what works wellbeing

Gender and unemployment

Analysis of Understanding Society: the UK Household Longitudinal Survey

Technical Report and Appendices

© The authors: Simonetta Longhi, University of Reading; Alita Nandi, University of Essex; Mark Bryan, University of Sheffield; Sara Connolly, University of East Anglia; Cigdem Gedikli, University of East Anglia

Summary report available at www.whatworkswellbeing.org

E·S·R·C ECONOMIC & SOCIAL RESEARCH COUNCIL

HM Government

University of East Anglia

University of Essex

University of Reading

The University Of Sheffield.

About the What Works Centre for Wellbeing

We are an independent organisation set up to produce robust, relevant and accessible evidence on wellbeing. We work with individuals, communities, businesses and government, to enable them to use this evidence make decisions and take action to improve wellbeing.

The Centre is supported by the ESRC and partners to produce evidence on wellbeing in four areas: work and learning; culture and sport; community; and cross-cutting capabilities in definitions, evaluation, determinants and effects.

whatworkswellbeing.org

@whatworksWB

info@whatworkswellbeing.org

Note that the summary report and briefing are both available on the website: www.whatworkswellbeing.org

Background

There has been a growing interest in providing evidence on the non-pecuniary costs associated with unemployment across countries by investigating how it relates to people's subjective wellbeing. Research provides clear evidence that the effect of unemployment goes well beyond a loss in earnings (Winkelmann and Winkelmann, 1998), it has a detrimental impact on individuals' happiness and their satisfaction with life (see, for example, Binder and Coad, 2015 for Britain; Blanchflower and Oswald, 2004 for the US; Milner, 2016 for Australia; Powdthavee, 2007 for South Africa; Kassenboehmer and Haisken-DeNew, 2009 for Germany; Urbanos-Garrido and Lopez-Valcarcel, 2015, Ferreira et al., 2016 for southern Europe). Although people have a tendency to adapt to important life events such as marriage, divorce, birth of a child etc., the negative effect of unemployment on life satisfaction persists (Clark et al., 2008; Clark and Georgellis, 2013). Life satisfaction drops upon unemployment and it never reaches back to the pre-unemployment levels. That is, people never fully adapt to unemployment (Clark et al., 2001; Clark et al., 2008; Hahn et al., 2015; Lucas et al., 2004; Oesch and Lipps, 2013).

The negative effect of unemployment on life satisfaction holds, controlling for income along with several other potential contributors, such as the duration of unemployment, marital status, age, education and personality traits. Several studies have shed light on which groups experience the largest drop in life satisfaction upon unemployment. Whilst some have found that the young suffer more, the importance of personality traits and the employability potential of the unemployed were also noted (Boyce, Wood and Brown, 2010; Green, 2011; Hahn et al., 2015; Winkelmann, 2009). Many studies have shown that there is a general tendency for men to be more adversely affected by unemployment when compared to women, although the extent varied across the countries. However, recent work argues that the difference in the wellbeing outcomes of unemployment amongst men and women appears to become less pronounced over time, although the negative effect of unemployment on wellbeing remains larger for men (see, for example, Carroll, 2007 and Strandh et al, 2013 for a further discussion).

As noted in the early theoretical contributions, alongside the economic need for employment, the negative association between unemployment and subjective wellbeing could be explained by the degree to which unemployment relates to the agency and social status or the identity of the individual (Fryer, 1992; Jahoda, 1982). Empirical research based on the British Household Panel Survey (BHPS) shows that unemployment is less detrimental for an individual's subjective wellbeing

when the unemployment rates in the unemployed individuals' reference group (usually captured by regional unemployment rates) are higher, particularly for men (Clark et al., 2003 and Gathergood, 2013). Therefore, unemployment is less damaging for men if there are more unemployed around, implying a significance of social comparison or norms effects in Britain. Similarly, the negative effect of unemployment on men's subjective wellbeing is smaller if their partners are also unemployed, whereas this is not statistically significant for women (Clark et al., 2003). In parallel, evidence based on German Socio-Economic Panel (GSOEP) data suggests that women are more adversely influenced by their husband's job loss than vice versa (Marcus, 2013; Winkelmann and Winkelmann, 1995). These findings provide important insights into the underlying mechanisms behind different responses by gender. Different reactions to unemployment amongst men and women could reflect a social norms effect and can be explained by their different positions or roles in the family, labour market and society in general (Strandh et al., 2013; Winkelmann and Winkelmann, 2009).

Female homemaker, male breadwinner household types and the associated "provider" role for men can make unemployment a more stressful event for men. Whilst, for women, it might be socially acceptable to be out of the labour market (Winkelmann and Winkelmann, 1998). The masculine identity that is strongly tied to having a job in Western societies (Paul and Moser, 2008) and, employment being traditionally more attached to reputation and self-esteem for men can provide an explanation for the historically more pronounced negative wellbeing effect of unemployment for men (Carroll, 2007). However, given the increase in participation of women in the labour market and changing gender roles, it is equally possible that work has become increasingly more important for women and strongly linked to their identities. This may provide an explanation for the evidence from Scandinavian countries which, contrary to the general trend, shows that women's wellbeing levels are equally influenced by unemployment when compared to men (see, for example, Hammarström et al., 2011, Strandh et al., 2013). This can also explain the smaller gender differences of the effect of unemployment on subjective wellbeing which are observed over time (Carroll, 2007; Strandh et al., 2013).[1]

Although, the potential impact of traditional gender norms alongside role specialisation at home and in the labour market is acknowledged in the literature, there is insufficient evidence to support this as an explanation for any observed gender differences. While cross-country comparisons make intuitive sense in terms of varying institutional settings and their contribution to the gender differences in the link between unemployment and wellbeing, single country analyses remain

[1] Carroll (2007) evaluates the trend in the relationship between unemployment and wellbeing and asserts that the effect of unemployment on life satisfaction has become rather similar for men and women in Australia, Germany, USA and the UK.

speculative without directly testing the effect of gender role identities. This report, therefore, aims to contribute to the literature by introducing the effect of traditional or more egalitarian gender attitudes into the analysis, by providing evidence for Britain benefiting from the relevant attitudinal questions available in the Understanding Society Survey. It, thereby, sheds light on the root causes of the underlying gender dynamics behind the effect of unemployment on wellbeing.

While doing so, this report also considers the likely effect of the different jobs that men and women hold prior to becoming unemployed. It is possible that the differences observed by gender in the relationship between unemployment and wellbeing might reflect the varying experiences of paid work amongst men and women and the type of jobs they hold. Despite the increasing participation rates of women, their position in the labour market remains substantially different than that of men. Evidence across the EU and the UK indicates that women continue to spend more time on unpaid domestic work, they are more likely to work part-time or hold atypical contracts and earn less than men (Chzhen and Mumford 2011; Connolly and Gregory, 2008; Kan, 2008; Tijdens 2002). Given that the wellbeing effect of job loss has a strong association with the quality of the job, women's segregation into occupations that are less paid, less prestigious and mostly part-time could offer an alternative explanation why their loss in wellbeing following unemployment has been lower than that of men (Lennon, 1987; Broman, 1999; Strandh, 2000: Llena, 2009).

Methods

Our analysis proceeds in two steps. First we estimate the impact that a transition from a paid job into unemployment has on life satisfaction. Second, we use interactions to analyse whether the impact of the transition differs across groups of individuals; for example, it is possible that unemployment may have a larger impact on workers with strong work identity and on workers who lost a 'good' – as opposed to a 'bad' – job. We analyse how the impact of a transition into unemployment varies with various types of characteristics of the individual or of the previous job for men and women separately.

In the first step we estimate the impact of a transition into unemployment on life satisfaction by estimating the following model using OLS:

$$LS_{it} = \alpha + \beta_1 LS_{it-1} + \beta_2 U_{it} + \beta_3 X_{it} + \varepsilon_{it} \qquad (1)$$

The dependent variable is the level of life satisfaction of individual *i* at time *t*, while the main variable of interest is U_{it}, a dummy which is one for those who are unemployed at time *t* and zero for those who are employed.

The sample includes only individuals who are in paid employment at time *t-1* and are either in paid employment or unemployed at time *t*. Those who are not in paid employment (i.e. inactive, unemployed and self-employed) at time *t-1* as well as those who are not in paid employment nor unemployed at time *t* (i.e. those who are inactive at time *t*) are excluded from the sample. Since our aim is to analyse whether the transition into unemployment differs depending on the characteristics of the job prior to unemployment, we also exclude from our sample all individuals who had multiple spells and only keep those for whom the last job was the one they had at the time of the previous interview (at *t-1*). Given the way our sample is selected, U_{it} identifies transitions from employment into unemployment.

To control for individual unobserved confounders we include the level of life satisfaction in the previous year LS_{it-1} among the explanatory variables. For this analysis we prefer to use the lag of the dependent variable instead of individual fixed effects since it is likely that the individual unobserved confounders are not time-invariant.[2] This approach allows us to control for the fact that individuals who are employed at *t-1* but are unemployed at *t* may already have a lower level of life satisfaction at *t-1* (while still in work) compared to those who are employed at both points in time. Since we condition on the level of life satisfaction at *t-1* we can then assume that the transition into unemployment is exogenous (see e.g. Angrist and Pischke 2009: 243-244). U_{it} can then be interpreted as the causal impact of a transition into unemployment on life satisfaction.

The models also include (in X_{it}) a set of other controls that have been found to have an impact on life satisfaction: a measure of self-reported health, age groups, level of educational qualification, marital status, presence of children and age of the youngest child, the log of equivalised household income, and regional dummies (Abdallah, Wheatley and Quick, 2017). A gender dummy is not necessary since all models are estimated separately for men and women. Since part of the data has been collected during the recession period, while other has been collected in the period following the recession, we include year dummies to capture year-specific effects that may have an impact on satisfaction with life over and above the impact of their individual circumstances.

