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The dynamic relationships between union dissolution and women's employment: A life-history analysis of 16 countries



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ABSTRACT

The specialization theory from Gary Becker is often used to explain the effect of women's work on the risk of divorce. The main argument is that women with little work experience have higher economic costs to exit marriage. Using the Fertility and Family Surveys, we test for 16 countries to what extent women's employment increases the risk of separation. We also more directly examine the role of economic exit costs in separation by investigating the effect of separated women's work history during the union on women's post-separation employment. The results imply that Becker was right to some extent, especially in contexts with little female employment support. However, in settings where women's employment opportunities are more ample, sociological or psychological theories have probably more explanatory power to explain the causes and consequences of union dissolution.

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1. Introduction

Several scholars have found that the more women engage in domestic work and the less they participate in paid labor during their partnership the lower their risk of divorce (e.g., [Bracher et al., 1993](#); [Brines and Joyner, 1999](#); [Cherlin, 1979](#); [Poortman and Kalmijn, 2002](#); [Rogers, 2004](#); [South, 2001](#); [Tzeng and Mare, 1995](#)). This effect is generally attributed to the higher economic exit costs of married women who were not specializing in paid work in the union. The less women work for pay during the union, the more their human capital depreciates, and the fewer economic resources they will have outside the union. Moreover, specialization is assumed to lead to higher economic gains of the partnership for both men and women, and therefore also results in higher economic costs when the union dissolves ([Becker, 1981](#)). Although this reasoning is often used as an interpretation, it is rarely empirically tested. Do women who separate indeed have better economic resources, and thereby, work more hours after separation? And do women who invested more in paid work during the partnership indeed have better employment chances after separation? By asking these questions we combine two lines of research: Research on the economic causes of divorce and research on the economic consequences of divorce. Scholars have investigated the effect of women's employment within marriage on the divorce risk as well as the effect of divorce on women's post-divorce employment (e.g., [Covizzi, 2008](#); [Jenkins, 2008](#); [Van Damme et al., 2009](#)). So far, no study has combined the two lines of research into one study.

To address these issues, we use the retrospective data of the Fertility and Family Surveys (FFS) of 16 countries. The data of these countries have life histories of about 67,000 women covering 20 years of history on average. We analyze data for

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50,790 women who married or cohabited in the period 1955–1999. Of these partnered women, 25 per cent separated at least once in the period 1957–1999. After a descriptive comparison of partnered and separated women's working hours over time, we examine two relationships: First, we examine the effect of women's employment on the probability that women separate. Second, we investigate if separated women's work history during the union increases post-separation working hours. In examining this last issue, we take into account that the women who separate are a selective group (see below).

That we analyze 16 European countries will not only provide more general evidence on the validity of the underlying hypotheses, but also allows us to examine whether there are systematic differences among countries. Such differences can in part be expected because there are large differences in women's economic roles in the various European countries (Blossfeld and Hofmeister, 2006; Stier et al., 2001). For instance, some scholars have pointed out that the relationship between wife's work and divorce may be weaker in non-traditional societies (Blossfeld and Müller, 2002/2003; Oppenheimer, 1997), although others claimed the opposite to be true (South, 2001). Our general expectation is that the economic exit costs of marriage are lower in more egalitarian countries.

2. Theory and hypotheses

To what extent is the underlying theoretical mechanism explaining the relationship between women's employment and separation empirically valid? That is, do women who were working more hours during the union indeed have lower economic exit costs – they work more hours after separation – than non-working women?

2.1. The effect of women's employment on separation

Although a few studies have shown that women's employment reduces (e.g., Ono, 1998) or has no effect (e.g., Sayer and Bianchi, 2000) on the likelihood to divorce, most studies have suggested that women's employment increases the divorce risk (Bracher et al., 1993; Brines and Joyner, 1999; Cherlin, 1979; De Rose, 1992; Jalovaara, 2003; Liefbroer and Dourleijn, 2006; Poortman and Kalmijn, 2002; South, 2001; Tzeng and Mare, 1995). This 'positive' effect of women's employment on divorce is often explained from an economic perspective, either based on the loss of specialization or on obtained economic independence. As for the first argument, neoclassical theories of marriage assume that family members make rational decisions and that they want to maximize their utility or (economic) well-being. The main argument is that if couples specialize in the household tasks in which they are the most productive (compared to their partner), they maximize their income (Becker, 1981). Given that there are wage differences between men and women and given women's greater role in child rearing (Becker points to both biological and socialization differences between the genders), women are considered to be the most productive in doing domestic work, whereas men are more productive in performing paid work. Both women (and men) are thus dependent upon their spouse. Under the assumption that women are less productive in paid work than men, an increase in wives' paid working hours (while husbands do not decrease their paid working hours and start to do more household tasks) decreases marital gains and thus increases the risk of divorce. The second argument entails that women with few labor market experience have relatively large exit costs (Cherlin, 1979, 1992; Oppenheimer, 1997). Because women's work during marriage is less often paid market work, they have less work experience and therefore fewer economic resources outside the marriage than within compared to men. Becker refers to domestic work and other investments during the marriage that are not paid work as marital specific capital. For earning their own income on the market, women are thus more dependent upon their husband than men upon their wives. Hence, for women the economic costs to exit marriage are higher than for men.

Scholars have raised some arguments against theories on the benefits of economic dependency within the household (Oppenheimer, 1997). The most important of these arguments is that the concept of economic dependence is rather vague; it may refer to both absolute and relative dependence. The specialization theory focuses on *relative* dependency, meaning dependence upon one's partner and implies that not only a wife's, but also her partner's working hours or income are important in her divorce decision. This argument relies on the assumption that within a household all economic resources are pooled and equally shared. This is proved to be an unrealistic assumption, however (Vogler and Pahl, 1993): Spouses often do not pool all of their resources and because it is usually the husband who keeps more for himself, the economic dependency of wives upon their husbands is overestimated (Sørensen and McLanahan, 1987).

We rather measure women's *absolute* economic independence, meaning that we examine the financial costs that women will (perceive to) have after a dissolution of their relationship. Put differently, we define women's economic exit costs as the extent to which women are able to earn a living independently as an individual or as a single head of a household with dependent children (even though it would be at the minimum income level). Women's total number of working hours during the union is a good and often used indicator of their absolute economic independence and it has been showed to have a significant influence on the risk of divorce (Johnson and Skinner, 1986; Poortman and Kalmijn, 2002; South, 2001). It reflects to what extent women have the potential to earn an own income after a divorce, while the extent of dependence upon their spouse during the union does not give any indication about her independence after the union has been dissolved. Two women may both be equally relatively dependent upon their spouse (if $[\text{income}_{\text{husband}} - \text{income}_{\text{wife}}]$ is similar for both women), but the woman who is working more hours, is more economically independent in absolute terms. Hence, we

formulate the specialization hypothesis in the following way: *The more hours women worked during the partnership, the more likely it is that they will separate (hypothesis 1a).*²

Note that there may be alternative explanations of the relationship between women's employment and separation, one of them being the extent of (time) investment in the relationship. Employed women would have less marital interaction time with their spouses and this would lead to greater divorce risks. So far, no evidence has been found for this explanation, however (Poortman, 2005a).

Country differences – Although we expect to find the work effect in all countries, there may be differences in the magnitude of the effect which may be caused by differences in the (actual and perceived) economic costs of partnership. It is well-known that in some countries, the trend towards gender egalitarianism has occurred more quickly and more strongly than in other countries. For instance, in the last decades of the previous century, due to a more women-friendly labor market (i.e. more jobs in the public sector and in some countries 'good quality' part-time jobs) and women-friendly policies (i.e. ample public child care provisions and generous parental leave arrangements), the opportunity structure for women's employment in many industrial societies has changed; women's employment rate increased (England, 2005) and norms and values about family and work may have become less traditional over time (Pfau-Effinger, 2005) and this context may vary across countries. Previous research has shown an influence of the context on women's work (Gornick et al., 1998; Stier et al., 2001), separated women's work (Van Damme et al., 2009), the division of housework (Fuwa, 2004; Hook, 2010), and marital stability (Cooke, 2006). It is therefore likely to also expect an interaction between context and the effect of women's work on separation.

A female employment supportive context may reduce the economic exit costs of marriage in a society because more employment opportunities for women may facilitate finding a job after separation (South, 2001) and reduce barriers to increase working hours after union dissolution (Van Damme et al., 2009). This may not only lead to lower *actual* economic costs, but also (and this is more important when it comes to women's decision to separate) to lower *expected* costs (as perceived by partnered women). Even partnered women who did not work during the union may expect to find a paid job to compensate their income loss in the event that they separate. Hence, the effect of employment on union dissolution is expected to be smaller in countries with more employment opportunities; all women – also those who were primarily involved in domestic labor during the partnership – are more likely to divorce or separate.

