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Research Article

Revisiting the association between women's employment and separation: An analysis of harmonised longitudinal surveys in six countries

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Abstract

BACKGROUND
Much debate exists about how women's employment interacts with divorce and separation, with conflicting findings and opposing theoretical interpretations.

OBJECTIVE
This study revisits the employment–separation link from a dynamic perspective, examining how employment influences separation risk (independence), whether women increase employment before separation (anticipation), and how they adjust work hours afterward (adjustment).

METHODS
Data come from the Comparative Panel File (harmonised panel data) from six countries (Australia, Germany, Russia, South Korea, Switzerland, and the United Kingdom), covering the 1990–2021 period, 73,213 married or cohabiting women, and 9,847 separations. Discrete-time event-history models estimate separation risks, and longitudinal growth models track employment changes before and after separation.

RESULTS
Across all countries, employed women – especially women employed full-time – face a higher separation risk than non-employed women. These associations persist after controlling for potential confounders such as household income, health, life satisfaction, and religiosity. Part-time work shows weaker but still positive associations with separation. Employment trajectories indicate limited changes around separation, though modest pre-separation increases in work engagement appear in some contexts.

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CONCLUSIONS
The study provides evidence for the independence hypothesis regarding the influence of women's employment on separation across diverse societal contexts, with more mixed support for anticipation and adjustment effects.

CONTRIBUTION
By integrating three theoretical mechanisms – independence, anticipation, and adjustment – into a single dynamic analysis for multiple countries, this study advances understanding of how employment and separation interact. Using large-scale, harmonised prospective longitudinal data, it addresses limitations in prior research and clarifies long-standing inconsistencies. The findings highlight that despite shifting gender norms, full-time employment remains a critical factor shaping women's ability to leave a union.

1. Introduction

Many authors have considered the role of women's employment in studying the trends, causes, and consequences of separation. Traditionally, demographers and economists have regarded the rise of women's employment, especially that of married women, as one of the structural drivers of the separation revolution (Becker 1981; Espenshade 1985), alongside shifts in gender norms, secularisation, and individualisation (Lesthaeghe 2014). Although a clear parallel exists between the two trends, the causal link has been criticised at the macro level, both theoretically (Oppenheimer 1994) and empirically (Wagner 2020). In many studies, the linkage between employment and separation has been argued to depend on gender context, with the "old-fashioned" independence effect and the theoretically related specialization benefit operating only where traditional gender ideologies prevail (Killewald 2016; Lyngstad and Jalovaara 2010; South 2001). In settings with supporting child care policies and egalitarian gender roles, married women's employment could even stabilise marriage, as it would make both members of the couple more satisfied (Cooke et al. 2013). Moreover, authors have argued that employment and separation are mutually related, with a pending separation already leading to more employment during the marriage (Özcan and Breen 2012) and further increases in hours worked after separation to compensate for "economic exit costs" (Van Damme 2010). Authors have also argued that an independence effect on the risk of separation appears to be at odds with the substantial negative economic consequences of separation that many women still face (Leopold and Kalmijn 2024).

Theoretically, three arguments have been suggested about the association between employment and separation: independence, anticipation, and adjustment. The independence effect implies a positive association between women's employment during marriage and the risk of subsequent separation. The anticipation effect implies an increase in women's employment in the years preceding separation in preparation for an expected separation. The adjustment (or recovery) effect implies an increase in women's employment in the years following separation, either in the form of re-entering the labour market or increasing working hours. Theoretically, the three effects can exist in combination, although adjustment is more likely in the absence of anticipation and independence effects. In particular, anticipation and independence effects can coexist when married women return to the labour market due to an unsatisfactory marriage and subsequently discover that this decision also increases the feasibility of leaving the marriage.

Each of these three mechanisms has been studied in the past, but the evidence is mixed to date, with findings supporting and refuting key hypotheses. (For reviews of this literature, see Härkönen 2014; Lyngstad and Jalovaara 2010; Özcan and Breen 2012; Wagner 2020.) Moreover, no study has examined all three processes – anticipation, risk, and adjustment – in a single, dynamic, micro-level analysis. In this contribution, we utilize large-scale, harmonised national household panel data from Australia, Germany, Russia, South Korea, Switzerland, and the United Kingdom, spanning the 1990–2021 period, to examine the relationship between the employment status of married and cohabiting women and separation and divorce (hereafter referred to as separation).

The extensive, longitudinal, and high-quality data provide large numbers of separations, detailed information on employment status before and after separation, and a comprehensive set of potentially confounding variables, including household income, religion, and life satisfaction (Sayer and Bianchi 2000). Harmonisation of the separate datasets ensures comparability across countries and allows for examining associations within societal contexts that differ in terms of gender norms, welfare state regimes, and economic circumstances. The choice of countries was pragmatic: These are countries with long-running annual panel surveys with comparable measures of respondents' economic, demographic, and social characteristics. The goal is to explore whether the association between employment and separation can be found in multiple countries.

With six countries, it is not possible to examine macro-level causes of possible differences. Such analyses have been conducted using retrospective data in a larger international setting for divorces occurring in the 1960s, 1970s, and 1980s (Van Damme and Kalmijn 2014). Our contribution lies in using richer prospective longitudinal data for a more recent period – spanning 1990 to 2021 – albeit with a smaller number of countries. A profile of the countries is presented in Table 1. Theoretically, one would expect the associations studied here to be stronger in countries with more traditional gender roles, greater gender inequality, and lower divorce rates (Van Damme and Kalmijn 2014). Table 1 shows that divorce rates are highest in Russia and relatively similar in the other countries, with somewhat higher rates in the United Kingdom and Switzerland. Gender roles are least egalitarian in South Korea and relatively similar across the other countries, with Russia showing a higher level of overall gender inequality but not for economic outcomes. Women's employment rates are remarkably similar across countries, except in South Korea, where female labour participation is lower. For these reasons, we can expect independence effects to be strongest in South Korea than in the other countries. For Russia, more gender inequality suggests stronger associations, but high divorce rates suggest weaker independence effects for women.

Table 1: Profiles of countries in the study

	Australia	Germany	South Korea	Russia	Switzerland	UK
Crude marriage rate	5.4	4.7	6.5	8.5	5.5	5.1
Crude divorce rate	2.3	2.3	2.3	4.5	2.8	2.8
% married (age 20+)	53.6	53.9			53.5	48.4
% cohabiting (age 20+)	10.2	8.7			10.7	12.3
Share of cohabitation	16.0	13.9			16.7	20.0
Global Gender Gap Index						
Overall rank	23	13	104	45	10	15
Subdimension economic participation and opportunity rank	18	32	117	29	28	33
% married/cohabiting women who are employed	72.9	74.0	58.6	72.8	76.1	73.2
Male unemployment rate (25+)	4.1	4.1	3.4	4.8	4.3	3.5

Sources: Demographic rates are from the 2006 and 2011 *United Nations Demographic Yearbook* (data from 2010; UK data from 2003). Cohabitation data (2010) are from the OECD Family Database. Gender inequality data (2010) are from Hausmann, Tyson, and Zahidi (2011). The Global Gender Gap Index is from the World Economic Forum. Labour force data (2015) are from the International Labour Organisation's ILO.Stat Data Explorer.

2. Theoretical background and past studies

The economic independence hypothesis suggests that the probability of separation increases when women are financially self-sufficient and less dependent on a spouse (Becker 1981; Oppenheimer 1994; Sayer and Bianchi 2000). Women have traditionally relied more on a spouse's income and socioeconomic status than men due to a weaker labour market situation, the gender pay gap, and traditional family norms and roles (Lyngstad and Jalovaara 2010; Poortman 2005; Stevenson and Wolfers 2007; Wagner, Schmid, and Weiss 2015). In such a situation, gaining economic independence allows married women to exit a marriage with less harm to their economic status. Employment can also provide women with a sense of psychological independence and empowerment, thereby reducing the perceived costs of separation and increasing the likelihood of initiating a separation (Kalmijn and Poortman 2006). The independence argument is closely related to, but not equivalent to, the specialization argument, which suggests that a stronger economic position of wives vis-à-vis husbands makes marriage less advantageous for both men and women (Oppenheimer 1994).

Micro-level research testing the independence hypothesis does not provide a coherent picture of the phenomenon. In a literature review, Wagner (2020:50) concludes, “The results of empirical research on the effects of female employment on marital instability have been highly contradictory.” Several studies have found that women’s employment, hours worked, or personal income are positively associated with the risk of separation (Bernardi and Martínez-Pastor 2011; Kalmijn, Loeve, and Manting 2007; Poortman 2005; South 2001; van Damme and Kalmijn 2014). Other studies have found insignificant, weak, or inconsistent effects (Cooke et al. 2013; Henz and Jonsson 2003; Jalovaara 2003; Killewald 2016; Ono 1998; Vignoli et al. 2018). Authors also found significant opposite effects of women’s employment (i.e., reducing separation) in three Nordic countries (Cooke et al. 2013). Another group of studies suggests heterogeneity in the effects, based on, for example, the type of union (Brines 1994; Kalmijn, Loeve, and Manting 2007; Vignoli et al. 2018), marital quality (Schoen et al. 2002), gender role norms (Kalmijn, De Graaf, and Poortman 2004), or the type of independence measure (Rogers 2004). Other studies argue that gender roles in marriage themselves have no effect; rather it is the discrepancy between actual and preferred gender roles that matters (Oláh and Gähler 2014). The independence hypothesis has also been examined by considering measures of women’s personal income, and here the evidence appears more consistent. Studies have generally found that the wife’s share of household income has positive effects on divorce (Sayer and Bianchi 2000; Henz and Jonsson 2003; Kalmijn, Loeve, and Manting 2007; Liu and Vikat 2007), although the effects are not fully linear (Rogers 2004).

