When the first union comes to an end: would it have been less distressing if we were cohabiting?

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Abstract

Using data from a large survey, the British Household Panel Survey (BHPS), this paper explores the extent to which marital and cohabiting unions differ with respect to the short-term effects of union dissolution on psychological distress. We compare spouses who divorced or separated with cohabitors whose first union ended and test the hypothesis that spouses experience larger negative effects. The results show that this difference is not statistically significant once the presence of children is controlled for. Having children is found to be a major source of increased psychological distress when one is going through union dissolution. However, it does not explain serious psychological distress, which appears to be associated with internal factors (the personality trait neuroticism) rather than with contextual factors.

Keywords: Psychological distress, mental health, cohabitation, marital status, separation, personality, Big Five, BHPS survey.

1 Introduction

A wealth has been written about the formation of different union types and its consequences as well as about the meaning of cohabiting unions. There is an ongoing debate in sociology and demography about the extent to which the observed benefits of being in a partnership are specific to marriages, or whether they also exist in cohabitations. Where union dissolution is concerned, most of the work has been specifically on divorce. The present paper contributes to the literature by analysing the consequences of both marital and cohabitation dissolution, and comparing the two. Given the rising trend of cohabitation, focusing exclusively on marital dissolution results in an increasingly partial picture of what happens when unions dissolve. Cohabitation has been increasing dramatically over recent decades across most Western countries. In the U.K. the number of cohabiting couple families in the UK climbed from 1.4 million in 1996 to 2.3 million in 2006 corresponding to an increase from 9 to 14 per cent of all family types (Office for National Statistics 2007). In the U.S. the number of unmarried couples cohabiting more than doubled from 1990 to 2009 (Simmons and O'Connell 2003; Kreider 2010) and just between 2009 and 2010 there was a 13 percent increase with the number of cohabiting couples reaching 7.5 million (Kreider 2010).[1]

The outcome studied relies on an indicator of mental health, psychological distress. Since the 'stress model' became widely accepted in the divorce literature back in the 1970s, psychological distress has become one of the key outcomes of interest of marital dissolution (Kitson 2006; Amato 2000). As the partner is most probably the major source of social support (Perlin et al. 1981), breaking up is twice as hurtful: it simultaneously brings distress and the loss of the person on whom the individual used to rely on in face of distressing situations. However, as Amato (2010) points out in his recent review on research on divorce, the extent to which individuals' adaptation to separation differs according to whether the partners are legally married or not is largely unknown. Here we address this issue by comparing the *changes* in psychological distress of spouses and cohabitors surrounding union dissolution – consequently we only analyse separated individuals. As we consider a narrow time-window, the expression 'effect of union dissolution' used throughout the paper refers to the observed changes in the levels of psychological distress which we attribute to union dissolution. In other words, we are interested in direct effects and not in the effects of stressors that arise as consequences of separation - such as economic hardship, for example. We focus on the breakup of *first* unions. In the context of an increasing likelihood that first

[1] This might be partly due to the more precarious economic situation of these couples (Kreider 2010).

cohabiting unions end rather than convert into marriage (Murphy 2000), gaining insight about how the dissolution of first cohabiting unions compares with that of first marriages is particularly relevant. Analysing first unions, as opposed to higher order unions, has the further advantage of being a tougher test to the hypothesis that there are no differences by union type. Assuming that the impact of the first union dissolution is stronger than that of subsequent dissolutions, the odds of finding a statistically significant difference between spouses and cohabitors is higher when analysing first unions - if this were to exist.

In the next section we discuss why we may observe a difference in the psychological distress of union dissolution between spouses and cohabitors. One explanation is that the end of a union brings the loss of the benefits of being in a partnership, which might differ for marital and cohabiting unions. Another explanation is that the difference between spouses and cohabitors results from selection in union formation. The discussion of how two factors might simultaneously drive union type and 'reaction' to union dissolution, education and parenthood, unavoidably leads us to the changes that have been occurring in the last decades in the process of union formation and in the meaning of cohabitation. We then discuss why we deem particularly important to control for the level of psychological distress before union dissolution and personality traits when analysing *changes* in psychological distress. If, after controlling for these factors, the difference in the effect of breakup on psychological distress between spouses and cohabitors is substantially reduced, that would be evidence that it is not the type of union in itself which matters the most.

2 Background

It is well-established that on average divorce brings about psychological distress. What is not yet established is whether the breakup of a cohabitation differs with respect to marital disruption. The resources perspective posits that the detrimental effects of union dissolution derive from losing access to valuable resources once provided by the union (Williams and Umberson 2004; Soons et al. 2009). Research from a variety of disciplines suggests the existence of marriage benefits in a host of domains, from economic benefits such as insurance, economies of scale and specialization to a health 'marital protection' (Waite and Gallagher 2000; Ross et al. 1990; Espinosa and Evans 2008). Another settled finding in the literature is that married individuals fare better in several outcomes than individuals who never got

married, and those who once were in a relationship which ended fare worse than any of these other two groups. The ongoing debate is about whether the observed marriage benefits are mainly due to causality or selection. In their influential book *The case for marriage*, Waite and Gallagher (2000) argue that marriage is a social institution that should not be confounded with cohabitation which they see as a private relationship characterized by low commitment. Steve Nock held similar positions throughout his research, arguing that marriage changes people (Nock 2001). Although these scholars argue for a causal effect of marriage, attributing the benefits of partnerships almost exclusively to marital unions[2], there are important selection issues at play. Studies on the effect of premarital cohabitation on marital disruption have shown that when selection issues are appropriately dealt with, the effect of premarital cohabitation decreases substantially (e.g. Berrington and Diamond 1999) or disappears altogether (Lillard et al. 1995; Reinhold 2010). Looking specifically at partnership health benefits, Averett and Kohn (2010) show that, controlling for selection and health dynamics, there is no statistically significant difference between marriage and cohabitation.

Hypothesis about the consequences of union dissolution and whether these differ between married individuals and cohabitors crucially depend on the extent to which the observed benefits of being in a partnership are specific to marriages or whether they exist also in cohabitations. If one assumes that it is marriage in itself that originates positive outcomes, it logically follows that spouses have more to lose from union dissolution than cohabitors and therefore, the realization of this loss would result in substantially greater psychological distress for the former. However, as alternatives to marriage are becoming increasingly more common, the meaning and rewards of marriage have been changing (Cherlin 2005) and the differences between different union types have become less stark also in terms of the benefits they provide (Seltzer 2000; Musick and Bumpass 2006). Indeed, further reflection on how marital benefits come about renders clear that reality is more nuanced than what that assumption implies.

