Does the relationship between personality and divorce change over time?

A cross-country comparison of marriage cohorts

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1

Abstract

In this paper, we investigate how associations between personality traits and divorce have changed over time. Competing hypotheses are derived based on social exchange theory, crisis theory, and changing selection into marriage. A combination of retrospective and prospective data on marriages contracted between 1972 and 2009 is used from the British Household Survey (N = 4169), the Divorce in Flanders study (N = 4377), and the German Socio-Economic Panel (N = 8155). Discrete-time event history models are estimated to look at changes over time in the associations between the 'Big Five' personality traits and divorce. The results show generally similar associations between divorce and personality traits across Britain, Flanders and Germany, and display relatively little change over time. Divorce seems, in general, to have become characterized less by people who behave in unconventional ways (high openness to experience) and, to some extent, more by people that do not keep up social relations as much as others (low conscientiousness). These results suit predictions derived from a social exchange perspective best, where traits related to external barriers to divorce are expected to become less important as divorce becomes more common and less costly in social, legal and economic terms.

Keywords

Demography, Divorce, Family, Marriage, Personality, Social Context

A central question within studies on divorce has been whether and how determinants of divorce have changed over time (Amato, 2010; De Graaf and Kalmijn, 2006; Dronkers and Härkönen, 2008; Härkonen and Dronkers, 2006; Kamp Dush et al., 2003; Liefbroer and Dourleijn, 2006; Matysiak et al., 2013; Teachman, 2002). These studies have provided important indications about the changing importance of personal characteristics in the process of divorce. For example, the association between female education and divorce has reversed from being positive to negative in many countries; arguably due to a decreasing importance of resources needed to overcome barriers to divorce (Goode, 1962; 1963; Härkonen and Dronkers, 2006; Matysiak et al., 2013). Whereas such studies have monitored the (non)changing associations between most commonly known predictors of divorce such as age at marriage, children, premarital cohabitation, parental divorce and employment (De Graaf and Kalmijn, 2006; Dronkers and Härkönen, 2008; Kamp Dush et al., 2003; Teachman, 2002), personality traits have not yet been studied from this perspective.

Many small sample psychological studies have found personality traits to be related to relationship quality and divorce risk (Claxton et al., 2012; Donellan et al., 2004; Heaven et al., 2006; Huston and Houts, 1998; Karney and Bradbury, 1995; Noftle and Shaver, 2006; Robins et al., 2000). More recently, these findings have been confirmed by studies that used large-scale representative longitudinal surveys to look at the probability of experiencing a divorce (Blazys, 2009; Lundberg, 2010; Solomon and Jackson, 2014). The availability of representative data on personality traits enables us to answer our central question: Do the associations of personality traits with divorce change over time?

We derive expectations about how personality traits could affect divorce differently across time by discussing different perspectives from the family psychology literature. We subsequently select three countries that differ on relevant characteristics such as welfare provisions, labor market, and gender egalitarian behavior within couples, but that are all

3

expected to have experienced important changes in terms of family life during the time periods studied. We select marriages formed between 1972 and 2009 from the British Household Panel Survey (BHPS) N = 4 169 (60 811 person-years), the Divorce in Flanders (DiF) study N = 4 377 (80 381 person-years), and the German Socio-Economic Panel (SOEP) N = 9017 (151 496 person-years). Besides a rich set of socio-economic and demographic variables these nationally representative surveys also contain measures of the personality factors labeled the 'Big Five': Agreeableness, Conscientiousness, Extraversion, Neuroticism and Openness to experience. The results of the analysis show that the positive effect of Openness to Experience appears to have weakened over time, an expectation in line with a social exchange perspective where traits related to barriers to divorce become less important as divorce spreads.

Personality traits in social demographic research

Personality research is a sub-field of psychology, and has used personality traits to explain variation in individual behavior. Personality traits, on which this article focuses, are consistent patterns of behavior that are seen as stable, internally caused, long lasting, and observable in a wide range of situations (Barenbaum and Winter, 1999; John and Srivastava, 1999). They contrast with 'states', which are seen as temporary, brief, and externally caused (John and Srivastava, 1999), and 'motives'. Motives are the goals one wants to achieve, and therewith provide an explanation for behavior. However, for a given motive there are a large range of behaviors that could lead to fulfilling such a goal (Barenbaum and Winter, 1999). Personality traits, in contrast, predict particular behavior in a variety of contexts. Personality traits are conceptualized as being stable over the life course and empirical studies have shown that traits are stable during adulthood. But, some variation exists before reaching that age

(Conley, 1985; McCrae and Costa, 1990; Pedersen and Reynolds, 1998; Cobb-Clark and Schurer, 2012) and impacting life events can affect personality in later life (Costa et al., 2000).

How can personality be integrated into social demographic research? Personality traits have been shown to predict a wide range of behaviors ranging from educational attainment, to leadership skills and divorce (Judge et al., 2002; Blazys, 2009; Lundberg, 2013). Given a certain situation and context, personality traits could explain why people make different decisions even though other characteristics might be similar. In that manner, personality traits can be seen as a disposition for a certain way of behaving. For instance, when individuals are faced with the decision to leave a marriage, personality traits related to following social norms (e.g. conscientiousness), or looking critically at possibilities (e.g. openness to experience) could underlie variation in the final decisions made. Studying the relationship between personality traits and events such as divorce will give us an indication of how the importance of personal characteristics in the process of divorce has changed over time. In addition, personality traits differ systematically across social groups (Boertien et al., 2015), allowing for an increased understanding of group differences in demographic behavior. Social science research has a tradition of looking at individual dispositions to behavior, such as attitudes and values, but such dispositions are often endogenous to the processes studied. The relatively stable nature of personality traits therefore allows for a better identification of the role of individual dispositions in demographic behavior.

The 'Big Five' personality traits and divorce

Psychologists have aimed to come to a basic set of traits that could organize the many traits studied over the last decades (John and Srivastava, 1999). A set of traits referred to as

the 'Big Five' has been most successful and hegemonic in psychological research (Funder, 2001). The 'Big Five' is a taxonomy of traits that integrates the many traits identified by personality researchers. These five traits are 'Big' in the sense that they cover personality in the broadest way possible. At the highest level of abstraction each dimension summarizes a large number of distinct personal characteristics (John and Srivastava, 1999). Even though there has been much discussion about whether the five traits cover the spectrum well enough or not, it has been the widest accepted taxonomy of traits.

The 'Big Five' personality traits are: 1) *Agreeableness*: related to adjectives such as being trustful, cooperative, not setting oneself against others, and sympathetic. 2) *Conscientiousness:* related to being governed by conscience, self-discipline, being thorough, ambitious, and adhering to plans. 3) *Extraversion*: related to being sociable, fun-loving, affectionate, and talkative. 4) *Neuroticism*: related to being worrying, insecure, self-conscious, and temperamental. 5) *Openness to Experience*: related to being original, creative, daring and having broad interests (McCrae and Costa, 1987).

How could these personality traits relate to divorce risk? Psychologists have argued that personality traits structure interactions in relationships and influence the ability to deal with relationship problems (Heaven et al., 2006; Huston and Houts, 1998; Karney and Bradbury, 1995). Especially relevant for this paper are studies on marital satisfaction, the primarily channel through which psychologists expect personality traits to affect divorce (Solomon and Jackson, 2014). Donnellan and associates (2004) suggested that agreeableness, openness to experience (positive) and neuroticism (negative) are the most important predictors of marital satisfaction. Firm evidence exists that neuroticism negatively affects marital satisfaction (Claxton et al., 2012; Heaven et al., 2006; Noftle and Shaver, 2006; Robins et al., 2000; White et al., 2004) due to negative communication patterns (Caughlin et al., 2000), but empirical evidence for other traits is more mixed (Karney and Bradbury, 1995).