Anticipation effects have frequently been suggested in the literature (Härkönen 2014; Özcan and Breen 2012). Given the economic logic of exit costs, it has been argued that women already increase their labour force participation during marriage – either by re-entering the labour market or by increasing working hours – as insurance against the risk of separation. In some versions of the theory, the argument is that women adjust their labour supply when marital quality declines, possibly years before an actual separation occurs (Özcan and Breen 2012; Schoen, Rogers, and Amato 2006). In other versions, it is argued that women change their labour supply after a separation decision has been made, hence shortly before separation (Thielemans and Mortelmans 2022; Van Damme, Kalmijn and Uunk 2009). Either way, if anticipation occurs, it will lead to an increase in labour supply before partners split up. From our perspective, the effects of anticipation and independence share a similar logic and are therefore theoretically compatible. Anticipation and independence effects can also operate in combination. For example, declining marital quality can motivate women to enter the labour market, which in turn can increase awareness of exit options. An important drawback, however, is that these arguments rely heavily on rationality and agency in the separation process. Decisions regarding separation and employment are often plagued by uncertainty and a lack of control over the process (Özcan and Breen 2012).

A small number of studies have tried to test anticipation effects. Economists have used two-step models to show that the (statistically estimated) individual propensity to separate increases married women's labour supply (Austen 2004). A disadvantage of such analyses is their dependence on model specification and the strength of underlying instruments for separately identifying the two processes. Relevant policy changes can affect both women's labour supply and the separation rate. An alternative design has been proposed by Vignoli et al. (2018), who examined how quickly separation rates changed after married women entered the labour market. In only one of the four countries analysed (Italy), a rapid increase in separation rates was observed after women entered the labour market, followed by a decline, suggesting an anticipation effect. Sociological studies asked women themselves about the unexpectedness of separation and examined whether women who anticipated separation increased their employment before separation more than women for whom the separation was unexpected. One study found no evidence of an anticipation effect (Poortman 2005), and another found positive evidence (Thielemans and Mortelmans 2022).

Recovery and closely related adjustment processes involve one's ability to cope with the drop in resources or a new disadvantaged situation caused by a stressor (Bonanno 2004; Luhmann et al. 2012; Spini, Bernardi, and Oris 2017). Recovery means regaining the pre-event level of functionality or resources, while adjustment means finding a new way of functioning in the post-event situation. In the case of separation, recovery analyses have primarily focused on the financial consequences for women. A recent German study reveals that a substantial proportion of divorced women recover from their initial income losses within five years after divorce (Leopold and Kalmijn 2024). Re-partnering played a more important role in recovery than employment. Another study found increases in women's employment after separation in several countries, but these changes were generally more modest than expected (van Damme, Kalmijn, and Uunk 2009). Moreover, all studies suggest that re-partnering was a more common and effective way to recover from economic losses after separation than employment (DeWilde and Uunk 2008; Leopold and Kalmijn 2024).

Differences in research findings may well depend on the societal context in which the effect is studied, suggesting the need for a macro-level perspective. A country's context may influence the effect of women's economic position on the likelihood of separation. For example, the applicability of the independence hypothesis may be limited to traditional gender role settings (Blossfeld and Muller 2002; Cooke et al. 2013; van Damme and Kalmijn 2014). Less rigid social roles, especially those regarding gender and family, along with easier legal access to separation, can help women end a relationship.

Factors such as financial support from welfare institutions (e.g., for single parents) and active labour market policies (e.g., supporting women's employment) can make women less reliant on their partners' resources and on the market, thereby facilitating their autonomy. Moreover, employment may be beneficial for married women in more egalitarian settings, as it increases personal well-being and thereby indirectly stabilizes their marriages (Kalmijn, De Graaf, and Poortman 2004). A comparative study combining retrospective data, panel data, and register data found no effect of women's employment on separation in six countries and an opposite, significant effect in three Nordic countries, which is somewhat in line with the above expectations (Cooke et al. 2013). Additionally, van Damme and Kalmijn (2014), using retrospective life history data, found evidence of differences among 16 studied countries, suggesting that the association between employment and divorce is stronger in traditional societal contexts with low female employment rates than in those with stronger employment support for women.

Differences between findings in past studies and across settings can also be methodological in nature. Union dissolution, especially separation, remains a relatively rare event, particularly outside the United States and the Nordic countries. Thus empirical research requires sufficient sample sizes. Additionally, the most desirable design is a prospective longitudinal study that follows individuals over time, allowing for the observation of changes in family and employment status. In such a design, it is also possible to observe anticipation (preparation for separation) and adjustment (after separation) effects. Moreover, prospective data make it possible to control for household income, a variable not available in retrospective data. Estimates of the effect of women's employment without controlling for household income will be biased downward due to an income effect, as women's employment increases household income, which in turn stabilises marriage (Rogers 2004). Differences in effects can also be attributed to the model type (e.g., event- and trajectory-oriented methods), the operationalization of the independence effect (e.g., through employment status, working hours, or income), and the set of control variables. All in all, a standardised set of prospective longitudinal analyses of the dynamic association between employment and women's separation fills an important gap in the research literature.

3. Data and methods

3.1 Data

The data come from six countries and were integrated within the Comparative Panel File (CPF; for details, see Turek, Kalmijn, and Leopold 2021 and www.cpfdata.com). The

CPF is a new and the first fully open harmonisation initiative in the social sciences. The harmonized data enable the study of life trajectories across several generations in different countries and against a changing historical background. CPF provides an open-source code to combine data from the largest and longest-running household panel surveys from Australia, Germany, South Korea, Russia, Switzerland, the United Kingdom, and the United States. (See the appendix for data sources.) More elaborate information on harmonisation procedures and original questions for all countries can be found in the CPF Codebook (Turek, Voets, and Kalmijn 2023). The major strengths of the original data are that they were collected prospectively (mostly annually) over a long period, are nationally representative, and have sufficiently large sample sizes to allow assessment of the risk of divorce and separation. In the current paper, we use data from six countries, excluding the United States, since information on unmarried cohabitation is incomplete. Unmarried cohabitation is also not recorded in South Korea, but there cohabitation is rare (Raymo et al. 2015).

3.2 Sample selection

In this study we observe a female population aged 25 to 65 and engaged in formal and informal unions over a span of two to three decades. Depending on the country, the observation period starts between 1990 (Germany) and 2001 (Australia and Russia). The most recent observations come from 2020 or 2021. For the longest-running panel, from Germany, we skip waves before 1990 for consistency. For Russia, waves 1994–2000 are omitted due to problematic information on incomes.

A union's span starts with the first observation of a formed union, including unions that started before the observation window, and ends with dissolution (a divorce or separation event, not widowhood) or the last observation in the panel. Unions formed before the panel began are included. Respondents who had never formed a union were dropped. We excluded respondents for whom the pre-dissolution period had missing values for marital or partner status (possibly indicating unobserved separation events). We also excluded cases where a widowhood spell preceded the observed dissolution, since widowhood could affect subsequent marital histories. Additionally, respondents whose main employment status was "in education" were excluded (0.7% of the sample) to provide greater clarity on the relationship between employment and union transitions. We included respondents who participated in at least two waves. We removed respondents who skipped more than two consecutive years of observation (allowing for one missed wave only).

The resulting pooled analytical sample includes 73,213 women in 77,226 unions (Table 2). The values range from 4,340 respondents and 4,570 unions in Switzerland to

23,570 respondents and 24,841 unions in Germany. The average number of unions per respondent is 1.06, and the average period of observation is 10.5 waves (ranging from 2 to 37, with 10% having 2 or fewer waves and more than 50% having 9 or more waves). The average separation year in the analytical sample was 2010, with a range from 1991 to 2021.

Table 2: Number of women, unions, and dissolution events

	Australia	Germany	South Korea	Russia	Switzerland	UK	Total
Women's unions							
Unions with no dissolution observed	6,834	21,826	7,165	7,110	3,978	20,466	67,379
Unions ended with a dissolution: N (%)	1,611 (19%)	3,015 (12%)	287 (4%)	1,375 (16%)	592 (13%)	2,967 (13%)	9,847 (13%)
N unions	8,445	24,841	7,452	8,485	4,570	23,433	77,226
Women in unions							
Women with no dissolution observed	6,361	20,907	7,133	6,703	3,832	19,627	64,563
Women with at least one dissolution event: N (%)	1,394 (18%)	2,663 (11%)	272 (4%)	1,147 (15%)	508 (12%)	2,666 (12%)	8,650 (12%)
N respondents	7,755	23,570	7,405	7,850	4,340	22,293	73,213

Note: Based on the analytical sample used for the event history model.

