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The effect of unemployment on couples separating in Germany and the UK

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Abstract

Objective: This article examines how unemployment affects the separation risk of heterosexual coresiding couples, depending on couples' household income and whether men or women become unemployed.

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Background: Unemployment may decrease the separation risk as a drop in resources makes separation more costly or it may increase the separation risk if unemployment creates stress and reduces the quality of couple relations. Moreover, unemployment may be more detrimental for couples if men rather than women, or low-earners rather than high-earners, become unemployed.

Method: This article adopts a couple perspective and assesses heterogeneous effects of unemployment on separation based on longitudinal data—large household panels from Germany and the UK using discrete-time event history models.

Results: For both countries, results show that the annual separation rate almost doubles after an unemployment spell: It increases from 0.9% to 1.6% per year. This effect does not vary when men or women lose their job. The separation risk after unemployment is somewhat higher for low-income couples than high-income couples in the UK, but overall differences are small.

Conclusion: Findings show that unemployment does not strengthen unions, but makes them more vulnerable—regardless of which partner becomes unemployed and regardless of a household's economic resources.

KEYWORDS

couples, divorce, employment, longitudinal research, work

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INTRODUCTION

The experience of unemployment has far-reaching consequences for individuals. It not only hampers their work careers and leads to economic insecurity (Ehlert, 2013), but also affects other life domains such as health and subjective well-being (Ervasti & Venetoklis, 2010; Oesch & Lipps, 2013; Price et al., 2002). Moreover, the effects of unemployment often transcend the individual and may upset the whole household (McKee-Ryan & Maitoza, 2018). Our article's question is how unemployment affects the likelihood of separation among heterosexual coresiding couples in two European countries, Germany and the United Kingdom (UK).

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Our article's objective is to assess whether the relationship between unemployment and union dissolution varies by household income and gender. A number of individual-level studies indicate that workers who lose their job are also more likely to separate from their partners (Charles & Stephens, 2004; Doiron & Mendolia, 2012; Eliason, 2012; Hansen, 2005). The dominant explanation is that economic hardship produces uncertainty and stress which may, in turn, decrease the quality of couple relations and increase the risk of union dissolution. Yet, only few studies have explored whether the effect of unemployment on union dissolution varies by the financial resources couples possess. More affluent couples may be protected from financial hardship and hence face a lower separation risk compared with couples who are less well off (Hansen, 2005). Moreover, the impact of unemployment on couples may vary depending on whether it is the man or the woman who loses a job. If the social norm to work is stronger for men, or if men take home a larger share of the household income, their unemployment may create more stress and increase the risk of union dissolution to a greater extent (Gonalons-Pons & Gangl, 2021; Solaz et al., 2020).

Our study makes three contributions to the literature. First, we adopt a couple perspective and analyze whether the male partner's unemployment is more detrimental to union stability than the female partner's unemployment. Second, we add the dimension of social stratification and analyze how household income affects couples' risk of separation when either partner becomes unemployed. Third, we adopt a comparative perspective and contrast the experience of the two most populous countries of Western Europe, Germany and the UK. We do so by estimating event-history regressions based on longitudinal data from two of the world's longest running household panels, the Socio-Economic Panel 1984–2018 for Germany and the British Household Panel combined with Understanding Society 1991–2018 for the UK.

Our article begins by presenting the mechanisms through which unemployment affects the stability of couples. It then distinguishes between his and her unemployment and discusses the possibility of a heterogeneous effect of unemployment on couples, depending on their house-hold incomes. After presenting the data and measures, our results section shows how the separation rate varies after an unemployment spell for different categories. The conclusion compares our results with earlier findings.

THEORETICAL BACKGROUND

The link between unemployment and union dissolution

In the literature, four main mechanisms are distinguished through which unemployment potentially affects union dissolution. First, by decreasing financial resources, unemployment increases the relative cost of a separation and may thus reduce the risk of union dissolution. Second, unemployment may increase the risk of separation by creating stress and thus weakening relationship quality. Third, the association may be spurious and simply reflect selection if some underlying characteristics hamper both job stability and couple stability, and fourth, the causal

association between the two variables may be reversed if the instability following a separation increases the risk of unemployment.

Most evidence at the aggregate level suggests that divorce rates decrease in periods of recessions when unemployment is on the rise—be it in Europe (González-Val & Marcén, 2017; Kalmijn, 2007) or the United States (Amato & Beattie, 2011; Cohen, 2014; Hellerstein & Morrill, 2011; Schaller, 2013). Although Cohen (2014) and Schneider (2017) suggest that there is no strong evidence that divorce rates vary with unemployment rates in the United States, a review article by Raley and Sweeney (2020) concluded that the Great Recession was accompanied by decreasing divorce rates. However, this macro-level association likely obscures what happens at the individual level. Recessions carry with them high unemployment rates, but have also other consequences. For example, the 2008 recession in the United States brought about a steep increase in home foreclosures, which affected more households than unemployment did. This, in turn, increased the costs of divorce for many couples that did not experience job loss (Cohen, 2014).

