which institutionalize this perception (Kremer, 2006). Furthermore, as the institutionalization of the gender culture through policy may also reinforce these cultural ideas (Kotsadam and Finseraas, 2011; Sjöberg, 2004) it has been suggested that it is the interplay of gender culture and institutions which influences work-family outcomes (Pfau-Effinger, 1998; Pfau-Effinger, 2012).

Besides the effects that a given institutional and cultural context may have on trade-offs between family and work, we also have to consider in how far the contexts in our study may influence the selection of mothers into employment. As our sample consists of employees, mothers who have withdrawn from the labour market are not included in our analysis. Such selectivity implies that mothers who may be particularly inclined to make trade-offs between wages and family-friendly working conditions are underrepresented. This is especially likely in contexts in which work and family are difficult to combine for mothers, for example due to cultural resistance to working mothers, a shortage of childcare facilities or a lack of flexible work arrangements. This kind of positive selection may lead to an underestimation of labour market gender inequalities in countries with lower female participation rates, in which there is more selectivity on favourable labour market characteristics into employment (Olivetti and Petrongolo, 2008).

In terms of policy, (West) Germany had a strong historical attachment to the male breadwinner model and used to provide little

support for working mothers. Recent reforms have decreased the length of leave but increased payments and extended day-care provision, but attitudes towards working mothers remain conservative and while the employment rate of women is relatively high, full-time participation is comparatively low, as can be seen in Table 1 (Zoch and Schober, 2018). The averages in Table 1 hide within-country variation, as in the formerly Eastern German states maternal employment and day care provision are generally higher and attitudes more supportive of working mothers (Rosenfeld et al., 2004), but we are unfortunately not able to differentiate between the two parts of Germany in our analysis. With regard to the selection into employment, we note that maternal employment is relatively high, but so are the gender wage gap and part-time employment, implying that mothers remain employed but adjust their employment to fit their care responsibilities.

Spain is also generally considered to provide little support for working mothers. In contrast to Germany, however, this is established through short, uncompensated parental leave periods, alongside limited public childcare services for young children (Naldini and Jurado, 2013; Saraceno, 2016; Saraceno and Keck, 2011). As indicated in Table 1, maternal employment rates are lower compared to Germany and Finland, but a relatively large percentage of mothers works full-time and attitudes towards working mothers are more supportive than in Germany and Hungary. The childcare enrolment rate for the youngest age group is the highest among the four countries and recent years have seen improvement in the availability of childcare and paternity leave (Hupkau and Ruiz-Valenzuela, 2021). The low maternal employment rate in combination with high full-time participation and a rather low gender gap in earnings points to positive selection into employment among working mothers, which means that we may underestimate the need for family-friendly work arrangements among Spanish mothers by only considering employees.

As a consequence of its socialist legacy, Hungary is characterized by universal entitlement for family and parental benefits, though the generous nature of the parental leave for women have been argued to actually reinforce traditional gender roles (Fodor et al., 2002; Oláh, 2001; Saxonberg et al., 2006). Additionally, access to childcare services is limited and relatively expensive (Javornik, 2014). In recent years, the government has implemented a number of pro-natalist policies which encourage multiple births, short spacings and extended periods of parental leave for mothers at low rates of pay (Fodor, 2022; Glass and Fodor, 2007). While full-time maternal employment is common and gender wage gaps are relatively low, cultural norms underscore the incompatibility of work and motherhood and the low labour market participation among mothers' points to strong selectivity. Given the combination of positive selection into maternal employment and the long leave, the true 'demand' for family friendly working conditions in Hungary may be higher than we are able to detect.

Lastly, work-family policies in Finland show a strong support for working parents of young children, with both a wide availability of childcare services and parental leave policies for both men and women. However, the long duration of the parental leave may actually reinforce traditional gender roles, as its predominant use by women may reduce their labour market attachment (Saraceno and Keck, 2011; Thévenon, 2011). The fact the unadjusted gender pay gap is highest in Finland (see Table 1) indeed indicates that men and women differ strongly in their labour market positions, but at the same time participation and full-time employment among mothers are the highest of the four countries, pointing to less selectivity into employment.

On the basis of this, we can only characterize Finland as an egalitarian country both in terms of its gender policy and gender culture, while Germany and Spain show elements of both traditionalism and egalitarianism and Hungary may be qualified as a non-egalitarian context. As discussed, a traditional gender culture may either cultivate traditional gender beliefs and behaviour in mothers or push them into gender-normative behaviours to avoid sanctions. On top of this, traditional work-family policies may reinforce this process because it inhibits mothers' labour market expectations or because alternative care arrangements are not provided. But because our analysis is based on employed persons and therefore may imply stronger selection on mothers' employment in less supportive contexts, we will take an exploratory approach and refrain from formulating expectations regarding country differences in mothers' willingness to trade-off wages for family friendly working conditions.

3. Data and methods

3.1. Sample

This study will make use of a factorial survey experiment conducted as part of the first wave of the European Sustainable Workforce Survey (ESWS) (Van der Lippe et al., 2016). The ESWS is a multi-actor organizational survey conducted in organizations in Bulgaria, Finland, Germany, Hungary, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom. The dataset provides information on

Table 1
Country differences in maternal employment, family policies and gender norms.

	DE	ES	FI	HU
Maternal employment rate (%) (2019) ^a	73.2	67.5	76.4	63.4
Full-time working mothers (%) (2019) ^a	35.7	50.1	65.7	58.0
Unadjusted gender gap in median earnings (full-time workers) (2010) ^a	15.3	11.5	18.9	9.4
Percent 0-2 year-olds enrolled in early childhood education and care services (2018) ^a	37.7	38.2	33.4	19.9
Percent 6- to 11-year-olds using center-based out-of-school-hours childcare (2017) ^a	30.7	5.0	15.9	7.2
Weeks of paid leave available to mothers (2018) ^a	58	16	161	160
Full-time equivalent weeks paid leave (2018) ^a	43	16	40	68
Average agreement with statement "A pre-school child is likely to suffer if his or her mother works" (2017) ^b	2.2	2.0	1.9	2.4

Source: ^a OECD Family Database (accessed August 10, 2021); ^b European Value Survey 2017 (min = 1, max = 4; calculations by authors).

three levels, namely the organization (filled in by the HR-manager), the teams within the organizations (filled in by managers) and individual employees within the teams. Using national business lists, the organizations were sampled using stratified random sampling based on size (1–99 employees; 100–249 employees; 250 or more employees), sector (manufacturing, health care, higher education, transportation, financial services, and telecommunication) and country. When an organization refused to participate, a matching strategy was employed to include a new organization within the same country, sector, and of a similar size (Lippényi, Martens and van der Lippe, 2019). Within the 259 participating organizations, a total of 11,011 employees participated in the survey, which amounts to a response rate of 61.4 per cent at the employee level.

After completing the survey, all respondents in Germany, Hungary, Finland and Spain (4073 employees in 92 organizations) were asked to participate in a vignette study on job choice. The response rate for this experiment was 49.6 per cent, leading to 2020 respondents from 75 organizations. The respondents who did and did not participate in the experiment did not differ much: we find that female respondents were slightly more likely to participate, and with regard to respondents' human capital, that participants were slightly higher educated, worked about an hour less per week and had slightly shorter tenure compared to non-participants. There are no differences between participants and non-participants regarding the presence of a partner or children in the household. German respondents were less likely to participate¹ while Spanish and Hungarian respondents were relatively more likely to do so. See the online supplement (Appendix A) for a comparison of the participants who did and who did not participate in the experiment on all characteristics that we include in our model.

After excluding all respondents who did not complete the experiment ($n = 113$) or with missing values for any of the independent and control variables ($n = 147$), the final sample size was 1760.

The respondents were each presented with four vignettes, which resulted in a total of 7040 observations. The final sample deviates from the general population in that it consists exclusively of persons employed by an organization at the time of the survey.