Additionally, a female employment supportive context may be related to a more egalitarian gender role division of labor at home. Studies of Fuwa (2004) and Hook (2010) for instance, point to the significance of the national context for housework indicating that in countries with more egalitarian gender role norms women do less housework. Moreover, Fuwa argues that women's resources are contributing more to an equal division of labor within the household the more gender egalitarian a country is. Elaborating on this argument, we may expect that the effect of women's work on separation is weaker in more egalitarian countries because in these countries women's position within the household is stronger in general. Cooke (2006) also finds evidence for this by comparing a traditional male-breadwinner context (Germany) with an institutional context where policy remains silent on the private sphere (the US). A traditional division of labor more often creates marital stability in a traditional context than in a more gender egalitarian context. Although these arguments are different from the economic exit costs argument above, they lead to the same expectation: *The more female employment is supported in a country, the weaker the effect of employment on separation is (hypotheses 1b).*³

2.2. The effect of women's employment during the union on post-separation employment

In the literature, the positive influence of wife's work during marriage on women's post-divorce employment is suggested to be the underlying reason for the effect of wife's work on divorce. Working fewer hours during the union may have a negative influence on women's post-divorce employment because investments in domestic work rather than in paid work lead to a depreciation of human capital (Blossfeld and Huinink, 1991), which in turn reduces women's employment after divorce (Johnson and Skinner, 1986; Van Damme et al., 2009). Human capital theory predicts that investments in education and labor market experience result in better jobs and higher income levels. This will also apply to women's situation after separation. Employers prefer women who are more productive, which makes it more likely for women with more human capital to find a job after separation. In addition, more productive women receive higher wages and higher wages may form a stronger incentive to work more hours after union dissolution. Hence, we expect that: *The more women invested in paid labor during their partnership, the more they will work after separation (hypothesis 2a).* This is what we call the work history effect.

² Obviously, emotional and social-psychological reasons may be more important factors in women's divorce decision, outweighing the negative economic exit costs. However, given equal social-psychological costs and benefits of marriage and separation, lower economic exit costs can still remove the barrier to separate. Because the FFS does not allow us to control for relationship quality or satisfaction, our results may apply more to women exiting bad unions than to women exiting all partnerships, regardless of the quality (Sayer and Bianchi, 2000; Schoen et al., 2002). Moreover, our findings will be an underestimation of the work effect if we assume that for women with good quality relationships the effect of wife's employment is absent.

³ Note that an additional reason for cross-national differences in the work effect may be cross-national differences in selection processes into employment. In countries where women's employment levels are low, women who work are a selective group which might have other attributes that distinguish them from non-working women, such as specific personality traits (e.g. self-confidence and self-reliance) or general feelings of independence. These attributes are also very likely to be related to women's risk of separation, resulting in a stronger relationship between women's employment and separation in countries with lower employment levels for women.

Note that in our study this hypothesis is applied to separated women. Thus, the empirical test of this hypothesis does not include partnered women as a comparison group. For this reason, we have to take selection bias into account. Not only human capital in terms of education or work experience may give women better labor market opportunities after separation, also personality traits such as self-confidence, work ethic (the preference to work), and being more emancipated, may provide women with higher labor market potential (Cunningham, 2008). We particularly have in mind housewives from older cohorts who would have liked to work, but did not do so because of the strong adverse normative environment. Hence, women who primarily engaged in domestic work during the union and nevertheless separated, may be the economic 'strong' ones in terms of these unmeasured traits. Not including such variables in our analyses would bias the observed effect of work history downwards (the women who worked little incorrectly appear to have good labor market outcomes). Because these characteristics are unobserved, we use a two-step Heckman model to correct for the possible selection bias in the work history effect on post-separation employment. We also translate the selection effect in terms of a substantive hypothesis: *The more women are inclined to separate, the more hours they will work after separation (hypothesis 2b).*

Country differences – Again, we expect to find cross-national differences in the magnitude of the work history effect on post-separation employment. We use the same argument as above, but now only the *actual* economic costs of marriage are relevant: More contextual employment support may reduce the actual economic exit costs. For instance, in countries with more equal employment opportunities for men and women and a more egalitarian division of labor, the effect of women's work history may be weaker because even women who did not work much during the union have more employment opportunities after separation. In such countries it may be easier for all women to combine work and care. Moreover, separated women in less traditional countries may be supported more by an employment-friendly normative context to increase their working hours. This will especially apply to single mothers with young children, whom in traditional societies are expected to stay at home and take care for the children. More gender egalitarianism in a country will therefore encourage all separated women's post-separation working hours regardless of their history. Thus: *The more employment supportive a country is for women, the weaker the work history effect on post-separation employment is (hypothesis 2c).*

3. Methods

3.1. Data

We use data of the widely used Fertility and Family Surveys (FFS), which include retrospective information on four histories: fertility, family, education, and occupations. The data collection took place during the nineties in 24 countries. Between 1700 and 10,500 women per country were interviewed. We only include countries with complete marital and/or work histories, leaving 16 countries (Germany is split into two countries: East and West). These countries are a good representation of the industrialized countries in the nineties; we analyze the US and countries from Northern, Western, Southern, and Eastern Europe.⁴ The country surveys differ in the age groups that were sampled but most countries interviewed women of age 18 through 49. For a detailed discussion of FFS comparability issues, see Festy and Prioux (2002).

Using the retrospective information of start and end dates (year and month), we created a person-month file for each country including the histories of unions, employment, occupations, education, and children. Our sample for the analysis of the risk of separation consists of all partnered women (be it either married or cohabiting) aged 18 and older who were not in full-time education ($N = 50,790$). For the consequences of separation for women's employment we analyze separated women ($N = 12,747$). We observe on average 12 years of union history and 7.5 years after separation. Given the age selection of the FFS, we observe unions in their early and middle period, but not late in the union. Hence, we cannot generalize our findings to dissolutions of unions with a long duration. To keep the analyses simple, we only consider *first* marriages or cohabitations and, if relevant, their separations. Transitions into widowhood are censored.

3.2. Analytical approach and measures

We present two separate analyses. Both analyses are multilevel models which allow us to test cross-level interaction effects. We use HLM for the estimation of our models (Raudenbusch and Bryk, 2004; Snijders and Bosker, 1999). Details of the measurements are presented in Appendix A.

3.2.1. First analysis

We estimate the effect of women's employment on separation by a 2-level hierarchical logistic regression model on a person-month file. The person-months are the lowest level (level 1) and country (-years) are level 2 (see below for discussion of the country-level variables). The dependent variable is the probability of separation, conditional on being at risk of

⁴ Non-response rates vary from as low as 7% in Czech Republic to 42% in Italy. Switzerland (62%) and Greece (84%) have exceptionally high non-response rates, so conclusions for these countries have to be taken with caution. This is especially the case for Greece. We compared the FFS employment levels for Greece with those from the UN Statistics Division database and the FFS levels were slightly higher than the UN levels, especially in the eighties. Non-response rates and comparability issues are amply discussed in Festy and Prioux (2002).

separation. Women are censored at the separation transition, at a transition into widowhood, or at the time of interview. We define *separation* as a transition from marriage or cohabitation in one month (t_{-1}) to not living as a couple in the subsequent month (t_0) due to divorce or separation.

Women's number of working hours is the main independent variable.⁵ The variable is time-varying and constructed from the retrospective employment history. Only spells of at least three consecutive months of paid employment were considered and for each employment spell, respondents were asked to report the average number of working hours per week (in categories). Because being in education is a competing risk, we excluded spells of full-time education from the analysis. Although retrospective life history data may suffer from memory bias, this is mainly a problem for people with complex employment histories; their career stability is overestimated when using retrospective data instead of prospective data (Manzoni et al., 2010). Such complex histories are very likely to occur for women with (older) children who may have left the labor market for a while and returned when their children grew older. However, we believe that recall will be mostly a problem for short leaves from the labor market and are confident that large spells of non-employment are reported correctly.

Other specialization-related variables are: (1) The *average job status during the union*. During non-working spells, respondents were assigned the job status of the previous job; (2) The change in job status (ISEI) during the union up to the current month. This measures *career progress*; (3) The *duration of the union*; and (4) *Being married*. The last two variables provide a more indirect test of Becker's specialization hypothesis. We assume that married women and women in longer lasting unions specialize more in domestic work than cohabiting women and those in unions of short duration (Brines and Joyner, 1999; Kalmijn et al., 2007).

3.2.2. Second analysis

In the second analysis we examine the effect of women's work during the union on post-separation employment, using the *sample of separated women*. The dependent variable is *working hours after separation* and for each woman, each month after separation is a separate record. We run a 3-level hierarchical linear model on the person-month file, thereby distinguishing between months (level 1) and persons (level 2) next to country(-years) at level 3. *Working hours, job status, career progress, union duration, and being married* are measured similarly as in the first model, but now these variables are *time constant*, measured at the time of separation. The most important variable here is the *work history* of women during marriage. This is measured as the sum of all the paid working hours during the union divided by the number of months a woman was in a union. This measures basically the relative share of union time a woman was employed (see Table 1).

The effect of women's work history during the union will be distorted by the number of working hours women were working at the time of separation: The more hours women were working at the time of separation, the more hours they will work after the separation and the more hours they will have worked during the union. We therefore control for women's working hours at the time of separation. The correlation between the two variables is 0.58.

As explained in the theoretical section, unobserved differences in work values and personality traits (like self-confidence) may also be relevant. To correct for this selection bias, we estimate a two-step Heckman model. Although this method is not without problems (for a recent overview, see Fu et al., 2004), it is the best solution up to now to take sample selection bias into account. It consists of two models that are consecutively estimated: (1) a selection model to estimate the conditional probability to separate and (2) an outcome model to estimate the outcome of interest (in this case women's post-separation working hours) while including the *predicted* probability to not to separate (as an Inverse Mills Ratio) as an independent variable. By including this latent trait, the bias in the effects of specialization on post-separation employment due to selection bias is diminished (Fu et al., 2004; Heckman, 1979).