The literature proposes three main explanations for the marital benefits: living with someone rather than alone, social support and economic well-being (Ross et al. 1990). Clearly, many of the benefits of living with someone may occur independently of the type of union therefore existing in both marriages and cohabiting unions. On the other hand, if the most important aspect of living with someone is that it

[2] "Cohabitations do not take on the protective coloration of marriage but flaunt their differences (Waite and Gallagher 2000: 37)"; "Cohabitors generally do not reap the profound physical-health benefits married couples get" (Waite and Gallagher 2000: 45).

provides a 'stabilizing sense of security, belonging and direction' (Ross et al. 1990: 1062), living with a spouse might be different from co-habiting with a partner. Despite the growing individualization of personal life (Cherlin 2004), some individuals might still attach a specific valued social role to being someone's spouse. Insofar as cohabitation is characterized by a larger degree of individualization, differences between marital and cohabiting unions might also be expected regarding social control, regulation of behaviour and income pooling (Reis et al. 2002; Heimdal and Houseknecht 2003) i.e. although these are often observed in marriages that is not necessarily the case in cohabitations. As far as emotional support is concerned substantial differences between marital and cohabiting unions seem less likely. After all, if two individuals decided to live together they surely love and care about each other. Soons et al. (2009) show that even steady dating increases subjective well-being (SWB). All the above suggests that some partnership benefits are not exclusive of marriages and, consequently, the realization of its loss might bring about psychological distress. By the same token, even in cases where cohabitation was a 'just' a trial marriage (rather than an alternative to marriage) breakup might anyway be felt as a failure. On the other hand, if 'enforceable trust' leads spouses to investment more in their relationship than cohabitors do (Cherlin 2004), we would expect breakup to be less costly for cohabitors. In a nutshell, the argument for the causal effect of marriage leads to the hypothesis that only marital disruption is associated with increases in psychological distress. A more plausible hypothesis is that on average cohabitors also experience negative effects of union dissolution, just not as large as the ones experienced by married individuals.

2.1 The selection argument

2.1.1 Education, parenthood and first union type

Cohabitors are usually described as belonging to a lower socio-economic class and having lower education (e.g. Seltzer 2000, Smock 2000, Waite and Gallagher 2000). However, the association between cohabitation and socioeconomic status depends on whether one is considering all cohabiting unions – as most papers do - or first unions only, as well as on the context (both geographical and historical) in which the choice of cohabiting over marrying was made. Despite a certain degree of de-institutionalization, in the U.S. marriage continues to enjoy considerable popularity (Cherlin 2004; Nock 2005; Stevenson and Wolfers 2007). Whereas in some European countries cohabitation emerged as a new form of family formation in

the 1970s, and as such typically chosen by the highly educated elites, more educated and better off Americans tend to “marry, to move more rapidly from cohabitation to marriage, and to remain married" (Smock and Greenland 2010: 582). The different meanings of cohabitation in Western Europe and in the U.S. partly explain why in the former the association between education and the incidence of cohabitation is positive (see Kalmijn 2007) rather than negative. Historical context matters too. Cohabitation became the preferential way to begin family life. In the U.K. around 70 percent of first marriages in the early 1990s were preceded by cohabitation (Berrington and Diamond 2000) - in the U.S. the same percentage was observed one decade later (Stevenson and Wolfers 2007). The increasing rate of first-cohabitation together with the expansion of the educational system over the last decades in the U.K. means that an increasing proportion of first unions in recent cohorts are cohabitations formed by both highly and not so highly educated individuals. In other words, the positive selection into premarital cohabitation in terms of education gave way to a negative selection into direct marriage (Berrington and Diamond 2000). Differently from what happened in the past, many of these cohabitations will not end up in marriage. From the beginning of the 1990s in the U.K., it became more likely that a cohabitation dissolves than it converts into marriage, at the same time that the there was a noticeable increase in the average duration of cohabitation (Murphy 2000). Steele et al. (2006) present similar evidence when comparing the 1958 and 1970 birth cohorts.

Once, when marriage was the only acceptable context for childbearing, having children would perhaps constitute the clearest difference between cohabitors and married individuals. There was a well-defined normative sequencing according to which marriage should precede childbearing. However, the patterns of family formation have been changing. Whereas cohabitation by never-married individuals used to be, by and large, a childless living arrangement (Kiernan 2004), nowadays increasingly more cohabiting couples are having children. From less than 10 percent in the beginning of the 1970s, the percentage of first births occurring within cohabitations in 2004 surpassed 30 percent in the U.K. and 50 in Norway and France (Perelli-Harris et al. 2010). In terms of the analysis carried out in this paper it is important to keep in mind that childbearing within cohabitation only became relatively common in the U.K. for the cohorts born from the 1970s onwards. This implies that, especially for the older cohorts, a pregnancy or the willingness to have children would prompt the couple to marry beforehand thereby driving their union type. Steele et al. (2006) find that more than one third of the cohabiting women in the 1958 cohort who got pregnant

married before giving birth while for the 1970 cohort that proportion is one ninth. Moreover, despite being an increasingly more accepted context for childbearing, for many cohabitation is still a temporary arrangement and marriage continues to be a desired goal (Perelli-Harris et al. 2010). Therefore, overall we expect a negative relationship between parenthood and experiencing the first union dissolution as a cohabitor.

2.1.2 Reaction to union dissolution

Education is known to be a protective factor with regards to both physical and mental health (Grossman 2006; Ross and Mirowsky 2006). Power et al. (2002) show that, for the 1958 British birth cohort, qualifications obtained by the end of secondary school substantially reduce the odds ratio of psychological distress at age 33. One of the mechanisms behind the positive association between education and mental health is that education 'equips' individuals to better face the adverse events that occur throughout the life course. In his influential sociological study of stress, Perlin (1989) suggests social support and coping[3] as the two main explanations for individual differences in reaction to distressful events, and there is indeed some evidence to suggest that socially advantaged groups have more social support (Turner and Marino 1994). Moreover, highly educated individuals might develop a more efficient cognitive process which allows them to more easily come to terms with adversities. When faced with the loss of a valued social role (partner or spouse, in this case) individuals tend to compensate by attaching more value to another existing identity (Simon 1997). Given that highly educated individuals are more likely to work and to be career-attached, they are also more likely to have a worker identity at the same time that it is probably easier for them to attribute it greater value than it is for lower educated individuals, for whom being a partner or spouse might constitute a stronger role identity.