At the individual level, workers who lose their job may still have a higher likelihood of breaking up. The main mechanism through which unemployment would increase the risk of union dissolution is stress (Aneshensel, 1992; Pearlin et al., 1981), and increased stress may outweigh the increased cost of union dissolution. Becoming unemployed is a stressful life event that tends to depress income, social status, self-esteem, and health (Paul et al., 2018). Moreover, unemployment, and the economic hardship often associated with it, is a major external stressor for the couple dyad, requiring adaptive and problem-solving skills of both partners, to successfully navigate a potential relationship crisis (Karney & Bradbury, 1995; Randall & Bodenmann, 2009). Unemployment has been shown to be a common stressor in a couple and to be related to depressive symptoms in both partners, thereby hampering relationship quality and increasing the risk of separation (Howe et al., 2004). Unemployment possibly also has a signaling effect. It may signal lower value in the labor market, a lower earnings potential and hence reduce an individual's attractiveness as a partner (Boheim & Ermisch, 2001; Charles & Stephens, 2004; Doiron & Mendolia, 2012; Vignoli et al., 2018).

There may be a third and altogether different explanation for the association between unemployment and union dissolution, which is that individuals who lose their jobs are more likely to separate because they constitute a selective group (Anderson et al., 2021). Characteristics such as young age, low education, or working in an unskilled occupation may increase the likelihood of experiencing both unemployment and union dissolution.

Finally, there may be reverse causality. Whereas the stress resulting from unemployment may trigger some couples to separate, for other couples the negative consequences of union dissolution may spill over into the work domain, increasing the risk of unemployment (Covizzi, 2008; Kalmijn, 2005).

The bulk of studies that analyze the relationship between unemployment and union dissolution at the individual level find that workers who lose their job are more likely to separate from their partner. This is the case for Denmark (Jensen & Smith, 1990), Finland (Jalovaara, 2003, 2013), Germany (Franzese & Rapp, 2013; Kraft, 2001), Norway (Hansen, 2005), Sweden (Eliason, 2012), the UK (Boheim & Ermisch, 2001; Doiron & Mendolia, 2012), and the United States (Charles & Stephens, 2004; Yeung & Hofferth, 1998). Interestingly, Anderson et al. (2021) find for the UK that the event of job loss per se does not increase the separation risk in the following year, only the state of being unemployed does.

Given the strong associational evidence that unemployment hampers couple stability, we expect to find that an unemployment episode increases the risk of union dissolution. We try to improve on earlier research by adopting a couple perspective and assessing if the association is present after accounting for selection effects. Hence, our first hypothesis is:

Hypothesis 1 An unemployment spell increases the risk of union dissolution among heterosexual coresiding couples.

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Differences by gender

The risk of union dissolution may depend on whether it is the male or female partner who becomes unemployed, because the experience of unemployment and the consequences may vary by gender. A stronger effect of unemployment on men could be the result of men being more often the main earner in the household. If men take home a larger share of the household income, their unemployment is more consequential for the household's economic security. As a result, unemployment of men may produce more financial stress, put greater strain on the relationship and therefore have a more strongly negative effect on union dissolution (Dew et al., 2012; Jalovaara, 2001; Sayer, 2006).

Employment does not only provide economic means, but also fulfills a number of psychosocial needs, which are socially defined and may vary between individuals (Jahoda, 1982; Strandh et al., 2013). Unemployed individuals with weak psychosocial needs for employment-for example, parents who are involved in other activities such as childrearing-may suffer less negative consequences than unemployed individuals for whom paid employment fulfills a stronger need. The extent to which men and women experience unemployment differently may be linked to their structurally different positions in the family and the labor market (Strandh et al., 2013). Female identity is often perceived as being less dependent on employment, and the female income often serves as a secondary income in the family (Hakim, 1991). A generally stronger identification with work among men, on the other hand, may make the experience of unemployment more detrimental to men's self-esteem and spill over to couple interactions. This effect is further strengthened if being unemployed is seen as reflecting more negatively on men than women (Michniewicz et al., 2014), because the social norm to be in paid employment still tends to be stronger for men than women (Lalive & Stutzer, 2010). In the same vein, one would expect a greater impact of male unemployment on couple stability if men's unemployment goes along with stronger stigma effects and leaves more persistent labor market scars than does women's unemployment (Mooi-Reci & Ganzeboom, 2015).

More generally, if the psychological need for employment is socially constructed, the differential meanings of the unemployment experience for men and women depend on the societal context. The extent of gender equality in work and family likely affects the extent of gender differences in the association between unemployment and union dissolution (Strandh et al., 2013). Gonalons-Pons and Gangl (2021) show that in countries with more prevalent male-breadwinner norms, the male partner's unemployment increases the risk of union dissolution more than does the female partner's unemployment. In a similar vein, unemployment seems to lead to an increase in divorce if witnessed by men, but not by women, in Denmark over the period 1979– 1985 (Jensen & Smith, 1990). However, more recent data for Finland (Jalovaara, 2003) and Norway (Hansen, 2005) suggest for these two increasingly gender egalitarian countries that men's unemployment is no longer associated with a higher risk of divorce than women's unemployment.

The two European countries in our study both display gender inequality on the labor market, with women having less stable jobs with more part-time and marginal employment as well as, on average, lower pay (Dieckhoff et al., 2015). To the extent that social insurance systems tend to favor workers with standard employment contracts, the welfare state reproduces this gender inequality in the labor market. As a result, unemployed women in Germany and the UK are less likely than men to receive unemployment assistance, receive a lower amount on average, and are less likely to exit unemployment to employment (Leschke & Jepsen, 2011). This further marginalizes women's role as wage earners. Considering these gender differences, Journal of Marriage

our second hypothesis therefore expects men's unemployment to be more detrimental for couple stability than women's unemployment in Germany and the UK:

Hypothesis 2 *An unemployment spell increases the risk of union dissolution more if the male rather than the female partner becomes unemployed.*

Differences by household income

Stress has been defined as a condition in which the demands of the environment exceed individuals' resources to cope (Amato & Beattie, 2011. p. 706). A negative life event such as an unemployment spell may produce more or less stress depending on an individual's resources. This suggests that unemployment may have a heterogeneous effect on couple stability—that is, an effect that possibly varies by household income. If couple stability increases with the economic resources that individuals possess, low-income households may be at a greater risk of union dissolution after one of its members becomes unemployed (Hansen, 2005).