As is well-known, the selection model needs to include at least one identifying variable which affects the probability of separation, but does not affect women's working hours. As identifying instruments we use parental divorce/separation, the degree of urbanization of the area where the respondent was raised, and church attendance. It is well known that these variables affect the separation risk (see also Table 3) while they are uncorrelated with women's post-separation working hours (Amato and DeBoer, 2001; Kalmijn et al., 2004; Lillard et al., 1995; Wolfinger, 2005).⁶

We use the average predicted separation probabilities of the last three years of separated women's union to reduce the degree of instability in the probabilities. That the divorce probabilities vary to some extent in the pre-separation years is because there are changes in women's situation already before the separation. Anticipation is one of the things one could think of. Especially non-working women may try to find a job in anticipation of a divorce to enhance their economic independence. If there is much anticipation going on, employment wrongly seems to increase the risk of separation, whereas in fact traditional women are anticipating upon the economic exit costs of a divorce. This would mean that we have to be cautious when concluding that women's employment is affecting the risk of separation after controlling for selection (and thus suggesting that Becker was right). On the other hand, previous research (Rogers and DeBoer, 2001; Poortman, 2005b) showed that the effects of anticipation are marginal.

⁵ Although we do not have information on the employment status of the spouse, we believe that the employment of the wife is a good proxy for specialization within the couple. After all, the majority of men are employed. Only in countries with a high unemployment level our proxy might be slightly less adequate (according to OECD statistics of male unemployment levels only Spain has male unemployment rates over 10% in the FFS observation period).

⁶ Although studies have shown that the current urbanization of the respondent's residence influences women's employment, the urbanization of the area where the respondent was raised in is not correlated with women's post-separation employment.

Table 1Sample sizes and descriptive statistics, 16 countries. *Source:* FFS (authors' calculations).

	ALL	LT	LV	CZ	SE	HU	SI	FI	US	NO	EDE	WDE	AT	CH	IT	ES	GR
Persons	50,790	2372	2314	1371	3007	2976	2263	3706	8017	3202	2273	1848	3900	3493	3321	2850	2172
First separations	12,747	378	729	341	1115	554	175	889	3772	766	566	487	952	854	208	216	222
% first separations	25	16	32	25	37	19	8	24	47	24	25	26	24	24	6	8	10
Person months	7,197,169	338,264	361,608	190,675	380,182	369,781	328,090	592,403	965,303	416,223	240,636	202,271	688,998	513,187	539,063	428,608	372,381
Year of fieldwork	88–99	94–95	95	97	92–93	92–93	94–95	89–90	95	88–89	92	92	95–96	94–95	95–96	94–95	99
Age sample	15–55	18–49	18–50	15–44	23–43	18–41	15–45	22–51	15–44	20–43	20–40	20–40	20–55	20–49	20–49	18–50	18–50
Year of first union	55–99	62–95	63–95	69–97	63–93	65–93	65–95	55–89	65–95	65–95	54–92	55–92	58–96	62–95	59–95	60–95	63–99
Year of first separation	57–99	68–95	66–95	74–97	65–93	70–93	69–95	57–90	66–95	65–89	71–92	72–92	63–96	63–95	73–95	73–95	68–99
Mean year of first union	81	82	80	85	80	81	82	75	82	77	82	82	80	81	81	82	84
Mean year of separation	85	86	85	89	83	85	85	81	85	82	86	86	86	85	88	88	88

LT = Lithuania, LV = Latvia, CZ = Czech Republic, SE = Sweden, HU = Hungary, SI = Slovenia, FI = Finland, US = United States, NO = Norway, EDE = East-Germany, WDE = West-Germany, AT = Austria, CH = Switzerland, IT = Italy, ES = Spain, GR = Greece.

Table 2

Measures indicating the degree of structural and normative female employment support in a country.

	Women's employment rate				Women's average gender role values
	1960s	1970s	1980s	1990s	1990
Lithuania (LT)	86.62 ^b	88.07	91.40	87.99	4.16
Latvia (LV)	86.62 ^b	88.07	91.40	91.91	4.15
Czech Republic (CZ)	77.69 ^b	81.98	89.92	92.39	5.01
Sweden (SE)	39.94	57.94	77.34	86.59	5.44
Hungary (HU)	50.14	65.89	74.81	74.54	5.07
Slovenia (SI)	40.62 ^b	49.66	80.89	78.84	5.27
Finland (FI)	58.07	65.17	75.39	82.33	6.35
United States (US)	42.04	50.20	65.47	73.41	5.60
Norway (NO)	25.46	33.84	69.59	77.40	6.10
East-Germany (EDE) ^a	69.14	78.04	90.50	94.66	4.68
West-Germany (WDE)	48.47	49.87	62.27	68.01	4.38
Austria (AT)	56.46	54.53	61.90	68.06	4.45
Switzerland (CH)	38.10	48.70	54.86	67.09	4.45 ^c
Italy (IT)	28.41	32.60	46.64	54.51	4.98
Spain (ES)	17.97	28.30	34.36	48.09	5.44
Greece (GR)	39.63	31.84	32.30	43.33	5.26 ^d

Definitions: Women's employment rate: Age standardized employment rates for women aged 20–54. Source: [UN Statistics Division](#).

Gender role values: average score for women on two items measuring beliefs about the consequences of being a working mother (scale 1–4): (1) 'A working mother can establish just as warm and secure a relationship with her children as a mother who does not work'; (2) 'A pre-school child is likely to suffer if his or her mother works'. Source: [European Values Survey/World Values Survey \(1990\)](#).

^a There is not data available for this indicator for East-Germany before the reunification.

^b Estimated figure: Imputed by assuming a linear trend.

^c Switzerland did not participate in the EVS/WVS until 2008. Because its average gender role values in 2008 are very similar to those in Austria, we estimated the score on the 1990 gender role measure in Switzerland to be the same as in Austria.

^d For Greece data from 1999 were used.

3.2.3. Macro-level variables

We include cross-level interaction effects of selected individual variables and the degree of female employment support in a country in a multi-level model. Note that the use of multilevel models in cross-national research is debated since a low number of countries may cause problems in accurate estimation of parameters and standard errors of macro-level indicators ([Meuleman and Billiet, 2009](#)). Because in cross-national research the estimates of macro-effects may be largely driven by the specific sample of countries that is analyzed, we perform some sensitivity checks as well.

We capture the extent of female employment support in countries by two measures. The first measure consists of the age standardized employment rates for women aged 20–54. Gender role norms are measured by the average gender role values in a country using the [European/World Values Study \(1990\)](#) (EVS/WVS) data. We constructed a scale of two items measuring people's beliefs on the consequences of being a working mother: (1) 'A working mother can establish just as warm and secure a relationship with her children as a mother who does not work'; (2) 'A pre-school child is likely to suffer if his or her mother works'. We recoded the first item so that for both items a higher score measures more egalitarianism. We only used women's scores because we believe that women mainly compare their employment situation and the division of labor in their household to that of other women in their country (see [Greenstein, 1996](#)).

[Table 2](#) shows that the Baltic and Nordic countries are the most employment supportive countries, whereas the US ranks in the middle, and the Central European countries (Switzerland, Germany, and Austria) and the Southern European countries (Spain, Italy, Greece) have the lowest levels of women's employment. The extent of structural employment support does not coincide with the extent of normative support in a country. Looking at the last column of [Table 2](#), we see that women in the Nordic countries and the US are the most liberal in their beliefs about the consequences being a working mother and women in Central Europe the most traditional. Spain and Greece score surprisingly high on this indicator, but this is found by other studies as well ([Kalmijn, 2003](#)). Women's employment rate and gender role norms are negatively associated ($r = -0.30$).

3.2.4. Control variables

In all models, we control for education, age, year, the age of the youngest (biological) child and the *highest level of education* (time constant). We control for *year* and *year squared* to take period effects into account.

4. Results

Before we turn to the two analyses, we present some descriptive results. To what extent do separated women work more hours than partnered women in each country? In [Fig. 1](#) the number of working hours of separated women aged 18–49 are

Table 3

Multilevel logistic regression models predicting first separation for partnered women, 16/10 countries, 1955–1999. Source: FFS (own calculations).