3.2. Vignette study

At the start of the experiment, the respondents are asked to imagine that they had to resign from their current job and are currently looking for a new one. They then come across two fictitious job openings which are similar in every way to their current job, apart from some characteristics which are randomly varied, namely the salary, contract, flexibility, training, overtime and benefits (a total of 1000 possible combinations of job characteristics). An example of a scenario is displayed in Fig. 1. A full description of the possible job characteristics can be found in Table 2. The respondents are asked (i) to rate the desirability of both job openings on a scale of 0–10 and (ii) to indicate which job(s) they would apply for (none, one or both). After completing the first scenario, the respondents are asked to imagine that they find two other job openings after a short time, which also randomly differ in terms of the before mentioned characteristics. They again rate both jobs and choose which job(s) they would apply for. This means that, at the end of the experiment, the respondents have completed two scenarios containing four fictitious jobs in total.

To maximize the internal validity of this design, Auspurg et al. (2017) argue that (i) the vignettes should be uncorrelated with respondents' personal characteristics, (ii) the factors varying between questions should not be cross-correlated and (iii) each category of each of the factors should occur with approximately equal frequency. Correlation coefficients between job characteristics and the individual-level characteristics (gender, parenthood, cohabitation, income, education, number of children, age, hours of work, country and sector) did not exceed $|r| = 0.044$, satisfying condition (i). In addition, cross-correlations of job characteristics between job openings did not exceed $|r| = 0.086$,² satisfying condition (ii). Lastly, the distribution of job characteristics over the different job openings is very equal, satisfying condition (iii).

3.3. Measures

The design of the experiment grants two potential dependent variables, namely job evaluation (0 = worst possible job, 10 = best possible job), and the decision on a job application (job A, job B, neither or both). As we focus here on trade-offs between family and work, we examine only the decision to apply for a job or not. However, the results for job evaluation and job decision as a dependent variable were overall similar (results available by the authors upon request).

At the level of the vignette, six job characteristics were randomly varied, namely salary (0–4), flexibility (0–1), overtime (0–1), contract (0–4), training (0–1) and benefits (0–2). Of primary interest to this study are the job characteristics 'salary', 'flexibility' and 'overtime', as they describe the monetary and family-friendly non-monetary rewards a job can provide. To ease the interpretation of the results, we recoded the values of the vignette dimension 'salary' so that '10% less wage' and '5% less wage' form the category 'less wage', and '5% more wage' and '10% more wage' form the category 'more wage'.³ Also, we reverse coded the vignette dimension 'overtime' so that a higher value represents the more family-friendly working condition 'no overtime'. The respondent characteristics can be retrieved from the regular survey of the European Sustainable Workforce Survey which the respondents filled in before the vignette study. At the level of the respondent, the independent variables are constructed based on an interaction between gender (0 =

¹ In Germany, the number of participants was smaller than in the other countries because a part of the German respondents was allocated to an alternative experiment.

² The contract type of job 1 and 2 was set to be the same, leading to a correlation of $|r| = 1.00$. The contract type of job 4 was set not to be equal to the contract type of job 3, leading to a correlation of $|r| = 0.20$ between the contract type of job 3 and 4.

³ We could merge these wage conditions because we find a linear relationship between this variable and job decision in the full model.

Imagine that, for some reason, you have to resign from your current job and look for another one. After a short time, you come across two job openings. We list the jobs on the following screen. They are the same as your current job (e.g., similar type of job in the same sector, similar commute as in your current job), except for some points that we will specify later. You will be asked to rate these job openings based on how attractive they are to you. You will also be asked to choose which of these jobs you would apply for. Please read the descriptions carefully and try to imagine yourself in this particular situation before answering the questions.

Job 1 has the following characteristics:

- Your wage will remain the same as your current wage.
- One-year contract with no probability of continuation
- You are permitted to work from home when your tasks allow this
- The employer will offer you a training program in the course of the first year
- The job is not particularly demanding, which means that you don't need to work overtime
- The benefits package is more generous than that of other firms in your sector.

Job 2 has the following characteristics:

- You will be offered 5% more per hour than your current net wage.
- One-year contract with no probability of continuation
- You are permitted to work from home when your tasks allow this
- You will not receive training in the course of the year.
- The job is not particularly demanding, which means that you don't need to work overtime
- The benefits package is less generous than that of other firms in your sector.

Fig. 1. Example of a scenario.

Table 2
Vignette dimensions and levels.

Dimension	Levels
Salary	You will be offered 10% less per hour than your current net wage. You will be offered 5% less per hour than your current net wage. Your wage will remain the same as your current wage. You will be offered 5% more per hour than your current net wage. You will be offered 10% more per hour than your current net wage.
Flexibility	You must work at the main workplace and will not be permitted to work from home. You will be permitted to work from home when your tasks so allow.
Overtime	The job is not particularly demanding, which means that you will not need to work overtime. The job is demanding, which means that you will have to work overtime regularly.
Contract	You will be offered a one-year contract. The contract will not be renewed. You will be offered a one-year contract. There is no information about contract renewal. You will be offered a one-year contract. The contract may be renewed temporarily. You will be offered a one-year contract. The contract may be renewed permanently. You will be offered a permanent contract.
Training	You will not receive training in the course of the year. The employer will offer you a training program in the course of the first year.
Benefits	The benefits package is less generous than that of other firms in your sector. The benefits package is similar to that of other firms in your sector. The benefits package is more generous than that of other firms in your sector.

male, 1 = female) and parental status, operationalized as having at least one child under 18 years old in the household (0 = no parent, 1 = parent). This leads to four demographic categories which will be compared, namely childless men, fathers, childless women and mothers.

We will control for a number of socioeconomic and demographic respondent characteristics. Firstly, hourly income is measured by the respondents' net monthly earnings divided by the hours of paid labour per month. Respondents who did not know their exact monthly earnings were asked to pick an income range that best describes their monthly income. The middle value of that range was then used as an income measure. Respondents indicated the number of hours they worked per week. If this value was missing, we used the number of hours the respondent is contracted to work per week. Extreme values of hours of work were recoded to the maximum of 60 h per week. To avoid a country-effect for hourly income, we recoded this variable into country-equivalised income quintiles. Next, we also control for education (0 = no education, 7 = doctoral degree), age and cohabitation (0 = living alone, 1 = living with (married) partner). As the fictitious job openings are similar to their current job besides the vignette dimensions, we also control for sector of the current job (manufacturing, health care, higher education, transportation, financial services, and telecommunication). Summary statistics of the dependent, independent and control variables can be found in [Table 3a](#) (stratified by gender/parental status) and [Table 3b](#) (stratified by country).

3.4. Method

Typical for a factorial survey design is that the vignettes, and not the respondents, are the unit of analysis. As the four vignettes are not independent observations, this study uses a multi-level model in which the vignettes are nested in respondents. Since choosing one job in the scenario does not cancel out the other (respondents can also choose neither or both), we consider all the different jobs in the two scenarios to be independent from each other. Therefore, the analysis does not consider the two scenarios in which the four jobs are located as a separate level of analysis.⁴ To control for the possibility that respondent characteristics (i.e. control variables) that influence the likelihood of applying for a job differ between childless (wo)men, fathers and mothers, we run a fully-interacted model along the lines of gender and parental status.

Because the mean of the dichotomous dependent variable job decision is not near either of the extremes, we will employ a Linear Probability Model. First, we will estimate an intercept-only model which includes only the dependent variable and the corresponding error terms on the level of the respondent and the vignette. This model can be used to decompose the total variance over the two levels of analysis. Next, to test for any compositional effects, in Model 1 we include only the vignette characteristics, followed by Model 2 which also includes all control variables. After this, we include the interactions between the family-friendly working conditions and wage in Model 3 to test whether a trade-off between wages and family-friendly working conditions occurs within each group, and whether the degree hereof is significantly different between groups. To see if there are any country differences, we also estimate these models separately for each country.

4. Results

The theory of compensating wage differentials may explain part of the motherhood wage gap if mothers are more willing to apply for jobs with lower wages when this is compensated by more family-friendly working conditions. Therefore, we expect the marginal effect of family-friendly working conditions to be higher in the less wage condition for mothers relative to childless women and men. In this section, we will first show the mean job decision of the fictitious jobs for each combination of wage/flexibility and wage/overtime for each group. Next, we will display the separate, direct effect of wages, flexibility and no overtime on job decision, followed by the marginal effects of flexibility and no overtime within wage conditions (including all controls). Lastly, we will examine possible cross-country differences.