Extraversion is assumed to be related to positive emotions, while agreeableness and conscientiousness are expected to lead to better problem solving abilities (Donnellan et al. 2004; Heaven et al., 2006). Openness to experience is expected to contribute to a more intellectual approach to problem solving (Donnellan et al., 2004; Heaven et al., 2006; Claxton et al., 2012).

Studies that have looked directly at the effects of personality on divorce have not always found consistent results with studies on marital satisfaction (Blazys, 2009; Karney and Bradbury, 1995; Lundberg, 2010; Solomon and Jackson, 2014). Whereas marital satisfaction is an important determinant of divorce, Solomon and Jackson (2014) showed that the majority of effects of personality traits on divorce remained to be explained once accounting for marital satisfaction. The most consistent differences with studies on marital satisfaction have been found for openness to experience, which has been found to be related to a higher divorce risk (Lundberg, 2010) and higher marital satisfaction (Donellan et al., 2004) at the same time. This observation calls for a more ample look at how personality could affect divorce risk beyond marital satisfaction.

The changing effects of personality over time

To what extent can perspectives from family psychology aid in providing predictions on how the effects of personality traits on divorce have changed over time? Karney and Bradbury (1995) distinguished between four major theoretical frameworks applied to marital stability: behavioral approaches, attachment theory, crisis theory, and social exchange theory. Behavioral theory primarily concentrates on interactions within couples and how partners' evaluations of these interactions affect marital satisfaction. This perspective suits most directly the evidence discussed above on personality traits, interactions, and marital

satisfaction, but does not provide straightforward predictions regarding change over time in the importance of personality traits and related interactions. A similar argument can be made about attachment theory, which poses that adult relationships are heavily influenced by attachment styles developed during early childhood as a result of the relationship between infants and their primary caregivers (Hazan and Shafer, 1994).

Crisis and social exchange theory lend themselves more directly for deriving predictions regarding changes over time in the effects of personality traits. Crisis theory poses that the stability of relationships depends on how well couples deal with stressful events. The amount of such events experienced and the resilience available to deal with them are in that case important determinants of marital satisfaction and stability (McCubbin and Patterson, 1982; Patterson, 2002). If the amount of stressful events change over time, this could lead to a change in the importance of resources that enable couples to deal with stressful events, in our case these resources are personality traits. Personality traits have been found to be related to the likelihood of stressful events occurring, the extent to which they are experienced as stressful, and whether coping strategies to deal with the event are successfully put into place (DeLongis and Holtzman, 2005). In this regard, especially neuroticism appears to be related to a smaller likelihood of coping well with stressful events, as negative emotions appear to impede the ability to choose appropriate coping strategies. The other 'Big Five' traits seem to be more positively related to coping with stressful events (O'Brien and DeLongis, 1996; DeLongis and Holtzman, 2005). Are there reasons to expect that the amount of stressful events experienced by couples have increased over time? Economic stress and unemployment are often regarded as an important source of family stress (Conger at al., 2010). If uncertainty and the likelihood of experiencing unemployment have increased over time (Beck, 1994), personality traits that help individuals avoid and cope with such events could have become more important.

Social exchange theory, similar to behavioral theories, also focuses on the exchange of behaviors between partners, but adds two distinct elements that, together with returns from the relationship, constitute decisions to leave a partner: barriers to divorce, and alternatives to the relationship (Levinger, 1965; 1967). Social exchange theory has been used successfully before to create hypotheses about the changing determinants of divorce over time. Goode predicted in the 1960s that the then positive association between social class and divorce would eventually become negative (Goode, 1962; 1963). He argued that as divorce becomes more common, social, legal and economic barriers become less relevant, enabling also those with fewer resources to divorce. In such a context, the quality of the relationship becomes the key determinant of divorce risk: "*As a Western nation industrializes, its divorce procedures are gradually made available to all classes. Since family strain toward the lower strata is greater, the proportion of lower strata divorces will increase, and eventually there should be an inverse relation between class and divorce rate ...*" (Goode, 1962, pp. 517). Changing socioeconomic correlates of divorce in line with this perspective have been documented empirically in a large body of recent research studying the changing association between education and divorce (Härkönen and Dronkers, 2006; Matysiak et al., 2013). In addition, barriers to divorce indeed seem to have declined, as legal barriers and social stigma towards divorce have faded (González and Viitanen, 2009). For instance, people are more approving of divorce today than in the past, reducing the barriers social stigma poses on divorcing (Thornton and Young-De Marco, 2001).

Boertien and Härkonen (2014) made a further distinction between external and internal barriers to divorce as they found certain factors normally considered as barriers to divorce (e.g. home ownership) to explain the current negative correlation between women´s education and divorce in Britain. They suggested that while the relevance of barriers to divorce that are formed primarily external to the couple, such as social stigma or legal barriers, has declined,

personal barriers to divorce such as common investments, commitment or attitudes to divorce are still crucially important when understanding variation in divorce risk. In line with this observation, recent studies have shown that a large share of divorces end reasonably satisfying marriages (Amato and Hohmann-Marriott, 2007). In addition, the effects of personality traits on divorce are only partly mediated by marital satisfaction (Solomon and Jackson, 2014). These observations suggest that factors beyond marital satisfaction remain important.

Hence, from this perspective personality traits related to overcoming external barriers to divorce are expected to wane in importance over time, whereas personality traits related to marital satisfaction and barriers to divorce that are internal to the couple are expected to remain important as divorce spreads. Most psychological research has concentrated on how personality traits connect to marital satisfaction. Overviews of these studies marked neuroticism as the most important personality trait affecting marital satisfaction (negatively). The negative effects of neuroticism are therefore expected to persist across time. The empirical evidence on the relationship of the other four traits with marital satisfaction is more mixed (Claxton et al., 2012; Heaven et al., 2006; Noftle and Shaver, 2006; Robins et al., 2000; White et al., 2004).

Previous research has not directly addressed the relationship between personality traits, internal and external barriers to divorce, but existing knowledge does give us some indications about their association with specific barriers to divorce. Barriers formed external to couples could be of a legal, social, or economic nature (Härkönen and Dronkers, 2006). Social barriers seem especially relevant to personality traits, whereas economic and legal barriers are likely to be more related to socioeconomic resources. The social barrier that is likely to have lost importance over time is disapproval of divorce (Thornton and Young-De Marco, 2001). Personality traits expected to play a role in this regard are conscientiousness

and openness to experience. Conscientious people are more rule abiding and might therefore be more responsive to social stigma (John and Srivastava, 1999). Openness to experience signals higher levels of unconventional behavior and being daring (McCrae and Costa, 1987), which could lower responsiveness to social stigma. The effects of these traits might therefore have changed over time, and become less important as social disapproval of divorce declines.

Factors marked as barriers to divorce that are more internal to couples are common investments by the couple, religion, and commitment to a marriage (Briner and Joynes 1999; Johnson, Caughlin and Huston 1999). Studies on religion and personality found religiosity to be related only to high agreeableness and high conscientiousness (Saroglou, 2002). Regarding commitment to marriages, conscientiousness stands out as a relevant trait too. Conscientious people are more likely to adhere to plans (McCrae and Costa, 1987), and are likely to be more committed to marriages (and social relationships in general; Asendorpf and Wilpers, 1998; McAdams and Pals, 2006).

Besides the four theoretical approaches discussed above, there is an important other change in society that could have modified the effects of personality traits on divorce risk. As unmarried cohabitation has become increasingly common, marriage rates have gone down, and many people who marry do so after having lived together for some time. If cohabitation functions as a period during which more unstable matches are 'weeded out' (Liefbroer and Dourleijn, 2006), it could be that the break-ups experienced by couples with particularly destabilizing personality traits no longer occur within marriage (but instead they now occur within cohabitation). If that is the case, one would expect the effects of personality traits in general to have been stronger in the past as also individuals with 'high risk-personalities' married without cohabiting first.