[2] In addition, a standard fixed-effects model in levels would not allow us to distinguish transitions into and out of unemployment. Our focus is on the impact of the transition into unemployment only.

Finally since research has shown that in the context of life satisfaction linear and non-linear models produce similar results, for ease of interpretation our models are estimated using OLS.

In the second step we focus on heterogeneity across groups and analyse whether the transition into unemployment has a different impact on people with different individual or job characteristics (see below). To this aim we estimate models similar to that in equation (1), with the inclusion of additional covariates (Z_{it-1}) and the interaction between these covariates and the unemployment transition dummy ($Z_{it-1}U_{it}$). The resulting model is:

$$LS_{it} = \alpha + \beta_1 LS_{it-1} + \beta_2 U_{it} + \beta_3 X_{it} + \beta_4 Z_{it-1} + \beta_5 Z_{it-1} U_{it} + \varepsilon_{it} \quad (2)$$

Because of small sample sizes we estimate various models in a stepwise manner, each new specification including a different subset of Z_{it-1}. For example, some specifications include controls for job quality: some control for the sector of employment, some for the nature of the contract and others control for hours of work. The first set of models tests whether the impact of the transition into unemployment varies with the characteristics of the last job that the respondent had (at time *t-1*). The second set of models test whether the impact of a transition into unemployment varies across workers with different personalities or attitudes (which are measured in waves 2 and 4, see data section for more details).

In particular, for *job characteristics* we include in Z_i:

1. The percentile ranking in the distribution of usual gross hourly wage rates to test whether workers losing a low paid job are less affected by the transition into unemployment than workers losing a highly paid job.
2. Occupational dummies to test whether the impact of a transition into unemployment differs depending on the occupation of the job lost.
3. Dummies for private or other sectors to test whether the impact of a transition into unemployment is larger for those who worked in the public sector.
4. A dummy for permanent job to test whether the impact of a transition into unemployment is larger for those who had a permanent compared to a temporary job.
5. Dummies for hours of work to test whether the impact of the transition into unemployment is more negative for those who used to work longer hours.
6. Controls for a) the commuting time in minutes or b) commuting time dummies to test whether the impact of the transition into unemployment is less negative for those who had a longer commuting time.

7. Dummies for the means of transport used to commute to work to test whether the impact of the transition into unemployment differs between public and private transport.

For *personality and attitudes* we include in Z_i:

8. The Big Five personality traits (see data section) to test whether the transition into unemployment has a different impact on workers with different personalities.
9. A dummy for having a strong work identity to test whether the transition into unemployment has a larger impact on workers with stronger work identity.
10. Scores of the first factors measuring gender attitudes (see data section) to test whether the transition into unemployment has a different impact on workers with more egalitarian vs. more traditional gender attitudes.

Dataset and variables

We use data from a nationally representative longitudinal household survey, Understanding Society: the UK Household Longitudinal Survey (UKHLS). All 16+ year old household members of the sampled households are eligible for interviews every year[3]. Most of them are interviewed face to face[4] but some questions, which are particularly sensitive in nature, are asked in a short self-completion questionnaire, these are filled in by the household members by themselves. The survey started in 2009 and we use data from the first five waves which covers the period 2009-2014.

Understanding Society is a multipurpose survey and includes questions on socio-demographic factors, education, labour market experience, partnership and fertility, health and wellbeing and attitudes. The wellbeing outcome that we focus on is the question on overall life satisfaction which is measured on a 7 point fully-labelled scale with 1 being completely dissatisfied and 7 being completely satisfied – full descriptive statistics are presented in Tables A1-A3 in the Appendix.

The unemployment transition is measured by respondents self-reported main activity status at each interview. This variable takes on a value 1 for those who were in paid employment in year t-1 and unemployed in year t, and 0 for those who were in paid employment at year t-1 and t.

We expect the loss of wellbeing associated with a transition to unemployment to vary by some factors or moderators. We examine two sets of moderators: job characteristics, and personality and attitudes.

We measure job characteristics at year t-1. These are:

- The percentile of the usual gross hourly wage rate where the wage rate is computed by dividing the usual gross monthly earnings by 4.3 and hours worked per week.
- The respondent's occupation is represented by a 9 category variable. Verbatim description of their jobs is coded into a categorical variable using the SOC2000[5] 3-digit classification scheme. For our analysis we collapse these into 9 categories. The 9 categories are: Managers and Senior Officials (reference), Professional Occupations, Associate Professional and Technical Occupations, Administrative and Secretarial Occupations, Skilled Trades Occupations, Personal Service Occupations, Sales and Customer Service Occupations, Process Plant and Machine Operatives, Elementary Occupations.

[3] Until they move out of the UK (or die). Attempts are also made to follow them into institutions.
[4] With around 500 households being interviewed by telephone.
[5] The coding is done by the data providers.

- Whether the firm or organisation belongs to the public sector (reference), private sector or other (Charity, voluntary organisation, trust or some other sort of organisation)
- Whether the job is a permanent job or not permanent (reference).
- The total number of hours worked per week including overtime is categorised into a three category variable: 0-15 hours (reference), 16-35 hours and 36 hours and above.
- The time taken to travel to work is reported in minutes. We used the continuous variable and also categorised that variable into a 5 category variable: Less than 10 minutes (reference), 10-20 minutes, 20-30 minutes, 30 minutes to 1 hour, greater than one hour.
- The usual method of travelling to work is a question with 11 response options which we collapsed into a three category variable: car, van, motorcycle, moped, scooter, taxi, minicab (reference); bus, coach, train, tube, tram; cycle or walk or other

We measure three personality or attitudinal moderators using data collected in waves 2, 3 or 4:

- *Personality traits:* In the third wave respondents were asked to answer the 15 item Big Five personality module. Three items are used to measure each of the Big Five personality traits: Openness to experience, Conscientiousness, Extraversion, Agreebleness and Neuroticism. The response option for each of these 15 questions is a 7 point end point labelled scale where 1 = Does not apply to me at all and 7= Applies to me perfectly. The scores of the three items relevant to each trait were averaged to get the trait score. These scores were then extrapolated to all five waves.
- *Strong work identity*: In the second wave, respondents were asked "How important is your profession to your sense of who you are?" with response options – very important, fairly important, not very important, not at all important, don't know/doesn't apply. The strong work identity binary variable takes on the value of 1 for those who chose very or fairly important and 0 otherwise (reference)[6]. We extrapolated this measure across all waves.
- *Gender attitudes* In the second and fourth waves respondents were asked a series of five questions with an agree-disagree fully labelled 5 point scale (1 = strongly agree, 5 = strongly disagree) to evaluate their gender attitudes.
    (a) A pre-school child is likely to suffer if his or her mother works
    (b) All in all, family life suffers when the woman has a full-time job
    (c) Both the husband and wife should contribute to the household income
    (d) A husband's job is to earn money; a wife's job is to look after the home and family

[6] This was part of a module that included other identity domains – level of education, ethnic or racial background, political beliefs, family, gender and age & life stage.

(e) Employers should make special arrangements to help mothers combine jobs and childcare

For questions (a), (b) and (d), strongly disagree meant more egalitarian values and the opposite was the case for the other two. We reverse coded the latter so that higher scores on every question meant more egalitarian values. We attached the values reported in Wave 2 to the first three waves and those reported in Wave 4 to waves 4 and 5. Next we did factor analysis on these five items for white majority men and women (combined) and recovered one item.

We also have information for health and other socio-demographic characteristics at t:

- *Age group*: We transformed the age in years (computed from date of birth) into a four category variable: 20-29 years (reference), 30-39 years, 40-49 years, 50-59 years.
- *Marital status:* We collapsed the marital status variable into a four category variable: never married (reference), cohabiting as a couple, married & civil partnership, separated, divorced or widowed.
- *Number of children in the household*: We recoded the number of own children (not restricted to those younger than 18) in the household into a three-category variable: none (reference), one, two or more.
- *Age of youngest own child in the household*: We computed four dummies: 0-4 years, 5-11 years, 12-16 years, 16 years or older (reference).
- *Highest educational qualification*: Respondents are asked about their highest educational qualification in the first year they are interviewed and then every year about any changes to that. These two sets of information are combined to produce a yearly highest educational qualification variable (provided with the dataset). This is a categorical variable: Degree (reference), Other higher, A-level etc, GCSE etc, Other qualification, No qualification.
- *Region of residence*: We collapsed the variable representing the government office region where the respondent lives into a seven category variable: London (reference); North East, North West and Yorkshire and Humberside; East Midlands and West Midlands; East of England, South East and South West; Wales; Scotland; Northern Ireland.
- *General health*: Respondents are also asked about their general health (as part of the SF12 health module) to which they can respond – excellent, very good, good, fair, poor. We recoded this into a three category variable: excellent or very good (reference); good or fair; poor.

- *Long term disability*: We also computed a dummy for whether the respondent reported that they had a long term physical or mental impairment, illness or disability or not (reference), where long term refers to a period of 12 months or more.
- *Household income*: Logarithm of equivalised (using the OECD scale) gross monthly household income.

Sample selection

The longitudinal nature of the survey and these questions make it particularly suited to our analysis. We restrict the sample to 20-59 year olds to have a homogenous sample where everyone is likely to have finished their education and to exclude retirees. As ethnic minorities' labour market experience may include additional issues of discrimination, direct or indirect, English language difficulties and unfamiliarity with the labour market in case of immigrants, we only include those who self-report their ethnic group as White – British/English/Scottish/Welsh/Northern Irish. Finally, those who reported any paid employment spells in between two consecutive interviews are excluded. This resulted in a sample of 11,434 person-year observations of white majority men and 15,554 white majority women.