4.1. Descriptive results

[Fig. 2](#) shows the average application rate of the fictitious jobs for each combination of wage/flexibility and wage/overtime. As can be seen in panel A, the average application rate generally increases with both wage and flexibility for all groups. In addition, we do not find many substantial differences between childless (wo)men, fathers and mothers, apart from one: in the less wage condition, the application rate is higher for mothers relative to childless women and men, both with and without flexible working conditions. The results for wage/no overtime in Panel B are quite similar to those of wage/flexibility. The average application rate generally increases with both wage and no overtime to a similar extent for childless (wo)men, fathers and mothers. Also, the application rate is highest for mothers in the less wage condition, both with and without overtime.

To summarize, these descriptive results do not suggest that mothers are more likely to make a trade-off between wages and family-friendly characteristics. Instead, mothers simply appear more likely than other groups to apply for jobs with less wage, both with and without family-friendly working conditions.

4.2. Multivariate results

We first run an empty model (not shown here) to calculate the intraclass correlation coefficient (ICC), which tells us what

⁴ In a separate analysis (not shown here) we found that the scenario accounts for less than .01% of the variance of the dependent variable for childless (wo)men, fathers and mothers. This indicates that the scenario is not a relevant level of analysis, and thus the two-level analysis is most suitable.

Table 3a

Descriptive statistics of dependent, independent and control variables per country. Standard deviations between brackets.

	Finland (n = 1540)	Germany (n = 572)	Hungary (n = 2832)	Spain (n = 2096)	Pooled (n = 7040)
<i>Dependent variable</i>					
Decision (% yes)	52%	57%	53%	47%	51%
<i>Independent variables</i>					
Childless man	19%	27%	25%	28%	25%
Father	13%	22%	15%	25%	18%
Childless woman	40%	42%	43%	22%	36%
Mother	28%	10%	17%	25%	21%
<i>Control variables</i>					
Hourly income	1.97 (1.43)	1.94 (1.42)	2.05 (1.42)	2.08 (1.40)	2.03 (1.42)
Education	4.92 (1.25)	4.26 (1.72)	4.30 (1.39)	4.47 (1.48)	4.48 (1.44)
Age	42.40 (10.56)	42.02 (10.90)	41.45 (10.85)	42.33 (8.83)	41.97 (10.23)
Number of children in household	.76 (1.02)	.52 (.85)	.52 (.89)	.79 (.90)	.65 (.93)
Cohabiting/married	77%	78%	69%	77%	74%
Work hours	39.54 (7.07)	40.15 (9.80)	42.16 (8.15)	41.6 (6.82)	41.26 (7.77)
<i>Sector</i>					
Manufacturing	9%	26%	21%	24%	19%
Health care	31%	0%	42%	15%	28%
Higher education	23%	49%	13%	15%	18%
Transport	5%	25%	8%	36%	17%
Financial services	18%	0%	3%	6%	7%
Telecommunication	15%	0%	12%	5%	10%

Table 3b

Descriptive statistics of dependent, independent and control variables per gender/parental status group. Standard deviations between brackets.

	Childless man (n = 1744)	Father (n = 1264)	Childless woman (n = 2536)	Mother (n = 1496)	Pooled (n = 7040)
<i>Dependent variable</i>					
Decision (% yes)	51%	47%	52%	55%	51%
<i>Control variables</i>					
Hourly income	2.06 (2.06)	2.50 (1.34)	1.75 (1.39)	2.08 (1.39)	2.03 (1.42)
Education	4.25 (4.25)	4.43 (1.56)	4.47 (1.34)	4.82 (1.26)	4.48 (1.44)
Age	42.14 (42.14)	41.37 (6.55)	42.50 (12.00)	41.35 (6.32)	41.97 (10.23)
Number of children	–	1.66 (0.78)	–	1.66 (0.68)	0.65 (0.93)
Cohabiting/married	63%	98%	64%	83%	74%
Work hours	42.31 (7.53)	41.99 (8.68)	41.46 (7.20)	39.06 (7.74)	41.26 (7.77)
<i>Sector</i>					
Manufacturing	29%	30%	12%	12%	19%
Health care	14%	12%	40%	38%	28%
Higher education	14%	14%	21%	23%	18%
Transport	25%	26%	10%	13%	17%
Financial services	3%	5%	10%	9%	7%
Telecommunication	16%	12%	6%	6%	10%
<i>Country</i>					
Finland	17%	16%	24%	29%	22%
Germany	9%	10%	9%	4%	8%
Hungary	41%	33%	48%	32%	40%
Spain	33%	41%	18%	35%	30%

proportion of the variance of the dependent variable resides at the level of the vignette and the respondent. The ICC for job decision is 0.14, which means that the characteristics of the respondent account for 14% of their decision-making, while the vignette characteristics account for the remainder.

To test for any compositional effects, we first run a model which includes only the direct effects of all vignette characteristics (Model 1), followed by a model which also includes all control variables (Model 2). The results are displayed in Table 4a for men and Table 4b for women. Including the control variables in Model 2 results in a significantly better fit ($\chi^2(52) = 71.46$; $p = .04$) compared to Model 1. We can conclude that there are very few compositional effects in our model: for all gender/parental status groups, adding the control variables does not significantly change the effect of the vignette characteristics on job decision.

Before testing the theory of compensating wage differentials, we first look at how the direct effects of less wage, flexibility and no overtime on job decision differ between childless (wo)men, fathers and mothers using Model 2. Relative to the equal wage condition, the less wage condition significantly reduces the likelihood of applying for a job by 8–10% for fathers, childless men and childless women. These effects are significantly different from the non-significant effect for mothers, meaning that mothers are significantly more likely than men and childless women to apply for a job with less wage.

Relative to no flexibility, the flexibility condition significantly increases the likelihood of applying for a job for childless men

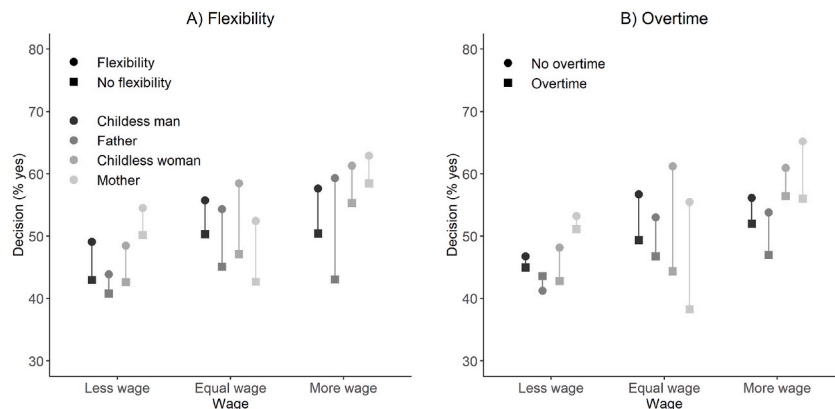


Fig. 2. Mean job application rate by flexibility and overtime within wage categories for childless (wo)men, fathers and mothers.

Table 4a

Linear Probability Model to explain job decision by vignette dimensions and respondent characteristics, stratified by gender and parental status. Results for childless men and fathers.