Role strains are another important mechanism linking events to stress (Perlin et al. 1981). The idea is that adverse life events, such as union dissolution, might interfere with individuals' ability to deal with *existing* strains in other spheres of life (e.g. parenthood). Even though childbearing is usually described as a joyful event, childrearing may bring considerable strain. Clark et al. (2008) find that parents' life satisfaction steadily declines from the moment of childbirth, and by the time the child is aged three to four, both mothers and fathers report satisfaction significantly below the level prior to childbirth. Williams and

[3] Social support is "the access to and use of individuals, groups, or organizations in dealing with life's vicissitudes" (Perlin et al. 1981: 340) and coping "refers to the actions that people take in their own behalf as they attempt to avoid or lessen the impact of life problems" (Perlin 1989: 250).

Dunne-Bryant (2006) find that the presence of (young) children magnifies the effects of union disruption on mental health. Independently of potential existing parenting strains, the presence of children during the process of union dissolution might be distressing in itself. Children are couple-specific capital and negotiating parental visits is certainly one of the major contended issues surrounding separation. Additionally, many parents feel guilty about the effects that family breakdown might have on their children and this might increase substantially their psychological strain in that period.

In sum, given the protective effect of education, we expect the negative selection into marriage in terms of education (driven by cohort effects) to help in explaining the potentially worst reaction to union dissolution by spouses when compared to cohabitors. Similarly, given the potential parenting strains, we expect the positive selection into marriage in terms of parenthood to partly explain that difference.

2.2 Psychological distress before union dissolution and personality traits

2.2.1 Psychological distress before union dissolution

The stress framework that dominates the literature on divorce relies on the assumption that this transition is inherently distressful (Amato 2010). However, as Wheaton (1990) argues in his 'role history approach', this assumption may be unwarranted. Whereas divorce may bring about psychological distress on *average*, individuals experience union dissolution in various ways (Carr and Springer 2010) and it may even be beneficial to those who initiated it (Kitson 2006; Wheaton 1990; Amato 2000). Contrary to the crisis theory, in which stress is thought to be resulting from discrete changes (e.g. union dissolution event), in Wheaton's 'role history approach' stress is envisaged as a continuous exposure to stressful situations (Wheaton 1990). The model predicts that role stress (stress accumulation related to the role involved in the transition) in the run up to the event mitigates the negative effect of the transition which might even turn out to be a stress-relief instead of a stressor. With respect to divorce Wheaton (1990) finds that distress is larger the lower is the indicator of marital problems (the measure of role stress used in this case). Thus, individual differences in pre-dissolution levels of psychological distress need to be controlled for when analyzing its changes. This is particularly relevant in our setting due to potential differences between spouses and cohabitors in their average pre-dissolution level of psychological distress. From a methodological point of view, controlling for psychological distress pre-disruption purges the change in

psychological distress around union dissolution from the influence of omitted variables that might persistently affect the level of psychological distress (Finkel 1995).

2.2.2 Personality traits

As psychological distress relates to negative affect (i.e. to experiencing anxiety, depression or stress) - one of the components of SWB, the others being positive affect, self-reported life-satisfaction and domain satisfaction (Diener et al. 1999) - the insights from the vast literature on SWB are useful when considering the association between psychological distress and union dissolution. It has been shown that personality determines SWB (DeNeve and Cooper 1998) and, in particular, that extraversion and neuroticism are strongly correlated to positive and negative affect, respectively (Diener et al. 1999). Extraversion and neuroticism are two of the Big Five personality traits, the others being agreeableness, conscientiousness and openness to experience. The Big Five is now consensually accepted as a general taxonomy of personality traits (John et al. 2008). As high extroversion and high neuroticism were found to be positively associated with a strong reaction to positive and negative events (Diener et al. 2003; Headey 2006), we expect neuroticism to be positively associated with increased psychological distress around separation.

3 Data and methods

The sample we use for the present study comes from the first 18 waves of the British Household Panel Survey (BHPS). The BHPS has been conducted annually since 1991 on a nationally representative sample of more than 5000 households. At wave one the original sample comprised 13840 individuals of which 92% gave a full interview. After an initial decrease in the wave-on-wave response rates in waves two to five, they were always around 93%, increasing to 95% in Wave 18. Due to cumulative attrition throughout the duration of the panel only 46.6% of the original sample members with a full interview at wave one provided a full interview at wave 18 (Taylor et al. 2010). Respondents' partnership histories were obtained from the consolidated marital, cohabitation and fertility file (Pronzato 2010). Given our focus on changes in psychological distress around first union dissolution, individuals who were already married, cohabiting or divorced the first time they were interviewed and for whom there is no retrospective partnership history, or for whom union disruption did not occur in the panel, were not included in the sample. Individuals for whom there is no retrospective history but who were 18 years old or younger the first time

they are observed in the panel were kept under the assumption that even if they were in a union, that union must have been their first.

The dependent variable is the *change* in psychological distress around union dissolution i.e., the change between the level of psychological distress measured at the first interview after separation (t+1) and the one observed at the interview before the last with respect to the transition (t-2). We consider union dissolution to occur when a couple stops living together as this is the moment when people actually experience the breakdown of their union. Hence, we use the separation date both for cohabiting and (most) marital unions - we use the divorce date for 51 marital unions for which the lag between divorce and separation is in any case one year or less.[4] As the separation date (t) - given by the retrospective histories - typically occurs in between waves we do not observe the individuals' psychological distress at that exact moment. Psychological distress is measured at the time of the interviews and therefore the closest observations are at (t-1) and (t+1). The choice of (t-2) instead of (t-1) as the pre-dissolution observation is due to the fact that the level of psychological distress at (t-1) is likely to capture an anticipation effect (Booth and Amato 1991; Wade and Pevalin 2004; Lucas 2005; Clark et al. 2008; Gardner and Oswald 2006). Therefore, the time-window (t-2, t+1) is the period over which the effects are expected to be larger (Lucas 2005). Given the way we constructed the outcome variable, we also had to exclude from the sample the individuals for whom psychological distress was not observed both two periods before and one period after breakup. The final sample is composed of 577 individuals.