	M1a	M2a	M3a	M4a	M1b ^a	M2b ^a	M3b ^a	M4b ^a
<i>Women's employment</i>								
Working hours (lagged) ($\times 100$) ^b	0.704***	0.512***	0.794***	0.505***	0.896***	0.788***	0.935***	0.768***
Job status in partnership ($\times 100$)	–	–	–	–	–0.207	–0.213	–0.177	–0.140
Career woman ($\times 100$)	–	–	–	–	0.162	0.150	0.163	0.143
Union duration (centered) ($\times 100$)	0.070	0.072	0.071	0.072	0.132	0.148*	0.122	0.148*
Union duration (centered) ² ($\times 100$)	–0.002***	–0.002	–0.002**	–0.002	–0.003***	–0.003***	–0.003***	–0.003***
Married	–0.889***	–0.891***	–0.889***	–0.890***	–0.955***	–0.951***	–0.953***	–0.950***
<i>Identifying variables</i>								
Parents divorced (respondent < age 18)	0.165***	0.163***	0.166***	0.164***	0.302***	0.302***	0.304***	0.305***
Parents divorced (respondent \geq age 18) ^{c,d}	0.159**	0.161**	0.159**	0.159**	0.180*	0.184*	0.183*	0.191*
Urbanization of area respondent was raised	0.127**	0.127**	0.127**	0.127**	0.132*	0.132**	0.132**	0.131**
Church attendance	–0.065***	–0.065***	–0.065***	–0.065***	–0.108**	–0.107**	–0.108**	–0.109**
<i>Control variables</i>								
Year (centered)	0.020**	0.017**	0.020***	0.017**	0.054***	0.053***	0.055***	0.052***
Year (centered) ²	0.002**	0.002***	0.002***	0.002***	0.001**	0.001**	0.001**	0.001**
Age at union	–0.052***	–0.052***	–0.052***	–0.052***	–0.057***	–0.056***	–0.057***	–0.056***
Youngest child 0–6	–0.179***	–0.175***	–0.180***	–0.175***	–0.246***	–0.243***	–0.240***	–0.230***
Youngest child 7–17	–0.008	0.001	–0.011	0.001	–0.060	–0.058	–0.056	–0.047
Educational level	0.032	0.024	0.033	0.026	0.087	0.086	0.082	0.080
Educational level missing	0.218	0.213	0.213	0.213	0.193	0.184	0.201	0.194
<i>Macro-level variables</i>								
Women's employment rate		0.701		0.009		0.003		0.002
Women's employment rate \times working hours ($\times 100$)		–0.014***		–0.014***		–0.021***		–0.019**
Gender role norms			0.051	0.148			–0.082	–0.070
Gender role norms \times working hours ($\times 100$)			0.177*	–0.049			0.318*	0.198
Constant	–5.660***	–5.607***	–5.651***	–5.582***	–5.811***	–5.781***	–5.840***	–5.771
<i>Variance components</i>								
Measurement level	(3.29)	(3.29)	(3.29)	(3.29)	(3.29)	(3.29)	(3.29)	(3.29)
Country level	0.230***	0.211***	0.235***	0.210***	0.168***	0.168***	0.175***	0.156***
Slope working hours ($\times 100$)	0.000***	0.000***	0.000***	0.000*	0.002**	0.001	0.000**	0.003
N (first) separations	9947				3826			
N person months	1,391,761				723,563			

Unstandardized coefficients.

^a Model for selection of countries: FI, LT, CZ, HU, EDE, WDE, CH, SI, GR, ES.^b For Austria, the number of working hours were not asked. Hence, we used employment status and to increase cross-national comparability we recoded the dummy into scores 0 for non-working women and score 39.5 for working women.^c In Finland, the respondent was asked whether parents were separated/divorced when respondent was aged 14. We included a dummy for whether the respondent's parents divorced or not.^d In Sweden, only experience of a parental divorce before age 16 was asked.* $P < 0.05$ one-tailed tested.** $P < 0.01$ one-tailed tested.*** $P < 0.001$ one-tailed tested.

presented per country. In all figures, the solid (upper) line reflects the change in the working hours for an *average* separated woman in the period before and after separation (repartnered women are included). The x -axis represents the duration of the union of separated women up to the time of separation and the duration of time after separation. In other words, the line describes the periods before *and* after the separation. The scale of the x -axis has located the time of separation at the average union duration at the time of separation in a country and for each woman the time of separation is 0. We consider a maximum period of 160 months because of the low number of separated women in some countries. We corrected the yearly working hours for the period trend in the average number of working hours in the country concerned by expressing the average number of working hours in a certain year as ratio of the average working hours in the year of interview. As a reference point of the average working hours in a country, we drew a line with the overall average number of working hours during a 20-year partnership (or less if the partnership lasted less long) of a partnered woman (dashed line). The partnership duration of 20 years covers around 95% of all partnerships in all countries.

The figures show three effects. For didactic reasons, we start with discussing the figure for Finland. First, women who work more hours when partnered are slightly more inclined to separate. Hence, in Finland separation is a selective phenomenon; women mostly seem to separate when they can afford it, i.e., when they work more hours, hence when they specialized less during their partnership. The effect of women's employment on separation is the first relationship we will examine with multivariate analyses in the next section. Second, women only moderately increase their employment after

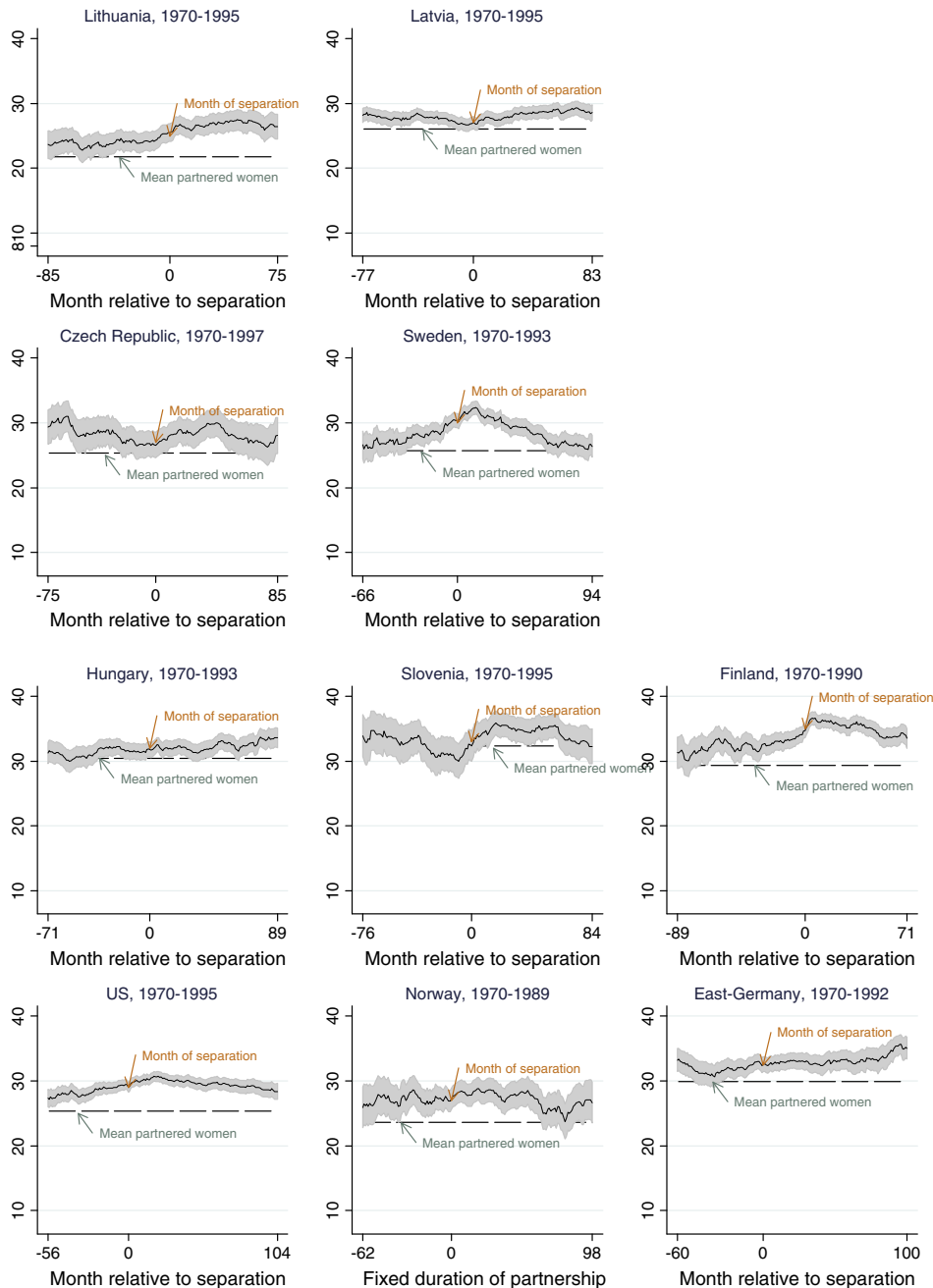


Fig. 1. Working hours of average separated and non-separated women. Note: For Austria, the number of working hours were not asked. Instead, we used employment status and, to increase cross-national comparability, we recoded the dummy into scores 0 for non-working women and score 39.5 for working women. Source: FFS (authors' calculations).

separation and decrease it slightly in the long term. The change in women's working hours after the separation is the second relationship we will investigate in a multivariate way. Third, women increase their employment already in the months *before* the separation. This may have to do with anticipation. Women might anticipate a separation by returning to work or by increasing their work hours to compensate for the upcoming income loss after the split up (Johnson and Skinner, 1986; Poortman, 2005b; Rogers and DeBoer, 2001). An alternative explanation is that the period around separation coincides with the stage in which the children become older and in which (some) women return to the labor market. Exactly in these life stages, women are the most likely to divorce (Brines and Joyner, 1999; Waite and Lillard, 1991). Note that we do not have many women in the empty nest phase, due to the young age sample of the FFS.