	Childless man (n = 1744)						Father (n = 1264)					
	Model 1		Model 2		Model 3		Model 1		Model 2		Model 3	
	b	se	b	se	b	se	b	se	B	se	b	se
Fixed part												
Constant	.33***	(.04)	.25*	(.11)	.23	(.12)	.32***	(.05)	.31	(.21)	.29	(.21)
Vignette characteristics												
Wage (ref = equal wage)												
Less wage	-.08**	(.03)	-.09**	(.03)	-.08**	(.03)	-.08*	(.04)	-.08*	(.04)	-.08*	(.04)
More wage	.03	(.03)	.03	(.03)	.03	(.03)	.02	(.04)	.02	(.04)	.02	(.04)
Flexibility	.07**	(.02)	.07**	(.02)	.05	(.05)	.10***	(.03)	.10***	(.03)	.09	(.06)
* Less wage					.03	(.06)					-.06	(.07)
* More wage					.03	(.06)					.08	(.07)
No overtime	.06*	(.02)	.06*	(.02)	.11*	(.05)	.04	(.03)	.04	(.03)	.06	(.06)
* Less wage					-.08	(.06)					-.07	(.07)
* More wage					-.06	(.06)					.02	(.07)
Contract	.03***	(.01)	.03***	(.01)	.03***	(.01)	.03**	(.01)	.02*	(.01)	.03**	(.01)
Training	.06**	(.02)	.06**	(.02)	.07**	(.02)	.06*	(.03)	.06*	(.03)	.05	(.03)
Benefits	.03*	(.01)	.03*	(.01)	.03*	(.01)	.03	(.02)	.02	(.02)	.02	(.02)
Control variables												
Hourly wage			-.02	(.01)	-.02	(.01)			.00	(.02)	.00	(.02)
Education			.01	(.01)	.01	(.01)			-.00	(.01)	-.00	(.01)
Hours of work			-.00	(.00)	-.00	(.00)			.00	(.00)	.00	(.00)
Cohabitation			.02	(.03)	.02	(.03)			.08	(.14)	.08	(.14)
Age			.00	(.00)	.00	(.00)			-.00	(.00)	-.00	(.00)
Sector (ref = manufacturing)												
Health care			.04	(.05)	.04	(.05)			.01	(.06)	.01	(.06)
Higher education			.05	(.05)	.05	(.05)			.05	(.06)	.05	(.06)
Transport			.01	(.04)	.01	(.04)			-.03	(.05)	-.03	(.05)
Financial services			-.04	(.09)	-.04	(.09)			.03	(.08)	.03	(.08)
Telecommunication			.02	(.05)	.03	(.05)			-.07	(.06)	-.07	(.06)
Country (ref = Spain)												
Finland			.01	(.05)	.01	(.05)			.01	(.06)	.02	(.06)
Germany			.02	(.06)	.02	(.06)			.07	(.06)	.06	(.06)
Hungary			-.02	(.04)	-.02	(.04)			.07	(.05)	.08	(.05)
Random part												
Variance respondent	.04***	(.00)	.04***	(.00)	.04***	(.00)	.04***	(.00)	.04***	(.00)	.04***	(.00)
Variance vignette	.20***	(.00)	.20***	(.00)	.20***	(.00)	.20***	(.00)	.20***	(.00)	.20***	(.00)
Fit statistics												
AIC	9810		9842		9850		9810		9842		9850	

Note: *p < .05, **p < .01, ***p < .001 (two-sided tests). Vignette and respondent variance are assumed to be equal across groups. In a stratified model, this does not affect the calculation of the coefficients.

Table 4b

Linear Probability Model to explain job decision by vignette dimensions and respondent characteristics, stratified by gender and parental status. Results for childless women and mothers.

	Childless woman (n = 2536)						Mother (n = 1496)					
	Model 1		Model 2		Model 3		Model 1		Model 2		Model 3	
	b	se	b	se	b	se	B	se	b	se	b	se
Fixed part												
Constant	.34***	(.03)	.15	(.10)	.08	(.11)	.27***	(.04)	.15	(.16)	.10	(.16)
<i>Vignette characteristics</i>												
Wage (ref = equal wage)												
Less wage	-.10***	(.03)	-.10***	(.03)	-.10***	(.03)	.03	(.03)	.03	(.03)	.03	(.03)
More wage	.05	(.03)	.05	(.03)	.04	(.03)	.13***	(.03)	.14***	(.03)	.14***	(.03)
Flexibility	.08***	(.02)	.08***	(.02)	.12**	(.04)	.07**	(.02)	.07**	(.02)	.09	(.06)
* Less wage					-.05	(.05)					-.03	(.07)
* More wage					-.03	(.05)					-.04	(.07)
No overtime	.09***	(.02)	.09***	(.02)	.19***	(.04)	.11***	(.02)	.10***	(.02)	.20***	(.06)
* Less wage					-.13*	(.05)					-.16*	(.07)
* More wage					-.13*	(.05)					-.08	(.07)
Contract	.02**	(.01)	.02**	(.01)	.02**	(.01)	.03**	(.01)	.03**	(.01)	.02**	(.01)
Training	.08***	(.02)	.08***	(.02)	.08***	(.02)	.07**	(.02)	.07**	(.02)	.07**	(.02)
Benefits	.04**	(.01)	.04**	(.01)	.04**	(.01)	.05**	(.02)	.05**	(.02)	.05**	(.02)
<i>Control variables</i>												
Hourly wage			-.01	(.01)	-.01	(.01)			-.00	(.01)	-.00	(.01)
Education			.01	(.01)	.01	(.01)			.03	(.02)	.03	(.02)
Hours of work			.00	(.00)	.00	(.00)			-.00	(.00)	-.00	(.00)
Cohabitation			.03	(.02)	.03	(.02)			-.06	(.04)	-.07	(.04)
Age			.00	(.00)	.00	(.00)			.00	(.00)	.00	(.00)
Sector (ref = manufacturing)												
Health care			.07	(.04)	.07	(.04)			.10	(.05)	.10	(.05)
Higher education			-.00	(.05)	-.00	(.05)			.01	(.06)	.00	(.06)
Transport			-.06	(.05)	-.05	(.05)			.04	(.06)	.05	(.06)
Financial services			.02	(.05)	.02	(.05)			.10	(.07)	.10	(.07)
Telecommunication			-.07	(.06)	-.07	(.06)			.07	(.08)	.08	(.08)
Country (ref = Spain)												
Finland			.01	(.04)	.01	(.04)			.04	(.04)	.04	(.04)
Germany			.15**	(.05)	.15**	(.05)			.10	(.09)	.10	(.09)
Hungary			.05	(.04)	.04	(.04)			.06	(.04)	.06	(.04)
Random part												
Variance vignette	.04***	(.00)	.04***	(.00)	.04***	(.00)	.04***	(.00)	.04***	(.00)	.04***	(.00)
Variance respondent	.20***	(.00)	.20***	(.00)	.20***	(.00)	.20***	(.00)	.20***	(.00)	.20***	(.00)
Fit statistics												
AIC	9810		9842		9850		9810		9842		9850	

Note: *p < .05, **p < .01, ***p < .001 (two-sided tests). Vignette and respondent variance are assumed to be equal across groups. In a stratified model, this does not affect the calculation of the coefficients.

(+7%), fathers (+10%), childless women (+8%) and mothers (+7%), holding all other factors constant. The differences between the groups are not significant. Lastly, the no overtime condition significantly increases the likelihood of applying for a job for childless men (+6%), childless women (+9%) and mothers (+10%), but not for fathers. Again, the differences between the groups are not significant.

To examine the theory of compensating wage differentials, Panel A of Fig. 3 shows the marginal effect of flexibility (relative to no flexibility) on job decision within each wage condition. In the less wage condition, flexibility increases the probability of applying for a job for childless men (+7%) and childless women (+6%), but not for fathers and mothers. The differences between the groups are not significant. From this we can conclude that mothers are not more likely than men and childless women to apply for a job with lower wages if this is compensated by more flexibility.

Our test of a possible trade-off between wages and overtime shows a somewhat similar picture, as is displayed in panel B of Fig. 3. In the less wage condition, no overtime (relative to overtime) increases the probability of applying for a job only for childless women (+6%). Again, the differences between the groups are not significant. This means that mothers are not more likely than other groups to apply for a job with lower wages if this is compensated by no overtime.⁵ As the results indicate that mothers are not more willing than men or childless women to apply for a job with lower monetary rewards if this is compensated by family-friendly employment conditions, we find no support for Hypothesis 1.⁶

⁵ In the online supplement (Appendix B-E), we provide additional analyses where we look at the influence of the age of children, sector, relative income and gender ideology on the trade-off between family-friendly working conditions and wages. For each of these variables, we find that their influence is not substantial.