Results

Benchmark estimates of impact of a transition into unemployment (see Table 1 and Figure 1)
We begin with a set of benchmark specifications that establish the impact of a transition into unemployment on life satisfaction, looking at men and women separately. All models control for life satisfaction at *t*-1 and then we successively introduce controls for standard socio-demographics (following the previous literature) and job characteristics.

We find that people who lose their jobs experience a large decline in life satisfaction, see Figure 1. The unconditional estimate (controlling only for life satisfaction at *t*-1) effect is a drop of 0.5 points for men and 0.39 points for women (specification 1). However, about 40-50% of these effects can be explained when we add socio-demographic characteristics which are also likely associated with unemployment (for instance, people in poorer health are more likely to lose their jobs and also suffer lower life satisfaction than those in good health). Nonetheless, the impact is still large even accounting for these factors, thus *ceteris paribus* life satisfaction declines by 0.32 points among men who lose their jobs and by 0.22 points among women (specification 2). The estimates confirm the general finding in the literature that unemployment has a larger impact on men's subjective wellbeing than it does on women's.

Figure 1 – Marginal effect (dy/dx) of a transition into unemployment on life satisfaction

Note: These are marginal effect on life satisfaction at t, relative to life satisfaction at *t*-1, calculated from estimates shown in Table 1 (specifications 1-3), where life satisfaction is measured on a 7-point scale (1-7).

Job characteristics and quality (see Tables 2-4 and Figure 1)

There is almost no change in the unemployment effect when we add occupation to the regressions (specification 3), but there is some indication that the reduction in life satisfaction is greater for men if they were in sales or elementary occupations (Table 2). These effects are not precisely estimated (significant at only 10%), but may suggest that unemployment is a particularly harsh blow for men in these lower-skilled occupations (on the other hand, those in personal service occupations may suffer less). We find no evidence of similar occupational effects for women although we do find that women suffer less from a transition into unemployment if they were more highly paid (Table 2), there is no such wage effect, as distinct from occupation effect, among men.

A person's sector of employment does not influence their life satisfaction (again, relative to life satisfaction at *t*-1) or the impact of a transition into unemployment on life satisfaction (Table 3a). There is some influence of hours worked and commuting time and mode – generally, longer hours and long commutes tend to reduce life satisfaction relative to previous levels, and women commuting by public transport experience lower life satisfaction (Tables 4a-c). But none of these factors affects the impact of a transition into unemployment on life satisfaction.

Overall, while we find a large and robust effect of a transition into unemployment on wellbeing, it appears to be little affected by standard measures of job type or quality. As discussed in the

Methods Section, as our cell sizes are admittedly quite small in some specifications we adopt a stepwise approach to mitigate this issue. We have also performed a number of robustness checks, none of which change our conclusions.

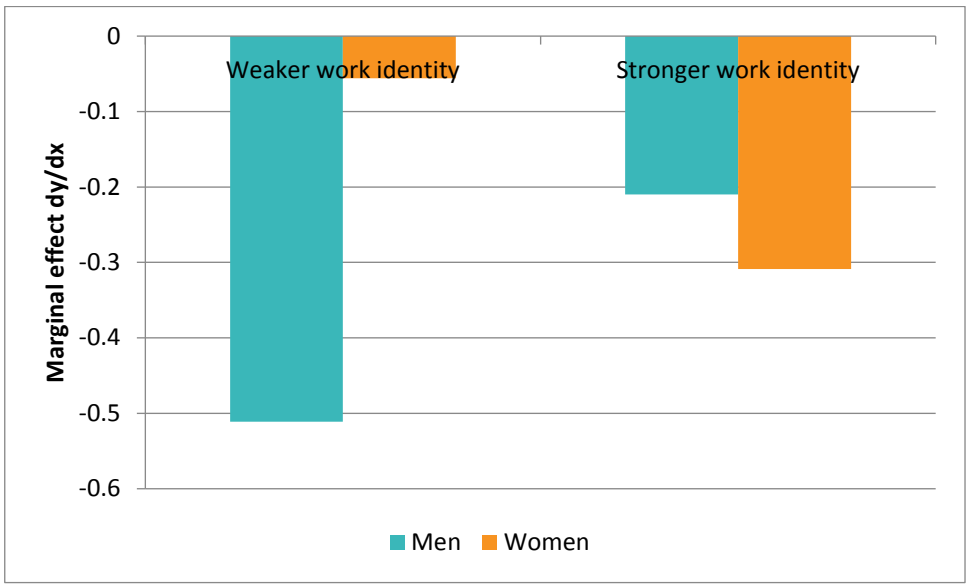
Personality type (see Table 5)

We find that life satisfaction in t – controlling for levels at t-1 and X_i – is influenced by personality. For those in employment, life satisfaction (relative to life satisfaction at *t*-1) is higher for those who score more highly on conscientious, extraversion and agreeableness scales, and lower for those scoring highly on the neuroticism scale. However, we find no evidence that a transition into unemployment has a differential effect for those of different personality types. As a further check, we re-estimated this model with only conscientiousness but not the other personality traits, following Boyce et al (2010). This suggested that women with higher levels of conscientiousness suffered a smaller drop in life satisfaction following unemployment (Boyce et al found the opposite, for both genders combined, using German data and somewhat different models). However, as we think that all personality traits should be included in the model, we do not pursue this result (all of these supplementary results are available from the authors upon request).

Work identity (see Table 6 and Figure 2)

There is a – *ceteris paribus* – higher level of life satisfaction (relative to life satisfaction at *t*-1) for those in employment with a stronger work identity, this is true for both men and women. Somewhat surprisingly, we find that the coefficient on the interaction terms between a strong work identity and unemployment is positive. However, the aggregate marginal effects show a more complex pattern – there is a loss of wellbeing for all those who experience a transition into unemployment, for women, the marginal effect on life satisfaction of unemployment is negative and the impact greater for those with a stronger work identity, but the impact is lower for men with a stronger work identity (see Figure 2).

Figure 2 – Marginal effect (dy/dx) of a transition into unemployment and work identity on life satisfaction



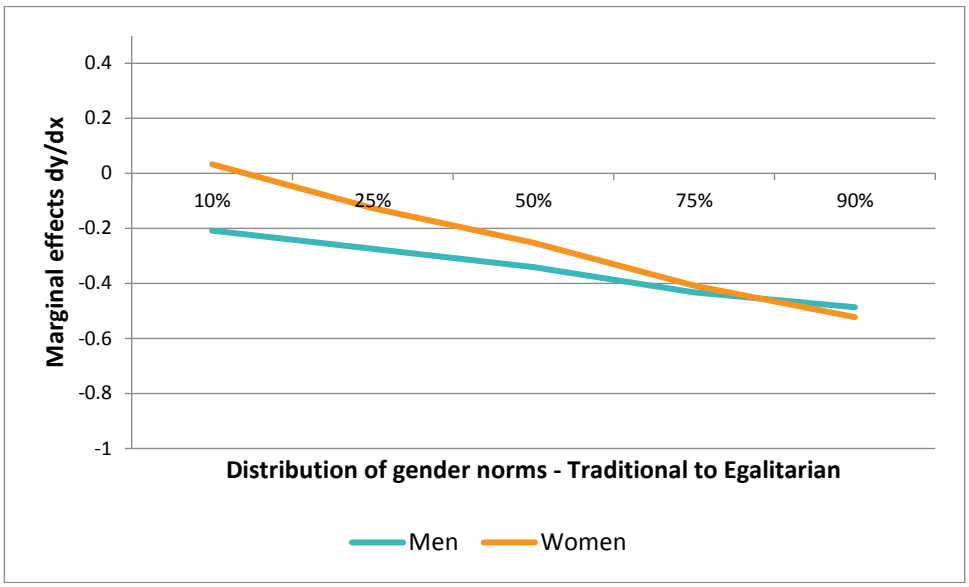
Note: These are marginal effect on life satisfaction at t, relative to life satisfaction at *t*-1, calculated from estimates shown in Table 6 (specification 21), where life satisfaction is measured on a 7-point scale (1-7).

This result for men is a puzzle. In multivariate regressions to explain work identity, for both men and women, education and occupational status are strong predictors of work identity (for women, hours of work also predict identity). Marital status and children (number and ages) have almost no effect, although married or cohabiting women report slightly weaker work identity than singles. Thus the work identity measure does not seem to be picking up the effect of family. We have further tested the robustness of the result by exploring whether it could be linked with other control variables (X_{it}), and whether the definition of work identity ("How important is your profession to your sense of who you are?") interacts with occupation or with personality type, but the finding is robust to the choice of specification. To check whether the identity question could have been interpreted differently across occupational groups (and so be picking up occupational effects), we ran models separately for those in professional occupations (SOC 1-3) and those in non-professional occupations (SOC 4-9). The interaction coefficients are essentially unchanged (though less precisely estimated) and in fact the clearest result we get is for men in non-professional occupations – suggesting that question wording is not driving the results. We also considered whether the result might be related to the reason for the transition out of work – allowing for different effects for those who left a job voluntarily and those who were sacked or made redundant – again the finding is robust (all of these supplementary results are available from the authors upon request). We speculate that those unemployed men with a stronger work identity may be more confident in their employability or job search skills, similarly, they may engage in more job search activity or find other satisfying activities.