Conflicting predictions have been made as to whether consequences of unemployment are harsher for individuals with a higher or a lower socioeconomic status (Paul et al., 2018). On the one hand, individuals formerly employed in higher status jobs may suffer more, because they tend to lose a more attractive workplace, their occupation may be more central to their identity, and they may feel more stigmatized as the event is rare and harder to justify than losing a bluecollar job. On the other hand, individuals formerly employed in higher status jobs may not only have more economic means, but possibly also better coping strategies (Kulik, 2000). To the extent that they also have higher levels of education, they may fall back to educational attainment as an alternative provider of identity.

Empirical findings from meta-analyses suggest that unemployment has more negative consequences for couples with lower income. Notably in terms of mental health and wellbeing, this effect seems clear (Paul & Moser, 2009). More generally, studies assessing how unemployment affects partnerships single out economic hardship as a crucial determinant that increases depression and anxiety in both partners (Price et al., 2002; Weckström, 2012) and thereby negatively affects marital stability (Kinnunen & Feldt, 2004). This leads us to expect that couples with higher income are less likely to separate following unemployment than couples in lower-income households—as formulated in our third hypothesis:

Hypothesis 3 *The experience of unemployment increases the risk of union dissolution more for couples with low household income than couples with high household income.*

Country context

Our analysis compares two countries that have different gender norms and social security systems with respect to unemployment. Having only two countries, we refrain from formulating country-level hypotheses. However, it is useful to review the two key dimensions that affect the stress created by an unemployment spell, namely the generosity of unemployment benefits and the difficulty to find a new job.

With respect to benefit generosity, there is clear evidence that unemployed workers who receive financial support fare better in terms of mental health and life satisfaction than their colleagues who receive only meager benefits or no benefits at all (Wulfgramm, 2014). In line with this finding, a meta-analysis suggests that the effect of unemployment is less severe in countries with stronger social safety nets (Paul & Moser, 2009). Our study includes the German welfare state molded by Bismarck and the British welfare state carrying the imprint of Beveridge

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(Bonoli, 1997). In the Bismarckian logic of corporatism, unemployment benefits are proportional to predisplacement earnings and thus preserve status differences among the unemployed. In contrast, Britain's welfare state has an antipoverty focus and is based on minimum income schemes that mostly pay out flat-rate benefits (Clasen & Clegg, 2011). As a consequence, unemployment benefits are much higher in Germany than the UK, with replacement rates of previous income of 60% in Germany as compared to 34% in the UK (OECD, 2020). Moreover, the duration of entitlement with unemployment insurance is twice as long in Germany (12 months) as in the UK where it is limited to 6 months (OECD, 2020). Unemployed individuals in the UK thus depend to a greater extent on means-tested benefits such as the jobseeker allowance (Clasen & Clegg, 2011).

Weaker income protection in the UK may be partly compensated by a more dynamic labor market that offers unemployed workers better prospects of quickly returning to a job. The British labor market has, comparable to the United States, high turnover rates and a strong culture of hire-and-fire that results in less long-term unemployment (DiPrete et al., 1997). Figure 1 shows that the unemployment rates did not differ much over the last two decades in our two countries. However, the incidence of long-term unemployment was substantially lower in the UK than in Germany. Almost half of the unemployed in Germany spend more than a year on unemployment, but this is the case only for a fourth in the UK (OECD statistics, https://stats. oecd.org/).

With respect to the position of women in the labor market, female part-time employment is more common in Germany. Germany also has a larger gender pay gap than the UK (Leschke & Jepsen, 2011). At the same time, part-time positions tend to be of better quality in Germany, which means that wives' part-time jobs are usually more stable in Germany than the

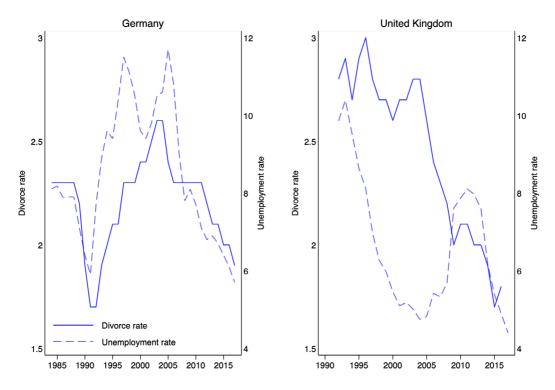


FIGURE 1 Divorce rate (left-hand panel) and divorce rate (right-hand panel) in percentage, Germany and the United Kingdom. *Source*: Eurostat

UK (Cooke & Gash, 2010). In a rank-ordering of countries based on increasing strength of the male breadwinner norm, the UK comes 8th and Germany 12th out of 29 Western countries (Gonalons-Pons & Gangl, 2021, p. 15). Both nations are more conservative than the Scandina-vian countries, but less conservative than the Mediterranean and Eastern European countries.