⁶ In a separate analysis (not shown here) we contrasted the effects for mothers with the other gender/parental status groups combined. The results showed no differences between mothers and the other group in the marginal effect of flexibility and no overtime in any wage condition.

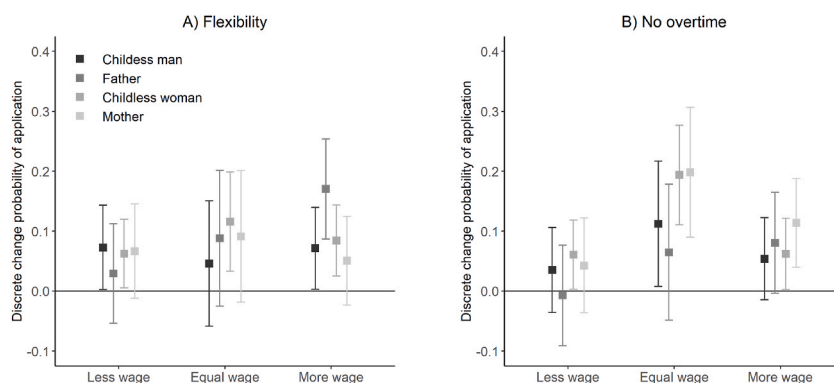


Fig. 3. Marginal effect of flexibility and no overtime on job decision within wage categories for childless (wo)men, fathers and mothers. Coefficients based on Model 3. Error bars represent 95% confidence intervals.

To summarize, our results show that mothers have a higher probability of applying for a job with less wage compared to childless women and men. However, this is not because they are more likely to trade off these monetary rewards with non-monetary rewards. Instead, mothers are simply more likely to apply for jobs with less wage compared to the other groups, even when this is not compensated by more family-friendly working conditions. Our results further show that family-friendly work conditions significantly increase the probability of applying for all groups, with the exception of fathers regarding the condition of overtime.

4.3. Cross-country differences

We examine the marginal effects of flexibility and no overtime within each wage condition separately for Finland, Hungary, Spain and Germany using Model 3. Fig. 4 shows the marginal effect of flexibility (relative to no flexibility) on job decision within wage conditions for the four countries. For all countries, the marginal effect of flexibility in the less wage condition is not different for mothers compared to the other groups. In Germany, flexibility increases the probability of applying for a job in the less wage condition for childless women (+22%), but this effect is not significantly different from the other groups. In Spain, we also find a significant positive effect for childless men in the less wage condition (+14%), which is not significantly different from fathers and women.

The results for overtime are rather similar, as can be seen in Fig. 5. In Finland and Hungary, we find a significant marginal effect of no overtime in the less wage condition for childless men (−23% and +13% respectively). In Finland, this means that childless men are less likely than women to apply for a job with no overtime when they have been assigned less wage. Other than this, we find no significant differences between childless (wo)men, fathers and mothers in the less wage condition. Combined with the results for flexibility, we find no systematic differences between countries in the degree to which mothers make a trade-off between family-friendly working conditions compared to men and childless women.

5. Discussion and conclusion

In this study, we investigated to what extent mothers are more willing than men or childless women to accept a trade-off between family-friendly working conditions and monetary rewards when choosing a job. Contrary to our expectations, the results show that mothers are not more likely to apply for a lower paid job if this is compensated by more work flexibility and less overtime. Instead, we find that mothers are more likely to apply for a job with lower wages regardless of whether or not this is combined with more family-friendly working conditions. Hence, the results suggest that the motherhood wage gap may not be caused by a compensating effect between monetary and non-monetary rewards, but by mothers being more likely than childless women and men to apply for jobs with less wage. The results show no systematic cross-country differences between Finland, Germany, Spain and Hungary, despite substantial differences in institutional and cultural support for maternal employment. Because our sample consists only of employed respondents, we cannot rule out that differences in selection into mothers' employment may obscure differences between countries.

Previous studies have shown that men value the earnings that a job provides more highly than women, presumably due to their attachment to the masculine stereotype of income provider (Konrad et al., 2000). On top of this, the work decisions of mothers may be less impacted by lower wages relative to childless women, as the arrival of children is generally associated with more traditional gender attitudes (Corrigall and Konrad, 2007; Endendijk et al., 2018). Alternatively, it has been suggested that the anticipation of a lower income due to labour market discrimination may also negatively influence the importance that is placed on money (Blau and Kahn, 2017). If mothers indeed anticipate more labour market discrimination compared to childless women and men – as is found in the literature (Correll et al., 2007) – this could serve as an explanation for why they are more likely to apply for jobs with lower wages.

In addition, when we speak about mothers' work decisions, it is important to acknowledge that these are not only restricted by external but also by internal constraints. Mothers' job choices may be impacted by various forms of internal bias causing them to apply for lower paying jobs. Previous research has shown that men and women alike find a gender gap in wages fair and justified (Auspurg et al., 2017), a result attributed to gender status beliefs, which have been suggested to be particularly relevant in the case of mothers in

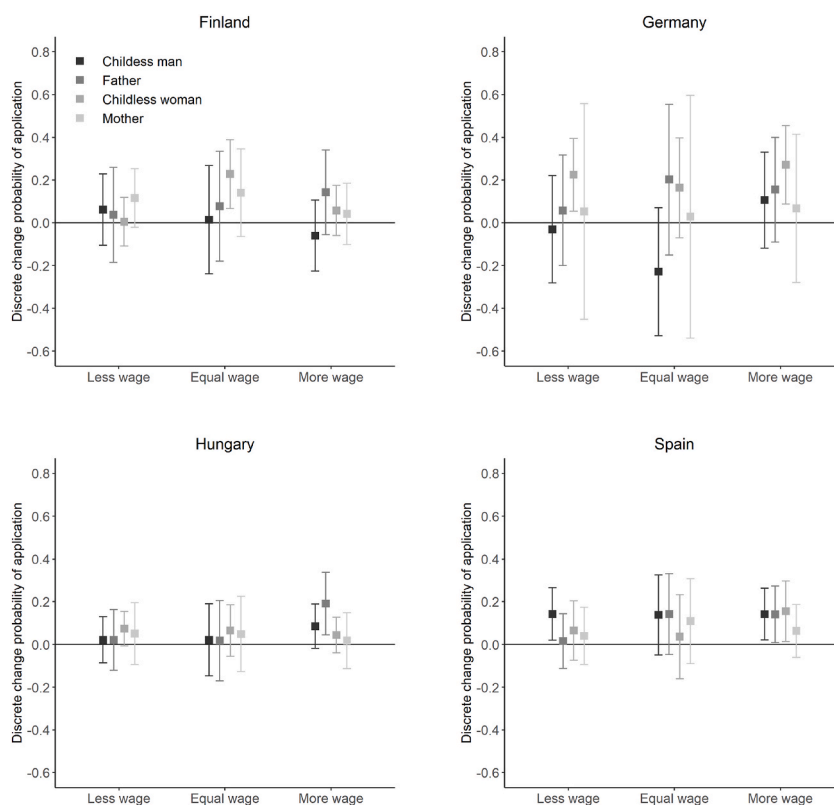


Fig. 4. Marginal effect of flexibility on job decision within wage categories for childless (wo)men, fathers and mothers in Finland, Germany, Hungary and Spain. Error bars represent 95% confidence intervals.

the workplace (Ridgeway and Correll, 2004). Another study showed that exposure to ideals of free choice increased belief in mothers that gender inequalities in the labour market are not the result of structural barriers and discrimination (Stephens and Levine, 2011). More in general it has been shown that when experiencing or anticipating personal discrimination, women minimize its pervasiveness (Foster et al., 2004). These tendencies to justify lower earnings as fair and downplaying discrimination driven by implicit gender biases may translate into differences between (childless) men and women in work decisions.

The experimental research design of our study provides a number of disadvantages. Firstly, even though several studies have stressed the external validity of factorial survey designs (Drasch, 2017; Hainmueller et al., 2015; Petzold and Wolbring, 2019), we are unable to determine to what extent the employees' choices made in these hypothetical situations would align with their choices in a real-life situation. Secondly, our vignette study did not include work hours as a vignette characteristic, where previous studies have shown that women are more likely to work part-time after transitioning into parenthood (Gash, 2009; Uunk et al., 2005) and that it helps in reconciling the competing demands of family and work (Ford et al., 2007). Therefore, reducing working hours in exchange for lower wages may be a process through which compensating wage differentials can manifest itself, as other studies have also considered (Glauber, 2012).