Gender attitudes (see Tables 7 and 8 and Figures 3 and 4)

Finally, we test whether a transition into unemployment has a different impact on workers with more egalitarian compared with those who have more traditional gender attitudes, by including the scores of the factors measuring gender attitudes. We illustrate our results by comparing the impact of a transition into unemployment on life satisfaction for women across the range of gender attitudes – from those with more traditional gender attitudes to those with more gender egalitarian attitudes (Schober and Scott, 2012). Figure 3 shows this range, going from those reporting the lowest 10% of scores (very traditional attitudes) to those reporting the highest 10% of scores (very egalitarian attitudes). For both men and women in employment – *ceteris paribus* – life satisfaction (relative to life satisfaction at *t*-1) is higher for those with more gender equal attitudes. A transition into unemployment is associated with lower life satisfaction for both men and women, an effect which is stronger for those with more egalitarian gender attitudes – statistically significantly so for women. For men, the loss of life satisfaction associated with unemployment has a fairly shallow gradient as we move along the distribution from traditional to egalitarian values - although as the interaction term is not statistically significant, we also cannot reject a flat line (crossing the vertical axis at -0.33, see Table 7). For women, however, the gradient is not only steeper but the marginal effect of a transition into unemployment for those women with the most traditional gender values is positive – their life satisfaction actually increases – and the marginal effect for women with the most egalitarian gender attitudes is not only negative, but the point estimate here is greater than that for men across the whole distribution of attitudes – these women suffer more than all other men in terms of lost life satisfaction (had we plotted a flat line for men, it would have indicated that at least 25% of women suffer more than men do). Interestingly, whilst women with strong gender egalitarian attitudes suffer more from transition into unemployment, we do not find the converse for men – that those with more traditional gender attitudes suffer more. The insignificant interaction term for men may reflect that work has always been part of men's social identity, regardless of whether they hold an egalitarian or traditional attitude. However, the importance of our results relates to the fact that norms about the meaning of work are definitely changing for women (ILO, 2017).

Figure 3 – Marginal effect (dy/dx) of transition into unemployment and gender values on life satisfaction



Note: These are marginal effect on life satisfaction at t, relative to life satisfaction at *t*-1, calculated from estimates shown in Table 7 (specification 23), where life satisfaction is measured on a 7-point scale (1-7).

We test the sensitivity of these results to partnership status and parenthood – allowing for the possibility that the change in life satisfaction associated with a transition into unemployment might interact differently with gender attitudes for those with other potential earners in the household or for parents of young children, or that the attitudes themselves may differ with household composition. These results are presented in Tables 8a and 8b and Figures 4a and 4b. Whilst being part of a couple did not alter our main findings for men or women, the differences between those who are single and those in partnerships are relatively small, we found that parenthood did provide a nuance for our findings. For women, the coefficient for the gender attitudes variable is the same regardless of parenthood status, but the interaction term with unemployment is negative and significant only for mothers. For non-mothers, the impact of gender attitudes upon life satisfaction and how this interacts with the experience of unemployment are similar to the impacts for men reported above – that is a transition into unemployment results in a lower level of life satisfaction which diminishes further (though not significantly so) for those with more egalitarian gender attitudes. However, life satisfaction rises for mothers with more traditional attitudes who lose their jobs but falls sharply for those with more gender egalitarian views. For men, parenthood also changes their experience of job loss. Men who are not fathers and who have more egalitarian gender attitudes, experience a slightly greater loss in life satisfaction than those with more traditional views when they are unemployed – the relationship is very similar to that for non-mothers (although the loss for non-mothers is not statistically significant) . In contrast, fathers who

lose their jobs experience a loss in wellbeing but this is not sensitive to gender attitudes (the interaction term is not significant).

Figure 4a – Marginal effect (dy/dx) of transition into unemployment, parenthood and gender values on life satisfaction for women

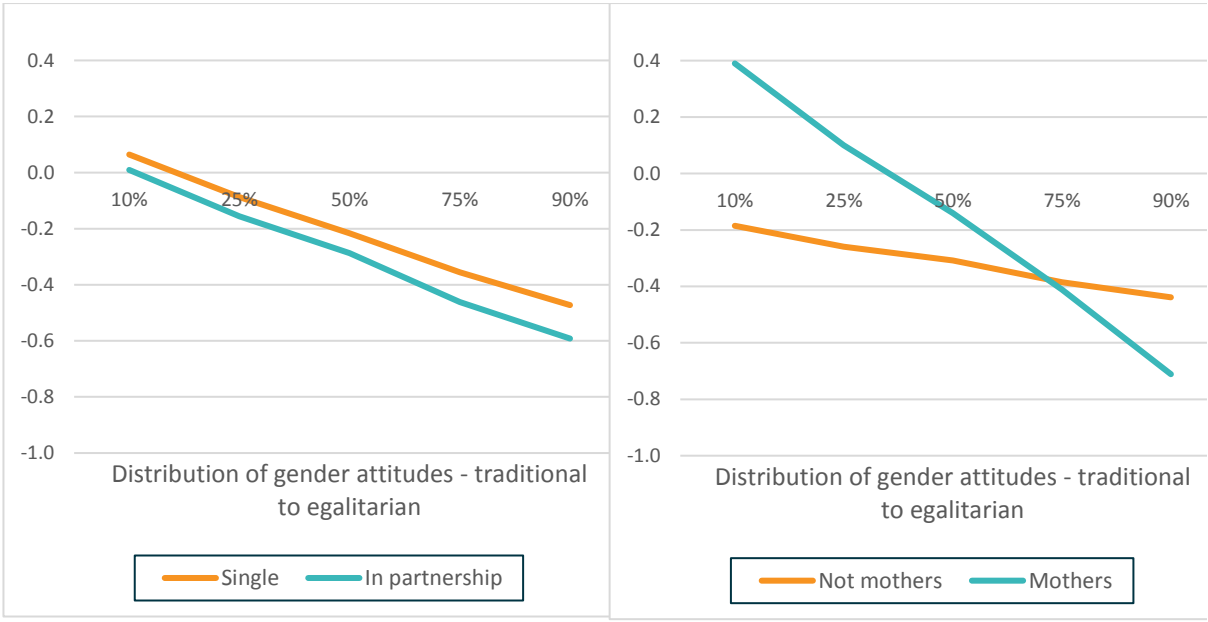
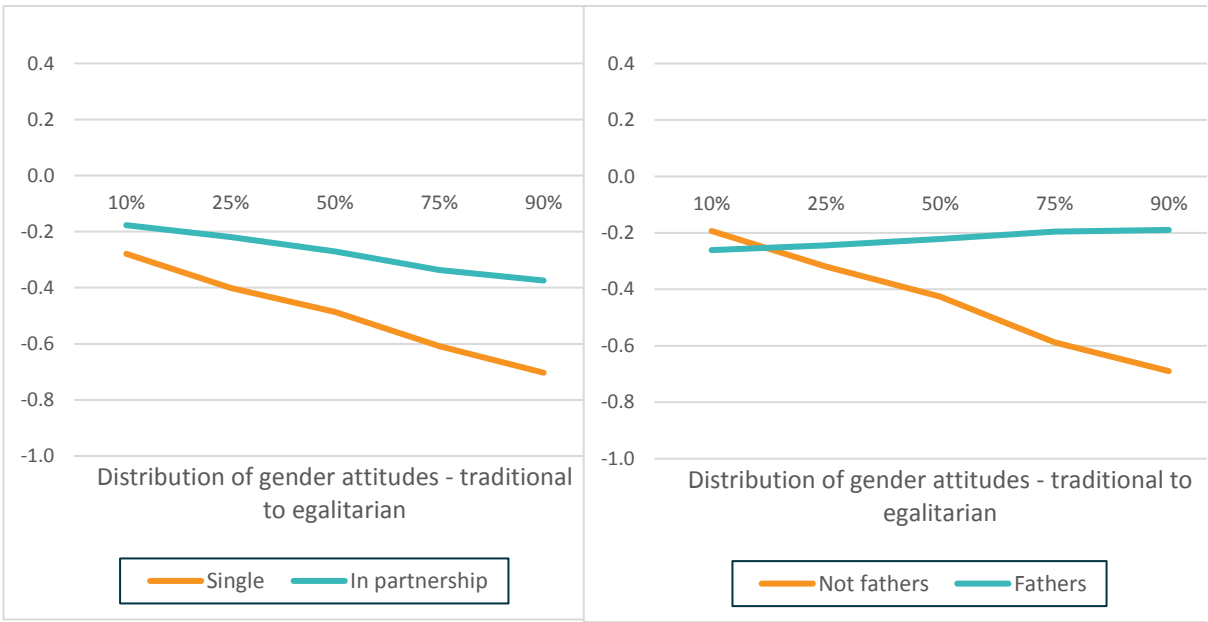


Figure 4b– Marginal effect (dy/dx) of transition into unemployment, parenthood and gender values on life satisfaction for men



Note: These illustrate the effect of job loss on current life satisfaction (at time t), relative to previous levels of life satisfaction (at time *t*-1), where life satisfaction is measured on a 7-point scale (1-7).

These results are consistent with much of the literature on gender and work, which suggests that work plays a similar role in terms of wellbeing and social identity for men and women without children. But, work interacts differently with gender attitudes for women who have children, and as might be expected, it plays a much more important role for women holding more gender egalitarian views.

Discussion

In common with the existing literature we find gender differences in the impact of transition into unemployment on life satisfaction – the damage to wellbeing being greater for men on average. We extend upon previous studies by testing between possible explanations: different degrees of specialisation in the labour market, differences in the types of work undertaken by men and women, differences in personality traits, work or gender attitudes. Whilst factors such as type of job (occupation, hours of work, length/type of commute) and personality types all influence levels of life satisfaction – relative to life satisfaction at *t*-1 – we do not find evidence that the experience of transition into unemployment differs by job or personality type. There is evidence not only that levels of life satisfaction (relative to life satisfaction at *t*-1) are higher for those in continued employment with a strong work identity but also that for men, but not women, those with strong work identity cope better with unemployment. This provides a partial contribution to our understanding of the gender differential in the impact of transition into unemployment upon wellbeing. More importantly, in terms of understanding the gender difference, we find that for women (particularly for mothers or women in couples) the experience of a transition into unemployment is much more damaging if they have gender egalitarian compared with traditional gender values.