Institutions may not only leave their imprint on our treatment variable of unemployment, but also on our outcome variable of couple stability. However, Figure 1 again suggests that the divorce rates vary little between the two countries. The UK used to have a much higher divorce rate in the 1980s and 1990s than Germany. However, since the early 2000s, its divorce rate has declined continuously and by the 2010s, the UK had a slightly lower divorce rate than Germany. In 2016, the number of divorces per 1000 inhabitants was 1.8 in the UK and 2.0 in Germany (OECD, 2019, p. 4). With respect to the total share of adults who were cohabiting, married, or in registered partnerships, we find again similar proportions. In 2011, it applied to 63% of the adult population in Germany and 61% in the UK (OECD, 2016, p. 2). While marriage is somewhat more widespread in Germany, more couples are cohabiting in the UK. Yet differences are small, with 53% of the adult population being married in Germany as compared to 48% in the UK (OECD, 2016, p. 2).

This comparison suggests that the mechanisms at play in union creation and dissolution may be similar in the two countries. Still, income protection is much lower and paid out for a shorter period in the UK than Germany. This leads us to expect that an unemployment spell creates more stress and economic hardship in the UK, notably for low-income households.

METHOD

Data and analytical sample

Our analyses are based on household panels that provide yearly data on individuals and households: the Socio-Economic Panel 1984–2018 (SOEP) for Germany and the British Household Panel Study (BHPS) combined with Understanding Society 1991–2018 (UKHLS) for the UK. These household panels interview all household members of a certain age and thus gather information from both partners directly.

We constructed a couple-year data set. Our analytical sample includes all heterosexual couples at risk of experiencing unemployment in which the older partner is in the age range from 25 to 64. We restricted the analysis to couples where the two partners were observed as living in the same household for at least two waves, where at least one member had been in the labor force for 1 year and for which valid dates of union start were available. This means that we excluded (a) 5703 (UK) and 8252 (DE) observations from couples who appeared in one wave only, (b) 2491 (UK) and 1835 (DE) observations of couples who were out of the age range, and (c) 47,811 (UK) and 61,402 (DE) observations of couples without at least one working partner with at least 1 year of tenure. Further, only in Germany, 108,854 observations were dropped because a valid union duration was not available. Couples are observed for an average of 7.6 years in BHPS/UKHLS and 9.1 years in the SOEP. Note that our event-history model takes the right-censoring of data into account.

Our dependent variable is the separation of heterosexual couples who are cohabiting or married over a period of several years. Respondents report annually on the presence of a partner in the household. We considered a couple to be separated when one partner left the household. Couples were excluded from the analysis after they experienced widowhood.

Our implicit control group consists of couples who did not experience unemployment at the same point in time. These couples contained either two continuously employed partners or one continuously employed partner with another economically inactive partner.

Our key independent variable is an unemployment spell, defined as moving from employment to unemployment by either partner in the couple. In the SOEP, individuals reported their monthly employment status in the yearly interview. In BHPS and UKHLS, personal questionnaires reconstruct the work activity of respondents at the time of the interview as well as any labor market spell that began after the interview of the previous year. We included all unemployment spells in our analysis. As a robustness test, we show how results change when unemployment was defined as lasting at least 4 months or being caused exclusively by redundancy or dismissal (in the UK) and firm closure or employers' decision (in Germany). Unemployment spells spanning over multiple survey waves (e.g., t and t + 1) were assigned to the first year of occurrence (Year t).

For the analysis of heterogeneous effects by income, we stratified our analytical sample into three hierarchically ordered income terciles. These terciles are based on post-government household income measured 2 years before the beginning of an unemployment spell. Household incomes were deflated with the consumer price index and adjusted for household size using the OECD equivalence scale (a weight of 1 for the respondent, 0.5 for other adults, and 0.3 for children).

Tables S1 and S2 provide descriptive statistics and show that 27% of couples experienced an unemployment spell in the UK as compared to 25% of couples in Germany. Fifteen percent of couples separated in the UK as compared to 13% of couples in Germany.

Control variables

The control variables include the age of both partners, each partner's education (in Germany: ISCED 1–2, 3–4, 5–6; in the UK: lower secondary/no qualification, upper secondary-GCSE/ A-level, degree/higher education), and occupation (in Germany: ISCO major groups 1–2, 3, 4, 5, 6–8, 9; in the UK: managers and professionals, intermediate, lower supervisory and technical, semiroutine and routine, other/nonspecified). On the couple level, we further added controls for the survey year, for children in the household as well as for children born in prior unions, marital status (cohabiting vs. married), couples' total income (the sum of partners' earnings, pensions, and other benefits), labor force participation (one partner is economically active vs. both partners are active) and for a previous experience of unemployment.

As assortative mating possibly increases a couple's stability (Boertien & Härkönen, 2018; Matysiak et al., 2014), we further controlled for the difference in partners' age (age difference between -2 and 2 years, woman more than 2 years older, man more than 2 years older) and used a dummy variable that indicates the same or a different level of education. Being unemployed during an economic downturn could be associated with a more difficult job market and affect partnership stability more negatively because of greater uncertainty on future economic prospects (Solaz et al., 2020). We thus captured the macroeconomic situation of the local economy with the unemployment rate in the region of residence (measured at the level of Europe's major socioeconomic regions, the so-called NUTS-1). All regressors were measured with a time lag to prevent reverse causality (for full descriptive statistics, see Tables S1 and S2).