The vast majority of studies on divorce and mental health access the effect of dissolution by comparing divorced individuals with those continuously married, the idea being that the latter represents the counterfactual to those who divorce. We do essentially the same since our main outcome of interest is the *change* in psychological distress. Assuming that there is no further systematic selection into partnership breakdown - once the observed control variables are included - contrasting mental health after separation with that observed when the individuals were still in the union is as if we were comparing separated individuals with those continuously partnered. Given that people who divorce were found to be already less satisfied before marriage (e.g., Lucas 2005; Stutzer and Frey 2006) and that poor mental health is

[4] The separation date is available for 72% of the unions which ended in divorce and missing for 51 unions. The separation date is missing when individuals went from being married at a given wave to being divorced in the following wave as in these cases separation date is not asked. In a robustness check we input the separation date to be the month after the last interview in which individuals declared to be married – as this is the earliest the separation could have occurred – but the results are qualitatively the same (results not shown).

positively associated with the likelihood of marital (Wade and Pevalin 2004) or cohabitation breakup (Pevalin and Ermisch 2004), controlling for the psychological distress prior to union dissolution is particularly important in dealing with selection out of partnership.

Psychological distress is measured by a score derived from the 12-item general health questionnaire (GHQ-12) that exists for all waves. The GHQ was developed "to capture a concept of psychological distress thought meaningful to psychiatrists" (Goldberg 1992: 189) and it has been widely used both as a screening instrument for psychiatric disorders in non-clinical settings[5] and in research on mental health. The Likert score provided by the BHPS is obtained by attributing an ordinal coding to the answers (0-1-2-3) and therefore it ranges from 0 to 36.[6] Higher scores indicate greater distress. Clinical uses of the GHQ adopt a threshold that indicates a fifty percent probability of a psychiatric diagnosis (Bower 1997). For the Likert GHQ-12 there is no established cut-off point but thresholds of 13/14 or 11/12 have been suggested (Madden 2009).

With a few exceptions (e.g., Lundberg 2010; Tavares 2010) personality has been overlooked in family studies, one of the main reasons being that only recently do large-scale surveys include personality measures. The BHPS asked questions on the Big Five personality traits for the first time in 2005, and these are the measures of personality used here. The personality trait scales were constructed using all respondents of wave 15 who replied to the personality traits questions, three for each of the five personality dimensions: "I see myself as someone who… " 'Is talkative', 'Is outgoing, sociable', 'Is reserved' (Extraversion); 'Is sometimes rude to others', 'Has a forgiving nature', 'Is considerate and kind to almost everyone' (Agreeableness); 'Does a thorough job', 'Tends to be lazy', 'Does things efficiently' (Conscientiousness); 'Worries a lot', 'Gets nervously easily', 'Is relaxed, handles stress well' (Neuroticism); 'Is original, comes up with new ideas', 'Values artistic, aesthetic experiences', 'Has an active imagination' (Openness). Each personality scale was constructed using only the observations for which none of the three answers is missing. The internal consistency reliability of the personality trait scales[7] obtained from

[5] The GHQ identifies distress and not necessarily mental illness needing treatment (Goldberg 1992). For the psychometric properties of the GHQ, see Goldberg and Williams (1988).

[6] As this scoring system produces a score with a wider range of values than the Caseness score - therefore approximating better the Normal distribution– it is better suited for using in regression analysis (Madden 2009).

[7] 0.5384, 0.5275, 0.5138, 0.676 and 0.6731 for Extraversion, Agreeableness, Conscientiousness, Neuroticism and Openness, respectively.

the personality traits questionnaire while not impressive is acceptable, particularly for the neuroticism and openness scales for which the Cronbach's alpha is around 0.67.

3.1. Descriptive Statistics

The sample composition reflects the sign of times and the fact that we are looking at first unions which ended at some point in the panel (Table 1). The individuals in our sample were on average 24 years old when they were first interviewed, but there is an important age difference between cohabitors (19 years old) and spouses (32 years old). For the majority of individuals their first dissolved union was a cohabitation (61%). Whereas almost all individuals who were born before 1960 had a marital dissolution (93%) and only a very small minority were cohabitors (7%), the reverse happens for the youngest cohort (the percentages are 10% and 90%, respectively). It is also interesting to see how the pathway to marriage changed in the eighties. While only about 30% of the individuals born before 1960 (and whose first union was a marriage) had a premarital cohabitation, this percentage doubles for the following cohort. By 'construction' the first unions of older cohorts lasted for a substantial number of years, and that partly explains the huge disparity between the average durations of cohabitations (little more than 3 years) and marriages (around 17 years). A quarter of the cohabitors had at least one child at (t-2) and, as expected, this percentage is much higher among the married individuals (84%). In our sample, two thirds of the individuals who have A-levels[8] or higher educational qualifications cohabited in their first dissolved union.

[Table 1 here]

In terms of psychological distress, Table 1 shows that the average GHQ_{t-2} score of spouses is higher than that of cohabitors[9], and that among spouses those who did not cohabit before marriage exhibit higher psychological distress. However, we cannot read much into these raw differences as they might be driven by age. The same pattern is observed for the changes in the score around union dissolution. On average, cohabitors seem to be the ones experiencing the least negative consequences and married people who did not cohabit before the ones suffering a more negative shock.[10]

[8] A-levels are exams taken at the end of secondary school when students are 16-18 years old (after compulsory school). These exams are a screening device for entrance in university as well as important signals for the labour market.
[9] The difference is statistically significant at the 1% level (t = -2.6521).
[10] The difference between the average change in mental health scores of cohabitors and married individuals is statistically significant at the 5% level (t = -2.0158).

The same can be seen in Figure 1 which shows the average GHQ score by union type from 5 interviews before to 5 interviews after separation. It is also evident from this figure that the GHQ score's baseline of cohabitors is lower than that of the individuals whose first dissolved union was a marriage, and that there is a clear anticipation effect for both union types. In both cases, there is a jump in psychological distress at (t-1). This jump puts the average GHQ score of spouses well beyond the 13/14 threshold but the same does not happen for cohabitors. As it has been found in previous studies using the BHPS (Wade and Pevalin 2004; Gardner and Oswald 2006; Blekesaune 2008), on *average* people adapt fairly rapidly to union dissolution.