In sum, three perspectives provide competing predictions on how the effects of personality traits changed over time. Crisis theory would predict the effects of personality traits in general to increase with time, under the assumption that uncertainty and the likelihood to experiencing stressful events has increased and certain personality traits help dealing with these stressful events. If one considers the possible influence of changing selection into marriage, one would expect the opposite, namely decreasing effects of personality traits as individuals with 'risky' personality traits are less likely to marry. Predictions from social exchange theory predict a mixed pattern with personality traits affecting external barriers to divorce to change over time (i.e. openness to experience and conscientiousness), whereas the effects of personality traits related to marital satisfaction and barriers to divorce that are internal to the couple are expected to persist (i.e. neuroticism and agreeableness, but also conscientiousness leading to ambiguous expectations for that trait).

Variation across time in Britain, Flanders, and Germany

The predictions presented above should in principle apply to all contexts where external barriers to divorce, the likelihood to cohabit instead of marrying, and the likelihood of experiencing stressful events have changed over time. We therefore test these predictions across a variety of countries that are likely to have experienced such changes, but that otherwise differ on a set of relevant characteristics such as welfare state provisions, female labor market participation, and gender egalitarian practices. We selected three countries for our study that fulfil these conditions: Britain, Flanders, and Germany.

Britain has, within Europe, relatively high levels of income inequality and welfare support is often means-tested, whereas Flanders and Germany have lower levels of income inequality and welfare benefits that are often based on previous labor market performance

(Esping-Andersen, 1990). Couple behavior is relatively traditional compared to Scandinavia and the United States in all countries, but Germany stands out as a case where the traditional male breadwinner model is still relatively strong and institutionally supported (Cooke, 2006; Cooke and Gash, 2010; Sullivan and Gershuny, 2003).

We study marriages formed between 1972 and 2009. Family stability has started to decrease in all countries before this observation period, and we might therefore not catch the full extent of possible changes in the effects of personality traits on divorce. Nonetheless, we believe that the observation period is large enough to capture important changes over time. External barriers are likely to have declined during the period studied in all three countries. The educational gradient in divorce has changed during this observation period in Britain (Chan and Halpin, 2005) and Flanders (Härkönen and Dronkers, 2006) and the approval of divorce has gone up in Britain and (West) Germany during these decades (Liefbroer and Fokkema, 2008). Similarly, cohabitation has started to spread across Europe and the United States since the 1970s (Liefbroer and Dourleijn, 2006), unemployment rates have steadily increased in the Germany since the beginning of the 1970s (to only decline consistently by the second half of the 2000s), and temporary employment has become consistently more common in Belgium and Germany over the last decades (data.oecd.org/ accessed 28/02/2017).

Data and method

We use data on first marriages from the British Household Panel Survey (BHPS) N = 4169 (60,811 person-years), the Divorce in Flanders (DiF) study N = 4377 (80,381 person-years), and the German Socio-Economic Panel (SOEP) N = 8155 (154,779 person-years). All three are nationally representative surveys which include retrospective data on the complete marital histories of respondents.

We selected all respondents who reported having ever being married and who provided data on personality traits (personality was measured in 2005 for Britain and Germany; the individual response rate in 2005 was 89% for Britain and 87% for Germany; the response rate for the survey in Flanders was 42%, which took place in 2008). We restricted the sample further by excluding persons whose first marriage occurred before 1972 in order to have all three datasets cover the same period. Subsequently, we created yearly data based on the retrospective data for the period a person was at risk of divorcing (See Table 1 for the person-years provided by each marriage cohort). We only included information on marriages, because retrospective information on cohabitation was not provided in all datasets. Of the individuals selected, 15.3% was dropped in Britain, 5.8% in Flanders and 8.3% in Germany due to missing information on the personality trait or control variables.

Measures

The main dependent variable of the study was a dummy variable whether an individual experienced a divorce or separation from his or her spouse in a given year. The main independent variables were personality traits measured by a short-scale version of the Big Five Inventory (John, Donahue, and Kentle, 1991), an established and well-validated measure of the Big Five (e.g., Srivastava et al., 2003). Each trait was measured by the same three items in the three different countries. Respondents were asked for their opinion on statements on seven-point scales ranging from "do not agree at all" to "fully agree" (Gerlitz and Schupp 2005; Dehne and Schupp, 2007). The statements used were "I (am) …": "Sometimes too coarse with others" (reversed), "Friendly with others", "Able to forgive" (Agreeableness); "A thorough worker", "Carry out tasks efficiently", "Tend to be lazy" (reversed) (Conscientiousness); "Communicative", "Reserved" (reversed), "Sociable"

(Extraversion); "Worry a lot", "Somewhat nervous", "Deal well with stress" (reversed) (Neuroticism); "Original", "Value artistic experiences", "Have lively imagination" (Openness to Experience). The α's of the resulting scales ranged from .50 for agreeableness in Germany to .70 for neuroticism in Britain. The low α's are due to each question measuring one sub-component of a general personality trait and because α usually depends on the number of items in a scale (Cortina, 1993). In Table 1 the average raw scores on each of the scales are displayed by country, the relative ranking of scores on traits is similar across countries with respondents giving high scores on agreeableness and conscientiousness and lower scores on neuroticism. In Table A1 of the Online Appendix we displayed correlations between the different traits.

Personality traits can be related to other socio-demographic predictors of divorce and might therefore affect divorce through other demographic processes rather than through marital satisfaction or barriers to divorce directly. To be able to look at their possible influence we included a set variables that are established determinants of divorce (Lyngstad and Jalovaara, 2010) risk and which may or may not be related to personality traits (see Table A1 in the Online Appendix for correlation matrices): a) age at marriage (in years) which is expected to relate to increased stability of marriages due to emotional maturity and less alternatives to marriage; b) dummies for lower and higher education (ISCED 1-2; ISCED 3-4 as reference; and ISCED 5-6), the association between education and divorce has reversed from positive to negative over the last decades (Härkönen and Dronkers, 2006); c) the number of children under 18 the respondent has, which represents a common investment made by the couple; d) whether the respondent's parents divorced, which could lower barriers to divorce by showing children that divorce is a workable option to deal with marital problems; e) whether the respondent was employed in that year, as economic stress could lead to pressures on couple life (Goode, 1962), as well as its interaction with gender, because female

employment is associated with greater financial independence and hence lower barriers to divorce; and f) a dummy for whether the respondent cohabited with his or her partner before marrying, which could lower barriers to divorce as it relates to general attitudes to marriage as an institution. The German data unfortunately did not provide information on parental divorce, number of children and pre-marital cohabitation. The associations of these three control variables with personality traits were very low in the other two countries (See Table A1), and their inclusion in the models did not matter much there, slightly reducing concerns that the omission of these variables is influential for our conclusions.

We also included controls for the duration of the marriage, the year in which the marriage was contracted, whether the respondent was male or female, and, for Germany, whether the respondent was from East Germany. See Table 1 for descriptive statistics of the samples.

Table 1 around here

Procedure

In order to look at effects of personality traits on divorce, we estimated sets of discrete-time event history models. We started by estimating the general associations of personality traits with divorce in each of the three countries, and subsequently included controls to see whether some national idiosyncrasies can explain the patterns observed. We continued by including interaction effects of personality traits with marriage cohort to investigate whether variation over time exists in the effects of personality traits on divorce. Given that some personality traits are associated with each other (See Table A2) these models are estimated separately by personality trait, to get a 'clean' description of how the association

of each personality trait has changed over time and also to avoid issues of multicollinearity caused by including several interactions with marriage cohort.