Model

We estimated the impact of a partner's unemployment on a couple's risk of dissolution using a discrete-time event-history logit model that takes into account right-censoring. The model looks as follows:

$$\log\left(\frac{p(Y)_{jt}}{1-p(Y)_{it}}\right) = \boldsymbol{\gamma}(t) + \beta \boldsymbol{X}_{j}(t) + \boldsymbol{v}_{j} + \boldsymbol{\varepsilon}_{jt},$$

where Y is a dichotomous indicator for the union status of a couple j (0 = intact; 1 = dissolved) at time t and $p(Y)_{jt}$ is the probability of a union separation during interval (t, t+1). t represents the time in the union and $\gamma(t)$ is a function of time, which in this model is a set of dummies for union duration (up to 2 years, 3–4, 5–6, 7–8, 9–10, 10–15, 15–20, 21+). As mentioned above, our specification linked the probability of dissolution in t with control variables measured at t-1. $X_j(t)$ is a vector of covariates that potentially vary across unions and time. Here, our key independent variable was the one keeping track of a partner's unemployment by capturing the period that preceded and followed an unemployment spell. This categorical variable distinguishes between the following situations: no unemployment, 2 years before unemployment, 1 year before unemployment, year of unemployment. By capturing the period preceding the episode of unemployment, we were able to assess if there is any anticipatory effect of unemployment. v_j captures unobservable couple-level characteristics, and ε_{jt} in an idiosyncratic error.

In the models used for the main analysis, we assumed random effects independent of the covariates and couple-specific time-invariant unobserved effects. However, there is a possibility of unobserved time-invariant characteristics such as individuals' personalities that are correlated both with the quality of one's union and one's risk of unemployment. We therefore provide a robustness check by estimating a fixed-effect event-history discrete time logit model that we combined with matching (see Appendix B in Supporting information). We used coarsened exact matching and created an explicit control group of couples who did not experience an unemployment spell, but who presented the same risk factors for unemployment. This provided us with a difference-in-differences model which compared the separation rate over time between couples who experienced unemployment and comparable couples who did not. The results of this more complex model are shown in Appendix B in Supporting information and lead to identical conclusions as the more straightforward model discussed above.

RESULTS

We tested our first hypothesis by examining whether a spell of unemployment increases the risk of a subsequent union dissolution. The estimates are presented in Figure 2 for Germany and the UK. The left-hand side of each graph shows the predicted annual risk of separation for couples who did not experience an unemployment spell and the right-hand side shows the separation risk for couples where either the male or female partner had experienced an episode of unemployment. These predicted probabilities are based on event-history models (for the regression tables, see Tables S4 and S5).

These estimates show that couples who do not experience unemployment have a predicted separation rate of around 0.9% per year. Consistent with the descriptive statistics discussed above, the two countries in our study show very similar separation rates, with slightly less than one out of hundred cohabiting or married couples separating every year.

Our main interest lied in the right-hand side estimates that show the risk of separation for couples where either the male or female partner experienced a spell of unemployment. In both countries, this group's separation rate in the 2 years before an unemployment spell was not any different from the separation rate of the couples not affected by unemployment. This suggests that the couples initially showed the same propensity to separate, regardless of whether they eventually did or did not experience an unemployment spell. In other words, they were fully comparable prior to an unemployment spell.

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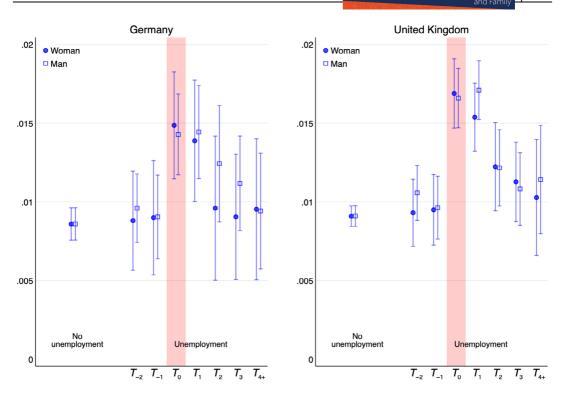


FIGURE 2 Predicted annual probability of separation for couples by men's and women's unemployment. Data: BHPS 1991–2008, UKHLS 2009–2018; SOEP 1984–2018. Unemployment: couples where one partner experienced an unemployed spell. No unemployment: couples where no partner experienced an unemployment spell. Tests for male– female difference are not significant at p < .10

Once a partner became unemployed, the risk of union dissolution increased substantially in both countries, amounting to 1.5% and 1.7% in the 2 years following an unemployment spell (t_0 and t_1). However, the disruptive effect of unemployment on couple's stability was limited to the year when the unemployment spell began and the subsequent year, before waning and being no longer statistically significant in the subsequent 2 years. This result supports our first hypothesis that an unemployment spell increases the likelihood of separation, but the effect is limited in time.

We then turned to our second hypothesis, which expects a more negative impact of men's than women's unemployment on couple's stability. Figure 2 distinguished whether a couple was affected by the unemployment of the male or female partner. In Britain and Germany, the point estimates suggested that the risk of union dissolution increased to the same extent for men's and women's unemployment. Contrary to our expectation, an episode of unemployment was not any more disruptive if it concerned the male rather than the female partner of a couple. There are no significant gender differences and we need to reject our second hypothesis.

We tested our third hypothesis by assessing whether the effect of unemployment on separation rates varied by household income. Results are shown in Figure 3 and present the predicted annual separation rates for the couples in the control and treatment group by income tercile. For these stratified analyses, our samples were too small to distinguish whether it was men or women who became unemployed (for the regression tables, see Table S6).