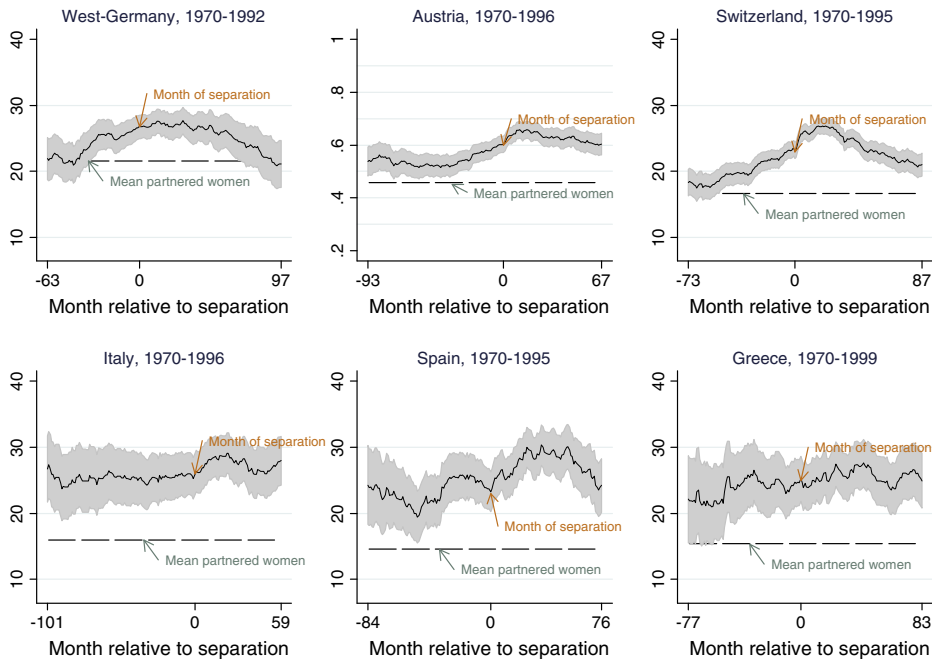


Fig. 1 (continued)

Looking at all the country figures, we see a clear increase in women's post-separation working hours in Sweden, Slovenia, Austria, Switzerland, Italy, and Spain. In Lithuania, Latvia, and the Czech Republic (next to Finland), the increase in employment is modest, while in the US the change is very smoothly spread over two years. In the other countries we observe no change. Furthermore, the pictures show that separation is highly selective in terms of employment in Austria, Switzerland, Italy, Spain, and Greece, whereas in the other countries the average working hours of separated women differ less from that of partnered women. In Latvia, Czech Republic, Hungary, and Slovenia, we do not observe differences between the two groups. Additionally, Sweden, Finland, US, West-Germany, Austria, Switzerland, Spain, and Greece show possible anticipation effects – meaning that employment increases in the months immediately before the separation.

4.1. The effect of women's work on separation

To what extent does women's employment affect the risk of separation? [Table 3](#) shows the estimates of women's working hours and other indicators of specialization on the probability to separate using a discrete-time event history model. All variables are mean centered.

4.1.1. Overall effects

Like in previous single-country studies ([Brines and Joyner, 1999](#); [De Rose, 1992](#); [Jalovaara, 2003](#); [Liefbroer and Dourleijn, 2006](#); [Poortman and Kalmijn, 2002](#); [South, 2001](#)), we find that women's employment significantly increases the risk of separation ([Table 3](#), Model M1a). Fulltime working women are 33% ($1 - [\exp(40 \cdot 0.704/100)]$) more likely to separate than non-working women. Looking at each country separately, we find a significant effect of women's work in 11 of the 16 countries (see [Appendix B](#)). Other measures of specialization during the union (the average job status and career progress) do not have the expected influence ([Table 3](#), Model M1b; note that this information is only available for ten countries). Women's average job status during the union and making a career do not lead to significantly higher risks of separation.⁷ Looking at the models for each country separately, we see that these effects differ between countries, although in most countries we find insignificant effects. In Spain, women with a higher job status during the union have a higher separation risk than women with a lower job status, as we hypothesized. The negative effect of job status in Lithuania is unexpected, however. In Switzerland and Slovenia career progress of women is positively related to the risk of separation, in Spain the effect is negative.

Union duration initially increases the risk of separation, but this effect slows down and decreases after about two years. The pace of slowing down differs between countries and the turning point varies between six to thirteen years of the union

⁷ Note that the correlations of women's average job status with their working hours and career progress are rather low ($r = 0.36$ with hours and $r = 0.08$ with career progress), so that multicollinearity does not play a role.

in eight countries (with a significant effect of union duration). The US differs from the European countries because it shows a negative (U-shaped) duration effect. Previous studies on American data reported mixed results on this (Ono, 1998; Sayer and Bianchi, 2000; Schoen et al., 2002; South, 2001). Furthermore, married women are less likely to separate than cohabiting women, confirming what has been shown before (Brines and Joyner, 1999; Kalmijn et al., 2007; Liefbroer and Dourleijn, 2006). We find this effect in almost all countries (see Appendix B).

Parental divorce, the degree of urbanization, and church attendance all have the expected effects. Women whose parents divorced or separated when they were younger than age 18 are more likely to separate. Furthermore, the more urbanized the area where women lived when they were young, the higher the risk of separation. Women who attend church frequently are less likely to separate than women who do not attend church.

The effects of the control variables are as expected as well. We only discuss the pooled model. The risk of separation increases significantly over time and women who were older at their first union have a lower separation risk. Women with children below the age of 6 are less likely to separate than women without children. Finally, education does not significantly affect women's risk of separation.

4.1.2. Explaining country differences

To what extent are the differences in the work effect related to the extent of female employment support in a country? To answer this question, we first correlate the effect of women's working hours and women's employment rate in a country. As argued in the theoretical section, we hypothesized that in more female employment supportive countries, employment has a weaker effect on the risk of separation. We expect this because of lower expected exit costs. We indeed observe a negative relationship between a country's female employment rate and the work effect on separation (country level $r = -0.40$). Tests using a multilevel analysis confirm this finding: The cross-level interaction between women's working hours and women's employment rate in a country on the risk of separation is significantly negative (Table 3, Model M2a). To be more specific, in countries where few women work (value 17.97, centered: -49.93) fulltime working women are 62% more likely to separate than non-working women [$\exp(40 \cdot 0.505/100) - 49.93 \cdot (40 \cdot -0.014/100)$], whereas in countries with high female labor participation (value 94.66, centered: $+26.76$) women who work fulltime are 5% less likely to separate than women who do not work at all [$\exp(40 \cdot 0.505/100) + 26.76 \cdot (40 \cdot -0.014/100)$].⁸

Looking at the moderating effect of a country's gender role norms, we do not find an effect in the direction as we expected (Table 3, $b_{\text{Model3a}} = 0.177$). Moreover, the significant effect disappears when we control for a country's female labor force participation (see Table 3, Model M3a/M4a).⁹ Hence, we reject our hypothesis.

When we compare the standardized effects of both contextual variables (in Table 3, Model M4a), we find that the effect of women's employment rate is more important ($b_{\text{standardized}} = -0.227$) in moderating the work effect on separation than gender role norms ($b_{\text{standardized}} = -0.033$). In sum, these findings indicate that paid employment is less disruptive for the union in female employment-friendly societies, but this is most likely due to more employment supportive labor markets than to more egalitarian gender roles in these societies.

4.2. The effect of women's work history on post-separation employment

To what extent does the relative share of union time a woman was employed affect her working hours after separation?

4.2.1. Overall effects

The more women worked during the union, the more hours they work after separation. The effect of women's work history during the union is in the expected direction and statistically significant in seven countries (and the effect is positive, but insignificant in six countries (Appendix C). The maximum size of the effect of work history on post-separation working hours is about 4 h, which means that women who worked fulltime all the time during the union work 4 h more after separation than women who never worked during the union. We controlled for the fact that women who were working more hours at the time of separation work more hours after the separation as well.

In the pooled model with the countries that do have job status information, we observe that women who were working in jobs with a higher status work on average more hours after separation than those who had a lower job status during the union. Moreover, the stronger the increase in job status during the union (measuring women's career progress), the more

⁸ To check the robustness of the cross-level interaction effect, we performed an outlier analysis by calculating the DFBETA. To obtain DFBETA, we computed the difference between regression coefficients of the work effect in the full sample and in the sample without the specific case, divided by the standard error of the coefficient in the smaller sample (Belsley et al., 1980). We find that the cross-level interaction between the work effect and a country's female employment rate is fairly stable (we checked the coefficient in Model M4a, Table 3), regardless of the specific country sample. The biggest outliers are Austria (DFBETA = -0.968), Sweden (DFBETA = 0.864), Switzerland (DFBETA = 0.639), and Finland (DFBETA = 0.542), all of these are above the (absolute) critical value, which is $(1/\sqrt{63}) = 0.126$. Excluding each of these countries from the model results in an even stronger negative relationship between the work effect on separation and a country's female employment rate, except for Austria (the effect of women's working hours on separation becomes insignificant, but the direction of the effect remains negative).

⁹ Furthermore, there are several large outliers (for $b_{\text{Model4a}} = -0.049$ in Table 3): Norway (DFBETA = -2.196), Lithuania (DFBETA = -1.138), and Italy (DFBETA = -1.059). These large DFBETA's (with effects in the opposite direction compared to the full sample of sixteen countries) point to quite an unstable effect. Note that the critical value for the interaction with gender role norms is 0.250 ($1/\sqrt{16}$) because the variable does not vary over time.

hours women work after separation. These effects are in line with the expectations, but note that when looking at the countries separately most effects of women's job status and career progress were insignificant.

We find no support for our expectations about the effects of union duration and marital status of women before the separation. The longer the duration of the union, the more hours women work after separation. This is contrary to what we expected. Only in Norway, we find a significant negative effect of union duration. In Hungary, Austria, and Switzerland the direction of the coefficient is unexpectedly positive. Furthermore, women who were married before the separation work *more* hours after separation than women who were not married, and not *less* as we expected. This is the case in Sweden, Finland, the US, Norway, West-Germany, Switzerland, and Greece.