The analysis has three main weaknesses. Firstly, we use a combination of prospective and retrospective data on marital histories. This means that in some cases personality is measured after our dependent variable (i.e. divorce). Personality traits are normally stable across the life course but impacting events can influence them (Costa et al., 2000). Elsewhere, we have shown for the same samples of the GSOEP and the BHPS that once looking only at the observations obtained after the measurement of personality, observed effects of personality on divorce do not change, with the exception of extraversion for women in Germany (Boertien et al., 2012; 2015). The Divorce in Flanders data only consists of one wave which unfortunately inhibits the performance of such a robustness check.

Secondly, given that our measurement of personality is retrieved at one point in time, it could be more correlated to divorce events around the year of measurement compared to events that occurred further removed in time from the point of measurement. We did not find evidence for an across-the-board decline in associations with divorce, the further they were removed from measurement. In addition, we found personality traits to be more strongly associated to events further away from the measurement of personality on several occasions. Nonetheless, any results we find that indicate decreasing associations over time could be conservative estimates, whereas results indicating stronger effects in recent years could be overestimated.

Thirdly, there might be more complicated ways in which personality traits affect divorce risk that are not covered by this paper. There could be particular combinations of personality traits that are especially stabilizing or destabilizing, and the personality traits of respondents could interact with the personality traits of their partners too. There is very little

known about these issues in general and a study that looked at the effects of combinations of respondents' and partners' personality traits did not find clear effects of such combinations on divorce risk (Solomon and Jackson, 2014). Furthermore, formulating expectations about how these complicated patterns operate through marital satisfaction or barriers to divorce is not straightforward. We therefore consider these issues to be beyond the scope of our paper and leave them for future studies.

Results

The associations of personality traits with divorce for the three countries are displayed in Table 2. In the first models, we only control for duration and marriage cohort, whereas the other controls are added in the second models. One personality trait is consistently and positively related to divorce across the three countries: extraversion. Agreeableness and conscientiousness slightly stabilize marriages in Germany, whereas the negative effects for conscientiousness are stronger and robust in the UK. Neuroticism increases divorce risk but only in Britain and Germany, and Openness to Experience does so only in Germany. With a few exceptions, the general effects of personality traits therefore differ rather little across countries. This general pattern persists once control variables are included. However, a few effects become smaller and lose statistical significance. It could therefore be that some effects of personality traits on divorce are mediated by other socio-demographic characteristics. The effects of extraversion and neuroticism are to a considerable extent mediated by the control variables in all three countries. In general, control variables go in the expected direction, with the exception of the destabilizing effect of number of children in the UK, a surprising pattern observed in other studies too (Chan and Halpin, 2005). In the UK, female non-employment

appeared unrelated to divorce risk, which could reflect the lower institutional support for the traditional male breadwinner model compared to the other two countries (Cooke, 2006).

-Table 2 around here-

We proceeded by looking at change over marriage cohorts in the associations of personality traits with divorce in Table 3 (expressed in Average Marginal Effects, but see the Appendix for results expressed as Odds Ratios). The first observation that can be made is that the effects of only a few personality traits have changed significantly over time. In three out of fifteen cases (marginally) statistically significant changes over time were observed. A second observation is that controls explain little of the significant interaction effects when comparing Models 1 and 2 of each country (see Table A2 in the Online Appendix for estimates based on Odds Ratios, which provide the same conclusions).

-Table 3 around here-

In none of the cases did the effects of a personality trait increase in a statistical significant manner with marriage cohorts (nor did large effect sizes show up), suggesting that the prediction derived from crisis theory that personality traits have become increasingly important does not hold. Because all three statistically significant changes over cohorts indicate decreases in effects of personality traits with marriage cohorts, it could be that increasing selection into marriage has reduced effects of personality traits. Given the specific personality traits that showed a change in association with divorce across cohorts, however, the patterns appear most in line with the predictions from social exchange theory.

The decreasing importance of external barriers led to the expectation that the effects of openness to experience, and to a smaller extent, conscientiousness are subject to change over time. Openness to experience was expected to be positively related to divorce risk, and its effects were expected to wane as divorce becomes more common due to its relationship to

19

unconventional behavior (McCrae and Costa, 1987). Its relationship with divorce indeed became less positive in Britain and Germany. The effects of conscientiousness were expected to vary over time due to its relationship to abiding social norms (external barriers) but to remain (or become more) relevant as divorce spreads due to its connection with commitment to social relationships, and the higher tendency to be religious of conscientious people (internal barriers). In Germany, but not in Britain and Flanders, its effects on divorce were indeed found to change over time, and had become increasingly negative.

These results can be interpreted for each country separately, but if one regards them as three separate tests of the same argument, one should take into account that it is more likely that by chance some effects will show up as statistically significant. We therefore applied the Holm-Bonferroni correction to the statistically significant results (not shown; $\alpha = 0.10$). The statistical significance of the changing effect of conscientiousness according to marriage cohort in Germany did not survive the test. We therefore cannot claim with sufficient certainty that the effect for conscientiousness in Germany is not due to sampling error.

Discussion

The aim of this paper was to extend the research on the changing associations between individual characteristics and divorce by looking at personality traits. We investigated whether the associations between personality traits and divorce vary over time and space. We compared the effects of the Big Five personality traits on divorce across several birth cohorts in Britain, Flanders, and Germany. In general, the effects of personality traits appeared stable over time, with the exception of openness to experience and, possibly, conscientiousness.

We derived predictions from several perspectives in family psychology. Crisis theory poses that how couples cope with stressful events determines marital satisfaction and stability.

From this point of view, one would predict an increasing importance of personality traits over time under the condition that the likelihood of experiencing stressful events has increased, and that personality traits affect how couples cope with such stressful events (DeLongis and Holtzman, 2005). Opposite predictions are derived once considering changing selection into marriage due to increases in cohabitation. If increasing rates of cohabitation 'weed out' particularly unstable couples before they marry, individuals with unfavorable personality traits are less likely to marry today than in the past, leading to an across the board decrease in the effects of personality traits.

As only few effects of personality traits displayed change over time, and those that did showed a weakening in effects, the predictions from crisis theory appear unsupported. Even though a weakening of the effect of openness to experience could fit a perspective of changing selection into marriage, the stable effects across time of the traits most consistently related with divorce risk, namely extraversion and neuroticism, questions the validity of a decreasing importance of personality traits for marital stability across time. Overall, the results seem to suit predictions from the social exchange perspective better. The effects of traits related to external barriers to divorce are here expected to weaken over time (i.e. openness to experience and conscientiousness), whereas effects of traits related to marital satisfaction and internal barriers to divorce (i.e. agreeableness, conscientiousness, and neuroticism) are expected to persist. Openness to experience appeared to be the only trait for which sufficient empirical support exists that its effects have weakened over time. As this was the one trait that from a social exchange perspective was most clearly predicted to decrease in importance over time (expectations for conscientiousness were mixed), results seem to fit the perspective relatively well.

Earlier research on the predictors of divorce over time has already interpreted changes in their effects from a social exchange perspective (Amato, 2010; De Graaf and Kalmijn,

2006; Dronkers and Härkönen, 2008; Härkonen and Dronkers, 2006; Kamp Dush et al., 2003; Liefbroer and Dourleijn, 2006; Matysiak et al., 2013; Teachman, 2002). Especially findings on the changing associations between education and divorce have earlier been interpreted as indicating a decreasing importance of characteristics related to external barriers to divorce (Goode, 1962; 1963; Härkonen and Dronkers, 2006; Matysiak et al., 2013). Just as socio-economic resources are needed to overcome social, economic and legal barriers to divorce in contexts with lower levels of divorce, a personality to think in unconventional ways (high openness to experience) might be needed too to overcome barriers to divorce in such contexts too.