We therefore, throw light on underlying gender dynamics behind the effect of unemployment on wellbeing. *It is not all, but some, women who suffer less than men when experiencing a transition into unemployment.* In other words, over time as gender norms are expected to become more egalitarian across the population (ILO, 2017), the gender difference in loss of wellbeing from unemployment may disappear and the total wellbeing cost from the similar levels of unemployment will be higher.

Whilst wellbeing is influenced by a range of socio-demographics, job type, personality and beliefs, it is interesting that in the recent experience in the UK, the damage to wellbeing associated with a transition into unemployment does not seem to depend upon the type of job lost or personality type. The experience of unemployment is influenced by values and beliefs – how each individual identifies with their work – and this differs for men and women. In terms of how this evidence may influence policy and practice, whilst recognising that unemployment is always damaging, it might inform not only the level of support given but also that the approach might be differentiated amongst the unemployed.

References

Abdallah, Wheatley and Quick, *Measuring wellbeing inequality in Britain*, https://whatworkswellbeing.files.wordpress.com/2017/03/measuring-wellbeing-inequalities-in-britain-march2017.pdf - accessed 7th March 2017.

Angrist JD and Pischke J-S (2009) *Mostly Harmless Econometrics*, Princeton University Press.

Binder, M., & Coad, A. (2015). Unemployment impacts differently on the extremes of the distribution of a comprehensive well-being measure. *Applied Economics Letters, 22*(8), 619-627. doi:10.1080/13504851.2014.962219

Blanchflower, D. G., & Oswald, A. J. (2004). Well-Being over Time in Britain and the USA. *Journal of Public Economics, 88*(7-8), 1359-1386. doi:http://www.sciencedirect.com/science/journal/00472727

Boyce, C. J., Wood, A. M., & Brown, G. D. A. (2010). The dark side of conscientiousness: Conscientious people experience greater drops in life satisfaction following unemployment. *Journal of Research in Personality, 44*(4), 535-539. doi:10.1016/j.jrp.2010.05.001

Broman, C. L., Hamilton, V. L., Hoffman, W. S., & Mavaddat, R. (1995). Race, gender, and the response to stress: Autoworkers' vulnerability to long-term unemployment. *American Journal of Community Psychology, 23*(6), 813-842. doi:10.1007/BF02507017

Carroll, N. (2007). Unemployment and Psychological Well-being. *Economic Record, 83*(262), 287-302. doi:10.1111/j.1475-4932.2007.00415.x

Chzhen, Y., & Mumford, K. (2011). Gender gaps across the earnings distribution for full-time employees in Britain: Allowing for sample selection. *Labour Economics, 18*(6), 837-844. doi:http://dx.doi.org/10.1016/j.labeco.2011.05.004

Clark, A. E., Georgellis, Y., & Sanfey, P. (2001). Scarring: The Psychological Impact of Past Unemployment. *Economica, 68*(270), 221-241.

Clark, A. E. (2003). Unemployment as a Social Norm: Psychological Evidence from Panel Data. *Journal of Labor Economics, 21*(2), 323-351. doi:http://www.jstor.org/action/showPublication?journalCode=jlaboreconomics

Clark, A. E., Diener, E., Georgellis, Y., & Lucas, R. E. (2008). Lags and Leads in Life Satisfaction: A Test of the Baseline Hypothesis. *Economic Journal, 118*(529), F222-243. doi:http://onlinelibrary.wiley.com/journal/10.1111/%28ISSN%291468-0297/issues

Clark, A. E., & Georgellis, Y. (2013). Back to Baseline in Britain: Adaptation in the British Household Panel Survey. *Economica, 80*(319), 496-512. doi:http://onlinelibrary.wiley.com/journal/10.1111/%28ISSN%291468-0335/issues

Clark, A. E., Georgellis, Y., & Sanfey, P. (2001). Scarring: The Psychological Impact of Past Unemployment. *Economica, 68*(270), 221-241. doi:http://onlinelibrary.wiley.com/journal/10.1111/%28ISSN%291468-0335/issues

Clarke, A.E., Layard, R., Powdthavee, N., Flèche, S., and Ward, G., *The Origins of Happiness*, Princeton University Press, forthcoming.

Connolly, S., & Gregory, M. (2008). Moving Down: Women's Part-Time Work and Occupational Change in Britain 1991–2001*. *The Economic Journal, 118*(526), F52-F76. doi:10.1111/j.1468-0297.2007.02116.x

Ferreira, J. A., Reitzle, M., Lee, B., Freitas, R. A., Santos, E. R., Alcoforado, L., & Vondracek, F. W. (2015). Configurations of unemployment, reemployment, and psychological well-being: A longitudinal study of unemployed individuals in Portugal. *Journal of Vocational Behavior, 91*, 54-64. doi:10.1016/j.jvb.2015.09.004

Fryer, D.M. (1992) Psychological or material deprivation: why does unemployment have mental health consequences? In McLauglin, E. (ed.) Understanding Unemployment: New Perspectives on Active Labour Market Policies. London: Routledge.

Gathergood, J. (2013). An Instrumental Variable Approach to Unemployment, Psychological Health and Social Norm Effects. *Health Economics, 22*(6), 643-654.

doi:http://onlinelibrary.wiley.com/journal/10.1002/%28ISSN%291099-1050/issues

Green, F. (2011). Unpacking the misery multiplier: How employability modifies the impacts of unemployment and job insecurity on life satisfaction and mental health. *Journal of Health Economics, 30*(2), 265-276. doi:10.1016/j.jhealeco.2010.12.005

Hahn, E., Spech, J., Gottschling, J., & Spinath, F. M. (2015). Coping With Unemployment: The Impact of Unemployment Duration and Personality on Trajectories of Life Satisfaction. *European Journal of Personality, 29*(6), 635-646. doi:10.1002/per.2034

Hammarstrom, A., Gustafsson, P. E., Strandh, M., Virtanen, P., & Janlert, U. (2011). It's no surprise! Men are not hit more than women by the health consequences of unemployment in the Northern Swedish Cohort. *Scand J Public Health, 39*(2), 187-193. doi:10.1177/1403494810394906

International Labor Organisation (2017). Towards a better future for women and work: voices of women and men. http://www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_545963/lang--en/index.htm?utm_content=buffer40605&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer - accessed 8th March 2017.

Jahoda, M. (1982) Employment and Unemployment. A Social-Psychological Analysis. Cambridge: Cambridge University Press.

Kan, M. Y. (2008). Does gender trump money? Housework hours of husbands and wives in Britain. *Work, Employment and Society, 22*(1), 45-66. doi:doi:10.1177/0950017007087416

Kassenboehmer, S. C., & Haisken-DeNew, J. P. (2009). You're Fired! The Causal Negative Effect of Entry Unemployment on Life Satisfaction. *Economic Journal, 119*(536), 448-462. doi:10.1111/j.1468-0297.2008.02246.x

Lennon, M. C. (1987). Sex Differences in Distress: The Impact of Gender and Work Roles. *Journal of Health and Social Behavior, 28*(3), 290-305. doi:10.2307/2136847

Llena-Nozal, A. (2009). The Effect of Work Status and Working Conditions on Mental Health in Four OECD Countries. *National Institute Economic Review*(209), 72-87. doi:http://ner.sagepub.com/content/by/year

Lucas, R. E., Clark, A. E., Georgellis, Y., & Diener, E. (2004). Unemployment Alters the Set Point for Life Satisfaction. *Psychological Science, 15*(1), 8-13. doi:10.1111/j.0963-7214.2004.01501002.x

Marcus, J. (2013). The effect of unemployment on the mental health of spouses – Evidence from plant closures in Germany. *Journal of Health Economics, 32*(3), 546-558. doi:10.1016/j.jhealeco.2013.02.004

Milner, A., Krnjacki, L., Butterworth, P., & LaMontagne, A. D. (2016). The role of social support in protecting mental health when employed and unemployed: A longitudinal fixed-effects analysis using 12 annual waves of the HILDA cohort. *Soc Sci Med, 153*, 20-26. doi:10.1016/j.socscimed.2016.01.050

Oesch, D., & Lipps, O. (2013). Does Unemployment Hurt Less if There is More of it Around? A Panel Analysis of Life Satisfaction in Germany and Switzerland. *European Sociological Review, 29*(5), 955-967. doi:10.1093/esr/jcs071

Paul, K. I., & Moser, K. (2009). Unemployment impairs mental health: Meta-analyses. *Journal of Vocational Behavior, 74*(3), 264-282. doi:10.1016/j.jvb.2009.01.001

Powdthavee, N. (2007). Are there Geographical Variations in the Psychological Cost of Unemployment in South Africa? *Social Indicators Research, 80*(3), 629-652. doi:10.1007/s11205-006-0013-z

Schober, P., and Scott, J., (2012), Maternal employment and gender role attitudes: dissonance among British men and women in the transition to parenthood, *Work, Employment and Society*, 26(3), 514-530

Strandh, M. (2000). Different exit routes from unemployment and their impact on mental well-being: The role of the economic situation and the predictability of the life course. *Work,*

Employment and Society, 14(3), 459-479. Retrieved from http://www.scopus.com/inward/record.url?eid=2-s2.0-0034259017&partnerID=40&md5=1cf3eaa399c0aed331b9f25f656b7e98

Strandh, M., Hammarström, A., Nilsson, K., Nordenmark, M., & Russel, H. (2013). Unemployment, gender and mental health: the role of the gender regime. *Sociology of Health & Illness, 35*(5), 649-665. doi:10.1111/j.1467-9566.2012.01517.x