We now discuss some of the other effects in the model. Is the employment increase after separation temporary? Looking at the post-separation duration effect, we observe that separated women increase their hours more up to three years after

Table 4

Multilevel models predicting the number of post-separation working hours for separated women, 16/10 countries, 1955–1999. Source: FFS (authors' calculations).

	M1a	M2a	M3a	M4a	M1b ^a	M2b ^a	M3b ^a	M4b ^a
<i>Work history during union</i>								
Proportion hours worked during union ^b	4.024***	4.047***	3.760***	3.793***	2.589	2.931*	1.861	2.157
Working hours at separation ^c	0.416***	0.416***	0.416***	0.416***	0.449***	0.445***	0.448***	0.445***
Job status during union (×100)	–	–	–	–	0.031**	0.034*	0.031*	0.033**
Career progress during union (×100)	–	–	–	–	0.016*	0.015*	0.016*	0.015*
Union duration	0.015***	0.014***	0.014***	0.014***	0.008*	0.018***	0.008*	0.018***
Married before separation	1.056***	1.058***	1.060***	1.056***	0.589	0.375	0.597	0.367
<i>Post-separation duration</i>								
1 Year after separation	0.854***	0.854***	0.854***	0.854***	1.165***	1.160***	1.165***	1.160***
2 Years after separation	0.953***	0.953***	0.953***	0.953***	1.512***	1.503***	1.512***	1.503***
3 Years after separation	0.913***	0.913***	0.913***	0.913***	1.751***	1.738***	1.751***	1.738***
4 Years after separation	0.780***	0.781***	0.780***	0.781***	1.606***	1.589***	1.606***	1.589***
5 Years after separation	0.370***	0.370***	0.370***	0.370***	1.286***	1.254***	1.286***	1.255***
<i>Control variables</i>								
Year (centred)	0.219***	0.217***	0.218***	0.216***	0.226***	0.117***	0.226***	0.111***
Year (centred) ²	–0.015***	–0.015***	–0.015***	–0.015***	–0.016***	–0.016***	–0.016***	–0.016***
Age (centred)	0.187***	0.188***	0.187***	0.189***	–0.156**	–0.039*	–0.156**	–0.033**
Age (centred) ²	–0.008***	–0.008***	–0.008***	–0.008***	–0.003***	–0.003***	–0.003***	–0.003***
Repartnered (lagged)	–2.324***	–2.324***	–2.324***	–2.324***	–2.942***	–2.949***	–2.942***	–2.948***
Youngest child 0–6	–6.759***	–6.759***	–6.759***	–6.759***	–8.442***	–8.446***	–8.442***	–8.446***
Youngest child 7–17	–3.604***	–3.604***	–3.604***	–3.604***	–4.711***	–4.719***	–4.711***	–4.719***
Educational level	4.930***	4.927***	4.940***	4.933***	2.894***	3.246***	2.905***	3.245***
Educational level missing	–0.741***	–0.741***	–0.724***	–0.731***	–2.241***	–2.214***	–2.182***	–2.183***
In part-time education (lagged)	0.443***	0.443***	0.443***	0.443***	0.928***	0.933***	0.928***	0.933***
<i>Macro-level variables</i>								
Women's employment rate		0.212**		0.275***		0.169**		0.197***
Women's employment rate ^c proportion working hours during union		0.025		–0.001		0.015		–0.019
Gender role norms			2.860	5.057**			2.591*	3.926***
Gender role norms ^c proportion working hours during union			–2.246	–2.254			–4.637*	–4.682*
Constant	26.491***	26.762***	26.861***	27.495***	28.537***	30.985***	28.974***	31.619***
Selection effect (–Lambda)	0.566**	0.572**	0.571**	0.576**	–0.531	–0.845	–0.522	–0.833
<i>Variance components</i>								
Measurement level	100.826***	100.826***	100.826***	100.826***	101.903***	101.905***	101.903***	101.905***
Person level	97.866***	97.868***	97.870***	97.864***	98.217***	98.416***	98.259***	98.369***
Country level	70.940***	58.242***	67.919***	49.155***	20.632***	11.434***	18.076***	6.222***
Slope proportion working hours during union	44.599***	44.330***	41.839***	42.110***	58.053***	56.622***	46.220***	46.048***
N (first) separations	9849				3730			
N person months	842,401				327,358			

Unstandardized coefficients.

^a Model for selection of countries: FI, LT, CZ, HU, EDE, WDE, CH, SI, GR, ES.

^b For Austria, this measure includes only the number of months women were employed (not their working hours) as a proportion of the union because the number of working hours were not asked.

^c For Austria, the number of working hours were not asked. Hence, we used employment status and to increase cross-national comparability we recoded the dummy into scores 0 for non-working women and score 39.5 for working women.

* $P < 0.05$ one-tailed tested.

** $P < 0.01$ one-tailed tested.

*** $P < 0.001$ one-tailed tested.

separation compared to the year of separation. From four years on the increase levels off. In addition, we find curvilinear effects of both period and age on women's post-separation employment. Women increase their working hours more and more in the sixties and seventies, but from the eighties onwards the increase in working hours after separation slows down. Women's number of working hours increases with age up to age 31 and then decreases. Repartnering is negatively associated with post-separation employment. Apparently, a new partner reduces the need for employment to compensate income loss due to separation (Dewilde and Uunk, 2008). Furthermore, the younger the age of the child, the fewer hours women work after separation. Educational level and being in part-time education increase the number of working hours after separation.

To what extent are the women who separate a selective group (those who work more hours)? On average, we find that selection matters, as indicated by the significant effect of Lambda. To facilitate the interpretation we reversed the sign of the "Inverse Mills Ratio". This means that women who were more prone to separate (i.e., more likely to be 'selected' into the separation category) work significantly more hours after separation. Unexpected is the significant negative selection effect in models M1b–M4b, the models that include women's job status and career progress, but this effect is insignificant. Note that the size and direction of the selection effects differ quite a bit across countries. Especially in the Eastern European countries other problems than economic costs may be more important, like mental health and alcoholism (see for instance Maluytina et al., 2004 for Russia).

4.2.2. Explaining country differences

To summarize, for many countries we found that work history during the union matters, but the effects differ in their magnitude (varying from an effect of -1.7 h in Italy to an exceptionally high of 11 h in Spain). By including a cross-level interaction effect in the multilevel model in Table 4 we test our hypothesis: "The more employment supportive a country is, the weaker the work history effect on post-separation employment is." Because the interaction effect is insignificant, we have to reject our hypothesis.¹⁰

On the other hand, for the cross-level interaction effect of gender role norms we find large effect sizes (Table 4; M4a), although the effect is only borderline significant ($p = 0.09$). In the most traditional society (score 4.15, centered: -1.02) women who worked fulltime all the time during the union work 6.09 h more than women who did not work at all during the union ($3.793 - 1.02 * -2.254$). In the most egalitarian country (score 6.35, centered: $+1.18$) the maximum effect of work history is only 1.13 ($3.793 + 1.18 * -2.254$). The direction of the effect is as we expected, indicating that Becker's theory is less valid in egalitarian societies.¹¹

The normative context ($b_{\text{standardized}} = -1.530$) has a stronger influence on the effect of women's work history than the structural context ($b_{\text{standardized}} = -0.014$). All in all, the multilevel models provide weak support for our hypothesis. Nonetheless, taking into account the problem of low power on the country level (see Snijders and Bosker, 1999: p. 94), the large size of the normative context interaction effect may be important. Further research using a larger sample of countries should verify this, however.

5. Conclusion and discussion

In this study, we advanced previous research in two ways. First, we performed a more direct test of the specialization theory by combining the literature on both the causes and the consequences of separation. We tested one of the theoretical mechanisms underlying the specialization effect on union dissolution by estimating the effect of women's work history during the union on women's employment after separation. In previous studies, the effect of women's employment on separation is often explained by the higher economic exit costs for women who were engaged in task-specialization during their partnership. According to economic theories of the family, task specialization – with men specializing in market-based tasks and women in home-based tasks – would be beneficial for marriage. As a result of this specialization, women's human capital depreciates during the union which may lead to lower employment chances after separation. Hence, women's work history during the union would determine women's risk of separation because it determines their post-separation employment; women who worked more during the partnership have lower economic costs of exiting the union and thus will be more likely to separate.

Second, we tested to what extent the specialization hypothesis is valid in different societal contexts. Several scholars have already emphasized that the stabilizing effect of specialization for unions may depend on context. South (2001), for instance, showed for the US that the work effect on women's divorce risk varies across different historical periods. Furthermore, in a comparative study of nine countries, Blossfeld and Müller (2002/2003) demonstrated that specialization increases the stability of unions less in modern 'dual earner' societies. And in a critical review of the theoretical and empirical evidence of the validity of Becker's specialization theory, Oppenheimer (1997) argues that the theory of specialization might apply more in the traditional society of last century rather than in present-day US. Our central

¹⁰ Outlier analyses do not change this conclusion.