In contrast to the waning importance of external barriers to divorce, processes that occur within the couple were expected to remain important over time, such as marital satisfaction and internal barriers to divorce. The personality trait that appears consistently related to (lower) marital satisfaction from previous research is neuroticism due to negative communication patterns, whereas conscientiousness (commitment and religiousness) and agreeableness (religiousness) are related to internal barriers to divorce. These traits were therefore expected to remain relevant over time, even though the pattern for conscientiousness was expected to be less clear cut due to its connection to external barriers. In congruence with these expectations, conscientiousness affected divorce risk in Germany and the UK, and as mentioned, its effects possibly became stronger over time in Germany. The positive effects of neuroticism on divorce were present in Britain and Germany and remained unchanged across marriage cohorts. Similarly, the (small) stabilizing effects of agreeableness found for Germany did not change over time either.

Why did the effects of openness to experience not change over time in all countries? One explanation could be that we did not have a long enough time window to capture all changes in effects of personality traits. Divorce has spread at different paces in the different

countries, and the effects of openness to experience and conscientiousness might have changed before or after the time period studied. Another explanation is that the division of personality traits according to the social exchange framework presented here can only help interpreting changes over time on a very general level. There are likely to be many processes particular to the countries and periods studied that might have prevented changes over time in the effects of conscientiousness and openness to experience.

Our social exchange framework also did not provide predictions for all personality traits studied. This was the case for the trait extraversion, because no clear connection with marital satisfaction or barriers to divorce emerged from earlier research. Extraversion appeared to be related to increased divorce risk consistently across countries and marriage cohorts. One possible explanation is that extravert persons have better access to alternative partners due to their ease of socializing. Earlier studies have shown that extravert people are more likely to marry in general (Lundberg, 2010) and more likely to cheat on their partners (Orzeck and Lung, 2005). Access to alternatives seems from that perspective to be stably important across time.

Another limitation of this study is the omission of partner's personality characteristics in the study. If individuals systematically seek out partners that have personality traits that fit well or complement their own, observed effects might also partly reflect partners' personalities (e.g. persons open to experience might be more likely to find neurotic partners). This is an issue that could be researched further in future work.

All in all, this study showed that the effects of personality in general remained relatively stable, but that they can change over marriage cohorts. The study of personality traits can inform us how individual dispositions to behave in certain ways influence divorce risk. Looking at variation across contexts in these influences has the potential to increase our

understanding of how divorce processes have changed over time. The findings of these paper show how the composition of divorcees has changed when looking at people's individual dispositions in terms of personality. Divorce seems, in general, to have become more characterized by people who behave in conventional ways (low openness to experience) and, possibly, more by people who are not as committed to social relationships (low conscientiousness). This is in line with an explanation of the decreasing importance of external barriers, such as social stigma, as divorce spreads (Goode, 1962; Härkönen and Dronkers, 2006).

References

Amato PR (2010) Research on divorce: Continuing trends and new developments. *Journal of marriage and family* 72(3): 650-666.

Amato PR and Hohmann-Marriott B (2007) A comparison of high- and low-distress marriages that end in divorce. *Journal of Marriage and Family* 69: 621-638.

Asendorpf JB and Wilpers S (1998) Personality Effects on Social Relationships. *Journal of Personality and Social Psychology* 74: 1531-1544.

Barenbaum NB and Winter DG (1999) History of Modern Personality Theory and Research, In: Pervin LA and John OP (eds) *Handbook of Personality: Theory and Research.* New York: The Guilford Press.

Beck U (1992) *Risk society: Towards a new modernity.* London: Sage.

Blazys G (2009) *Personality, Intelligence, and Marital Outcomes.* Working paper, University of Washington.

Boertien D and Härkönen J (2014) Less Education, More Divorce: Explaining the Inverse Relationship between Women's Education and Divorce. *Stockholm Research Reports in Demography* 2014:11.

Boertien D, Von Scheve C and Park M (2012) Education, personality and separation: The distribution of relationship skills across society. *SOEPpapers,* No. 487.

Boertien D, Von Scheve C and Park M (2015) Can personality explain the educational gradient in divorce? Evidence from a nationally representative panel survey. *Journal of Family Issues.* Advance access. DOI: 10.1177/0192513X15585811

Caughlin JP, Huston TL and Hours RM (2000) How does personality matter in marriage? An examination of trait anxiety, interpersonal negativity and marital satisfaction. *Journal of Personality and Social Psychology* 78: 326-336.

Chan T and Halpin B (2005) *The Instability of Divorce Risk Factors in the UK.* Working Paper. Oxford: University of Oxford.

Claxton A, O'Rourke A, Smith, JZ and DeLongis A (2012) Personality Traits and Marital Satisfaction Within Enduring Relationships. *Journal of Social and Personal Relationships* 29: 375-396.

Cobb-Clark DA and Schurer S (2012) The stability of big-five personality traits. *Economics Letters* 115(1): 11-15.

Conger RD, Conger KJ, and Martin MJ (2010) Socioeconomic status, family processes, and individual development. *Journal of Marriage and Family* 72(3): 685-704.

Conley JJ (1985) Longitudinal stability of personality traits: a multitrait-multimethod-multioccasion analysis. *Journal of Personality and Social Psychology* 49(5): 1266-1282.

Cooke LP (2006) "Doing" gender in context: household bargaining and the risk of divorce in Germany and the United States. *American Journal of Sociology* 112: 442-472.

Cooke LP and Gash V (2010) Wives' part-time employment and marital stability in Great Britain, West Germany and the United States. *Sociology* 44(6): 1091-1108.

Cortina JM (1993) What is Coefficient Alpha? An Examination of Theory and Applications. *Journal of Applied Psychology* 78(1): 98-104.

Costa PT Jr., Herbst JH and McGrae RR (2000) Personality at Midlife: Stability,Intrinsic Maturation, and Response to Life Events. *Assessment* 7: 365-378.

Dehne M and Schupp J (2007) Persönlichkeitsmerkmale im Sozio-oekonomischen Panel (SOEP) – Konzept, Umsetzung und empirische Eigenschaften. *DIW Research Note 26*. Berlin: Deutsches Institut für Wirtschaftsforschung.

De Graaf PM and Kalmijn M (2006) Change and stability in the social determinants of divorce: A comparison of marriage cohorts in the Netherlands. *European sociological review* 22(5): 561-572.

DeLongis A and Holtzman S (2005) Coping in context: The role of stress, social support, and personality in coping. *Journal of personality 73*(6): 1633-1656.

Donellan MB, Conger RD and Bryant CM (2004) The Big Five and Enduring Marriages. *Journal of Research in Personality* 38: 481-504.

Dronkers J and Härkönen J (2008) The intergenerational transmission of divorce in cross-national perspective: Results from the Fertility and Family Surveys. *Population studies* 62(3): 273-288.

Esping-Andersen G (1990) *The Three Worlds of Welfare Capitalism.* Cambridge: Polity.

Funder DC (2001) Personality. *Annual Review of Psychology* 32: 197-221.

Gerlitz J and Schupp J (2005) Zur Erhebung der Big-Five-basierten Persönlichkeitsmerkmale im SOEP. *DIW Research Notes 4/2005*. Berlin: Deutsches Institut für Wirtschaftsforschung.

Gonzalez L and Viitanen T (2006) The Effects of Divorce Laws on Divorce Rates in Europe. *European Economic Review* 53(2): 127-138.

Goode WJ (1962) Marital satisfaction and instability. A cross-cultural class analysis of divorce rates. In: Bendix R and Lipset SM (eds) *Class, Status, and Power. Social Stratification in Comparative Perspective*. New York: The Free Press, pp. 377–387.

Goode WJ (1963) *World Revolution and Family Patterns*. New York: The Free Press.

Härkönen J and Dronkers J (2006) Stability and Change in the Educational Gradients of Divorce: A Comparison of 17 Countries. *European Sociological Review* 22(5): 501-17.

Hazan C and Shaver PR (1994) Attachment as an organizational framework for research on close relationships. *Psychological Inquiry* 5: 1-22.