[Figure 1 here]

We have added to the plot the results of Gardner and Oswald (2006) – who also use the BHPS - to stress the importance of identifying accurately the moment when union dissolution took place. As mentioned before, separation will typically occur in between waves. From the retrospective partnership histories we know the date of the transition which, together with the interview dates, allows us to identify the wave before (t-1) and after dissolution (t+1). Gardner and Oswald (2006) consider the year of the first interview after separation as the year of union dissolution (our t+1) and the year of the second interview (our t+2) as the first observation after the event leading them to the observation that people's mental well-being improves immediately after separation. Our figure shows that this not generally the case; it does happen, but just for the married individuals who cohabited before their first union. Taken together the results from Table 1 and Figure 1 suggest that, on average, union dissolution does bring psychological distress even if the effects dissipate rather quickly.

When instead of looking at the change in the *average* GHQ score from (t-2) to (t+1) we look at that difference at the individual level we see that there is substantial heterogeneity in how individuals react to the end of their union (see Figure 2). The sample is almost evenly split between those who gain from the union dissolution and those who lose, for cohabitation and marital unions alike. Moreover, a non-negligible proportion of individuals (the top quartile) experiences significant increases in psychological distress – increases in the GHQ score of more than 8 and 6, for marriage and cohabiting unions respectively.

From the descriptive results presented so far it would seem that the answer to the question of whether dissolving a cohabiting union is less distressing is: yes. However, these results are purely descriptive and several factors might be driving this raw association. To explore this issue further we conduct multivariate analysis.

[Figure 2 here]

3.2. Multivariate analysis

Due to sample size restrictions, in the multivariate analysis we do not distinguish marital unions which are direct marriages from those which were preceded by cohabitation. Therefore, 'union' is a binary variable assuming value 1 if the first dissolved union was a marriage and 0 if it was a cohabitation. The educational level is a binary variable that takes value 1 if the individual has A-levels or higher educational qualifications, and another binary variable indicates whether the individual had any children at (t-2).[11]

Besides these main variables of interest, we include in the analysis several other control variables: GHQ_{t-2}, time elapsed since separation (at t+1), union duration, gender, household income at (t-2) and birth cohorts. It is important to control for the temporal distance from separation – it goes from one to 16 months - because there might be already some adaptation a few months after union dissolution. One might also expect the breakup of a long union to be particularly distressing. Given the discrepancy we observe in the average durations of cohabiting and marital unions – the latter lasting much longer – we also include in the analysis an interaction term of the duration of the union and its type. It is worth noting that for spouses who cohabited before marriage, the starting date used to calculate duration is the date when the couple first started living together. In some specifications we included the age at which union dissolution occurred. However, since there is no significant effect of age at union dissolution on the change in the GHQ score and its exclusion does not affect any of the other coefficients, age at union dissolution is not included in the main results presented here. In the probit models where the dependent variable is the level of psychological distress at (t+1), we do include age at union dissolution. The existing evidence about gender differences in psychological distress upon breakup is mixed. Some studies show that women suffer larger increases in psychological distress than men upon the dissolution of their union (e.g. Simon 2002) while others find no evidence to suggest that the *short-term* effects of change in marital status on psychological

[11] We also tried including the number of children but as this variable does not add anything to the results over and above the variable that just indicates the presence of children we opted for not including it in the results shown here.

distress are different for men and women (Strohschein et al. 2005). To account for eventual gender differences, we include gender as a control variable. As the reaction to union dissolution may also be related to the one's financial resources we include household income at (t-2) as well. Finally, we include the birth cohorts.

As personality traits were only assessed in 2005 we just observe them for the sub-sample of individuals who were still BHPS respondents that year. Consequently, the models including the Big Five were estimated only for this sub-sample and its results are not entirely comparable with the others. The five personality scales were standardized for this sub-sample to have mean zero and standard deviation one.

The main estimating equation can be written as:

$$\Delta GHQ_{t-2,t+1} = \alpha + \beta_1 union + \beta_2 GHQ_{t-2} + \beta_3 education + \beta_4 parenthood_{t-2} + \beta_5 time\_elapsed + \beta_6 duration + \beta_7 union * duration + \beta_8 female + \beta_9 income_{t-2} + (birthcohorts)'\theta + X'\delta + \varepsilon \quad (1)$$

where β_1 is the main parameter of interest, θ is a vector of the parameters of each birth cohort, δ is a vector of the parameters associated to the personality traits and ε represents the error term. As the distribution of the dependent variable approximates quite well the Normal (see Figure 2), equation (1) is estimated by Ordinary Least Squares. We first estimate the effect of union type without any regressors and then, as we introduce them in the estimation we check whether the estimated coefficient of union type and its statistical significance change. This gives insight about the underlying mechanisms behind the observed association between union type and psychological distress of union dissolution.

The estimation of equation (1) gives us the average effect of each of the independent variables on the change in the GHQ score between (t+1) and (t-2). To find out whether being married instead of cohabiting is associated with a higher probability of experiencing serious psychological distress, we further estimate a model where the outcome is a binary variable indicating whether the GHQ score was 14 or higher immediately after union dissolution. This is the highest 'caseness' threshold suggested in the literature and it corresponds to the 75th percentile of our distribution of GHQ $_{t-2}$. Since this is a binary variable probit models were estimated in this case.

4 Results

As hypothesized, the estimated coefficient of 'union' when no other covariates are included is statistically significant and positive (see Table 2, model 1). The magnitude of the estimated coefficient shows that not

only is marital dissolution associated with a greater increase in psychological distress than is the dissolution of a cohabitation but also that this difference is considerable. Also as expected, the estimated coefficient of GHQ_{t-2} is statistically significant throughout all model specifications. Its negative sign indicates a 'negative feedback'. The higher is the psychological distress before union dissolution, the smaller is the *increase* in psychological distress. In other words, the negative coefficient of GHQ_{t-2} on the change in the GHQ score pushes the level of psychological distress towards equilibrium (Finkel 1995). This result is very much consistent with Wheaton's (1990) 'role history approach'. This, together with spouses' higher levels of psychological distress before separation, explains why the estimated coefficient of 'union' increases substantially when GHQ_{t-2} is added to the model (model 2).

As we have argued, one of the potential explanations for the bigger increase in psychological distress among spouses as compared to cohabitors is that the latter are 'protected' by their higher educational levels. Indeed we find that education has a protective effect: the psychological distress of individuals who have A-levels or higher educational qualifications goes up by less 1.6 points than of lower educated counterparts (model 3). However, the estimated coefficient of 'union' remains statistically significant and virtually unchanged even when education is included in the model. This does not necessarily mean that the suggested selection mechanism is not present. If we were able to separate direct marriages from the marriages preceded by cohabitation, we would probably observe a negative selection for the former. Unfortunately our sample size does not allow us to do that, and the fact that spouses who cohabited before marriage are as educated as cohabitors (see Table 1) waters down the selection effect. As also argued, part of the protective effect of education may be related to the fact that highly educated people are more likely to work which, in turn, gives them access to further sources of social support as well as a stronger worker identity. We explored this idea by including in the model a binary variable indicating whether the individual was working at (t-2) but its estimated coefficient turns out to be statistically insignificant and the estimated coefficient of education hardly changes (results not shown).