3.3 Variables

Below we discuss the most important information on our measures; details are provided in the appendix, and descriptive statistics are in Table 3. The dependent variable indicates the event of separation (including divorce) in the next wave. Specifically, a situation in which a person was married or living with a partner in the current wave but was divorced, separated, or not living with a partner in the subsequent wave was marked as a separation. A person who was married or living with a partner in the current and subsequent wave was considered not separated. The dissolution variable was missing if a person was in their last observed wave (either because of attrition or because it was the last wave of the survey). Observations were censored with the event of a partner's death. This was possible in the case of marriage (widowhood events) but not in the case of cohabitation. Given that cohabitation typically occurs at younger ages, this is not in itself a significant problem. Immediate re-partnering (between subsequent waves) is also not detectable in the data. In South Korea we observe only formal marriages, so dissolution events include only formal divorces or formal separations. We observe 9,847 dissolution events. The lowest number of events occurs in South Korea, with only 287, while the largest empirical base available is from Germany, with 3,015 events (Table 2).

Table 3: Descriptive statistics of variables used in the analysis by country

	Australia	Germany	South Korea	Russia	Switzerland	UK
Year: range	2001–2020	1990–2020	1998–2021	2001–2021	1999–2020	1991–2020
Household income (1–10)[1]	6.7 (2.4)	6.4 (2.5)	6.3 (2.5)	6.1 (2.7)	6.5 (2.5)	6.5 (2.5)
Self-rated health (1–5)[1]	3.5 (0.9)	3.4 (0.9)	3.5 (0.7)	3.3 (0.6)	4.0 (0.6)	3.6 (1.0)
Life satisfaction (0–10)[1]	8.0 (1.3)	7.3 (1.7)	5.8 (1.3)	5.6 (2.4)	8.1 (1.3)	7.1 (2.3)
Working hours[2]	0–60; 22.7 (18.2)	0–60; 19.9 (18.0)	0–70; 17.0 (22.0)	0–72; 28.8 (20.9)	0–55; 21.4 (15.5)	0–60; 22.4 (17.9)
Age						
25–34	25.7	22.4	18.0	30.2	15.9	21.2
35–44	27.7	31.4	32.5	29.0	28.2	28.4
45–54	25.5	26.1	27.1	22.8	30.9	27.0
55–65	21.1	20.1	22.4	17.9	25.0	23.4
Education						
Low (0–2)	25.4	14.8	26.6	8.2	5.3	22.7
Medium (3–4)	30.3	58.5	55.7	55.5	62.0	35.9
High (5–8)	44.3	26.7	17.7	36.3	32.8	41.4
Religious						
No	30.9	28.5	45.9	5.0	14.0	40.2
Yes	69.1	71.5	54.1	95.0	86.0	59.8
Employment situation						
Not in the labour force	26.2	26.7	47.3	24.8	16.4	26.6
Actively unemployed	2.2	8.0	1.8	4.9	2.2	2.7
Employed part-time	39.3	34.6	22.7	10.5	59.5	36.2
Employed full-time	32.4	30.7	28.3	59.8	22.0	34.6
Children in household (HH)						
No children (at all/in HH)	18.0	9.8	49.3	8.9	17.5	13.9
Children 0–4 in HH	23.4	19.0	17.3	22.8	14.5	19.2
Children 5–17 (only) in HH	29.5	34.6	33.4	37.9	32.0	28.3
Children < 18 not in HH	29.0	36.7		30.4	35.9	38.7
Union's order						
1st	93.3	94.5	99.6	91.6	96.6	95.8
2nd	5.8	4.6	0.5	8.4	2.9	3.7
3rd or more	0.9	0.9			0.5	0.5
Cohabiting						
No	77.3	87.1		82.7	83.8	88.3
Yes	22.7	12.9		17.3	16.2	11.7
Racial background[3]						
Black						2.1
Asian						8.6
Total N (observations)	69,023	177,469	72,270	56,226	32,362	169,228

Notes: Based on the analytical sample of person-years used for the event history model.
[1] Variable range presented in parentheses in the label column. Values in cells are: mean (standard deviation)
[2] Values in cells are: range; mean (standard deviation)
[3] Only selected categories included; numbers do not total 100%.

To test the economic independence hypothesis, we measured women's employment status at the current wave (i.e., one wave before the dissolution event), categorised as (a) employed full-time, (b) employed part-time, (c) actively unemployed, and (d) not in the labour force (economically inactive, mostly homemakers). Actively unemployed means the respondent is not currently working but is actively seeking employment. Unemployed women were not combined with the economically inactive, as was sometimes done in past research. Studies have suggested that unemployment increases the risk of divorce, resulting from increased stress and couple conflict, an effect observed for both husbands and wives (Hansen 2005). We therefore decided to keep the unemployed separate from those not in the labour force. In additional trajectory analyses, we consider the role of working hours per week.

We control for several factors important to people's economic and union status. This includes basic sociodemographic characteristics, particularly age (25–34, 35–44, 45–54, and 55–65), education level (low, medium, high), and, in the United Kingdom, racial background (Black, Asian, other). The year of observation is included as a linear and squared value (centred at 2010). Information on pre-dissolution household income is based on net equivalized income after taxes and transfers. It is included in the analysis as a rank of ten decile groups (ranked independently by country and year). Additionally, in Germany, we include a predictor for the sample type – to control for specific SOEP subsamples, for example.

Information on having children is included from the family life course perspective using four categories: (a) no children (no own children and none in the household), (b) children aged 0–4 present in the household, (c) children aged 5–17 (5–15 for the United Kingdom) present in the household, and (d) have had children but no children below 18 (16 for the United Kingdom) present in the household. The distinction between (a) and (d) could not be made in South Korea.

Cohabitation status separates between marriages and unmarried unions. This is an important control variable, as cohabiting women are more often employed than married women and also have a higher dissolution rate (Smock and Schwartz 2020).

We include individuals' self-rated health (on a five-point scale, with higher scores indicating better health) and general life satisfaction to obtain a more purely economic interpretation of the employment coefficient. Previous studies suggest that personal well-being (or life satisfaction) can be used as a proxy for relationship quality (e.g., Proulx, Helms, and Buehler 2007; Soons, Liefbroer and Kalmijn 2009). For example, if women enter the labour market as a result of low marital satisfaction, a control for life satisfaction will in part capture such an anticipation effect. We also include religiosity (operationalized as a yes/no indicator) as a predictor for cultural norms and values regarding marriage. Further we control for the approximated union's order to correct for a higher probability of dissolution among people who previously experienced divorce or separation.

Missing values in religiosity, self-rated health, household income, and working hours were imputed using a sequential approach (e.g., using the most reliable information; the weighted information of previous, next, or mean values; or regression-based models).

3.4 Design and analytical approach

In this study, we have long-running data for each respondent, which makes the data suitable for an event-history analysis. Rather than using continuous-time approaches, we estimate discrete-time models (Yamaguchi 1991). To estimate these models, we construct a person-year file, which begins when a person enters the panel (or enters a union during the panel) and ends in the last wave of the panel or in the year of separation. Logit models are estimated where the log odds of event occurrence approximate the hazard rate (Yamaguchi 1991; Singer and Willett 2003). One of the strengths of the model is that it allows the inclusion of time-varying independent variables and the control for right censoring. The same approach has been used in several previous studies of divorce risks (e.g., Ono 1998; Sayer and Bianchi 2000; South 2001). We present the results as odds ratios, which closely approximate relative risks when the outcome is rare (as is typically the case with annual union dissolution probabilities). The advantage of odds ratios is that they express differences in relative terms, especially useful for small baseline probabilities. The disadvantage of odds ratios is that they are sensitive to model specification and unobserved heterogeneity, limiting direct comparison across models (Mood 2010).

Event-history model estimates are presented in Table 4. The model enables us to verify the hypothesis that employment in wave t increases the risk of separation in $t + 1$. The time lag applies to all other predictors measured in wave t. Note that each person's union is treated as a separate cluster of observations, with the correction of standard errors related to clustering within the individual.

In the current application of event-history models, two challenges arise. First, we do not have complete union histories because we use prospective longitudinal data rather than retrospective data. One of the key advantages of using prospective data, apart from avoiding recall bias, is that these include information on household income, which is never available in retrospective data but essential for testing the independence hypothesis. For this reason, prospective data have often been valued over cross-sectional retrospective data for analysing marital dissolution (e.g., Hansen 2005; van Damme, Kalmijn and Uunk 2009). The key disadvantage, however, is that some unions had already begun before the panel started, creating left censoring. Second, and relatedly, we have no information on the duration of unions that already existed at the start of the panel. This may bias the hazard ratios in the model, although it does not necessarily bias the statistical effects of the independent variables.

We present three approaches to addressing these issues. First, we include age, parenthood status, and year of observation as time-varying variables, serving as proxies for the duration of the union. Second, we present a model of marriages in Germany, where we have complete marriage histories, including information on the year and duration of marriage (Table 5). This model still has left censoring, but as long as the length of the risk period is included, left censoring does not bias the event-history models (Guo 1993). Third, we present a model for unions that began during the panel for four countries (Table 6). This approach has a double advantage: It completely avoids left censoring and allows for the inclusion of the duration of the union. The main disadvantage of these models is that they only include separations that occur early in the union. Sample sizes are also considerably smaller. (For this reason, Switzerland and South Korea could not be included in Table 6.) We regard the full-sample models in Table 4 as our main results and include the findings in Tables 5 and 6 as robustness checks to assess the role of left censoring.

In the second part of the analysis, we examine longitudinal growth trajectories of working hours and work engagement during the period spanning five waves before and five years after dissolution events. The analytical sample is designed similarly to the event history analysis, except the measurement is not right censored after the dissolution event. Thus the observation window includes all post-dissolution measurements, including those of women who re-partnered. We employ a random effects logit panel regression model with individuals as the clusters (Herle et al. 2020). This approach differs from the event-history analysis by considering longer developmental paths rather than focusing solely on the separation event. The model includes dummy variables representing time periods before and after separation, controlling for age (linear and quadratic terms), period effects (five-year intervals), presence of young children, educational level, self-rated health, and religiosity.