This study provides a number of important contributions. Firstly, using unique factorial survey data, we have been able to isolate the trade-off between wages and family-friendly working conditions in looking for a new job, whereas previous studies focus primarily on the job an employee currently holds. In doing so, we not only focus specifically on the process which is at stake, but we are also able to experimentally control external factors which influence the relative labour market position of mothers at the demand side, such as discrimination (Correll et al., 2007) and labour market structure (Abendroth et al., 2014). Secondly, we have been able to touch upon the question to what extent the possible effect of this compensating process differs between national institutional and cultural settings, instead of focusing on only one country. Institutional constraints have been shown to influence one's perception of paid and unpaid labour (Pedulla and Thébaud, 2015), which may influence the trade-off between monetary and non-monetary rewards in looking for a job (though we did not find support for this). Lastly, as the vignette study was embedded in an extensive survey, we have been able to control for a large number of socio-economic and work characteristics which may otherwise influence the trade-off between family and work, including characteristics of the partner.

Our study provides valuable insight into how employees' work decisions may serve as an explanation for the existence and persistence of the motherhood wage gap. These important findings provide a number of directions for future research. Firstly, other studies could examine to what extent the work decisions indicated in these hypothetical situations indeed translate into wage parities generally found between gender/parental status groups in observational data. This would extend the scope of this study by analyzing

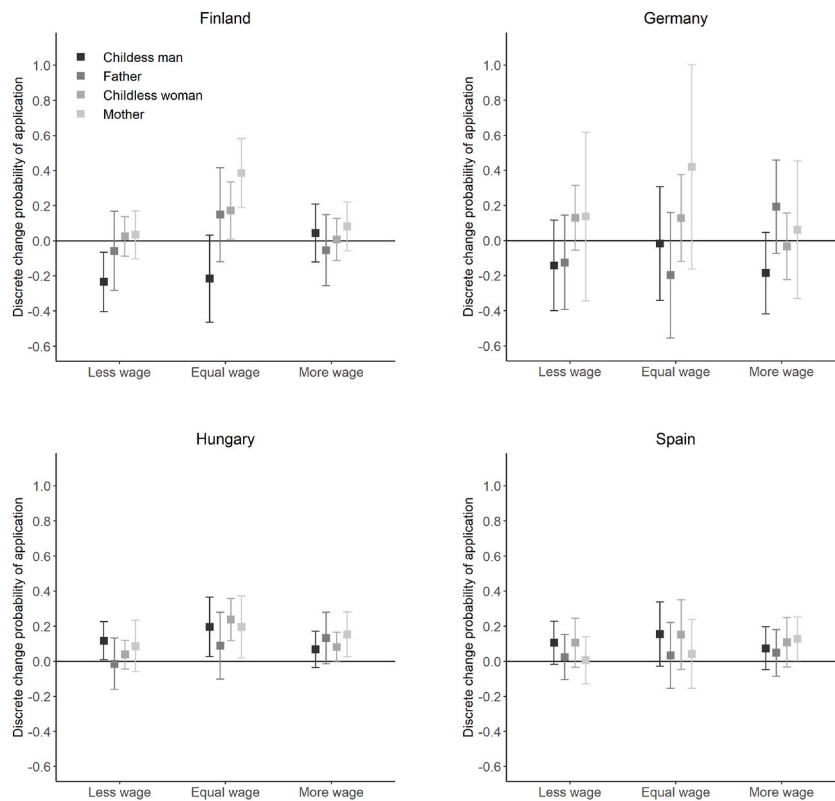


Fig. 5. Marginal effect of no overtime on job decision within wage categories for childless (wo)men, fathers and mothers in Finland, Germany, Hungary and Spain. Error bars represent 95% confidence intervals.

(i) under which conditions, which groups of employees attain preferred jobs to what extent and (ii) how this impacts actual wage differences. To illustrate, previous studies have suggested that mothers are less likely than childless women and men to have their working preferences realized, for example due to institutional constraints (Gash, 2008; Yerkes, 2013) or discrimination (Correll et al., 2007). Consequently, the working conditions someone may choose in a hypothetical situation may not be the same as what is attained in reality. Secondly, in this study, we focus on the supply-side of compensating wage differentials. However, both employers and employees should be willing to make a trade-off between monetary and non-monetary rewards for the theory of compensating wage differentials to be able to explain the motherhood wage gap. Therefore, to test the demand-side of compensating wage differentials, future research could examine whether or not employers balance wages and family-friendly working conditions in attracting new employees, and under which conditions this occurs.

Funding

The data were collected with funding from the European Research Council under the European Union's Seventh Framework Programme (FP/2007-2013)/ERC Grant Agreement n. 340045 to T. van der Lippe.

Declaration of competing interest

None.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.ssresearch.2022.102726>.