Whereas education does not alter the union effect, parenthood does. When the variable indicating parenthood at (t-2) is added to the model, the estimated coefficient of 'union' loses its significance. Moreover, parenthood is associated with significant increases in the GHQ score. This suggests that the results obtained in previous specifications were merely reflecting the fact that parenthood is much more prevalent in marriages than in cohabitations. When this factor is taken into account and we compare like

with like, the type of union is no longer significant. To explore this further, we estimated the main model (model 5) stratified by parental status at (t-2) and the results corroborate the finding (results not shown). Essentially, selection into marriage by parents is what produces the positive association between marital union (vs. cohabitation) and increased psychological distress around separation.

[Table 2 here]

Finally, we include all the other regressors (model 5). It is surprising that the estimated coefficient of the time elapsed since separation is positive. We interpret this as evidence that on average people get worse before getting better in the months after the separation. None of estimated coefficients of the other controls are statistically significant. Like Strohschein et al. (2005), we do not find statistically significant gender differences in reaction to union dissolution.[12] We also interacted gender with parenthood at (t-2) to test whether mothers were particularly affected by union dissolution with respect to fathers but the interaction term turned out insignificant.[13] For a sub-sample we explored whether father's social class influences individual's reaction to union dissolution but we find no evidence of such social gradient.[13]

The last column of Table 2 shows the estimation results of a model that includes the Big Five personality traits. Before turning to the interpretation of the results, one remark is in order. Since the Big Five was measured in wave 15, for the majority of people in the sample it was measured after union dissolution. This causes a potential problem of reverse causality even if personality can be assumed to be fairly stable throughout adulthood (McCrae and Costa 2008). Not surprisingly, neuroticism is associated with increased psychological distress around union dissolution. More noteworthy is the magnitude of the estimated coefficient: one standard deviation increase in neuroticism is associated a 12 percent increase in the GHQ score (from its mean value at t-2). Perhaps the most interesting result concerns education, since its effect is no longer statistically significant, suggesting that it is not necessarily education in itself that protects individuals from the psychological upheaval of union dissolution. The protective effect of education appears to be due to self-selection into education in terms of personality traits that also influence people's reaction to union disruption. As the sample used in the model that includes the personality traits is different from the one used in previous model specifications, one could worry that this result is simply due to a different sample composition. To clarify this issue, we estimated model 5 using the sub-sample used

[12] Not even if we do not control for the mental health score at (t-2) (results not shown).
[13] Results not shown.

to estimate model 6.[13] The estimated coefficient of education turns out to be statistically significant allowing us to conclude that the results obtained when controlling for the personality traits are not driven by the different sample composition.

Table 3 shows estimates of the probit models where the dependent variable is a binary variable indicating whether the GHQ score was 14 or higher immediately after union dissolution.

[Table 3 here]

These results partly confirm the ones in Table 2. Like before, spouses are no different from cohabitors, education becomes insignificant when controlling for personality traits, and individuals who score high in neuroticism are more likely to have a GHQ score that hits or surpasses the 14 cut-off point immediately after union dissolution. But there are important differences as well. Since in this model we are looking at the determinants of serious psychological distress, the estimated coefficient of GHQ_{t-2} is now positive: the odds of experiencing considerable distress are higher if an individual's level of psychological distress pre-separation is already high. More importantly, having children is not associated with developing a psychiatric disorder in the aftermath of union disruption. These results further show that experiencing serious psychological distress at union dissolution is associated with internal factors (neuroticism) rather than with contextual factors (such as parenthood).

5 Discussion

This paper asked the question of whether first union dissolution is less distressing for cohabitors than for spouses. Judging from the raw difference in the average change in psychological distress around separation between the two groups the answer is indeed positive. On average, the change in psychological distress of spouses is approximately the double that of cohabitors.

The following question is why. Is it because of the type of union itself or is it due to differences between cohabitors and spouses? We find that parenthood is strongly associated with increases in psychological distress around separation and that once we control for it, union type becomes statistically insignificant. Since parents are much more likely to be married than cohabiting, this implies that it is essentially selection which is driving the between-group difference in the average change in psychological distress.

Despite being strongly associated with increases in psychological distress, parenthood is not associated with developing psychiatric disorders in the aftermath of union dissolution.

As expected, the results show a protective effect of education both in terms of a smaller increase in psychological distress and a lower probability of experiencing serious psychological distress. As cohabitors have higher levels of education (we are considering first unions in the U.K.), we hypothesized that selection in terms of education could also help explaining the differences in how cohabitors and spouses react to union dissolution. We fail to find evidence for this but it is has to be pointed out that the married group includes the individuals who cohabited before marriage which waters down the selection mechanism. Finally, the effect of education is not robust to the inclusion of individual differences in personality which cast some doubts about the causal nature of the protective effect of education on the reaction to union dissolution.

The results presented here show that, more than substantially reduced, the difference in the effect of breakup on psychological distress between spouses and cohabitors is no longer statistically significant after controlling for factors that make spouses and cohabitors different. To our best knowledge there are only two other papers comparing the consequences of marital and cohabitation dissolution on psychological distress (Blekesaune 2008; Wu and Hart 2002), and in both cohabitors are found to suffer less when their union dissolves. One explanation for our disparate result is that, unlike these previous studies and most papers which look at the consequences of transitions in or out of unions (Carr and Springer 2010), we do not pool all the unions and focus on first unions only. This is an important difference since some studies find that marriage benefits are smaller for the second marriage (Marks and Lambert 1998; Barrett 2000) or exist only for the first marriage (Simon 2002). If marriage benefits decrease with their order, one might expect the same pattern with respect to the costs of union dissolution. After all, it is plausible that people 'learn by doing' as far as breakups are concerned (Poortman 2007). Since many cohabitations follow previous marriages, comparisons between cohabitating and marital unions that do not take union order into account are biased towards a stronger negative effect of marital dissolution. The difference between our results and those of Wu and Hart (2002) might also be due to the fact that in latter neither age nor birth cohorts are controlled for. This might be particularly relevant given the possibly different age profiles of cohabitors and spouses. As for Blekesaune (2008), he estimates a fixed-effects model regressing changes in psychological distress on a set of time slopes around breakup, controlling only for a set of age

slopes. He finds that marriage separation is more distressing than the dissolution of a cohabitation but also says that the difference between spouses and cohabitors depend on the duration of cohabitations (included in other model specifications). However, as the results are not shown we do not know how large the difference is when controlling for union duration (or if it remains significant). Perhaps the most important difference between our analysis and that of Blekesaune is that he does not control for parenthood when analysing the short-term effects of union dissolution.