¹¹ Even though the outlier analyses showed some large DFBETA's, the direction of the cross-level interaction effect does not change when excluding outlier countries from the model. Finland (DFBETA = -1.052), West-Germany (DFBETA = -0.721), and Switzerland (DFBETA = 0.614) were found to be the biggest outliers.

hypothesis was that in countries with more employment support for women, women's economic exit costs of marriage would be lower; such countries have more employment opportunities and more institutional support to facilitate the combination of work and care. Although the comparative study of Blossfeld and Müller already hinted in this direction, South's cohort comparison in the United States found that employment effects on divorce were *stronger* in more egalitarian cohorts, which is in contrast to the above line of reasoning. Where South could only compare several cohorts, we have more variation across contexts.

To investigate the reciprocal relationships between women's employment and separation, we used the Fertility and Family Surveys for 16 countries with 50,790 women and covering union histories of on average 20 years. We first replicated previous research on the effect of women's working hours on the risk of separation and then assessed the effect of work history during the union on women's working hours after separation. We illustrated country differences in scatter plots and performed multilevel analyses to test these cross-national differences.

Our findings show that women's employment and separation are related and that the societal context matters to some extent. Consistent with the prediction of the specialization theory and with what most single-country studies so far have shown, we assessed that women's working hours significantly increase the risk of separation in 11 of the 16 countries. Moreover, we found empirical evidence for the second hypothesis in seven countries. The more separated women invested in paid work during the union, the more hours they work after separation. For a subsample of countries (ten countries), we also tested effects of two other (non-)specialization indicators – job status and career progress –, but here we found few significant positive relationships.

In line with our expectations, we found differences in the strengths of these effects among countries. In general, countries with more structural employment support for women have weaker effects of women's working hours on separation than more traditional countries with little female employment support. This shows that the validity of Becker's theory depends on the context. In countries with more female employment support, wife's work is not (or at least less) disruptive for unions. A second finding weakly supporting that Becker's theory has less validity in egalitarian societies concerns the weaker effect of women's work history during the union on post-separation employment in more gender egalitarian countries. Although the associations in the presented graphs are not clear-cut, the effect size in the multi-level model is very large. This could indicate that women in more normative employment supportive contexts indeed have lower actual exit costs, but to be sure this needs to be tested on a larger sample of countries. In any case, our first finding clearly suggests that prevailing economic hypotheses about marriage and divorce are more applicable to settings in which gender roles are traditional. In more egalitarian settings (of which women's employment opportunity structure is one aspect), the focus should probably shift to other theories, for example, theories that focus on psychological or sociological mechanisms to explain the causes and consequences of union dissolution.

Some of our conclusions should be taken with caution. An initial criticism of our study may be that the economic exit costs can also be measured by income levels after separation instead of working hours. Although women's post-separation employment and income are highly correlated (Smock, 1993), women may use other sources of income than employment, and this may be especially relevant in more gender egalitarian countries where there is generous income support from the state like single parent allowances or alimony. Institutional support for divorced women may provide alternative incomes for women after union dissolution and thereby reduce the economic costs of separation and make an increase in post-separation working hours less necessary. However, we could not use an income measure because our life-history data, like most life-history data, have no retrospective income information. Also, male's employment may be confounding the relationship between women's employment and separation because women might have to work more hours when their husband is unemployed and his unemployment may lead to stress leading to a higher risk of separation for the couple. These two effects may be reflected in a positive association between women's working hours and separation. By not controlling for his unemployment we might thus overestimate the effect of women's work on union dissolution. However, we do not expect the effect to disappear because in previous studies the working hours effect was still found even after controlling for men's working hours (South, 2001) or unemployment status (Poortman and Kalmijn, 2002). Replication of our study using women's share of working hours compared to her spouse or her share of income could verify these results. A third criticism could be that there might be alternative explanations of the work effect on women's divorce risk, such as a decrease in marital interaction time (Poortman, 2005a), spouses' relative bargaining power (Blood and Wolfe, 1960), functionality for society (Parsons, 1949), the couple's aim to maintain their socio-economic status in society (Oppenheimer, 1997), or spouses' gender role values (Hakim, 2000). Future research should empirically test (the context-specificity of) these arguments by examining other independent variables. A fourth limitation of this study could be that our results are to some extent sensitive to the countries that we are analyzing. We therefore also presented our results graphically and performed outlier analyses. Even though the cross-level interaction effects turned out to be somewhat instable due to the low number of countries, the directions of the cross-level interaction effects did not change.

Appendix A

See Table A.

Table A

Definitions of measures used in the analyses.

Variable	Definition
Number of working hours	Average number of working hours per week in five categories: <10 h; 10–24 h; 25–34 h; 35–44 h; 45> h (respondents who worked a variable number of hours were recoded to the middle category). To simplify the analyses, we consider the variable as an interval variable using the median of each hours category. Medians were obtained empirically from an additional analysis of the Labor Force Data (Eurostat) (women, aged 25–54). The variable consists of the following six cores: 0 (not working), 5.5 h (1–9), 19 h (10–24), 29.5 h (25–34), 39.5 (35–44), 49.79 (45–60)
Proportion hours worked	Women's work history during the union is measured as the sum of all the paid working hours during the union divided by the number of months a woman was in a union
Average job status	Average International Socioeconomic Index (ISEI) score during the union up to the current month (recoded from the first two digits of the ISCO88). This measure is created by summing up all job statuses of a respondent up to a particular month and this sum is divided by the number of months women were in the union
Career progress	During non-working spells, respondents were assigned the job status of the previous job. This variable is time-varying in the first analysis and time-constant in the second analysis The change in job status (ISEI) during the union up to the current month. Calculated as the job status (ISEI) in the current month minus the job status in the previous month. The value remains constant if the woman's job status remains constant. The variable is time-varying in the first analysis and time-constant in the second one
Union duration	The duration of the union in months
Married	Whether married (1) or cohabiting (0)
Parental divorce	Whether parents divorced or separated before the respondent was aged 18
Degree of urbanization	Degree of urbanization of main residence up to age 15. (1) <2000 inhabitants; (2) 2000–9999 inhabitants; (3) 10,000–99,999 inhabitants; (4) 100,000–999,999 inhabitants (4) >1,000,000 inhabitants. Although studies have shown that the current urbanization of the respondent's residence influences women's employment, the urbanization of the area where the respondent was raised in is not correlated with women's post-separation employment
Church attendance	How often does respondent attend religious services (1) at least once a week; (2) about once a month; (3) only at official holidays; (4) once a year; (5) (practically) never. We used the class means of the following scores for each category: (1) 52–365; (2) 12; (3) 2–11; (4) 1; (5) 0 and then took the natural logarithm to reduce the skewed distribution of the variable
Post-separation duration	Dummies for each year after separation up till the fifth year or later
Year	Year centered around its mean. We also include year squared to take curvilinear relations into account
Age	Age at union formation (time-constant variable)
Repartnered	Whether repartnered (1) or not (0). Only included in the analysis of the consequences for employment for separated women
Age of the youngest child	Inclusion of two dummies (child between 0 and 6 years; child between 7 and 17 years) with no (biological) children as reference category
Education	The highest level of education (time constant) is measured at the time of interview in 7 ISCED categories. We used this as an estimation of women's educational level at a certain moment since the educational history was not asked for in all countries. We include the variable as an interval variable, recoded relative to the country's educational composition to make the variable cross-nationally comparable. Not classifiable and missing levels are coded 3. We include a dummy for whether education was missing or not classifiable
In part-time education	Whether part time studying (1) or not (0)
Female employment rate	Age standardized employment rates for women aged 20–54. We calculated the average employment rate of seven age groups to take into account cross-national differences in age distributions
Gender role norms	Average gender role values in a country. We constructed a scale of two items measuring people's beliefs on the consequences of being a working mother: (1) 'A working mother can establish just as warm and secure a relationship with her children as a mother who does not work'; (2) 'A pre-school child is likely to suffer if his or her mother works'. We recoded the first item so that for both items a higher score measures more egalitarianism. We only used women's scores because we believe that women mainly compare their employment situation and the division of labor in their household to that of other women in their country

Appendix B

See Table B.

Table B

Discrete-time event history analyses of the log odds of a first separation for partnered women, 16 countries, 1955–1999. Source: FFS (own calculations)