Tijdens, K. G. (2002). Gender Roles and Labor Use Strategies: Women's Part-Time Work in the European Union. *Feminist Economics, 8*(1), 71-99. doi:10.1080/13545700210126553

Urbanos-Garrido, R. M., & Lopez-Valcarcel, B. G. (2015). The Influence of the Economic Crisis on the Association between Unemployment and Health: An Empirical Analysis for Spain. *European Journal of Health Economics, 16*(2), 175-184. doi:http://link.springer.com/journal/volumesAndIssues/10198

Winkelmann, L., & Winkelmann, R. (1995). Happiness and Unemployment: A Panel Data Analysis for Germany. *Konjunkturpolitik, 41*(4), 293-307. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=ecn&AN=0383784&site=ehost-live

Winkelmann, L., & Winkelmann, R. (1998). Why Are the Unemployed So Unhappy? Evidence from Panel Data. *Economica, 65*(257), 1-15. doi:http://onlinelibrary.wiley.com/journal/10.1111/%28ISSN%291468-0335/issues

Winkelmann, R. (2009). Unemployment, Social Capital, and Subjective Well-Being. *Journal of Happiness Studies, 10*(4), 421-430. doi:10.1007/s10902-008-9097-2

Table 1. Factors influencing life satisfaction, no controls, standard demographic controls, standard job characteristics (Empirical Specifications: 1-3)

	Men						Women					
	Specification 1		Specification 2		Specification 3		Specification 1		Specification 2		Specification 3	
Life Satisfaction t-1	0.44**	(0.01)	0.40**	(0.01)	0.39**	(0.01)	0.43**	(0.01)	0.37**	(0.01)	0.37**	(0.01)
Unemployed	-0.50**	(0.08)	-0.32**	(0.08)	-0.34**	(0.08)	-0.39**	(0.08)	-0.22**	(0.08)	-0.22**	(0.08)
Health status (ref: excellent/very good)												
Good/fair			-0.30**	(0.02)	-0.29**	(0.02)			-0.31**	(0.02)	-0.32**	(0.02)
Poor			-0.94**	(0.09)	-0.93**	(0.09)			-0.91**	(0.08)	-0.91**	(0.08)
No long term disability			0.06*	(0.03)	0.06*	(0.03)			0.09**	(0.02)	0.09**	(0.02)
Age group (ref: 24 – 29)												
30 – 39			0.02	(0.04)	0.00	(0.04)			-0.05	(0.04)	-0.05	(0.04)
40 - 49			-0.03	(0.04)	-0.07	(0.04)			-0.07+	(0.04)	-0.07+	(0.04)
50 - 59			-0.03	(0.04)	-0.07	(0.05)			-0.12**	(0.04)	-0.12**	(0.04)
Marital Status (ref.: never married)												
Cohabiting			0.10*	(0.04)	0.09*	(0.04)			0.22**	(0.04)	0.22**	(0.04)
Married/civil partnership			0.19**	(0.04)	0.18**	(0.04)			0.32**	(0.03)	0.31**	(0.03)
Separated, divorced or widowed			-0.10+	(0.06)	-0.11+	(0.06)			0.01	(0.04)	0.01	(0.04)
Number of children (ref.: no children)												
One			-0.05	(0.04)	-0.06	(0.04)			-0.05	(0.03)	-0.05	(0.03)
Two or more			-0.08+	(0.05)	-0.09*	(0.05)			-0.10**	(0.04)	-0.10**	(0.04)
Age of youngest child (ref.: 16+)												
0-4			-0.02	(0.05)	0.01	(0.05)			0.00	(0.04)	0.00	(0.04)
5-11			0.00	(0.05)	-0.01	(0.05)			-0.02	(0.04)	-0.03	(0.04)
12-16			0.05	(0.05)	0.05	(0.05)			-0.02	(0.04)	-0.02	(0.04)
16+												
Household income			0.11**	(0.02)	0.07**	(0.03)			0.09**	(0.02)	0.09**	(0.02)
Educational qualifications (ref.: having a degree)												
Other higher qualifications			0.00	(0.04)	0.03	(0.04)			0.02	(0.03)	0.02	(0.03)
A level			0.03	(0.03)	0.07*	(0.03)			-0.01	(0.03)	-0.01	(0.03)
GCSE			0.01	(0.03)	0.07*	(0.04)			-0.03	(0.03)	-0.02	(0.03)

Other qualifications	0.00	(0.05)	0.06	(0.05)	-0.11*	(0.05)	-0.09+	(0.05)
No qualification	0.13*	(0.07)	0.23**	(0.07)	-0.22**	(0.06)	-0.20**	(0.06)
Region of Residence (ref: London)								
North	0.07	(0.05)	0.08	(0.05)	0.03	(0.05)	0.04	(0.05)
Midlands	0.03	(0.05)	0.03	(0.05)	0.02	(0.05)	0.02	(0.05)
East South	0.11*	(0.05)	0.12*	(0.05)	0.03	(0.05)	0.04	(0.05)
Wales	0.09	(0.07)	0.11	(0.07)	0.03	(0.07)	0.04	(0.07)
Scotland	0.14*	(0.06)	0.15*	(0.06)	-0.05	(0.06)	-0.04	(0.06)
Northern Ireland	0.07	(0.07)	0.08	(0.07)	0.20**	(0.07)	0.20**	(0.07)
Year dummies								
2010	0.05	(0.05)	0.05	(0.05)	0.07+	(0.04)	0.07+	(0.04)
2011	-0.05	(0.04)	-0.05	(0.04)	0.02	(0.04)	0.02	(0.04)
2012	-0.06	(0.04)	-0.06	(0.04)	0.00	(0.04)	0.00	(0.04)
2013	-0.13**	(0.04)	-0.13**	(0.04)	-0.05	(0.04)	-0.05	(0.04)
2015	-0.01	(0.13)	-0.02	(0.13)	-0.03	(0.10)	-0.03	(0.10)
Job characteristics at t-1								
Wage percentile / 100			0.14**	(0.06)			0.02	(0.05)
Occupation (ref: Managers and Senior Officials								
Professional Occupations			0.06	(0.04)			0.05	(0.04)
Associate Professional and Technical Occupations			-0.04	(0.04)			0.00	(0.04)
Administrative and Secretarial Occupations			0.00	(0.05)			0.04	(0.04)
Skilled Trades Occupations			0.02	(0.04)			0.02	(0.09)
Personal Service Occupations			0.02	(0.07)			0.06	(0.04)
Sales and Customer Service Occupations			-0.14*	(0.07)			0.04	(0.05)
Process Plant and Machine Operatives			-0.06	(0.04)			-0.01	(0.09)

Elementary Occupations					-0.09+	(0.05)					-0.03	(0.05)
Don't know					0.12	(0.18)					0.17	(0.19)
Constant	2.87**	(0.05)	2.19**	(0.21)	2.42**	(0.22)	2.93	(0.04)	2.50**	(0.19)	2.47**	(0.20)
No of Observations	11,434		11,434		11,434		15,554		15,554		15,554	

Note: Standard errors are in parenthesis. + statistically significant at 10%, * statistically significant at 5%, ** statistically significant at 1%

Table 2. Factors influencing life satisfaction, interactions between transition into unemployment and job characteristics (Empirical Specifications: 4-5)

	Men				Women			
	Specification 4		Specification 5		Specification 4		Specification 5	
Life Satisfaction t-1	0.40**	(0.01)	0.39**	(0.01)	0.37**	(0.01)	0.37**	(0.01)
Unemployed	-0.33*	(0.14)	-0.19	(0.18)	-0.43**	(0.13)	-0.12	(0.22)
Wage percentile / 100	0.20**	(0.06)	0.14*	(0.06)	0.00	(0.05)	0.02	(0.05)
Unemployed* wage percentile / 100	-0.01	(0.26)			0.62*	(0.29)		
Occupation (ref.: Managers and Senior Officials)								
Professional Occupations			0.06	(0.04)			0.05	(0.04)
Associate Professional and Technical Occupations			-0.03	(0.04)			0.00	(0.04)
Administrative and Secretarial Occupations			0.00	(0.05)			0.04	(0.04)
Skilled Trades Occupations			0.03	(0.04)			0.01	(0.09)
Personal Service Occupations			0.00	(0.07)			0.07	(0.04)
Sales and Customer Service Occupations			-0.12+	(0.07)			0.04	(0.05)
Process Plant and Machine Operatives			-0.06	(0.04)			0.01	(0.09)
Elementary Occupations			-0.08	(0.05)			-0.02	(0.05)
Don't know			0.13	(0.19)			0.17	(0.19)
Unemployed*Professional Occupations			-0.01	(0.31)			-0.15	(0.36)
Unemployed*Associate Professional and Technical Occupations			-0.27	(0.30)			0.11	(0.33)
Unemployed*Administrative and Secretarial Occupations			0.13	(0.32)			0.06	(0.29)
Unemployed*Skilled Trades Occupations			-0.21	(0.27)			0.98	(0.75)
Unemployed*Personal Service Occupations			0.66+	(0.39)			-0.26	(0.29)
Unemployed*Sales and Customer Service Occupations			-0.70+	(0.38)			0.05	(0.33)
Unemployed*Process Plant and Machine Operatives			-0.06	(0.26)			-0.64	(0.53)
Unemployed*Elementary Occupations			-0.47+	(0.26)			0.03	(0.03)
Unemployed*don't know			-0.37	(0.88)			0.00	.
Constant	2.36**	(0.21)	2.35**	(0.22)	2.48**	(0.19)	2.44**	(0.20)
Number of observations	11,434				15,554			

Note: Standard errors are in parenthesis. + statistically significant at 10%, * statistically significant at 5%, ** statistically significant at 1%. The models control for health status, age, education, marital status, number of children, age of youngest child, logarithm of equivalised gross monthly household income, region of residence and year dummies.