Another contribution of the present paper relates to the period over which we study the consequences of union dissolution as well as the precision with which we identify the moment of separation. Focusing on short-term effects has the advantage of minimizing the risk that events other than the union dissolution have occurred - which is quite significant in a longer time frame (Perlin 1989). Long-term effects might reflect the reaction to changes triggered by the breakup (or not) rather than the reaction to the breakup itself (Strohschein et al. 2005; Waite et al. 2009). To the extent that both these secondary stressors and the adaptation pace might differ by union type, comparing the long-term effects of cohabiting and marital dissolutions is extremely complex. Focusing on the reaction to union disruption, as we do, allows a more straightforward comparison between cohabiting and marital unions.

In the context of union dissolution, even an otherwise relatively short period of time (e.g. two or three years) might be too long to study its short-term effects – as the literature has shown, the effects of union dissolution are strong but transitory. Yet, this is typically the time-span considered in many previous studies on the consequences of union dissolution based on longitudinal data (e.g., Wu and Hart 2002). Another limitation of many longitudinal studies is the reliance on partnership status at time of the interview to infer changes in between interviews. In other words, the exact separation date is not known. This might have implications for the interpretation of results insofar as it becomes impossible to distinguish short-term effects from 'medium-term' effects. For instance, in Wu and Hart (2002) some individuals were observed as late as two years after union dissolution, at which time some may have recovered already. By exploiting the retrospective partnership histories available in the BHPS and also the fact that the GHQ score is measured in all waves, we are able to identify with precision the moment of separation and to observe the psychological distress less than one year after the transition – less than 6 months and a half for three quarters of the sample.

The fact that family formation has been undergoing considerable change, and at a fast pace, has important implications. By using a sample mainly composed of recent cohorts, particularly the sub-sample of cohabitors, the present study gives an up-to-date picture of family formation and its consequences. The rising trend in out-of-wedlock childbearing is in great part driven by childbearing in the context of cohabitation, both in the U.K. (Ermisch 2008) and in the U.S. (Seltzer 2000; Smock 2000). Precisely because childbearing has always been seen as a cornerstone in the definition of family, this trend could be interpreted as a sign that cohabitation is becoming a 'real' alternative to marriage. However, the fact that in the U.K. many cohabiting parents marry some years after childbearing (Kiernan 2004) suggests otherwise, and recent evidence shows that cohabitation is not becoming a substitute for marriage (Perelli-Harris et al. 2010). The main change relatively to some decades ago is in the sequencing of life transitions whereby marriage is more often coming not only after cohabitation but also after childbearing (Cherlin 2004). This is not so for all cohabiting parents of course, and some of them might see their union as an alternative to marriage. Either way, since separation is found to be equally distressing for cohabitors and spouses with children, we can say that in that respect cohabiting parents are more similar to married couples than to childless cohabitors. Pushing the argument further, one could interpret this as evidence that cohabiting parents experience considerable emotional attachment and commitment. This is speculative at this stage given that we are not able to disentangle the effect of the presence of children on psychological upheaval brought by union dissolution from the effect of level of commitment children might signal. However, our results do show that *if* childrearing in the context of cohabitation increases, the average short-term effects of union dissolution on spouses and cohabitors will become ever more similar, and might even become more negative for the latter if childrearing within cohabitation becomes increasingly associated with disadvantage. In future research it would be interesting to compare the effect of union dissolution on cohabitors, spouses who married directly and spouses who cohabited before marriage.

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Figure captions

Figure 1: Average GHQ score -5 years to +5 years from dissolution by union type (first union)

Figure 2: Distribution of the change in the individual GHQ score (t-2, t+1) around first union dissolution

Tables

Table 1: Descriptive statistics (column % in italic)

	Total		Cohabitation		Marriage		Marriage			
		s.d		s.d		s.d	cohabited before	s.d	direct marriage	s.d
No. Observations	577		354		223		90		133	
% total	100		61.35		38.65		15.6		23.05	
female	371		235		136		55		81	
	64.3		*66.38*		*60.99*		*61.11*		*60.9*	
education (1= A levels or above)[a]	377		243		134		64		70	
	65.91		*69.43*		*60.36*		*71.91*		*52.63*	
born before 1960	118		8		110		31		79	
	20.45		*2.26*		***49.33***		*34.44*		***59.4***	
cohort 1961 to1974	181		106		75		44		31	
	31.37		*29.94*		*33.63*		***48.89***		*23.31*	
cohort 1975 to1990	269		240		29		13		16	
	46.62		***67.8***		*13*		*14.44*		*12.03*	
GHQ at (t-2) [mean]	11.58	6.08	11.05	5.78	12.42	6.46	11.27	5.97	12.99	6.73
household income at (t-2) [mean]	2.35	1.68	2.31	1.79	2.41	1.5	2.51	1.64	2.34	1.41
working at (t-2) [1=yes]	364		221		143		58		85	
	63.08		*62.43*		*64.13*		*64.44*		*63.91*	
parenthood at (t-2) [1=yes]	277		89		188		72		116	
	48.01		*25.14*		*84.3*		*80*		*87.22*	
duration [mean]	105.22	116.98	39.85	41	209	123.3	165.88	87.93	238.18	135
age at dissolution (t+1) [mean]	31.02	11.36	25.08	6.4	40.44	11.16	36.9	8.63	42.84	12.03
ΔGHQ(t-2, t+1) [mean]	2.04	8.24	1.49	8.07	2.91	8.45	2.61	7.95	3.11	8.8

[a] The education variable has 5 missing values (n=572)

Table 2: OLS estimation results [dependent variable: ΔGHQ(t-2, t+1)]