Heaven PCL, Smith L, Prabhakar SM, Abraham J and Mete ME (2006) Personality and conflict communication patterns in cohabiting couples. *Journal of Research in Personality* 40: 829-840.

Huston TL and Houts RM (1998) The psychological infrastructure of courtship and marriage: The role of personality and compatibility in romantic relationships. In: Bradbury TN (ed) *The developmental course of marital dysfunction.* New York: Cambridge University Press.

John OP, Donahue EM and Kentle RL (1991) *The Big Five inventory: Version 4a and 54.* Berkeley: University of California.

John OP and Srivastava S (1999) The Big Five Trait Taxonomy: History, Measurement, and Theoretical Perspectives. In: Pervin LA and John OP (eds) *Handbook of Personality: Theory and Research.* New York: The Guilford Press.

Johnson MP, Caughlin JP and Huston TL (1999) The Tripartite Nature of Marital Commitment: Personal, Moral, Structural Reasons to Stay Married. *Journal of Marriage and the Family* 61: 160-177.

Judge TA, Bono JE, Ilies R and Gerhardt MW (2002) Personality and leadership: A qualitative and quantitative review. *Journal of Applied Psychology* 87: 765-780.

Kamp Dush CM, Cohan CL and Amato PR (2003) The relationship between cohabitation and marital quality and stability: Change across cohorts? *Journal of Marriage and Family* 65(3): 539-549.

Karney B and Bradbury TN (1995) The longitudinal course of marital quality and stability. *Journal of Personality and Social Psychology* 72: 1075-1092.

Levinger G (1965) Marital cohesiveness and dissolution: an integrative view. *Journal of Marriage and the Family* 27: 19-28.

Levinger G (1976) A social psychological perspective on marital dissolution. *Journal of Social Issues* 32: 21-47.

Liefbroer AC and Dourleijn E (2006) Unmarried cohabitation and union stability: Testing the role of diffusion using data from 16 European countries. *Demography* 43(2): 203-221.

Liefbroer AC and Fokkema T (2008) Recent trends in demographic attitudes and behaviour: is the second demographic transition moving to Southern and Eastern Europe? In: Surkyn J, Deboosere P and Van Bavel J (eds) *Demographic challenges for the 21st century: A state of the art in demography*. Brussels: Brussels University Press, pp. 115-141.

Lundberg S (2010) Personality and Marital Surplus. *IZA Discussion paper:* no. 4945.

Lundberg S (2013) The College Type: Personality and Educational Inequality. *Journal of Labor Economics* 31: 421-441.

Lyngstad TH and Jalovaara M (2010) A review of the antecedents of union dissolution. *Demographic Research* 23: 257.

McAdams DP and Pals JL (2006) A new Big Five: fundamental principles for an integrative science of personality. *American Psychologist* 61: 204.

McCrae RR and Costa PT Jr. (1987) Validation of the Five-Factor of Personality Across Instruments and Observers. *Journal of Personality and Social Psychology* 52: 81-90.

McCubbin HI and Patterson JM (1982) Family adaptation to crises. In: McCubbin HI, Cauble AE and Patterson JM (eds) *Family stress, coping, and social support*. Springfield, IL: Charles C Thomas.

Matysiak A, Styrc M and Vignoli D (2013) The Changing Educational Gradient in Marital Disruption: A Meta-analysis of European Research Findings. *Population Studies* 68 (2): 197-215.

Noftle EE, and Shaver PR (2006) Attachment dimensions and the big five personality traits: Associations and comparative ability to predict relationship quality. *Journal of Research in Personality* 40: 179-208.

O'Brien, TB and DeLongis A (1996) The interactional context of problem-, emotion-, and relationship-focused coping: The role of the Big Five personality factors. *Journal of Personality* 64: 775–813.

Orzeck T, and Lung E (2005) Big-five personality differences of cheaters and non-cheaters. *Current Psychology* 24: 274-286.

Patterson JM (2002) Integrating Family Resilience and Family Stress Theory. *Journal of Marriage and Family* 64(2): 349-360.

Pedersen NL and Reynolds CA (1998) Stability and Change in Adult Personality: Genetic and Environmental Components. *European Journal of Personality* 12: 365-386.

Robins RW, Caspi A and Moffitt TE (2000) Two personalities, one relationship: both partners' personality traits shape the quality of their relationship. *Journal of Personality and Social Psychology* 79: 251-259.

Saroglou V, (2002) Religion and the five factors of personality: a meta-analytic review. *Personality and Individual Differences* 32: 15-25.

Solomon BC and Jackson JJ (2014) Why Do Personality Traits Predict Divorce? Multiple Pathways through Satisfaction. *Journal of Personality and Social Psychology* 106: 978-996.

Srivastava S, John OP, Gosling SD and Potter J (2003) Development of personality in early and middle adulthood: Set like plaster or persistent change? *Journal of Personality and Social Psychology* 84: 1041–1053.

Sullivan O and Gershuny JI (2003) Time Use, Gender and Public Policy Regimes. *International Studies in Gender, State & Society* 10: 205-228.

Thornton A and Young-DeMarco L. (2001) Four Decades of Trends in Attitudes Toward Family Issues in the United States: The 1960s Through the 1990s. *Journal of Marriage and Family* 63(4): 1009-1037.

Teachman JD (2002) Stability across cohorts in divorce risk factors. *Demography* 39(2): 331-351.

White JK, Hendrick SS and Hendrick C (2004) Big five personality variables and relationship constructs. *Personality and Individual Differences* 37: 1519-1530.

Table 1. Descriptive statistics of the sample.

	Germany		United Kingdom		Flanders		Overall	
	Mean	SD	Mean	SD	Mean	SD	Min	Max
Year of marriage	1983.1	11.1	1985.1	9.5	1987.7	8.4	1972	2009
% person-years marriage cohort 1970s	40.1		37.7		25.1			
% person-years marriage cohort 1980s	37.5		32.5		33.0			
% person-years marriage cohort 1990s	18.6		20.1		27.4			
% person-years marriage cohort 2000s	3.8		9.6		14.5			
% Men	48.5		44.5		43.6			
% ISCED 1-2	12.7		17.4		18.5			
% ISCED 5-6	34.9		36.9		43.1			
% Divorced yearly	1.5		1.7		2.6			
Age at marriage	25.2	5.3	25.7	6.3	23.4	3.4	15	71
Number of children			1.2	1.1	1.2	1.2	0	9
% Parental divorce			15.6		9.2			
% Employed	65.4		53.5		79.5			
% Cohabited before marriage			36.9		29.8			
% East-German	22.4							
Duration in years	11.9	8.3	11.2		13.8	9.2	0.04	37
Agreeableness	5.46	0.97	5.48	0.94	4.05	0.71	1.33	7
Conscientiousness	6.04	0.86	5.45	0.99	4.28	0.66	1	7
Extraversion	4.83	1.10	4.51	1.14	3.79	0.85	1	7
Neuroticism	3.96	1.21	3.66	1.28	2.85	0.99	1	7
Openness to Experience	4.50	1.17	4.54	1.11	3.33	0.86	1	7
N (Person-years)	151,496		60,811		85,484			

Table 2. Discrete-time event history models explaining divorce by personality traits. Average marginal effects.