Among couples that did not experience an unemployment spell, we observed in Germany and the UK the income gradient of union dissolution reported in the literature for educational groups (Härkönen & Dronkers, 2006; Kalmijn & Leopold, 2021; Musick & Michelmore, 2018):



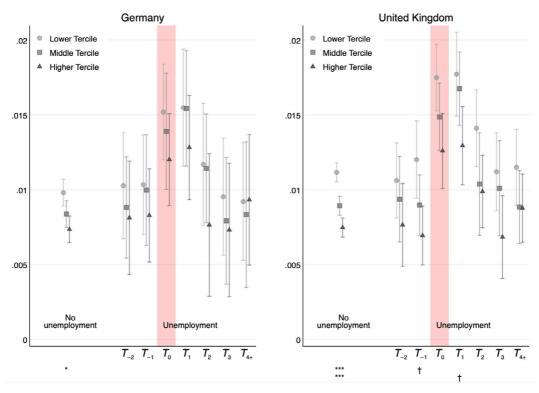


FIGURE 3 Predicted annual probability of separation for couples by household income tercile. Data: BHPS 1991–2008, UKHLS 2009–2018; SOEP 1984–2018. Unemployment: couples where one partner experienced an unemployed spell. No unemployment: couples where no partner experienced an unemployment spell. The first row of significance tests under the *x*-axis is between the lower and middle tercile. The second row of significance tests under the *x*-axis is between middle and higher tercile. Significance tests: $^{\dagger}p < .05$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

Couples in the lowest income tercile had systematically higher risks of separation than couples in the middle tercile, which in turn had a somewhat higher risk of separation than couples in the top income tercile. While the contrast was larger in the UK than in Germany, it was sizable in both countries as the separation rates of low-income couples were almost twice as large as those of high-income couples in the UK, and they exceeded those of high-income couples by a third in Germany.

Among couples where one partner eventually experienced an unemployment spell, the separation rates by household income initially showed the same pattern as among couples where no partner experienced unemployment, with low-income couples having higher risks of union dissolution than mid- and high-income couples. Once these couples were hit by unemployment, the separation rate increased proportionately for all three income groups. This suggests that low-income couples faced a higher risk of separation before and after an unemployment spell when compared to mid- and, above all, high-income couples. This was notably the case in the UK where we had a larger number of observations and thus obtained smaller confidence intervals. However, there was no disproportionate increase in the separation rate of low-income couples in either Germany or the UK relative to high-income couples that had experienced an unemployment spell. The interaction effects between income tercile and unemployment were small and not statistically significant (see Table S7).

These results do not lend support to our third hypothesis which expected low-income couples to be more vulnerable after an unemployment spell because they are likely to have fewer financial resources to cope with stress. Our evidence suggests that while low-income couples were more likely to separate in general—before and after an unemployment spell, the disruptive effect of unemployment was felt to a similar extent by all three income groups.

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ROBUSTNESS TESTS

We performed a series of robustness tests and further tested the possibility of a differential impact by gender. Our theoretical expectation of a more disruptive effect of male than female unemployment was based on the assumption that men provide, on average, more income to the household than women. However, if the male and female partner in a couple earn similar amounts of money, a man's spell of unemployment may not be as disruptive because it does not lead to as dramatic a shift in economic circumstances—contrary to unemployment afflicting the main earner (Sayer, 2006, p. 387). We tested this assumption by distinguishing whether an unemployment spell was experienced by a partner who was the couple's main earner, defined as earning more than 55% of the couple's work income in the year preceding the episode of unemployment. Results indeed suggest that a spell of unemployment may be more disruptive if it is experienced by the couple's main earner (see Figure A1). In both Germany and the UK, separation rates were 0.2–0.5 percentage points higher if the main earner became unemployed—an effect that is not negligible given the baseline separation rate of about 1%. However, confidence intervals are large and dissuaded us from drawing strong conclusions.

We also expected a larger impact of his than her unemployment based on the idea that unemployment may be more detrimental to men's social status and identity than women's, notably in contexts where gender roles are traditional and the male breadwinner norm dominates (Gonalons-Pons & Gangl, 2021; Poortman, 2005). We tested this idea by dividing the German and the British data into two periods of identical duration: 1991–2004 and 2005–2018. If gender norms have become less conservative over time as is suggested by survey evidence (Knight & Brinton, 2017), then men's unemployment may have been more detrimental than women's unemployment to couple stability in the earlier time period, but possibly no longer in the later period. Our analysis confirmed this expectation (see Figure A2). While we did not observe any difference for the later period 2005–2018, men's unemployment was systematically more disruptive for couples than women's unemployment in both countries in the earlier period 1991–2004. The additional separation risk after men's unemployment amounted to between 0.2 and 0.3 percentage points. While this effect was sizable, confidence intervals were large, partly due to the smaller subperiod samples.

In a further robustness test, we differentiated married and cohabiting couples. We stratified our sample by couples' union status which we measured with a 1-year time lag in order to reduce endogeneity. The results confirmed that cohabiting couples face a higher risk of dissolution relative to married couples (see Figure A3). However, after an unemployment spell, the separation rate increased substantially for both groups. Cohabiting and married couples were thus affected in a similar way by unemployment. Cohabiting unions simply had a higher baseline separation risk to begin with.

Another source of doubt may be that many unemployment spells were of short duration and thus socially and financially less consequential. We re-estimated our model by only including unemployment spells that lasted 4 months or longer. Once we excluded short and possibly inconsequential unemployment episodes, we found exactly the same pattern over time, but the effect size became slightly larger (see Figure A4). In both countries, spells of unemployment that lasted at least 4 months increased the risk of union dissolution by half, pushing the separation from 1% to 1.5% per year. However, it did not matter whether unemployment was experienced by the male or female partner of the couple.