Table 3a. Factors influencing life satisfaction, interactions between transition into unemployment and measures of job quality, sector of employment (Empirical Specifications: 6-7)

	Men				Women			
	Specification 6		Specification 7		Specification 6		Specification 7	
Life Satisfaction t-1	0.39**	(0.01)	0.39**	(0.01)	0.37**	(0.01)	0.37**	(0.01)
Unemployed	-0.34**	(0.08)	-0.16	(0.19)	-0.21**	(0.08)	-0.07	(0.16)
Sector of Employment (ref.: public sector)								
Private sector	0.02	(0.03)	0.02	(0.03)	-0.03	(0.02)	-0.02	(0.02)
Other	0.08	(0.07)	0.07	(0.07)	0.03	(0.04)	0.04	(0.04)
Unemployed*private sector			-0.24	(0.21)			-0.17	(0.19)
Unemployed*other			0.20	(0.38)			-0.45	(0.37)
Constant	2.40**	(0.22)	2.38**	(0.22)	2.48**	(0.20)	2.47**	(0.20)
Number of observations	11,434				15,554			

Note: Standard errors are in parenthesis. + statistically significant at 10%, * statistically significant at 5%, ** statistically significant at 1%. The models control for health status, age, education, marital status, number of children, age of youngest child, logarithm of equivalised gross monthly household income, percentile of usual gross hourly wage rate, occupation, region of residence, and year dummies.

Table 3b. Factors influencing life satisfaction, interactions between transition into unemployment and measures of job quality, length of contract (Empirical Specifications: 8-9)

	Men				Women			
	Specification 8		Specification 9		Specification 8		Specification 9	
Life Satisfaction t-1	0.39**	(0.01)	0.39**	(0.01)	0.37**	(0.01)	0.37**	(0.01)
Unemployed	-0.34**	(0.08)	-0.35+	(0.19)	-0.21	(0.08)	-0.16	(0.22)
Length of contract (ref: not permanent)								
Permanent job	0.00	(0.06)	0.00	(0.06)	0.07	(0.05)	0.07	(0.05)
Unemployed*Permanent job			0.02	(0.21)			-0.05	(0.23)
Constant	2.42**	(0.23)	2.42**	(0.23)	2.41**	(0.20)	2.41**	(0.20)
Number of observations	11,434				15,554			

Note: Standard errors are in parenthesis. + statistically significant at 10%, * statistically significant at 5%, ** statistically significant at 1%. The models control for health status, age, education, marital status, number of children, age of youngest child, logarithm of equivalised gross monthly household income, percentile of usual gross hourly wage rate, occupation, region of residence, and year dummies.

Table 3c. Factors influencing life satisfaction, interactions between transition into unemployment and hours of work (Empirical Specifications: 10-11)

	Men				Women			
	Specification 10		Specification 11		Specification 10		Specification11	
Life Satisfaction t-1	0.39**	(0.01)	0.39**	(0.01)	0.37**	(0.01)	0.37**	(0.01)
Unemployed	-0.34**	(0.08)	-0.53	(0.50)	-0.22**	(0.08)	-0.08	(0.22)
Hours worked (ref.: 0-15)								
16-35 hours	-0.17	(0.11)	-0.19+	(0.12)	-0.05	(0.04)	-0.04	(0.04)
36 hours and above	-0.19+	(0.11)	-0.20+	(0.11)	-0.10*	(0.04)	-0.09*	(0.04)
Unemployed*16-35 hours			0.43	(0.53)			-0.16	(0.25)
Unemployed*36 hours and above			0.15	(0.51)			-0.15	(0.25)
Constant	2.59**	(0.24)	2.59**	(0.24)	2.51**	(0.20)	2.51**	(0.20)
Number of observations	11,434				15,554			

Note: Standard Errors are in parenthesis. + statistically significant at 10%, * statistically significant at 5%, ** statistically significant at 1%. The models control for health status, age, education, marital status, number of children, age of youngest child, logarithm of equivalised gross monthly household income, percentile of usual gross hourly wage rate, occupation, region of residence, and year dummies.

Table 4a. Factors influencing life satisfaction, interactions between transition into unemployment and length of commute to work (Empirical Specifications: 12-13)

	Men				Women			
	Specification 12		Specification 13		Specification 12		Specification 13	
Life Satisfaction t-1	0.39**	(0.01)	0.39**	(0.01)	0.37**	(0.01)	0.37**	(0.01)
Unemployed	-0.32**	(0.08)	-0.23	(0.22)	-0.21*	(0.08)	-0.40*	(0.19)
Commute to Work								
Time spent (ref.: less than 10 min)								
10-20 min	-0.02	(0.04)	-0.02	(0.04)	-0.03	(0.03)	-0.04	(0.03)
20-30 min	0.00	(0.04)	0.01	(0.04)	-0.06+	(0.03)	-0.06+	(0.03)
30m-1hr	-0.02	(0.04)	-0.02	(0.04)	-0.06+	(0.03)	-0.07*	(0.03)
1 hr +	-0.10*	(0.04)	-0.10*	(0.04)	-0.18**	(0.05)	-0.19**	(0.05)
Unemployed*10-20 min			-0.20	(0.26)			0.32	(0.24)
Unemployed*20-30min			-0.30	(0.28)			-0.15	(0.28)
Unemployed*30min-1hr			0.04	(0.26)			0.32	(0.25)
Unemployed*1hr+			0.00	(0.28)			0.26	(0.32)
Constant	2.43**	(0.22)	2.44**	(0.22)	2.52**	(0.20)	2.52**	(0.20)
Number of observations	11,434				15,554			

Note: Standard Errors are in parenthesis. + statistically significant at 10%, * statistically significant at 5%, ** statistically significant at 1%. The models control for health status, age, education, marital status, number of children, age of youngest child, logarithm of equivalised gross monthly household income, percentile of usual gross hourly wage rate, occupation, region of residence, and year dummies

Table 4b. Factors influencing life satisfaction, interactions between transition into unemployment and length of commute to work, minutes (Empirical Specifications: 14-15)

	Men				Women			
	Specification 14		Specification 15		Specification 14		Specification 15	
Life Satisfaction t-1	0.39**	(0.01)	0.39**	(0.01)	0.37**	(0.01)	0.37**	(0.01)
Unemployed	-0.33**	(0.08)	-0.36**	(0.12)	-0.21*	(0.08)	-0.30*	(0.13)
Commute to Work								
Travel to work time (minutes)	-0.00+	(0.00)	-0.00+	(0.00)	-0.00**	(0.00)	-0.00**	(0.00)
Unemployed* Travel to work time			0.00	(0.00)			0.00	(0.00)
Constant	2.43**	(0.22)	2.43**	(0.22)	2.51**	(0.20)	2.51**	(0.20)
Number of observations	11,434				15,554			

Note: Standard Errors are in parenthesis. + statistically significant at 10%, * statistically significant at 5%, ** statistically significant at 1%. The models control for health status, age, education, marital status, number of children, age of youngest child, logarithm of equivalised gross monthly household income, percentile of usual gross hourly wage rate, occupation, region of residence, and year dummies.

Table 4c. Factors influencing life satisfaction, interactions between transition into unemployment and type of commute to work (Empirical Specifications: 16-17)

	Men				Women			
	Specification 16		Specification 17		Specification 16		Specification 17	
Life Satisfaction t-1	0.39**	(0.01)	0.39**	(0.01)	0.37**	(0.01)	0.37**	(0.01)
Unemployed	-0.33**	(0.08)	-0.37**	(0.10)	-0.21*	(0.08)	-0.17	(0.11)
Travel mode (ref.: car, taxi, minicab etc.)								
Public transport	-0.03	(0.04)	-0.03	(0.04)	-0.09*	(0.04)	-0.09*	(0.04)
Walk or cycle	-0.03	(0.03)	-0.04	(0.03)	0.04	(0.03)	0.04	(0.03)
Unemployed*public transport			0.01	(0.21)			0.07	(0.22)
Unemployed*walk or cycle			0.19	(0.20)			-0.25	(0.20)
Constant	2.46**	(0.22)	2.47**	(0.22)	2.49**	(0.20)	2.49**	(0.20)
Number of observations	11,434				15,554			

Note: Standard Errors are in parenthesis. + statistically significant at 10%, * statistically significant at 5%, ** statistically significant at 1%. The models control for health status, age, education, marital status, number of children, age of youngest child, logarithm of equivalised gross monthly household income, percentile of usual gross hourly wage rate, occupation, region of residence, and year dummies.

Table 5. Factors influencing life satisfaction, interactions between transition into unemployment and personality type (Empirical Specifications: 18-19)

	Men				Women			
	Specification 18		Specification 19		Specification 18		Specification 19	
Life Satisfaction t-1	0.36**	(0.01)	0.36**	(0.01)	0.34**	(0.01)	0.34**	(0.01)
Unemployed	-0.32**	(0.08)	-0.10	(0.64)	-0.20*	(0.08)	-0.81	(0.67)
Personality traits								
Openness	0.00	(0.01)	0.00	(0.01)	-0.01	(0.01)	-0.01	(0.01)
Conscientiousness	0.02+	(0.01)	0.03*	(0.01)	0.07**	(0.01)	0.06**	(0.01)
Extraversion	0.05**	(0.01)	0.05**	(0.01)	0.02*	(0.01)	0.02*	(0.01)
Agreeableness	0.05**	(0.01)	0.05**	(0.01)	0.03**	(0.01)	0.03**	(0.01)
Neuroticism	-0.12**	(0.01)	-0.11**	(0.01)	-0.11**	(0.01)	-0.11**	(0.01)
Unemployed* Openness			0.05	(0.06)			-0.05	(0.07)
Unemployed* Conscientiousness			-0.09	(0.07)			0.12	(0.08)
Unemployed* Extraversion			-0.04	(0.06)			0.06	(0.06)
Unemployed* Agreeableness			0.10	(0.07)			0.02	(0.09)
Unemployed* Neuroticism			-0.09	(0.06)			-0.05	(0.06)
Constant	2.53**	(0.24)	2.50**	(0.24)	2.55**	(0.22)	2.57**	(0.22)
Number of Observations	11,434		11,434		15,554		15,554	

Note: Standard Errors are in parenthesis. + statistically significant at 10%, * statistically significant at 5%, ** statistically significant at 1%. The models control for health status, age, education, marital status, number of children, age of youngest child, Logarithm of equivalised gross monthly household income, percentile of usual gross hourly wage rate, occupation, region of residence, and year dummies.