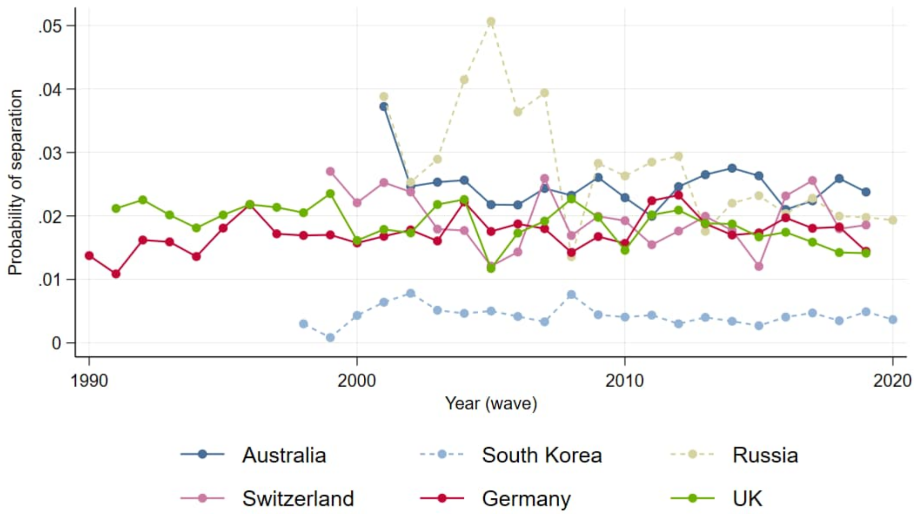
This specification focuses on averaging effects across time points while accounting for individual heterogeneity, enabling us to identify general patterns of anticipation (pre-separation changes in employment) and adjustment (post-separation labour market responses) in women's work engagement.

The analytical code underlying this article is available on OSF (https://osf.io/76rgh/overview).

4. Results

In Figure 1, we present the dissolution rate by year in the panel. The rate remains relatively stable over the calendar years, with some larger fluctuations in Russia. The rate is lowest in South Korea and highest in Australia. Differences between countries are modest, except for South Korea.

Figure 1: Unadjusted probability of separation in the analytical sample by year and country



4.1 Event-history models

Table 4 presents the event-history model for the risk of separation. The most important coefficients for this study are those related to employment. The reference category consists of women who are not in the labour force. We observe positive associations between full-time employment and separation in all six countries, controlling for other key predictors. Effect sizes are substantial in magnitude. The odds ratios of separation for full-time working women compared to economically inactive women are 1.26 (95% confidence intervals: 1.0–1.52) in Australia, 2.02 (1.75–2.34) in Germany, 2.57 (1.90–3.46) in South Korea, 1.73 (1.36–2.18) in Russia, 2.12 (1.38–3.25) in Switzerland, and 1.49 (1.28–1.73) in the United Kingdom. For part-time work, the odds of separation are lower than for full-time work in most countries. Positive associations are observed in Germany, Russia, and Switzerland. In other countries, the positive (South Korea and the United Kingdom) and negative (Australia) associations have larger p-values and 95% CIs indicating no effect (odds ratios including the value of 1). These findings support the independence hypothesis. The differential associations of full-time and part-time work also suggest a "dosage effect," with more hours worked associated with a higher risk of separation.

Table 4: Event-history model for the risk of union dissolution in six countries: Odds ratios and p-values

	Australia		Germany†		South Korea		Russia		Switzerland		UK	
	OR	p	OR	p	OR	p	OR	p	OR	p	OR	p
Wave's year	.981	.016	.972	.000	1.035	.004	.997	.747	.985	.134	.976	.000
Wave's year (squared)	.997	.015	.997	.000	.994	.000	.995	.000	.996	.019	.997	.000
Age (25–34 = reference)												
35–44	.853	.083	.722	.000	.526	.001	.853	.139	.820	.232	.848	.012
45–54	.693	.003	.558	.000	.356	.000	.589	.000	.870	.436	.613	.000
55–65	.393	.000	.321	.000	.140	.000	.376	.000	.692	.107	.354	.000
Education (low = reference)												
Medium	1.019	.847	.912	.222	1.084	.661	.831	.206	2.338	.010	.961	.578
High	.745	.004	.818	.022	.647	.121	.694	.025	2.741	.003	.888	.121
HH income (10 deciles)	.920	.000	.945	.000	.868	.000	.971	.079	.928	.003	.906	.000
Self-rated health (1–5)	.919	.034	1.059	.034	.684	.000	1.096	.172	1.091	.302	.940	.017
Religious (0/1)	.923	.294	.768	.000	1.106	.444	.878	.417	.549	.000	.796	.000
Employment situation (not in the labour force = reference)												
Actively unemployed	1.482	.018	1.914	.000	1.457	.385	1.350	.078	2.455	.003	1.719	.000
Employed: part-time	.877	.128	1.472	.000	1.393	.074	1.623	.002	1.543	.025	1.144	.057
Employed: full-time	1.255	.022	2.023	.000	2.568	.000	1.726	.000	2.115	.001	1.485	.000
Cohabiting	3.704	.000	3.316	.000			+9.377	.000	3.486	.000	2.477	.000
Life satisfaction	.503	.000	.610	.000	.483	.000	.717	.000	.428	.000	.673	.000
Parent status (no child = reference)												
Children in HH: 0–4	1.499	.000	.863	.092	.417	.001	.564	.000	.629	.025	1.033	.693
Children in HH: only 5–17	1.616	.000	1.071	.373	1.010	.959	.779	.075	1.382	.061	1.267	.004
Children < 18 not in HH	1.281	.088	.549	.000			.759	.092	.762	.127	.943	.529
Order (first union = reference)												
Second	2.905	.000	2.198	.000	10.828	.000	‡7.985	.000	5.162	.000	4.026	.000
Third or more	2.314	.000	2.711	.000					5.409	.000	4.432	.000
Black vs other											2.342	.000
Asian vs other											.819	.076
N person-years	65,224		163,831		68,198		54,860		31,184		139,566	
N unions	7,474		21,733		7,023		8,051		4,485		21,417	
N events	1,479		2,784		261		1,329		558		2,378	

Note: CPF harmonized file.
† The model for Germany additionally controls for the sample type (not shown in table).
+ For Russia, the coefficient for cohabiting comes from a separate model built on a sample covering waves 2009 and later because cohabitation was not measured before that (N = 42,153; N of unions = 6,831).
‡ This figure includes those in a second union or more, because the number of third unions was too small for a reliable result.

Table 4 further shows that among women who are not working, there is a difference between the unemployed and those not in the labour force. In all six countries, actively unemployed women have a higher risk of separation than women who are not employed. The odds ratios for unemployment range from 1.35 (0.97–1.88) in Russia to 2.46 (1.35–4.47) in Switzerland, suggesting a positive association. In other words, in terms of their separation risk, unemployed women are more similar to employed women than to those not in the labour force. Given that unemployment is often temporary and that benefits provide a certain degree of economic independence, we interpret this association as supporting the independence hypothesis, although it is not possible to rule out competing interpretations, such as stress effects resulting from unemployment.

Because of the problems associated with left censoring and the omission of union duration, it is important to briefly consider the effects of other independent variables. Many other predictors in Table 4 reveal associations with union dissolution, and these are largely consistent with previous research in the field (Lyngstad and Jalovaara 2010; Härkönen 2014; Wagner 2020). Starting with the most important potential confounders, we observe associations with union type. The odds ratios for separation in cohabiting couples compared to married couples range from 2.48 (2.17–2.83) in the United Kingdom to 3.70 (3.13–4.38) in Australia (and a higher value of 9.38 in Russia), indicating the substantially higher instability of non-marital unions. Similarly, life satisfaction shows a consistently negative association with separation across all countries, in line with notions about the importance of relationship quality for union stability (Sayer and Bianchi 2000; Schoen et al. 2002). Finally, consistent negative associations of household income with dissolution are remarkably similar across countries. The higher the household income, the lower the risk of union dissolution.

Furthermore, we observe some general tendencies, although not across all countries. For instance, higher-educated women have a lower risk of separation than lower-educated women in most countries, with particularly strong protective effects in South Korea. In Switzerland, however, the effects of higher education are reversed. Lower self-rated health tends to increase the risk of dissolution in most but not all countries. Keep in mind that these are associations net of life satisfaction. Being religious also reduces the risk of separation in several countries, with the strongest associations in Switzerland.

The role of children in the household is also addressed in Table 4. Based on previous research, we would expect having young children at home to be negatively associated with separation. We find the expected negative association of children aged 0–4 in four countries but no association in the United Kingdom and the opposite finding in Australia. For older children (aged 5–17), the effects are either absent, positive, or negative, resulting in less consistent findings. We acknowledge that a more appropriate control for union duration in this specific case might help clarify the role of children, particularly regarding the union's tenure when having a first child and the precise identification of the empty nest stage.