	Germany				UK				Flanders			
	Model 1		Model 2		Model 1		Model 2		Model 1		Model 2	
	AME	SE	AME	SE	AME	SE	AME	SE	AME	SE	AME	SE
Agreeableness	-0.0006†	0.0003	-0.0009*	0.0004	0.0008	0.0006	0.0003	0.0006	-0.0016	0.0023	0.0006	0.0025
Conscientiousness	-0.0006	0.0003	-0.0007†	0.0004	-0.0021**	0.0006	-0.0020**	0.0006	-0.0014	0.0025	-0.0014	0.0025
Extraversion	0.0021**	0.0003	0.0018**	0.0004	0.0024**	0.0006	0.0012*	0.0006	0.0048*	0.0023	0.0035	0.0023
Neuroticism	0.0012**	0.0003	0.0007*	0.0003	0.0017**	0.0005	0.0007	0.0006	-0.0031	0.0023	-0.0033	0.0024
Openness to Experience	0.0015**	0.0003	0.0019**	0.0004	-0.0006	0.0006	0.0003	0.0006	-0.0005	0.0019	0.0045	0.0019
Number of children under 18							0.0012†	0.0007			-0.0179***	0.0020
Parental divorce 1=yes, 0=no							0.0066**	0.0013			0.0484***	0.0037
Employed 1=yes, 0=no			-0.0079**	0.0011			-0.0031†	0.0017			-0.0338	0.0250
Woman			-0.0063**	0.0011			0.0003	0.0015			-0.0277*	0.0132
Employed*Woman			0.0111**	0.0014			0.0022	0.0020			0.0239	0.0139
Pre-marital cohabitation							0.0042**	0.0014			0.0192***	0.0055
Education ISCED 1-2 (ref. 3-4)			0.0018†	0.0010			-0.0014	0.0015			0.0004*	0.0049
Education ISCED 5-6 (ref. 3-4)			-0.0029**	0.0008			-0.0045**	0.0012			-0.0110	0.0047
Age at marriage			-0.0002*	0.0001			-0.0011**	0.0002			-0.0346***	0.0008
East-German			0.0018*	0.0009								
Cohort	0.0003**	0.0000	0.0003**	0.0000	-0.0002**	0.0001	-0.0000	0.0001	-0.0002	0.0002	0.0005	0.0003
Duration in years	0.0002	0.0001	0.0002†	0.0001	0.0004	0.0003	0.0002	0.0003	-0.0073***	0.0000	-0.0032**	0.0010
Duration squared	-.00001*	0.0000	-.00001*	0.0000	-0.0001**	0.0000	-0.0001**	0.0000	0.0001***	0.0002	0.0000	0.0000
N	9017		9017		4169		4169		4377		4377	
Person-years	(151,496)		(151,496)		(60,811)		(60,811)		(80,381)		(80,381)	
Number of events	2236		2236		1028		1028		838		838	

Note: †*p* < .10. **p* < .05. ***p* < .01.

Table 3. Discrete-time event history models explaining divorce by personality traits interacted with cohort, with and without controls. Average Marginal Effects.

Country	Germany Model 1 AME	SE	Model 2 AME	SE	UK Model 1 AME	SE	Model 2 AME	SE	Flanders Model 1 AME	SE	Model 2 AME	SE
Agreeableness	-0.00029	0.00056	-0.00057	0.00056	0.00071	0.00099	0.00000	0.00101	0.00009	0.00310	0.00096	0.00337
*Agreeableness*cohort*	*-0.00002*	*0.00003*	*-0.00002*	*0.00004*	*-0.00003*	*0.00006*	*-0.00002*	*0.00006*	-0.00003	0.00015	0.00003	0.00016
Cohort	0.00030**	0.00004	0.00034**	0.00005	-0.00020**	0.00004	0.00002	0.00007	-0.00022	0.00016	0.00051	0.00027
Duration in years	0.00021	0.00014	0.00022	0.00014	0.00037	0.00024	0.00016	0.00029	-0.00738***	0.00113	-0.00322***	0.00104
Duration squared	-0.00001**	0.00000	-0.00001**	0.00000	-0.00005**	0.00001	-0.00004**	0.00001	0.00014***	0.00003	0.00002	0.00003
Conscientiousness	0.00076	0.00061	0.00058	0.00061	0.00071	0.00099	-0.00165	0.00100	-0.00031	0.00233	-0.00035	0.00243
*Conscientiousness*cohort*	*-0.00007†*	*0.00004*	*-0.00007†*	*0.00004*	*-0.00003*	*0.00006*	*-0.00003*	*0.00006*	-0.00003	0.00010	0.00007	0.00011
Cohort	0.00031**	0.00004	0.00034**	0.00005	-0.00021**	0.00006	0.00001	0.00007	-0.00022	0.00016	0.00051	0.00027
Duration in years	0.00022	0.00014	0.00022	0.00014	0.00037	0.00024	0.00017	0.00024	-0.00738***	0.00113	-0.00322***	0.00104
Duration squared	-0.00001**	0.00000	-0.00001**	0.00000	-0.00005**	0.00001	-0.00004**	0.00001	0.00014***	0.00003	0.00002	0.00003
Extraversion	0.00244**	0.00060	0.00236**	0.00060	0.00185†	0.00094	0.00132	0.00096	0.00502	0.00186	0.00410*	0.00190
*Extraversion*cohort*	*-0.00000*	*0.00004*	*-0.00001*	*0.00003*	*-0.00002*	*0.00006*	*-0.00004*	*0.00006*	-0.00007	0.00010	0.00004	0.00011
Cohort	0.00030**	0.00004	0.00033**	0.00005	-0.00021**	0.00006	0.00002	0.00007	-0.00026	0.00016	0.00046	0.00028
Duration in years	0.00022	0.00014	0.00022	0.00014	0.00037	0.00024	0.00016	0.00029	-0.00735***	0.00113	-0.00323***	0.00104
Duration squared	-0.00001**	0.00000	-0.00001**	0.00000	-0.00005**	0.00001	-0.00004**	0.00001	0.00014***	0.00003	0.00002	0.00003
Neuroticism	0.00047	0.00056	0.00018	0.00057	0.0014	0.00093	0.00060	0.00095	-0.00380	0.00212	-0.00393	0.00234
*Neuroticism*cohort*	*0.00004*	*0.00004*	*0.00003*	*0.00004*	*0.00002*	*0.00006*	*0.00001*	*0.00006*	-0.00005	0.00010	0.00005	0.00011
Cohort	0.00030**	0.00004	0.00034**	0.00004	-0.00020**	0.00004	0.00002	0.00007	-0.00021	0.00017	0.00054	0.00028
Duration in years	0.00022	0.00014	0.00022	0.00014	0.00037	0.00024	0.00016	0.00029	-0.00736***	0.00112	-0.00322***	0.00104
Duration squared	-0.00001**	0.00000	-0.00001**	0.00000	-0.00005**	0.00001	-0.00004**	0.00001	0.00014***	0.00003	0.00002	0.00003
Openness to Experience	0.00293**	0.00056	0.00321**	0.00059	0.00171†	0.00100	0.00223*	0.00103	0.00067	0.00162	0.00131	0.00174
*Openness*cohort*	*-0.00007†*	*0.00004*	*-0.00008**	*0.00004*	*-0.00017**	*0.00006*	*-0.00015**	*0.00006*	-0.00003	0.00010	0.00007	0.00011
Cohort	0.00031**	0.00004	0.00035**	0.00005	-0.00018**	0.00006	0.00004	0.00007	-0.00023	0.00016	0.00051	0.00027
Duration in years	0.00022	0.00014	0.00022	0.00014	0.00037	0.00024	0.00016	0.00029	-0.00738***	0.00113	-0.00323***	0.00104
Duration squared	-0.00001**	0.00000	-0.00001**	0.00000	-0.00005**	0.00001	-0.00005**	0.00001	0.00014***	0.00003	0.00002	0.00003
N	9017		9017		4169		4169		4377		4377	
Person-years	(151,496)		(151,496)		(60,811)		(60,811)		(80,381)		(80,381)	
Number of events	2236		2236		1028		1028		838		838	

Note: Models run separately for each personality trait and country. Model 2 controls for Gender, Number of children, Parental divorce, Employed (and interaction with gender), Pre-marital cohabitation, Education ISCED 1-2 (reference 3-4), Education ISCED 5-6 (reference 3-4), age at marriage. †$p < .10$. *$p < .05$. **$p < .01$.