Variable	1	2	3	4	5	6
union (1=marriage)	1.416**	2.296***	2.311***	0.858	1.043	1.320
	(0.702)	(0.623)	(0.622)	(0.746)	(1.226)	(1.446)
GHQ at t-2		-0.642***	-0.651***	-0.676***	-0.679***	-0.813***
		(0.050)	(0.050)	(0.050)	(0.050)	(0.062)
education [1= A levels or above]			-1.629**	-1.180*	-1.289*	-0.825
			(0.636)	(0.643)	(0.662)	(0.801)
parenthood at (t-2) [1=yes]				2.591***	2.354***	2.298**
				(0.752)	(0.804)	(0.928)
time elapsed at (t+1) from dissolution					0.255**	0.173
					(0.122)	(0.139)
duration					0.007	0.007
					(0.011)	(0.012)
union X duration					-0.008	-0.013
					(0.011)	(0.013)
female					-0.607	-0.973
					(0.640)	(0.779)
household income at t-2 (in £,000)					0.079	-0.004
					(0.183)	(0.205)
cohort 1961 to 1974					0.044	-0.088
					(1.250)	(1.475)
cohort 1975 to 1990					-0.690	-1.763
					(1.448)	(1.718)
Agreeableness						-0.213
						(0.383)
Conscientiousness						-0.152
						(0.375)
Extraversion						-0.077
						(0.347)
Neuroticism						1.436***
						(0.294)
Openness						-0.212
						(0.334)
constant	1.494***	8.581***	9.698***	9.018***	8.121***	11.526***
	(0.437)	(0.673)	(0.819)	(0.834)	(1.890)	(2.760)
N	577	577	572	572	572	443
adj. R-sq	0.005	0.226	0.237	0.252	0.253	0.286

Standard errors in parentheses. * p<0.1, ** p<0.05, *** p<0.01

Birth cohort reference category: born before 1960

Table 3: Probit models estimates

dependent variable: GHQ(t+1) ≥14		
union (1=marriage)	0.331	0.359
	(0.225)	(0.266)
GHQ at t-2	0.038***	0.021*
	(0.009)	(0.011)
education [1= A levels or above]	-0.210*	-0.173
	(0.121)	(0.148)
parenthood at (t-2) [1=yes]	0.227	0.135
	(0.148)	(0.171)
time elapsed at (t+1) from dissolution	0.048**	0.045*
	(0.022)	(0.026)
duration	0.002	0.001
	(0.002)	(0.003)
union X duration	-0.003	-0.004
	(0.002)	(0.002)
female	0.015	0.047
	(0.120)	(0.147)
household income at t-2 (in £,000)	0.047	0.030
	(0.033)	(0.038)
age at union dissolution	0.008	0.026
	(0.015)	(0.021)
cohort 1961 to 1974	0.224	0.213
	(0.243)	(0.286)
cohort 1975 to 1990	-0.048	-0.144
	(0.290)	(0.349)
Agreeableness		0.002
		(0.071)
Conscientiousness		-0.079
		(0.069)
Extraversion		-0.039
		(0.065)
Neuroticism		0.182***
		(0.055)
Openness		-0.043
		(0.062)
constant	-1.394**	-1.243
	(0.564)	(0.806)
N	572	443
pseudo R-sq	0.076	0.103

Standard errors in parentheses. * p<0.1, ** p<0.05, *** p<0.01
Birth cohort reference category: born before 1960

Figures

Figure 1

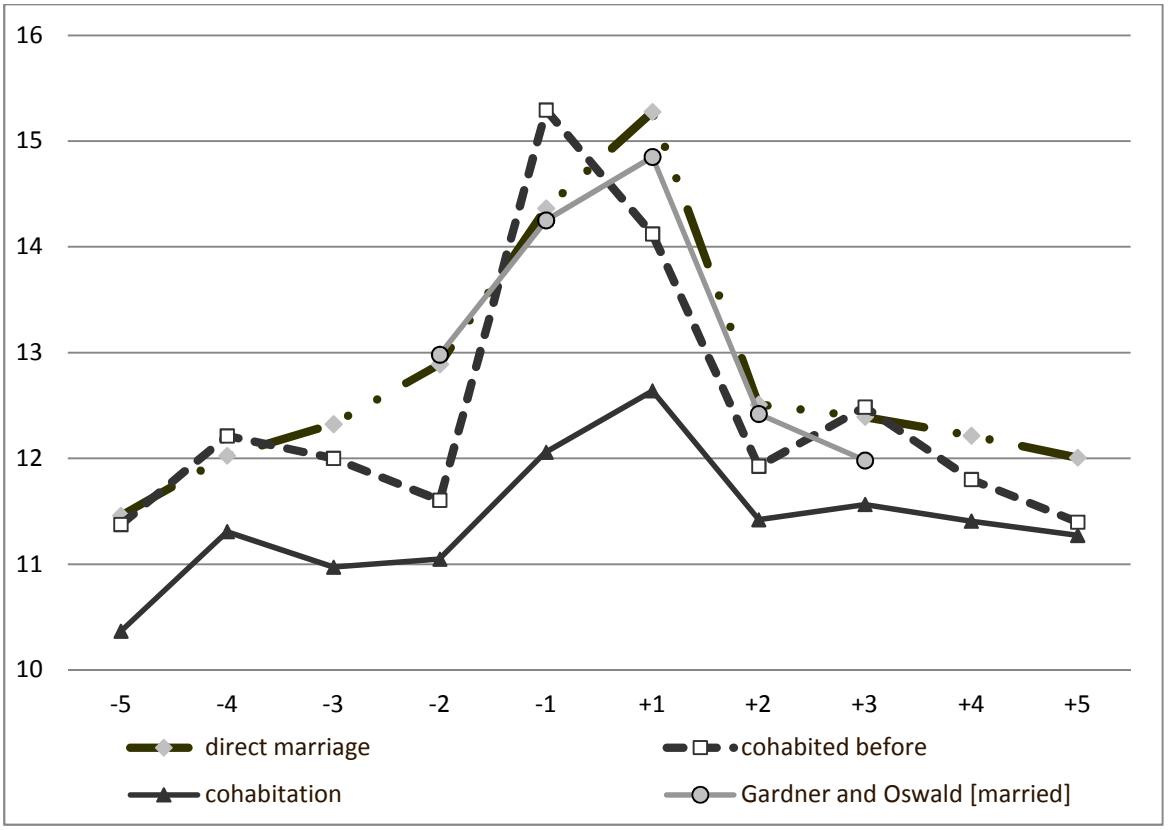

Figure 2