References

- Abendroth, A.K., Huffman, M.L., Treas, J., 2014. The parity penalty in life course perspective: motherhood and occupational status in 13 European countries. *Am. Socio. Rev.* 79 (5), 993–1014.
- Acker, J., 1990. Hierarchies, jobs, and bodies: a theory of gendered organizations. *Gen. Soc.* 4 (2), 139–158.
- Ajzen, I., 1991. The theory of planned behavior. *Organ. Behav. Hum. Decis. Process.* 50 (2), 179–211.
- Akerlof, G.A., Kranton, R.E., 2000. Economics and identity. *Q. J. Econ.* 115 (3), 715–753.
- Alexander, C.S., Becker, H.J., 1978. The use of vignettes in survey research. *Publ. Opin. Q.* 42 (1), 93.
- Anderson, D.J., Binder, M., Krause, K., 2003. The motherhood wage penalty revisited: experience, heterogeneity, work effort, and work-schedule flexibility. *Ind. Labor Relat. Rev.* 56 (2), 273–294.
- Auspurg, K., Hinz, T., Sauer, C., 2017a. Why should women get less? Evidence on the gender pay gap from multifactorial survey experiments. *Am. Socio. Rev.* 82 (1), 179–210.
- Auspurg, K., Iacovou, M., Nicoletti, C., 2017b. Housework share between partners: experimental evidence on gender-specific preferences. *Soc. Sci. Res.* 66 (July), 118–139.
- Avellar, S., Smock, P.J., 2003. Has the price of motherhood declined over time? A cross-cohort comparison of the motherhood wage penalty. *J. Marriage Fam.* 65 (3), 597–607.
- Becker, G.S., 1964. *Human Capital Theory*. University of Chicago Press, Chicago.
- Becker, G.S., 1985. Human capital, effort, and the sexual division of labor. *J. Labor Econ.* 3 (1), 33–58.
- Becker, G.S., 1991. *A Treatise on the Family*. Harvard University Press, Cambridge, MA.
- Benard, S., Correll, S.J., 2010. Normative discrimination and the motherhood penalty. *Gen. Soc.* 24 (5), 616–646.
- Berdahl, J.L., Moon, S.H., 2013. Workplace mistreatment of middle class workers based on sex, parenthood, and caregiving. *J. Soc. Issues* 69 (2), 341–366.
- Blair-Loy, M., 2003. *Competing Devotions: Career and Family Among Women Executives*. Harvard University Press, Cambridge, MA.
- Blau, F.D., Winkler, A.E., Ferber, M.A., 2006. *The Economics of Women, Men and Work*, fifth ed. Prentice Hall, Upper Saddle River.
- Blau, Francine D., Kahn, L.M., 2017. The gender wage gap: extent, trends, and explanations. *J. Econ. Lit.* 55 (3), 789–865.
- Bryant, A.N., 2003. Changes in attitudes toward women's roles: predicting gender-role traditionalism among college students. *Sex. Roles* 48, 131–142.
- Budig, M.J., England, P., 2001. The wage penalty for motherhood. *Am. Socio. Rev.* 66 (2), 204.
- Budig, M.J., Hodges, M.J., 2010. Differences in disadvantage: variation in the motherhood penalty across white women's earnings distribution. *Am. Socio. Rev.* 75 (5), 705–728.
- Budig, M.J., Misra, J., Boeckmann, I., 2012. The motherhood penalty in cross-national perspective: the importance of work-family policies and cultural attitudes. *Soc. Polity* 19 (2), 163–193.
- Combet, B., Oesch, D., 2019. The gender wage gap opens long before motherhood. Panel evidence on early careers in Switzerland. *Eur. Socio. Rev.* 35 (3), 332–345.
- Correll, S.J., Benard, S., Paik, I., 2007. Getting a job: is there a motherhood penalty? *Am. J. Sociol.* 112 (5), 1297–1338.
- Corrigan, E.A., Konrad, A.M., 2007. Gender role attitudes and careers: a longitudinal study. *Sex. Roles* 56 (11–12), 847–855.
- Cotter, D., Hermesen, J.M., Vanneman, R., 2011. The end of the gender revolution? Gender role attitudes from 1977 to 2008. *Am. J. Sociol.* 117 (1), 259–289.
- Craig, L., Mullan, K., 2010. Parenthood, gender and work-family time in the United States, Australia, Italy, France, and Denmark. *J. Marriage Fam.* 72 (5), 1344–1361.
- Cuddy, A.J.C., Fiske, S.T., Glick, P., 2004. When professionals become mothers, warmth doesn't cut the ice. *J. Soc. Issues* 60 (4), 701–718.
- Cukrowska-Torzewska, E., Matysiak, A., 2020. The motherhood wage penalty: a meta-analysis. *Soc. Sci. Res.* 88–89 (March), 102416.
- Damaske, S., 2011. A "major career woman"? how women develop early expectations about work. *Gen. Soc.* 25 (4), 409–430.
- Davies, R., Pierre, G., 2005. The family gap in pay in Europe: a cross-country study. *Lab. Econ.* 12 (4), 469–486.
- Davis, S.N., Pearce, L.D., 2007. Adolescents' work-family gender ideologies and educational expectations. *Socio. Perspect.* 50 (2), 249–271.
- de Linde Leonard, M., Stanley, T.D., 2020. The wages of mothers' labor: a meta-regression analysis. *J. Marriage Fam.* 82 (5), 1534–1552.
- Drasch, K., 2017. Behavioral intentions , actual behavior and the role of personality traits. Evidence from a factorial survey among female labor market Re-entrants. *Methods, Data, Anal.* 1–23.
- Endendijk, J.J., Derks, B., Mesman, J., 2018. Does parenthood change implicit gender-role stereotypes and behaviors? *J. Marriage Fam.* 80 (1), 61–79.
- England, P., Budig, M.J., 1998. Gary becker on the family: his genius, impact, and blind spots. In: *Required Reading: Sociology's Most Influential Books*, pp. 99–111.
- Felfe, C., 2012. The motherhood wage gap: what about job amenities? *Lab. Econ.* 19 (1), 59–67.
- Filer, R.K., 1985. Male-female wage differences: the importance of compensating differentials. *Ind. Labor Relat. Rev.* 38 (3), 426–437.
- Fodor, E., 2022. More babies for the state: the "carefare" regime of anti-liberal Hungary. *New Labor Forum* 31 (1), 34–41.
- Fodor, Eva, Glass, C., Kawachi, J., Popescu, L., 2002. Family policies and gender in Hungary, Poland, and Romania. *Commun. Commun. Post Commun. Stud.* 35, 475–490.
- Ford, M.T., Heinen, B.A., Langkamer, K.L., 2007. Work and family satisfaction and conflict: a meta-analysis of cross-domain relations. *J. Appl. Psychol.* 92, 57–80.
- Foster, M.D., Jackson, L.C., Hartmann, R., Woulfe, S., 2004. Minimizing the pervasiveness of women's personal experiences of gender discrimination. *Psychol. Women Q.* 28 (3), 224–232.
- Gangl, M., Ziefle, A., 2009. Motherhood, labor force behavior, and women's careers: an empirical assessment of the wage penalty for motherhood in Britain, Germany, and the United States. *Demography* 46 (2), 341–369.
- Gash, V., 2008. Preference or constraint? Part-time workers' transitions in Denmark, France and the United Kingdom. *Work. Employ. Soc.* 22 (4), 655–674.
- Gash, V., 2009. Sacrificing their careers for their families? An analysis of the penalty to motherhood in Europe. *Soc. Indic. Res.* 93 (3), 569–586.
- Gerson, K., 2010. *The Unfinished Revolution: How a New Generation Is Reshaping Family, Work, and Gender in America*. Oxford University Press, Oxford.
- Glass, C., Fodor, E., 2007. From public to private maternalism? Gender and welfare in Poland and Hungary after 1989. *Soc. Polity* 14 (3), 323–350.
- Glass, J., Camarigg, V., 1992. Gender , parenthood , and job-family compatibility. *Am. J. Sociol.* 98 (1), 131–151.
- Glauber, R., 2012. Women's work and working conditions: are mothers compensated for lost wages? *Work Occup.* 39 (2), 115–138.
- Glavin, P., Schieman, S., Reid, S., 2011. Boundary-spanning work demands and their consequences for guilt and psychological distress. *J. Health Soc. Behav.* 52 (1), 43–57.
- Goldin, C., 2014. A grand gender convergence: its last chapter. *Am. Econ. Rev.* 104 (4), 1091–1119.
- Gough, M., Noonan, M., 2013. A review of the motherhood wage penalty in the United States. *April 1 Soc. Compass* 7, 328–342 (Blackwell Publishing Ltd).
- Hainmueller, J., Hangartner, D., Yamamoto, T., 2015. Validating vignette and conjoint survey experiments against real-world behavior. *Proc. Natl. Acad. Sci. Unit. States Am.* 112 (8), 2395–2400.
- Hipp, L., 2020. Do hiring practices penalize women and benefit men for having children? Experimental evidence from Germany. *Eur. Socio. Rev.* 36 (2), 250–264.
- Hupkau, C., Ruiz-Valenzuela, J., 2021. *Work and Children in Spain: Challenges and Opportunities for Equality between Men and Women*. SERIES.
- Javornik, J., 2014. Measuring state de-familialism: contesting post-socialist exceptionalism. *J. Eur. Soc. Pol.* 24 (3), 240–257.
- Jee, E., Misra, J., Murray-Close, M., 2019. Motherhood penalties in the U.S., 1986–2014. *J. Marriage Fam.* 81 (2), 434–449.
- Johnston, D.D., Swanson, D.H., 2007. Cognitive acrobatics in the construction of worker-mother identity. *Sex. Roles* 57 (5–6), 447–459.
- Kalist, D.E., 2008. Does motherhood affect productivity, relative performance, and earnings? *J. Labor Res.* 29 (3), 219–235.
- Kan, M.Y., 2007. Work orientation and wives' employment careers: an evaluation of Hakim's preference theory. *Work Occup.* 34 (4), 430–462.
- Kangas, O., Rostgaard, T., 2007. Preferences or institutions? Work-family life opportunities in seven European countries. *J. Eur. Soc. Pol.* 17 (3), 240–256.
- Kanji, S., 2010. What keeps mothers in full-time employment? *Eur. Socio. Rev.* 27 (4), 509–525.
- Kanji, S., 2013. Do fathers work fewer paid hours when their female partner is the main or an equal earner? *Work. Employ. Soc.* 27 (2), 326–342.
- Kleven, H., Landais, C., Posch, J., Steinhauer, A., Zweimüller, J., 2019. Child penalties across countries: evidence and explanations. *AEA Pap. Proc.* 109, 122–126.
- Konrad, A.M., Ritchie, J.E., Lieb, P., Corrigan, E., 2000. Sex differences and similarities in job attribute preferences: a meta-analysis. *Psychol. Bull.* 126 (4), 593–641.
- Kotsadam, A., Finseraas, H., 2011. The state intervenes in the battle of the sexes: causal effects of paternity leave. *Soc. Sci. Res.* 40 (6), 1611–1622.