To address the role of censoring and the omission of duration, we first compare our findings to a model for divorces in Germany. Using retrospective modules in Germany, we were able to add the duration of the union to the prediction of divorce (Table 5). We observe that there remains a sizable association between employment and divorce in this model, with the full-time coefficient of about 1.63 remaining larger than the part-time coefficient of about 1.3. (Respective values for Germany in Table 4 are 2.02 and 1.47.) Moreover, union duration indeed has effects on divorce, confirming the typical change in the hazard of divorce during marriage, with initial increases and subsequent declines. Finally, and most importantly, none of the coefficients change meaningfully between models with and without union duration, indicating that omitting union duration does not bias the employment coefficients.

Table 5: Event-history models of divorce in Germany with augmented life histories: Odds ratios and p-values

	Model 1	Model 2	Model 3
Marriage year (centred)	1.035*** (.000)	1.020*** (.000)	1.020** (.000)
Marriage year squared	.999*** (.000)	.999*** (.000)	.999** (.000)
Age: centred	.964*** (.000)	.980*** (.000)	.979** (.000)
Age: centred, squared	1.000 (.364)	1.000 (.492)	1.000 (.596)
Education (low = reference)			
Medium	.948 (.493)	.929 (.345)	.928 (.340)
Higher	.803* (.018)	.779** (.007)	.779** (.007)
Household income	1.036 (.628)	1.026 (.728)	1.026 (.724)
Self-rated health (1 = excellent to 5 = poor)	.943 (.077)	.945 (.085)	.945 (.088)
Life satisfaction (0–10)	.750*** (.000)	.756*** (.000)	.756** (.000)
Religiosity	.887 (.087)	.900 (.131)	.903 (.147)
Employment situation (not in labour force = reference)			
Part-time	1.282*** (.000)	1.309*** (.000)	1.308** (.000)
Full-time	1.641*** (.000)	1.616*** (.000)	1.630** (.000)
Unemployed	1.384** (.003)	1.354** (.006)	1.362** (.005)
Children 0–4	.794** (.001)	.789** (.001)	.763** (.000)
Children 5–15	1.238** (.001)	1.283*** (.000)	1.227** (.003)
Duration		.971* (.018)	
Duration squared		1.000 (.860)	
Duration (0 = reference)			
1–2			1.209 (.185)
3–4			1.270 (.113)
5–9			1.179 (.266)
10–15			.906 (.541)
15–19			.930 (.676)
20–29			.613** (.010)
30+			.441** (.001)
Constant	.0482*** (.000)	.0866*** (.000)	.0631** (.000)
Chi-2	1926.3	1939.4	1956.3
N	141,519	141,519	141,519

Notes: Exponentiated coefficients; p-values in parentheses. Data from 1990 onward.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

In Table 6, we present models for unions that began during the panel, focusing mostly on separations occurring early in the union but avoiding left censoring altogether. This also allows us to include information on union duration. The samples are considerably smaller (due to small sample sizes, South Korea and Switzerland are not presented), so we also include pooled models combining all countries, including controls for country. The findings show a pattern of coefficients consistent with Tables 4 and 5. Most of all, the association between employment and separation remains positive, with ORs (for the pooled model) of 1.64 (1.38–2.05) for full-time employment and 1.35 (1.13–

1.67) for part-time employment when contrasted with non-active. (The respective country coefficients in Table 4 range from 1.26 to 2.57 and from 0.88 to 1.62, showing a similar substantive interpretation.)

Table 6: Event-history model for the risk of dissolution for unions starting during the panel: Odds ratios and p-values

	Australia		Germany		Russia		UK		Pooled		Pooled		Pooled (first union)	
	OR	p	OR	p	OR	p	OR	p	OR	p	OR	p	OR	p
Wave's year	.998	.939	.960	.008	.934	.000	1.009	.483	.986	.024	.985	.016	.988	.048
Wave's year (squared)	.997	.451	.998	.033	1.000	.970	.994	.002	.998	.007	.998	.007	.998	.016
Age (25–34 = reference)														
35–44	.978	.923	.732	.056	.938	.764	.633	.003	.837	.038	.814	.016	.792	.009
45–54	.758	.454	.923	.781	.842	.518	.918	.698	.966	.795	.929	.58	.916	.542
55–65	1.273	.628	2.295	.045	.229	.018	.841	.653	.961	.858	.935	.761	1.030	.896
Education (low = reference)														
Medium	1.055	.843	.736	.194	1.116	.670	.830	.263	.847	.132	.849	.133	.825	.087
High	.782	.351	.622	.082	.960	.879	.643	.011	.658	.001	.662	.000	.648	.000
HH income (10 deciles)	.955	.340	.934	.047	.982	.606	.889	.000	.914	.000	.914	.000	.919	.000
Self-rated health (1–5)	.803	.055	1.186	.050	1.159	.292	.972	.665	.975	.571	.975	.562	.972	.534
Religious (0/1)	.927	.671	.841	.273	.580	.025	.863	.230	.953	.549	.946	.486	.955	.571
Employment situation (not in the labour force = reference)														
Actively unemployed	4.406	.000	2.384	.001	1.546	.188	1.916	.014	2.226	.000	2.217	.000	2.361	.000
Employed: part-time	.948	.822	1.870	.003	1.267	.464	1.212	.290	1.349	.006	1.341	.006	1.328	.011
Employed: full-time	1.754	.026	2.473	.000	1.276	.281	1.329	.157	1.641	.000	1.649	.000	1.617	.000
Cohabiting	.701	.172	.417	.000			.533	.000						
Life satisfaction	.500	.000	.685	.000	.731	.000	.727	.000	.670	.000	.669	.000	.676	.000
Kids (no kids = reference)														
Kids in HH: 0–4	3.050	.000	.723	.157	.956	.852	1.031	.857	.995	.961	1.029	.784	.973	.804
Kids in HH: only 5–17	3.087	.000	1.002	.992	1.190	.496	1.468	.031	1.319	.015	1.296	.021	1.310	.020
Kids < 18 not in HH	1.722	.250	.652	.050	1.640	.125	.896	.641	.795	.075	.800	.08	.796	.085
Black vs other							2.218	.017						
Asian vs other							2.594	.000						
Order (first union = reference)														
Second	1.451	.293	2.230	.001	2.196	.019	1.720	.021	2.201	.000	2.182	.000		
Third or more	2.278	.629	9.848	.002					3.439	.085	3.215	.099		
Union duration	.834	.020	.997	.955	.831	.002	.899	.015	1.001	.158			.973	.256
Union duration (squared)	1.008	.055	.999	.550	1.008	.003	1.001	.466	1.000	.559			1.000	.856
Union duration (1 year = reference)														
2 years											.710	.011		
3 years											.592	.000		
4 years											.616	.001		
5 years											.654	.005		
6 years											.605	.001		
7 years											.632	.005		
8–15 years											.630	.002		
16+ years											.546	.006		
Country dummy (Australia = reference)														
Korea									.416	.000	.412	.000	.422	.000
Russia									1.254	.163	1.246	.160	1.205	.260
Switzerland									.947	.781	.951	.793	.916	.656
Germany									.939	.615	.927	.537	.936	.606
UK									1.030	.804	1.024	.839	1.023	.849
N	14,903		25,072		9,338		22,676		88,201		88,201		84,830	
N of unions	1,584		2,534		1,383		2,887		10,133		10,133		9,628	
N of separations	150		286		199		308		1,049		1,049		957	

Notes: The sample is restricted to fully observed unions — that is, unions whose beginning is indicated during the observation window. All other sample criteria are the same as in the main model (Table 4). Two countries are excluded due to insufficient case numbers for reliable results: South Korea (N of unions = 1,245; N of dissolution events = 66) and Switzerland (N of unions = 472; N of dissolution events = 40).

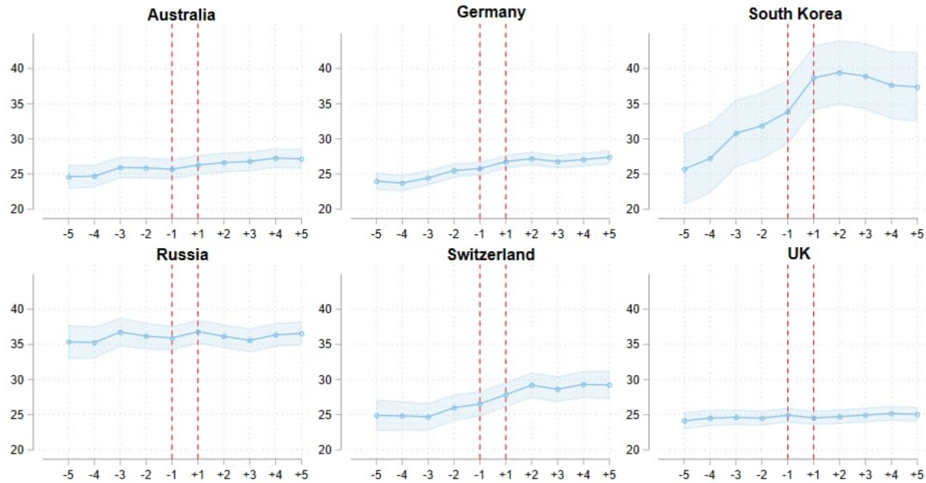
4.2 Trajectory models

Figures 2 and 3 present a trajectory-oriented approach that enables consideration of anticipation and adjustment effects. This approach complements event-history analysis by illuminating the dynamic interplay between employment and separation throughout the dissolution process. Different from the event-history model, the interpretation of trajectory-oriented models in our case relies more on the visual inspection of patterns than on formal statistical tests.