Online Appendix. Table A1. Pairwise correlations between personality traits and controls.

Germany

	Agreeableness	Conscientious.	Extraversion	Neuroticism	Openness to Experience
Agreeableness	.				
Conscientiousness	0.30	.			
Extraversion	0.11	0.20	.		
Neuroticism	-0.15	-0.10	-0.15	.	
Openness to Experience	0.15	0.19	0.38	-0.09	.
Number of children under 18	.	.	.	.	.
Parental divorce 1=yes, 0=no	.	.	.	.	.
Employed 1=yes, 0=no	-0.08	0.04	-0.01	-0.09	-0.02
Woman	0.19	0.05	0.11	0.16	0.07
Pre-marital cohabitation	.	.	.	.	.
Education ISCED 1-2 (ref. 3-4)	-0.01	-0.04	-0.05	0.06	-0.10
Education ISCED 5-6 (ref. 3-4)	-0.01	-0.05	0.00	-0.10	0.15
Age at marriage	-0.05	-0.05	-0.05	-0.09	0.03
East-German		0.03	0.02	0.05	-0.03

Only correlations significant at p<0.10 displayed

UK

	Agreeableness	Conscientious.	Extraversion	Neuroticism	Openness to Experience
Agreeableness	.				
Conscientiousness	0.37	.			
Extraversion	0.16	0.20	.		
Neuroticism	-0.06	-0.10	-0.15	.	
Openness to Experience	0.20	0.19	0.38	-0.09	.
Number of children under 18	0.02	-0.02	0.02	0.01	-0.07
Parental divorce 1=yes, 0=no		0.02	0.05	-0.02	-0.01
Employed 1=yes, 0=no	-0.08	0.04	-0.01	-0.09	-0.02
Woman	0.19	0.05	0.11	0.16	0.07
Pre-marital cohabitation	-0.09	-0.03	0.05		0.06
Education ISCED 1-2 (ref. 3-4)	-0.02	-0.08	-0.07	0.07	-0.18
Education ISCED 5-6 (ref. 3-4)	-0.05	0.02	0.03	-0.06	0.14
Age at marriage	-0.06	-0.02	-0.05	-0.07	0.05

Only correlations significant at p<0.10 displayed

Flanders

	Agreeableness	Conscientious.	Extraversion	Neuroticism	Openness to Experience
Agreeableness	.				
Conscientiousness	0.25	.			
Extraversion	0.21	0.23	.		
Neuroticism	-0.13	-0.15	-0.20	.	
Openness to Experience	0.08	0.10	0.22	-0.10	.
Number of children under 18		-0.01	0.02		
Parental divorce 1=yes, 0=no	-0.02		0.05		
Employed 1=yes, 0=no	0.12	0.03	0.09	0.23	-0.11
Woman	-0.08	-0.04	0.02	0.01	0.07
Pre-marital cohabitation	-0.03	-0.04			-0.13
Education ISCED 1-2 (ref. 3-4)	0.04	0.03	0.02	-0.04	0.14
Education ISCED 5-6 (ref. 3-4)	-0.05	-0.05		-0.07	0.12
Age at marriage	-0.05	-0.01	0.02	0.02	0.00

Only correlations significant at p<0.10 displayed

Table A2. Discrete-time event history models explaining divorce by personality traits interacted with cohort, with and without controls. Odds Ratios.

Country	Germany				UK				Flanders			
	Model 1		Model 2		Model 1		Model 2		Model 1		Model 2	
	OR	SE	OR	SE	OR	SE	OR	SE	OR	SE	OR	SE
Agreeableness	0.980	0.04	0.955	0.04	1.044	0.06	1.002	0.06	1.002	0.08	1.025	0.09
Agreeableness*cohort	*0.999*	*0.00*	*0.999*	*0.00*	*0.998*	*0.00*	*0.999*	*0.00*	0.999	0.00	1.001	0.00
Cohort	1.021**	0.00	1.022**	0.00	0.988**	0.00	1.001	0.00	0.994	0.00	1.013	0.01
Duration in years	1.015	0.01	1.016	0.01	1.023	0.02	1.010	0.02	0.832***	0.02	0.921***	0.02
Duration squared	0.999*	0.00	0.999*	0.00	0.997**	0.00	0.997**	0.00	1.003***	0.00	1.000	0.00
Conscientiousness	1.053	0.05	1.036	0.05	0.928	0.05	0.905†	0.05	0.992	0.06	0.991	0.06
Conscientiousness*cohort	*0.995†*	*0.00*	*0.996*	*0.00*	*0.998*	*0.00*	*1.000*	*0.00*	0.999	0.00	1.002	0.00
Cohort	1.021**	0.00	1.022**	0.00	0.988**	0.00	1.001	0.00	0.994	0.00	1.013	0.01
Duration in years	1.015	0.01	1.016	0.01	1.023	0.02	1.010	0.02	0.833***	0.02	0.921***	0.02
Duration squared	0.999*	0.00	0.999**	0.00	0.997**	0.00	0.997**	0.00	1.003***	0.00	1.000	0.00
Extraversion	1.183**	0.05	1.162**	0.05	1.118*	0.06	1.085	0.06	1.133**	0.06	1.111*	0.05
Extraversion*cohort	*0.999*	*0.00*	*1.000*	*0.00*	*0.999*	*0.00*	*0.997*	*0.00*	0.998	0.00	1.001	0.00
Cohort	1.021**	0.00	1.021**	0.00	0.988**	0.00	1.001	0.00	0.994	0.00	1.012	0.01
Duration in years	1.015	0.01	1.016	0.01	1.023	0.02	1.010	0.02	0.833***	0.02	0.921***	0.02
Duration squared	0.999*	0.00	0.999*	0.00	0.997**	0.00	0.997**	0.00	1.003***	0.00	1.000	0.00
Neuroticism	1.033	0.04	0.996	0.04	1.088	0.06	1.040	0.06	0.910	0.05	0.904	0.05
Neuroticism*cohort	*1.003*	*0.00*	*1.003*	*0.00*	*1.000*	*0.00*	*1.001*	*0.00*	0.999	0.00	1.001	0.00
Cohort	1.021**	0.00	1.022**	0.00	0.988**	0.00	1.001	0.00	0.995	0.00	1.014	0.01
Duration in years	1.015	0.01	1.016	0.01	1.023	0.02	1.010	0.02	0.833***	0.02	0.921***	0.02
Duration squared	0.999*	0.00	0.999*	0.00	0.997**	0.00	0.997**	0.00	1.003***	0.00	1.000	0.00
Openness to Experience	1.223**	0.05	1.248**	0.05	1.108†	0.07	1.145*	0.07	1.017	0.04	1.034	0.05
Openness*cohort	*0.995†*	*0.00*	*0.995†*	*0.00*	*0.990**†	*0.00*	*0.991**	*0.00*	0.999	0.00	1.002	0.00
Cohort	1.021**	0.00	1.024**	0.00	0.989**	0.01	1.002	0.00	0.994	0.00	1.013	0.01
Duration in years	1.015	0.01	1.017	0.01	1.023	0.02	1.010	0.02	0.832***	0.02	0.921***	0.02
Duration squared	0.999*	0.00	0.999*	0.00	0.997**	0.00	0.997**	0.00	1.003***	0.00	1.000	0.00
N	9017		9017		4169		4169		4377		4377	
Person-years	(151496)		(151496)		(60811)		(60811)		(80381)		(80381)	
Number of events	2236		2236		1028		1028		838		838	

Note: Models run separately for each personality trait and country. Model 2 controls for Gender, Number of children, Parental divorce, Employed (and interaction with gender), Pre-marital cohabitation, Education ISCED 1-2 (reference 3-4), Education ISCED 5-6 (reference 3-4), Age at marriage †$p < .10$. *$p < .05$. **$p < .01$.