- Kremer, M., 2006. The politics of ideals of care: Danish and Flemish child care policy compared. *Soc. Polit.* 13 (2), 261–285.
- Kühnhirt, M., Ludwig, V., 2012. Domestic work and the wage penalty for motherhood in west Germany. *J. Marriage Fam.* 74 (1), 186–200.
- Lippényi, Z., Martens, T., van der Lippe, T., 2019. Collecting cross-country comparative multilevel data in organizations. The research design of the European Sustainable Workforce Survey. In: Van der Lippe, T., Lippényi, Z. (Eds.), *Investments in a Sustainable Workforce in Europe*, pp. 37–56.
- Meisenbach, R.J., 2010. The female breadwinner: phenomenological experience and gendered identity in work/family spaces. *Sex. Roles* 62 (1), 2–19.
- Mincer, J., Polachek, S., 1974. Family investments in human capital: earnings of women. *J. Polit. Econ.* 82 (2), S76–S108.
- Musick, K., Bea, M.D., Gonalons-Pons, P., 2020. His and her earnings following parenthood in the United States, Germany, and the United Kingdom. *Am. Socio. Rev.* 85 (4), 639–674.
- Myers, D.J., Bolzendahl, C.I., 2004. Feminist attitudes and support for gender equality: opinion change in women and men, 1974–1998. *Soc. Forces* 83 (2), 759–790.
- Myers, S.M., Booth, A., 2002. Forerunners of change in nontraditional gender ideology. *Soc. Psychol. Q.* 65 (1), 18–37.
- Naldini, M., Jurado, T., 2013. Family and welfare state reorientation in Spain and inertia in Italy from a European perspective. *Popul. Rev.* 52 (1).
- Oesch, D., McDonald, P., Lipps, O., 2017. The wage penalty for motherhood and discrimination: evidence from panel data and a survey experiment for Switzerland. *Demogr. Res.* 37 (December), 1793–1824.
- Oláh, L.S., 2001. Gender and family stability. *Demogr. Res.* 4, 29–96.
- Olivetti, C., Petrongolo, B., 2008. Unequal pay or unequal employment? A cross-country analysis of gender gaps. *J. Labor Econ.* 26 (4), 621–654.
- Pal, I., Waldfogel, J., 2016. The family gap in pay: new evidence for 1967 to 2013. *RSF: The Russell Sage Foundation Journal of the Social Sciences* 2 (4), 104–127.
- Pedulla, D.S., Thébaud, S., 2015. Can we finish the revolution? Gender, work-family ideals, and institutional constraint. *Behav. Modif.* 39 (1), 116–139.
- Petzold, K., Wolbring, T., 2019. What can we learn from factorial surveys about human behavior? A validation study comparing field and survey experiments on discrimination. *Methodology: Eur. J. Res. Methods Behav. Soc. Sci.* 15 (1), 19–30.
- Pfau-Effinger, B., 1998. Gender cultures and the gender arrangement - a theoretical framework for cross-national gender research. *Innovat. Eur. J. Soc. Sci. Res.* 11 (2), 147–166.
- Pfau-Effinger, Birgit, 2012. Women's employment in the institutional and cultural context. *Int. J. Sociol. Soc. Pol.* 32 (9), 530–543.
- Ridgeway, C.L., Correll, S.J., 2004. Motherhood as a status characteristic. *J. Soc. Issues* 60 (4), 683–700.
- Rosenfeld, R.A., Trappe, H., Gornick, J.C., 2004. Gender and work in Germany: before and after reunification. *Annu. Rev. Sociol.* 30 (October 1990), 103–124.
- Rossi, P.H., Anderson, A.B., 1982. The factorial survey approach: an introduction. *Measuring Social Judgments: The Factorial Survey Approach* 15–67.
- Rudman, L.A., Mescher, K., 2013. Penalizing men who request a family leave: is flexibility stigma a femininity stigma? *J. Soc. Issues* 69 (2), 322–340.
- Saraceno, C., 2016. Varieties of familism: comparing four southern European and East Asian welfare regimes. *J. Eur. Soc. Pol.* 26 (4), 314–326.
- Saraceno, C., Keck, W., 2011. Towards an integrated approach for the analysis of gender equity in policies supporting paid work and care responsibilities. *Demogr. Res.* 25, 371–406.
- Saxonberg, S., Sirovatka, T., Sirova, S., 2006. Failing family policy in post-communist Central Europe. *J. Comp. Pol. Anal.* 8 (2), 185–202.
- Schober, P.B., 2013. The parenthood effect on gender inequality: explaining the change in paid and domestic work when British couples become parents. *Eur. Socio. Rev.* 29 (1), 74–85.
- Sjöberg, O., 2004. The role of family policy institutions in explaining gender-role attitudes: a comparative multilevel analysis of thirteen industrialized countries. *J. Eur. Soc. Pol.* 14 (2), 107–123.
- Smith, A., 1976. In: Cannan, E. (Ed.), *An Inquiry into the Nature and Causes of the Wealth of Nations*. University of Chicago Press, Chicago.
- Steiber, N., Haas, B., 2009. Ideals or compromises? The attitude-behaviour relationship in mothers' employment. *Soc. Econ. Rev.* 7 (4), 639–668.
- Stephens, N.M., Levine, C.S., 2011. Opting out or denying discrimination? How the framework of free choice in American society influences perceptions of gender inequality. *Psychol. Sci.* 22 (10), 1231–1236.
- Thévenon, O., 2011. Family policies in OECD countries : a comparative analysis. *Popul. Dev. Rev.* 37 (March), 57–87.
- Townsend, N., 2002. *Package Deal: Marriage, Work and Fatherhood in Men's Lives*. Temple University Press, Philadelphia.
- Uunk, W., Kalmijn, M., Muffels, R., 2005. The impact of young children on women's labour supply: a reassessment of institutional effects in Europe. *Acta Sociol.* 48 (1), 41–62.
- Van Breeschoten, L., Roeters, A., Van der Lippe, T., 2018. Reasons to reduce: a vignette-experiment examining men and women's considerations to scale back following childbirth. *Soc. Polit.* 25 (2), 169–200.
- Van der Lippe, T., Lippényi, Z., Lössbroek, J., van Breeschoten, L., van Gerwen, N., Martens, T., 2016. *European Sustainable Workforce Survey [ESWS]*. Utrecht University, Utrecht.
- Vandello, J.A., Hettinger, V.E., Bosson, J.K., Siddiqi, J., 2013. When equal isn't really equal: the masculine dilemma of seeking work flexibility. *J. Soc. Issues* 69 (2), 303–321.
- Wallander, L., 2009. 25 years of factorial surveys in sociology: a review. *Soc. Sci. Res.* 38 (3), 505–520.
- Wayne, J.H., Cordeiro, B.L., 2003. Who is a good organizational citizen? Social perception of male and female employees who use family leave. *Sex. Roles* 49, 233–246.
- West, C., Zimmerman, D.H., 1987. Doing gender. *Gen. Soc.* 1 (2), 125–151.
- Williams, J.C., 2000. *Unbending Gender: Why Family and Work Conflict and what to Do about it*. Oxford University Press, Oxford, England.
- Wood, J., Kil, T., Marynissen, L., 2018. Do women's pre-birth relative wages moderate the parenthood effect on gender inequality in working hours? *Adv. Life Course Res.* 36 (April), 57–69.
- Yerkes, M., 2013. Choice or constraint? Women's weekly working hours in comparative perspective. *Sociol. - Probl. Prat.* 72, 9–30.
- Yu, W.H., Kuo, J.C.L., 2017. The motherhood wage penalty by work conditions: how do occupational characteristics hinder or empower mothers? *Am. Socio. Rev.* 82 (4), 744–769.
- Yu, W.H., Lee, P.L., 2013. Decomposing gender beliefs: cross-national differences in attitudes toward maternal employment and gender equality at home. *Socio. Inq.* 83 (4), 591–621.
- Zoch, G., Schober, P.S., 2018. Public child-care expansion and changing gender ideologies of parents in Germany. *J. Marriage Fam.* 80 (4), 1020–1039.