The trajectory models track changes in women's employment over time, with dissolution as the central event (occurring between –1 and +1), allowing us to observe pre-separation trends (anticipation) and post-separation developments (adjustment). The negative values on the horizontal axis indicate the number of years before separation, starting at five years before. The number –1 is the last wave when women were still in their union, and the number +1 is the wave in which separation was first observed. When examining such longitudinal patterns, we focus on the shape, direction, and magnitude of changes across three key periods: the years preceding separation ($t < -1$), the separation event itself (t between –1 and +1), and the post-separation period ($t > 1$). Trajectory models are based on a similar sample and account for period and age effects. The results in the figures are based on random effects models; however, fixed effects models offer identical outcomes.

Figure 2 presents the trajectory of working hours (per week) for women experiencing separation. The first, and perhaps more general, observation from Figure 2 is that, except in South Korea, the dynamics of employment during the separation process are limited. In Russia and the United Kingdom, the line depicting the number of working hours is relatively flat before, during, and after separation. In Australia, Germany, and Switzerland, we observe a slow increase in working hours in the period before separation, which either continues during and after separation (in Australia) or slows down after separation (in Germany and Switzerland). In this case, it appears that Germany and Switzerland are examples supporting the concept of anticipation reflecting declining union stability. In South Korea, a similar pattern is observed but with much stronger dynamics. We see that the slope bends upward between the last wave before separation and the wave in which women are separated and then returns to stability after separation. We regard South Korea as providing the clearest evidence of anticipation and adjustment dynamics: Women increase their employment before separation and accelerate this process immediately after separation, peaking in the post-separation stage.

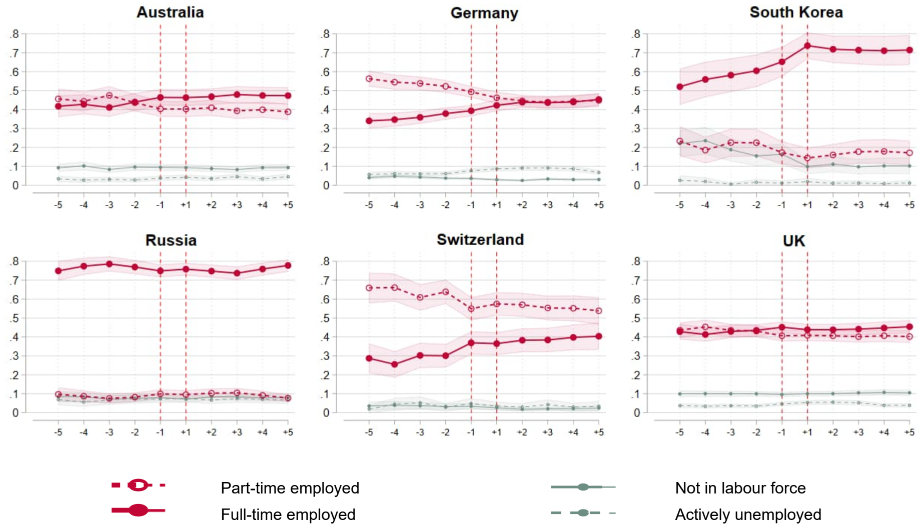
Figure 2: Trajectory of working hours (per week) for women experiencing separation



Notes: Based on random effects model. Union dissolution happens between –1 and +1. Based on a sample equivalent to the analytical sample but including women who are not in a union. Values of working hours predicted for age = 40, period = 2010–2014, children aged 0–4 in household = no, education = medium, religious = yes, health = 4 (good).

Figure 3 focuses on the probability of full- and part-time employment, being conceptually closer to the event-history model. The results show again that there are no dynamics in Russia and the United Kingdom: The share of full-time and part-time employment is stable during the separation process. The pattern in Australia now appears more stable, although there is a slight decline in part-time work accompanied by a corresponding increase in full-time work. Again, the patterns in Germany and Switzerland are more dynamic. Before separation, most women in unions in these countries worked part-time; fewer worked full-time. In anticipation of separation, this pattern changes considerably, shifting from part-time work to full-time work. In Germany, the gap is closed after separation, with as many women working part-time as full-time. In Switzerland, the gap is smaller than before separation, but it does not disappear. Also notable is that the changes slow down considerably after separation, suggesting that the earlier changes were made in anticipation of separation. South Korea, finally, shows the largest dynamics but also a slowdown after separation. The major differences are that the dynamics are larger and that full-time work is dominant throughout the process.

Figure 3: Probability of full- and part-time employment for women experiencing separation



Notes: Based on random effects model. Union dissolution happens between –1 and +1. Based on a sample equivalent to the analytical sample but including women who are not in a union. Values of working hours predicted for age = 40, period = 2010–2014, children aged 0–4 in household = no, education = medium, religious = yes, health = 4 (good).

5. Discussion and conclusion

This study re-examined the relationship between women's employment and separation across six countries, analysing three theoretical mechanisms: independence, anticipation, and adjustment. Using high-quality panel data from Australia, Germany, Russia, South Korea, Switzerland, and the United Kingdom over the 1990–2021 period, we offer a comprehensive analysis of how women's employment and separation interact dynamically across diverse societal contexts. Event-history models served to test the independence hypothesis (whether women's employment affects separation risk). Trajectory analyses employing growth curve models assessed anticipation effects (increases in employment prior to separation) and adjustment effects (increases in employment after separation).

The event-history models provide strong support for the independence hypothesis. Across all six countries, full-time employed women have a higher risk of separation than those not in the labour force, with odds ratios ranging from 1.26 in Australia to 2.57 in

South Korea. Part-time employment is also associated with a risk of separation in most countries, but the coefficients are smaller. Similarly, unemployed women seeking work face a higher risk of separation than economically inactive women. These findings hold after controlling for confounding factors such as household income, education, and life satisfaction. The results are in line with the independence hypothesis but are also consistent with the associated specialization models. For example, men may be more likely to leave a marriage because a full-time working partner does not meet their normative gender expectations of the division of paid and unpaid labour in marriage (Poortman 2005). Our findings do not constitute *causal* evidence for independence and specialization. Employed women may differ in other respects not captured by our control variables (e.g., personality traits), and the effect of employment may therefore reflect, at least in part, preexisting differences between employed and non-employed women. Low life satisfaction is often mentioned in the literature as a confounding variable that biases the estimates of wives' employment coefficients (Özcan and Breen 2012: 470), but this is controlled for in our models. The large-scale national panels provide generality in the evidence and the strength and scope of measurement but few options for identifying causal effects.

The consistency of the evidence for the independence hypothesis across countries with diverse societal contexts (e.g., varying gender norms and welfare regimes) is notable, especially in light of the mixed results reported in earlier studies. While some authors have found higher separation risk among women with greater labour market engagement (Bernardi and Martínez-Pastor 2011; Lyngstad and Jalovaara 2010; Poortman 2005; South 2001; van Damme and Kalmijn 2014), others report insignificant, weak, or inconsistent effects (Cooke et al. 2013; Henz and Jonsson 2003; Jalovaara 2003; Killewald 2016; Ono 1998; Vignoli et al. 2018). One explanation for these differences is that women's employment may raise separation risks primarily in more traditional gender contexts, whereas more egalitarian environments allow women to leave unsatisfactory marriages regardless of their employment status (Blossfeld and Muller 2002; Cooke et al. 2013; Killewald 2016; Lyngstad and Jalovaara 2010; van Damme and Kalmijn 2014). Our findings instead suggest that the economic independence provided by employment enhances women's ability to exit (unsatisfactory) relationships irrespective of the broader gender context, at least in the six countries studied, including the countries with more egalitarian gender norms and higher labour market participation of women (e.g., the United Kingdom and Germany), countries with a high divorce rate (e.g., Russia), and countries with more traditional gender contexts and lower divorce rates (e.g., South Korea). The associations are similar in magnitude for the role of full-time employment (compared with not being in the labour force) across all countries and remain stable under different model specifications. However, South Korea reports somewhat stronger associations whereas Australia reports weaker ones. For part-time employment, we observe a weaker association in general (and no association for two counties Australia). This conclusion aligns with the core logic of independence theory, which emphasises economic autonomy as a key enabler of relationship dissolution.

The trajectory analyses present a more mixed picture. In the United Kingdom and Russia, we observe no notable changes in employment before or after separation. Australia shows similarly modest dynamics. In contrast, South Korea, Germany, and Switzerland (countries with a relatively strong association between employment and the divorce hazard) exhibit evidence of anticipation trajectories, with increases in working hours and shifts toward full-time employment preceding separation. In particular, the strong anticipation effect in South Korea is consistent with its more traditional gender context (Table 1), in which women may need more substantial preparation for financial independence in the event of separation (Fauser and Kim 2022). The continental conservative welfare states of Germany and Switzerland can also be classified as more gender-traditional contexts. Here, the departure from the traditional male breadwinner model has not been fully completed, and gender roles tend to re-traditionalize after marriage or after the first childbirth. The institutional and cultural contexts facilitate such modified (or one and a half) breadwinner models (Ciccia and Bleijenbergh 2014) by creating stronger incentives for women to reduce their labour market participation after becoming mothers (Blossfeld and Drobnič 2001; Kowalewska and Vitali 2023). This re-traditionalization results in increased economic dependence on male partners during marriage. However, when marriages become unstable, women in these regimes face heightened economic vulnerability, which may prompt them to increase their employment in anticipation of divorce. In contrast, in more egalitarian regimes where women maintain relatively stable employment throughout marriage (e.g., the United Kingdom and Australia), such anticipation trajectories are less evident.