	LT	LV	CZ	SE	HU	SI	FI	US
<i>Women's employment</i>								
Working hours (lagged) ($\times 100$)	0.863**	0.043	0.104	0.374	0.585*	0.032	1.645***	0.798***
Job status in partnership ($\times 100$)	-0.787**	-	-0.522	-	-0.247	-0.157	-0.304	-
Career woman ($\times 100$)	0.464	-	-0.345	-	-0.142	3.015*	0.140	-
Union duration (centered) ($\times 100$)	1.185***	0.317*	-0.390	-0.204	0.241	-0.513	-0.024	-0.915***
Union duration (centered) ² ($\times 100$)	-0.009***	-0.004***	-0.000	-0.001	-0.004**	-0.002	-0.001	0.001**
Married	-0.934***	-0.993***	-0.969***	-0.892***	-1.232***	-0.089	-1.157***	-1.270***
<i>Identifying variables</i>								
Parents divorced (respondent < age 18)	0.331*	0.256**	0.326*	0.247**	0.105	0.469*	- ^b	0.155***
Parents divorced (respondent \geq age 18) ^a	0.534*	0.374*	0.175	- ^c	0.083	0.540	0.615***	0.176*
Urbanization of area respondent was raised ^b	0.154***	0.126***	0.244***	0.175***	0.243***	0.302***	-	-
Church attendance	-	0.050	-0.064	-0.026	-0.141***	-0.249***	-0.210***	-0.105***
<i>Control variables</i>								
Year (centered)	0.041*	-0.000	0.066**	0.025*	0.016	-0.071**	0.021	0.012*
Year (centered) ²	-0.001	0.001	-0.002	0.000	0.000	0.003	-0.000	0.000
Age at union	-0.053*	-0.073*	-0.111***	-0.109***	-0.084**	-0.145***	-0.080***	-0.082***
Youngest child 0–6	-0.770***	-0.388***	0.018	-0.476***	-0.722***	-0.073	-0.021	0.124**
Youngest child 7–17	-0.594**	-0.271	0.113	-0.280	-0.246	0.825*	0.073	0.345**
Educational level	0.072	-0.093	-0.479	0.231*	-0.137	0.255	0.139	-0.022
Constant	-4.746***	-3.689***	-3.527***	-3.720***	-3.875***	-4.417***	-4.284***	-2.508***
Chi-square	131***	215***	146***	528***	271***	104***	488***	2196***
df	15	15	16	13	16	17	15	13
Pseudo-R2	0.027***	0.024***	0.033***	0.045***	0.038***	0.044***	0.043***	0.057***
N (first) separations	351	690	311	869	501	164	768	3021
N person months	261,795	271,806	158,020	285,006	303,334	268,674	499,828	652,541
Source: FFS (own calculations)								
	NO	EDE	WDE	AT	CH	IT	ES	GR
<i>Women's employment</i>								
Working hours (lagged)	0.040	1.227***	1.350***	1.079*** ^d	0.890**	1.639***	1.209**	1.908***
Job status in partnership	-	0.097	-0.355	-	-0.127	-	0.851*	-0.357
Career woman	-	-0.805	0.269	-	0.801*	-	-2.667*	0.960
Union duration (centered)	0.084	-0.095	0.517*	0.323*	1.190***	0.778*	0.143	-0.219
Union duration (centered) ²	-0.002	-0.003*	-0.006**	-0.003**	-0.007**	-0.005**	-0.000	-0.001
Married	-1.535***	-1.135***	-1.206***	-1.090***	-1.520***	-1.511***	-2.122***	-1.615***
<i>Identifying variables</i>								
Parents divorced (respondent < age 18)	-	0.576***	0.501***	0.428***	0.566***	1.204***	0.337	0.741**
Parents divorced (respondent \geq age 18)	-	0.274	0.233	0.530*	0.253	0.293	0.354	0.416
Urbanization of area respondent was raised ^b	0.207***	0.144**	0.105*	0.160***	0.093*	0.151*	0.266***	0.269***
Church attendance	-0.133**	0.014	-0.259***	-	-0.075**	-0.263***	-0.135**	-0.164*
<i>Control variables</i>								
Year (centered)	0.050**	0.062*	0.036	0.044***	-0.011	0.065	0.064*	0.017
Year (centered) ²	-0.001	-0.001	0.000	-0.000	0.001	-0.000	-0.002	-0.002
Age at union	-0.101***	-0.053*	-0.066***	-0.103***	-0.103***	-0.098***	-0.094***	-0.033
Youngest child 0–6	-0.290***	0.009	-0.113	-0.123	-0.349*	-1.416***	-0.208	-0.636***
Youngest child 7–17	0.031	0.225	0.592**	-0.223*	0.343*	-0.824*	-0.604*	-0.257
Educational level	0.083	-0.322	0.168	-0.339*	0.110	0.795*	0.735**	0.122
Constant	-3.560***	-5.032***	-4.463***	-4.254***	-3.484***	-4.857***	-5.425***	-5.599***
Chi-square	703***	247***	312***	634***	533***	178***	295***	208***
df	13	17	17	14	16	14	16	17
Pseudo-R2	0.071***	0.039***	0.061***	0.051***	0.062***	0.072***	0.088***	0.076***
N (first) separations	716	500	405	863	819	180	202	167
N person months	334,577	183,456	151,369	571,935	323,092	444,651	402,438	327,394
Source: FFS (authors' calculations)								

Unstandardized coefficients.

– question not asked.

^a In Latvia, 12% of the respondents had a missing value on the degree of urbanization. We recoded the missings into category 3 and included a dummy for missingness on this variable.^b In Finland, the respondent was asked whether parents were separated/divorced when respondent was aged 14. We included a dummy for whether the respondent's parents divorced or not.^c In Sweden, only experience of a parental divorce before age 16 was asked.^d For Austria, the number of working hours were not asked. Hence, we used employment status instead of working hours and, to increase cross-national comparability, we recoded the dummy into scores 0 for non-working women and score 39.5 for working women.* $P < 0.05$ one-tailed tested.** $P < 0.01$ one-tailed tested.*** $P < 0.001$ one-tailed tested.

Appendix C

See Table C.

Table C

Women's work history effect on the number of post-separation working hours for separated women, 16 countries, 1955–1999. Source: FFS (authors' calculations).

	LT	LV	CZ	SE	HU	SI	FI	US
Proportion working hours union ^b	2.334	0.967	0.282	2.082 [*]	−0.474	5.016 [*]	−0.231	6.223 ^{***}
Working hours at separation ^c	0.596 ^{***}	0.482 ^{***}	0.481 ^{***}	0.233 ^{***}	0.523 ^{***}	0.395 ^{***}	0.270 ^{***}	0.398 ^{***}
<i>Other specialization variables</i>								
Job status during union ^d	0.002	−	−0.025	−	−0.058	−0.003	0.060 [*]	−
Career progress during union ^d	0.029	−	−0.005	−	0.068	−0.090	−0.028	−
Union duration	−0.008	0.010	−0.010	−0.009	0.025 ^{***}	0.001	−0.004	0.007
Married before separation	−0.227	−0.325	3.433	2.067 [*]	−2.389	−1.407	3.269 ^{***}	5.153 ^{***}
<i>Selection effect</i>								
Selection effect (−Lambda)	−5.138	−0.877	−8.772 [*]	0.203	−1.696 ^{**}	5.421 [*]	−0.238	4.953 ^{***}
Chi-square (df)	2473(19) ^{***}	4557(19) ^{***}	2399(19) ^{***}	10,984(19) ^{***}	1756(19) ^{***}	1275(20) ^{***}	7484(20) ^{***}	10,051(19) ^{***}
Sigma person level	9.358 ^{***}	8.987 ^{***}	10.698 ^{***}	8.460 ^{***}	8.431 ^{***}	7.234 ^{***}	8.773 ^{***}	10.847 ^{***}
Rho	0.511 ^{***}	0.494 ^{***}	0.506 ^{***}	0.357 ^{***}	0.469 ^{***}	0.418 ^{***}	0.421 ^{***}	0.499 ^{***}
N (first) separations	309	653	302	855	474	138	758	2967
N person months	29,664	67,721	26,023	71,871	39,523	15,800	72,332	235,739
	NO	EDE	WDE	AT ^a	CH	IT	ES	GR
Proportion working hours union ^b	5.662 ^{***}	3.823 [*]	5.621 ^{**}	1.455	0.725	−1.746	11.312 ^{***}	0.884
Working hours at separation ^c	0.364 ^{***}	0.624 ^{***}	0.536 ^{***}	0.406 ^{***}	0.280 ^{***}	0.670 ^{***}	0.294 ^{***}	0.524 ^{***}
<i>Other specialization variables</i>								
Job status during union ^d	−	0.037	0.082 [*]	−	0.020	−	0.145 [*]	0.029
Career progress during union ^d	−	−0.090	−0.043	−	0.028	−	0.023 [*]	−0.100
Union duration	−0.042 ^{***}	−0.000	0.008	0.022 ^{***}	0.030 ^{**}	−0.006	−0.005	0.019
Married before separation	3.583 [*]	−0.325	5.180 ^{**}	0.344	4.827 ^{**}	−4.839	2.853	6.453 [*]
<i>Selection effect</i>								
Selection effect (−Lambda)	3.877	−2.056	−4.089	−3.257	3.817	−0.227	3.617	4.806
Chi-square (df) M2	1880(19) ^{***}	1238(19) ^{***}	5367(19) ^{***}	13,938(20) ^{***}	17,696(19) ^{***}	424(19) ^{***}	859(19) ^{***}	689(20) ^{***}
Sigma person level M2	10.694 ^{***}	7.091 ^{***}	9.694 ^{***}	11.504 ^{***}	10.380 ^{***}	12.124 ^{***}	11.623 ^{***}	12.393 ^{***}
Rho M2	0.450 ^{***}	0.468 ^{***}	0.584 ^{***}	0.527 ^{***}	0.491 ^{***}	0.639 ^{***}	0.464 ^{***}	0.525 ^{***}
N (first) separations M2	685	450	362	822	587	137	195	155
N person months M2	45,378	28,806	24,983	83,291	56,948	11,043	15,101	18,178

Unstandardized coefficients.

^a For Austria, the dependent variable is dichotomous: whether women work (score 39.5) or not (0) after separation.^b For Austria, this measure includes only the number of months women were employed (not their working hours) as a proportion of the union because the number of working hours were not asked.^c For Austria, this variable is dichotomous: whether women work or not in the month before separation.^d Model including job status during union and career progress for selection of countries: FI, LT, CZ, HU, EDE, WDE, CH, SI, GR, ES.^{*} $P < 0.05$ one-tailed tested.^{**} $P < 0.01$ one-tailed tested.^{***} $P < 0.001$ one-tailed tested.

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