A further concern was that some couples may have decided to let one partner's employment contract end on purpose in order to improve their work–life balance. We tested this assumption of "voluntary" unemployment by only including those unemployment spells that were "involuntary" and caused by either "redundancy" or "dismissal" in the UK (as in Upward & Wright, 2017) and "firm closure" or "employer's decision" in Germany (as in Kassenboehmer & Haisken-DeNew, 2009). When only considering these unemployment spells that are less driven by individuals' agency, we found that unemployment became more disruptive for couples (see Figure A5). In both Germany and the UK, separation rates were almost twice as high if unemployment was due to firm closure, redundancy or employers' decisions. Hence, once we only included unemployment spells that clearly involved the involuntary loss of one's job, the effect of unemployment on couples became more disruptive—regardless whether men or women were the victim of job displacement.

In a last robustness test, we examined how our individual-level results relate to findings that rising aggregate unemployment rates reduce separation rates. We did so by exploiting regional variation in unemployment over time (Amato & Beattie, 2011; Cohen, 2014; González-Val & Marcén, 2017). We calculated our dependent variable—the region-specific separation rate of coresiding couples in Germany and the UK—based on our panel data, while we obtained from Eurostat the values of the independent variable—the regional unemployment rates. This allowed us to estimate a regression model on 16 German *Bundesländer* and 12 British regions over a period of 26 years (1992–2017). Consistent with earlier studies that use a similar design, our analysis based on region fixed-effects suggested that rising unemployment rates were associated with falling separation rates in Germany and the UK (see Table S1). This indicates that the seemingly contradictory findings on the micro- and macro-level are not mutually exclusive. Rather, it is an ecological fallacy to draw individual-level conclusions from the macro-level association between unemployment rates and separation rates.

DISCUSSION

Our study raised the question of whether the experience of unemployment increases or decreases the risk of separation. If one of the main benefits from living in a partnership stems from shared consumption and insurance against adverse life events, unemployment should reduce the risk of separation. In contrast, as unemployment creates economic uncertainty and mental stress, it may decrease relationship quality and increase the risk of breakups. Finally, the relationship may be spurious and driven by the selection of the same individuals into both unstable work situations and unstable partnerships, or may go into the opposite direction with separation leading to an increased risk of unemployment (Anderson et al., 2021). We adopted a couple perspective to answer this question for Germany and the UK, using event-history regression on longrunning panel data sets. Four main findings are noteworthy.

First, our estimates clearly showed that unemployment increases the risk of separation in the two countries. The separation rate increased by 0.5 percentage points—from below 1% to above 1.5%—in the 2 years following an unemployment spell. The experience of unemployment thus increased the risk of the couple breaking up by 50%. Our results are in line with earlier studies for Sweden (Eliason, 2012), the UK (Doiron & Mendolia, 2012), and a host of Western countries (Gonalons-Pons & Gangl, 2021; Solaz et al., 2020) which all find that unemployment increases the risk of divorce. However, our findings run contrary to the results provided by Charles and Stephens (2004) who did not find for the United States any significant effect on divorce after plant closure. The decisive event may thus not be losing one's job, but spending time in unemployment—and as long as job loss does not lead to unemployment, it may not increase the risk of union dissolution (Anderson et al., 2021).

Second, our panel regressions showed that partnerships were equally affected by men and women's unemployment over the last decade. In Germany and the UK, the risk of separation

was no larger for couples where men became unemployed than for couples where women became unemployed. Our results are consistent with the notion that where support for the male-breadwinner norm is weak, men's and women's unemployment is equally likely to lead to union dissolution (Gonalons-Pons & Gangl, 2021). In this sense, results for Germany and the UK over the last decade echo those of the Scandinavian countries with no gender difference in the impact of unemployment on union dissolution (Eliason, 2012; Hansen, 2005). However, in the 1990s and early 2000s, men's unemployment used to be more detrimental to couple stability than women's unemployment in Germany and the UK. Moreover, in both countries today, an unemployment spell appears to be more disruptive for couples if it is experienced by the main earner—the breadwinner—than the secondary earner.

Third, our analysis only partly confirmed the existence of heterogeneous effects by household income. We expected that unemployment would increase the risk of dissolution to a greater extent for couples with low than high household income, based on the argument that having more financial resources reduces the economic uncertainty and mental stress associated with unemployment. Yet our results suggested that couples in lower-income households were in general more likely to separate than couples in high-income households, both before and after an unemployment spell. Our analysis thus raised doubts on the existence of heterogeneous effects of unemployment on union dissolution.

Fourth, our study provided surprisingly similar findings for Germany and the UK. Consistent with the similarity in partnership prevalence and divorce rates, the two countries showed comparable separation rates for couples having lived together for at least 2 years: close to one out of hundred coresiding couples in our control group separated every year. Couples affected by unemployment showed a similar increase in their separation rate in the both countries, with an additional risk of half a percentage point. Hence, rather than unearthing cross-country differences, our comparison points to a microlevel mechanism that looks much alike in the two largest West European countries. Despite more generous unemployment benefits in Germany, the experience of unemployment was almost—but not quite—as destabilizing for couples in Germany as in the UK. This suggests that it is not solely reduced financial resources that turn unemployment into a stressful and potentially disruptive event.

What do our result imply for family sociology? The key message is that rather than pulling couples together, unemployment makes couples more vulnerable—regardless which partner becomes unemployed and regardless of a household's economic resources. Our results also provide a tentative answer to the micro–macro puzzle of how unemployment affects couples during a recession. While the minority of people who become unemployed are a greater risk of union dissolution, the majority of people who do not become unemployed are less likely to get separated during recessions when aggregate unemployment rises. While the former effect is clearly visible at the microlevel, the latter effect dominates at the macro-level.