Our results also indicate that economic independence in the anticipation phase is typically achieved through transitions from inactivity or part-time work to full-time employment (rather than transitions from inactivity to part-time work). This suggests that the financial self-sufficiency needed to enable separation decisions often requires the income level and stability associated with full-time work, whereas part-time work appears to offer a more limited pathway to economic independence.

In terms of post-separation adjustment, the trajectory models suggest modest employment gains in the years following separation. Although notable shifts appear around the separation itself (particularly in Germany, Switzerland, and South Korea) employment trajectories tend to stabilize shortly afterward, consistent with the anticipation and inconsistent with the adjustment hypothesis. The modest change in employment engagement following dissolution aligns with previous research (van Damme, Kalmijn, and Uunk 2009) and with evidence suggesting that re-partnering remains a more common adjustment strategy than increased employment (DeWilde and Uunk 2008; Leopold and Kalmijn 2024).

Our evidence for the role of women's employment is stronger and more consistent than previously suggested in the literature. There are several reasons for this. First, studies on union dissolution are often constrained by sample limitations, given the rarity of such events and the availability of long panel studies required for longitudinal analysis. Many previous studies suffer from small sample sizes. In contrast, our study uses relatively large samples and long observation periods (covering 1990–2021), which improves the statistical power of the analyses. The combined dataset includes 73,213 women across six countries and a substantial number of separation events, enabling more robust estimates than those in many earlier studies. Moreover, our cross-national design with harmonised methods and measures provides a more comprehensive test of the independence hypothesis across diverse socioeconomic and cultural contexts than do single-country studies.

Second, despite conducting sensitivity analyses and robustness checks, we cannot rule out the possibility that our findings differ from others due to differences in sample design and analytical choices. The problem of result inconsistency due to researcher decisions is increasingly recognised in the social sciences (Aczel et al. 2026; Breznau, Rinke, and Wuttke 2022; Silberzahn et al. 2018) and is particularly salient in complex longitudinal designs. We can identify several critical methodological choices for designing the analytical perspective that may potentially affect outcomes (e.g., by introducing selection bias) and should be considered in future research. Specifically, these choices concern the definition of union (in addition to marriages, our study includes cohabiting partnerships), the inclusion of unions formed before the observation window (which we do), and the definition of dissolution events (in addition to marital dissolutions, we include cohabitation dissolutions). Each decision may affect the results and should be considered and presented clearly. For instance, our approach seeks to maximize the use of available data, but even with long observation windows, we have limited knowledge about the duration of all unions. To address left censoring, we present additional analyses using retrospective marriage data from Germany and data on unions that started in the panel in all countries (except Switzerland and South Korea). These additional findings suggest no bias attributable to left censoring or the omission of union duration. While we acknowledge the limitations of left censoring in our main models, it is also clear that there is a trade-off between left censored prospective data on the one hand and retrospective data without dynamic household income data on the other.

Third, the independence effect can be operationalised in various ways. Our measure of employment status distinguishes between full-time employment, part-time employment, unemployment, and inactivity, allowing for a more refined test of the independence hypothesis. By contrast, some prior studies used dichotomous employment measures (Cooke et al. 2013), grouped the unemployed with the economically inactive (Bernardi and Martínez-Pastor 2011), or focused on working hours (van Damme and Kalmijn 2014), which might have affected their findings. Notably, we find that full-time employment consistently shows stronger associations with separation risk than part-time employment across countries, suggesting that the degree of economic independence matters for separation decisions.

Fourth, the analytical method also plays a role. Our use of both event-history and trajectory analyses illustrates and addresses a key limitation in prior work, which typically focused on a single mechanism. By distinguishing between independence, anticipation, and adjustment effects, our approach provides a more holistic view. While evidence for the independence hypothesis (measured through event-history analysis) is consistent across countries, the anticipation and adjustment patterns (revealed through trajectory models) vary more widely. This suggests that discrepancies in earlier findings may reflect different temporal aspects of the employment–separation relationship.

Finally, results may differ due to the ability to control for confounding variables. Our study benefits from rich panel data that allow us to account for numerous potential confounders often omitted in other studies but known to influence separation, including household income, self-rated health, and life satisfaction. Controlling for household income is particularly important as it helps isolate the role of employment from that of household resources, which tend to stabilise marital situations, as argued by Rogers (2004). Simply stated, failing to adjust for household income may mask the true positive association between women's employment and separation. Women's employment and separation are of course more complex, multifaceted processes influenced by factors not fully captured in our models, such as relationship quality, partner characteristics, relationship history (e.g., prior divorces), and institutional settings. While our inclusion of life satisfaction was an improvement compared to previous designs, data with direct measures of marital quality are still needed to test or control for anticipation directly.

While our findings provide consistent support for the independence hypothesis, this does not contradict well-established evidence that higher socioeconomic status among women is protective against union dissolution in contemporary cohorts (Bastianelli, Guetto, and Vignoli 2024). These seemingly opposing patterns can be reconciled by recognizing that they capture different mechanisms operating at distinct temporal stages. The protective effect of women's socioeconomic status operates at the level of divorce risk: Women of higher socioeconomic status tend to form more stable unions, benefiting from assortative mating and economic security, which reduces the baseline probability of marital breakdown. Our results align with this explanation, as we find that both education and household income (a proxy for socioeconomic status) exhibit a negative gradient in dissolution risk. In contrast, the independence effect we document operates conditionally, among those experiencing marital problems: When dissolution becomes likely, women's employment increases their agency and economic capacity to exit a deteriorated marriage. Further studies could disentangle the sometimes opposing influences of multiple dimensions of socioeconomic status (including education, social class, employment, working hours, and economic resources) in divorce dynamics.

To conclude, this study provides evidence for the independence hypothesis across diverse societal contexts, with more mixed support for anticipation and adjustment. The findings highlight the enduring relevance of women's economic independence, suggesting that greater employment engagement facilitates exit from unsatisfactory relationships even though anticipatory behaviours and post-separation adjustments vary across different cultural and institutional contexts. Past studies have often questioned the associations between women's employment and separation, arguing that such associations depend on context or are at odds with the substantial shift toward more egalitarian gender roles in many countries (e.g., Cooke et al. 2013; Van Damme 2010). While it is plausible that sharing more egalitarian gender roles by partners may facilitate more stable relationships (Goldscheider, Bernhardt, and Lappegard 2015), it is also clear that the negative economic consequences of divorce and separation are persistently gendered (Bröckel and Andreβ 2015). For this reason, the robust association between employment – especially full-time – and separation still points to inequality between women who are able to leave a bad marriage and those who are not.

6. Data and code availability

The analytical code underlying this article is available on OSF (https://osf.io/76rgh/overview) – see instructions in the PDF for details.

The harmonisation code comes from the Comparative Panel File (CPF), version 1.5. It is available at www.cpfdata.com. CPF was created by Konrad Turek, Matthijs Kalmijn, and Thomas Leopold. The initial version of CPF was developed in the CRITEVENTS project (PI: Thomas Leopold) and funded by an ERA-NET Cofund grant within the NORFACE Joint Research Programme on the Dynamics of Inequality Across the Life-course (DIAL), DOI:10.17605/OSF.IO/H3YXQ. For details, see Turek, Kalmijn, and Leopold 2021.

The analyses are based on the following panel datasets: HILDA version 200c, KLIPS version 21, RLMS version 2021, SHP version 22, SOEP version 37, and UKHLS version 10, which are available via the original data collection institutes.

Household, Income and Labour Dynamics in Australia (HILDA) is from the Department of Social Services, Melbourne Institute of Applied Economic and Social Research; doi: 10.26193/3QRFMZ, ADA Dataverse.

The Korean Labor and Income Panel Study (KLIPS) is from the Korea Labor Institute, www.kli.re.kr/klips_eng.

The Russia Longitudinal Monitoring Survey (RLMS) was conducted by the Higher School of Economics (HSE), National Research University; ZAO Demoscope; the Carolina Population Center, University of North Carolina at Chapel Hill; and the Institute of Sociology, Russian Academy of Sciences. RLMS-HSE sites: http://www.cpc.unc.edu/projects/rlms-hse and http://www.hse.ru/org/hse/rlms.

The Swiss Household Panel (SHP) is based at FORS: the Swiss Centre of Expertise in the Social Sciences, supported by the Swiss National Science Foundation, https://forscenter.ch/projects/swiss-household-panel.

The German Socio-Economic Panel (SOEP), EU edition is available at doi: 10.5684/soep.core.v37eu. More information is at https://www.diw.de/en/soep.

The British Household Panel Survey (BHPS) and Understanding Society: The UK Household Longitudinal Study (UKHLS) are from the Institute for Social and Economic Research, University of Essex; UK Data Service SN 6614, http://doi.org/10.5255/UKDA-SN-6614-14.

Some source variables within CPF are based on outcomes of the Cross-National Equivalent File (CNEF; https://www.cnefdata.org). The project is sponsored by the National Institute on Aging (grant 5-R01AG040213-10) and the Eunice Kennedy Shriver National Institute of Child Health and Human Development (grants 1-R03HD091871-01 and 1-R03HD100924-01) and was conducted by The Ohio State University.

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Appendix: Details of the harmonized variables

This appendix presents a more detailed description of the harmonization and preparation process of selected variables.