Moreover, as the role of women on the labor market is changing, so are the consequences of female unemployment on the risk of union dissolution. We may thus observe a shift away from a traditional gender equilibrium where men's employment was the primary pillar of union stability to a new and more egalitarian gender equilibrium where both partners' labor market involvement fosters union stability (Esping-Andersen et al., 2013).

We see two fruitful avenues for future research that addresses some of the limitations of our analysis. First, our study provides inconclusive evidence on heterogeneous causal effects of unemployment on couples by income. However, future studies with larger samples, notably national register data, may well unearth links between social stratification, unemployment, and couple stability that our analysis missed because of the comparatively small number of couples experiencing unemployment in our panel surveys. Second, we possibly overestimate the detrimental effect of female unemployment on union dissolution if we mainly focus on women holding stable jobs and miss many women working in marginal jobs who drop out altogether from the labor force after job loss—a transition that our analysis does not capture. In this sense, the

jury may still be out as to whether women's unemployment really has become as consequential for union stability as men's unemployment in contemporary Germany and the UK.

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APPENDIX: ROBUSTNESS TESTS

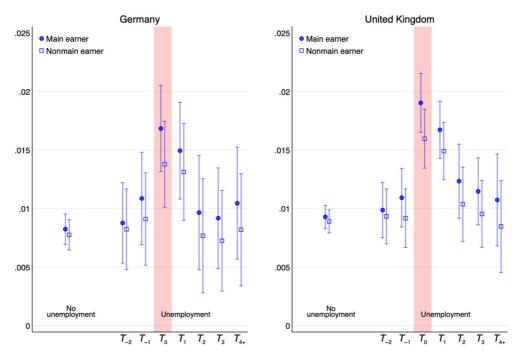


FIGURE A1 Predicted probability of separation for couples—unemployment spells distinguished for main earners (>55% of couple's labor earnings) and nonmain earners

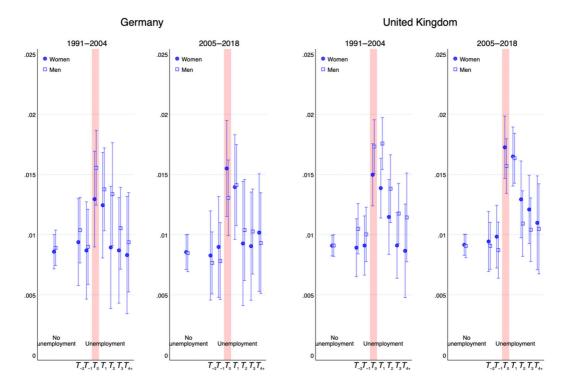


FIGURE A2 Predicted probability of separation for couples—unemployment spells in earlier and later period



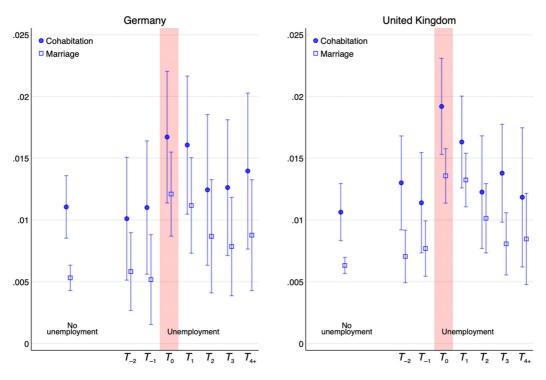


FIGURE A3 Discrete-time event-history logit models on the predicted annual probability of couples separating by marital status

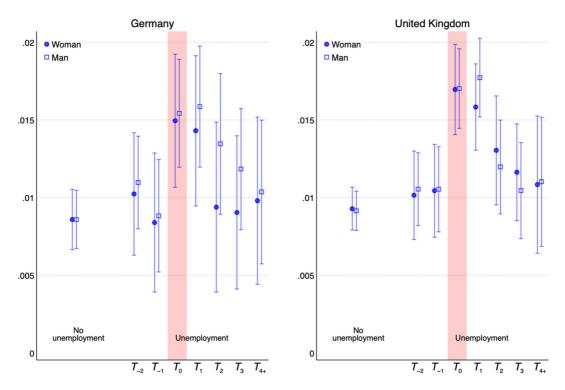


FIGURE A4 Predicted annual probability of separation for couples (in percentage) by gender of the unemployed partner—only unemployment spells of at least 4 months

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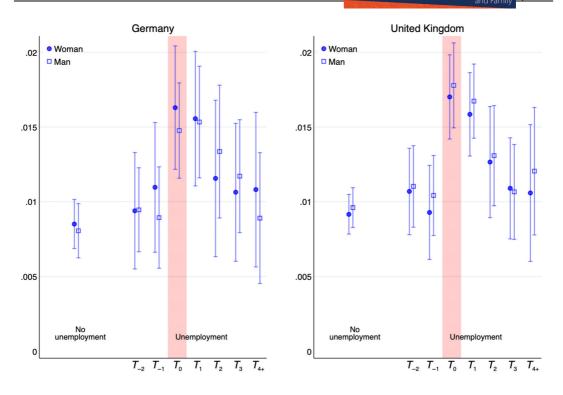


FIGURE A5 Predicted probability of separation for couples—unemployment defined as redundancy or dismissal (United Kingdom, 1991–2018), firm closure or employer's decision (Germany, 1991–2018)