Dissolution event

This variable indicates the event of dissolution (divorce or separation) in the next wave. It is operationalized as a binary lagged variable. (It refers to events observed in wave t + 1.) It includes three types of dissolutions: formal separation, separation based on information about marital status, and separation based on information about living together. Dissolution equals 1 when a person who was married or living with a partner in wave t is divorced, separated, or not living together in wave t + 1. Dissolution equals 0 if a person is married or living with a partner in waves t and t + 1.

The first step to creating the variable is defining being in a union. Being in a union is defined as living with a partner as married or cohabiting, except in South Korea, where it is defined as living together as married. (There is no information on cohabitation.) A union's span starts with the first observation of a formed union (including unions that started before the observation window) and ends with dissolution (separation or a separation event, not widowhood) or the last observation. Respondents with missing values in union history were dropped, as well as respondents who had never formed a union.

The dissolution variable is missing if a person was in their last observed wave (either because of attrition or because it was the last wave of the survey). Events of a partner's death are excluded in the case of marriages (as widowhood events), but they cannot be assessed in the case of cohabitation. A quick re-partnering between the measurements is not reported in the data. In South Korea, we observe only formal marriages, so dissolution relates to formal divorces or separations.

Available for all countries, with different but corresponding indicators per country.

CPF source variables: mlstat5, mlstat, parstat6, livpart.

Employment status

Current employment status is categorized as employed full-time, employed part-time, actively unemployed, nonactive, or retired. It is based on a five-categorical variable on employment status (emplst5) and employment level (fptime_h). Employment status is created using multiple input variables. Prioritization of statuses is applied, so that, for example, being employed is prioritized over being in education. Statuses include:

1. Employed
2. Unemployed (active)
3. Retired/disabled
4. Not active/home
5. In education

For the analysis, people in education were removed from the sample.

Employment level is based on working hours and a threshold of 35 hours per week. Categories are:

1. Full-time
2. Part-time/irregular
3. Not employed/other

Full-time means working at least 35 hours per week on average (1,820 hours per year). Those working below 35 hours per week were categorized as part-time workers. Individuals not employed were included in category 3. Designations are based on hours worked per week (not hours contracted).

Available for all countries, with different but corresponding indicators per country.

CPF source variables: emplst5, fptime_h.

Education

Education level is harmonized across countries in reference to the International Standard Classification of Education (ISCED). For details, see the CPF Codebook. Missing values were filled in based on information from previous years and/or the next year.

Available for all countries.

CPF source variables: edu3.

Household income

Household income is based on net adjusted disposable income after taxes and transfers. It is included in the analysis as a rank of ten decile groups per country and per year.

First, the top 2% within a country in terms of income was truncated to the level of the 98th percentile. Second, ten decile groups of 10% observation each were created separately for each wave and each country. This provided the variable a relative value, allowing for year-by-year and by-country comparisons. For example, the ranking for the United Kingdom for 2010 is independent from that of the United Kingdom for 2011 and Germany for 2010. A transition between decile groups therefore has a relative character (compared to general income levels per year), independent from inflation and from a country-specific measurement approach.

Third, missing values were imputed using weighted information about previous, next, or mean values. If the previous and next values were available, they were prioritized. If one or both of them were missing, information about the mean value was also used.

Additional imputation was applied for the United Kingdom. Because the net income variable had many more missing values then the gross income variable, we used the latter to fill missing values in the net household income. For this we also ranked gross income into decile groups and used them to fill the net income. (The correlation between them was close to R = 1.)

Available for all countries.

CPF source variables: hhinc_post, hhinc_pre.

Self-rated health

This variable indicates a person's self-rated health status, categorized as:

1. Very bad
2. Bad
3. Satisfactory
4. Good
5. Very good

Missing values were imputed using a sequential approach. The first steps involved using the most reliable information to fill in missing values (e.g., for cases with many observations, one missing value, and constant answers, using previous/next measurement as a direct reference). The last step involved using regression-based imputation for the remaining cases where the information was still reliable. A robustness check showed that the method is consistent with alternative approaches to imputation (e.g., only regression-based).

Available for all countries. All surveys use five-point reversed scales with slightly different labels. (For example, “fair” can be measured as level 3 or 4; the highest level can be “excellent” or “very good”).

CPF source variables: srh5.

Cohabitation

Cohabitation status separates into formal marriages and non-marital unions.

Information on cohabitation is not available for South Korea and Russia before 2009.

CPF source variables: parstat6.

Children

Information on having children is included from the family life course perspective, which means considering the age of children and their presence in the household. It contains four categories:

1. No children: no own children and none in the household (except in South Korea and Russia before 2004, where it indicates no children in the household)
2. Children aged 0–4 present in the household
3. Children aged 5–17 (5–15 for the United Kingdom) present in the household
4. Has children but no children below 18 (16 for the United Kingdom) present in the household (an empty nest stage; not available for South Korea and Russia before 2004)

Before construction of the variable, some missing values were filled in for the any children (children_any) variable: If there is information about having no children (0) in subsequent waves and no contradictory information for the respondent, previous waves have values of 0.

Available for all countries. Due to differences in questionnaires, it is not possible to fully harmonize information about respondents’ children. This limitation applies mainly to the United Kingdom, which has a threshold of 15/16 instead of 17/18. Moreover, in Russia less information was provided before 2004, so information is simplified for these years.

CPF source variables: childrenn_hh15, childrenn_hh17, children_any, youngest_hh.

Life satisfaction

The harmonized variable uses a five-point scale from lowest to highest:

1. Completely dissatisfied
2. Mostly dissatisfied
3. Neutral
4. Mostly satisfied
5. Completely satisfied

For some countries, the original values were rescaled from 0–10 (Austria, Switzerland, Germany) and 1–7 (UK) scales.

• Converting a 0–10 scale into the five-point version:

0 and 1 = 1
2, 3, and 4 = 2
5 = 3
6, 7, and 8 = 4
9 and 10 = 5

• Converting a 1–7 scale into the five-point version:

1 = 1
2 and 3 = 2
4 = 3
5 and 6 = 4
7 = 5

CPF source variables: satlife5.

Religiousness

This variable specifies if the respondent is religious based on whether they have any religious affiliation. Example source questions are "Which of the following best describes your religion?" (Australia) and "Do you belong to a church, religious community or faith?" (Germany). The answers are harmonized with a simplified binary response:

0. Not religious/atheist/agnostic
1. Religious

The harmonized variable has many missing values because in many cases religion-related questions are part of a rotating module and are not available for all survey years. For example:

- Australia: question asked only every third or fourth wave
- Germany: question asked only every fourth or sixth wave
- Korea: many missing values between 1999 and 2009 because question was asked only in 1998
- Switzerland: question asked only every third wave starting in 2009
- UK: question asked every fourth wave or even more rarely
- Russia: question not asked between 2004 and 2010

However, only 18% of respondents have no information on religiousness at all. Since religiosity can be considered a rather stable characteristic, missing values can be imputed using available information. A sequential approach was applied to impute the missing values. The first steps involved using the most reliable information to fill in missing values (e.g., for cases with many observations, one missing value, and constant answers, using previous/next measurement as a direct reference). This allowed for filling in some missing values. However, this was a relatively small number in surveys with large gaps in measurement. Thus in the last step we used a carry-forward approach followed by a carry-backward approach to fill the gaps. Additionally, for Switzerland, we used a regression-based imputation for the cases in wave 2020, which were not filled in with previous steps.

A robustness check showed that the method provides consistent results with alternative approaches to imputation (e.g., only regression-based) and non-imputed models (which have much lower samples, however).

Available for all countries. Items are relatively similar across countries.

CPF source variables: relig.

Racial background

Only the UK reports respondents' racial background. We used categories:

1. Black
2. Asian

3. Other

"Other" includes White, mixed race, and other categories.
CPF source variables: ethn.

Union

Being in a union is defined as living with a partner as married or cohabiting for Australia, Russia, Switzerland, Germany, and the UK. For Korea, it is defined as living together as married. (No precise information on cohabitation is available).

A union's span starts with the first observation of a formed union (including unions that started before the observation window) and ends with the dissolution (separation or a separation event, not widowhood) or the last observation. Respondents with missing values in union history were dropped, as were respondents who had never formed a union.

Available for all countries; generated variable.

CPF source variables: mlstat5, parstat6, livpart_2.

Union's order

The order is defined as the sequential number of the union (first, second, third, and so on) among only observed unions. Numbers for the third union and above (second and above for South Korea) are grouped together due to low counts. The variable does not include non-observed unions (those before the observation window).

Available for all countries; generated variable.

CPF source variables: Based on identified unions, which are constructed using mlstat5, parstat6, livpart.

Working hours (per week)

Due to differences in questionnaires, there are several possible variables indicating the number of working hours — for instance, per week, month, or year. For the analysis, we used the week-based version, which was harmonized when necessary by recalculating information from a different scale (e.g., from month-based information).

Within each country, the top 5% of cases were truncated to the value of 95th percentile. In case of missing values, information was cross-filled using other available data on working hours (e.g., per month). Other missing values were not imputed.

Available for all countries.

CPF source variables: whweek, whmonth.

Marriage duration

Calculated only for unions that are fully observed, which means they start within the observation window (only for respondents who are single and then enter a union).

Available for all countries; generated variable.

CPF source variables: based on identified unions, which are constructed using mlstat5, parstat6, and livpart.