Table 6. Factors influencing life satisfaction, interactions between transition into unemployment and work identity (Empirical Specifications: 20-21)

	Men				Women			
	Specification 20		Specification 21		Specification 20		Specification 21	
Life Satisfaction t-1	0.39**	(0.01)	0.39**	(0.01)	0.37**	(0.01)	0.37**	(0.01)
Unemployed	-0.33**	(0.08)	-0.51**	(0.12)	-0.21*	(0.08)	-0.06	(0.13)
Strong Work Identity	0.08**	(0.03)	0.07**	(0.03)	0.04+	(0.02)	0.05+	(0.03)
Unemployed*Strong work identity			0.30*	(0.15)			-0.25	(0.17)
Constant	2.39**	(0.22)	2.37**	(0.22)	2.45**	(0.02)	2.43**	(0.02)
Number of Observations	11,434		11,434		15,554		15,554	

Note: Standard Errors are in parenthesis. + statistically significant at 10%, * statistically significant at 5%, ** statistically significant at 1%. The models control for health status, age, education, marital status, number of children, age of youngest child, Logarithm of equivalised gross monthly household income, percentile of usual gross hourly wage rate, occupation, region of residence, and year dummies.

Table 7. Factors influencing life satisfaction, interactions between transition into unemployment and gender attitudes (Empirical Specifications: 22-23)

	Men				Women			
	Specification 22		Specification 23		Specification 22		Specification 23	
Life Satisfaction t-1	0.39**	(0.01)	0.39**	(0.01)	0.37**	(0.01)	0.37**	(0.01)
Unemployed	-0.34**	(0.08)	-0.33**	(0.08)	-0.21*	(0.08)	-0.18*	(0.08)
Gender attitude	0.06**	(0.01)	0.06**	(0.01)	0.06**	(0.01)	0.07**	(0.01)
Unemployed*gender attitudes			-0.13	(0.09)			-0.26**	(0.10)
Constant	2.47**	(0.22)	2.46**	(0.22)	2.45**	(0.20)	2.45**	(0.20)
Number of observations	11,434		11,434		15,554		15,554	

Note: Standard Errors are in parenthesis. + statistically significant at 10%, * statistically significant at 5%, ** statistically significant at 1%.The models control for health status, age, education, marital status, number of children, age of youngest child, Logarithm of equivalised gross monthly household income, percentile of usual gross hourly wage rate, occupation, region of residence, and year dummies.

Table 8a. Factors influencing life satisfaction, interactions between job loss and gender attitudes by partnership status

	Men				Women			
	Single		Couple		Single		Couple	
Life Satisfaction t-1	0.39**	(0.02)	0.39**	(0.01)	0.38**	(0.01)	0.36**	(0.01)
Unemployed	-0.46**	(0.14)	-0.27**	(0.10)	-0.13	(0.11)	-0.22*	(0.11)
Gender attitude	0.07+	(0.03)	0.05**	(0.02)	0.12**	(0.02)	0.05**	(0.01)
Unemployed*gender attitudes	-0.20	(0.17)	-0.09	(0.11)	-0.25	(0.17)	-0.28*	(0.12)
Constant	2.81**	(0.39)	2.38**	(0.28)	2.59**	(0.37)	2.61**	(0.24)
Number of observations	2,428		9,006		4,496		11,058	

Note: Standard Errors are in parenthesis. + statistically significant at 10%, * statistically significant at 5%, ** statistically significant at 1%.The models control for health status, age, education, marital status, number of children, age of youngest child, Logarithm of equivalised gross monthly household income, percentile of usual gross hourly wage rate, occupation, region of residence, and year dummies.

Table 8b. Factors influencing life satisfaction, interactions between job loss and gender attitudes by parenthood status

	Men				Women			
	Non-parents		Parents		Non-parents		Parents	
Life Satisfaction t-1	0.40**	(0.01)	0.38**	(0.01)	0.39**	(0.01)	0.34**	(0.01)
Unemployed	-0.42**	(0.10)	-0.22+	(0.13)	-0.28*	(0.11)	0.01	(0.13)
Gender attitude	0.08**	(0.02)	0.03	(0.02)	0.07**	(0.02)	0.07**	(0.02)
Unemployed*gender attitudes	-0.23*	(0.12)	0.04	(0.81)	-0.12	(0.13)	-0.47**	(0.15)
Constant	2.60**	(0.27)	2.14**	(0.45)	2.46**	(0.24)	2.35**	(0.35)
Number of observations	6,509		4,925		8,568		9,075	

Note: Standard Errors are in parenthesis. + statistically significant at 10%, * statistically significant at 5%, ** statistically significant at 1%.The models control for health status, age, education, marital status, number of children, age of youngest child, Logarithm of equivalised gross monthly household income, percentile of usual gross hourly wage rate, occupation, region of residence, and year dummies.

Appendices

Table A1. Descriptive Statistics for the control variables

	Men		Women	
	Employed	Unemployed	Employed	Unemployed
Life satisfaction	5.18	4.57	5.18	4.61
Life Satisfaction t-1	5.24	4.99	5.25	4.83
Health Status				
Excellent/very good	59.85	43.97	61.48	46.03
Good/fair	38.57	53.70	36.78	48.54
Poor	1.58	2.33	1.74	5.44
Presence of long-term illness/disability				
Yes	24.10	27.63	26.63	30.96
No	75.90	72.37	73.37	69.04
Age group				
20 - 29	13.84	21.79	12.90	22.18
30-39	25.65	20.23	22.44	20.08
40 – 49	33.10	27.24	33.86	29.29
50- 59	27.40	30.74	30.81	28.45
Marital Status				
Never married/single	15.11	29.18	15.04	30.13
Cohabiting	18.32	24.90	15.25	16.74
Married/Civil partnership	60.82	37.35	56.08	39.75
Separated/widowed/divorced	5.74	8.56	13.63	13.39
Presence/number of children				
No children	44.95	54.86	40.09	46.44
1 child	20.48	15.18	24.96	23.01
2 or more children	34.57	29.96	34.95	30.54
Age of youngest child				
0-4 years old	18.41	19.07	11.54	13.39
5-11 years old	15.46	8.17	16.96	19.25
12-16 years old	9.37	8.56	13.20	6.28
16 or older	11.81	9.34	18.21	14.64
Household income	7.73	6.73	7.64	6.82
Educational qualifications				
Has a degree	30.67	20.23	30.94	20.50
Has other higher degree	12.98	11.67	16.95	10.04
A-level	24.74	19.46	20.27	23.43
GCSE	21.39	33.07	22.63	29.71
Other qualifications	7.01	8.17	5.84	10.04
No qualifications	3.20	7.39	3.36	6.28
Region of Residence				
London	6.16	5.06	4.37	7.11

North	25.38	27.24	26.23	33.05
Midlands	16.68	19.07	17.63	13.81
East South	34.90	31.91	34.17	29.71
Wales	4.97	7.39	4.94	6.28
Scotland	7.95	5.84	8.77	6.28
Northern Ireland	3.95	3.50	3.89	3.77
Years				
2010	12.43	15.56	12.38	9.62
2011	26.00	28.40	25.93	35.15
2012	26.51	30.74	25.99	26.78
2013	22.46	15.95	23.06	17.57
2014	11.78	7.78	11.60	10.46
2015	0.82	1.56	1.03	0.42
Number of observations	11,177	257	15,315	239

Note: All in percentages except the life satisfaction and life satisfaction t-1 which are presented in means.

Table A2. Descriptive Statistics for the Job Characteristics

	Men		Women	
	Employed	Unemployed	Employed	Unemployed
Percentile of hourly wage	61.89	44.02	48.96	33.71
Occupation				
Managers and Senior Officials	21.45	17.12	12.28	13.39
Professional Occupations	15.35	8.56	13.84	7.95
Associate Professional and Technical Occupations	15.93	10.12	18.99	10.46
Administrative and Secretarial Occupations	6.63	7.78	18.31	17.15
Skilled Trades Occupations	12.58	13.62	1.58	1.26
Personal Service Occupations	2.96	4.67	16.06	18.41
Sales and Customer Service Occupations	3.57	5.06	8.89	11.30
Process Plant and Machine Operatives	11.66	15.56	1.48	2.93
Elementary Occupations	9.49	16.73	8.28	17.15
Do not know	0.38	0.78	0.28	0.00
Sector of Employment				
Public	25.89	15.18	44.84	24.69
Private	70.89	79.38	49.36	69.46
Other	3.22	5.45	5.80	5.86
Do not have a permanent job	3.33	16.73	4.64	14.64
Have a permanent job	96.67	83.27	95.36	85.36
Total number of hours worked per week				
0-15 hours	1.07	2.33	7.01	13.81
16-35 hours |	9.15	17.90	43.92	44.35
36 hours or above	89.77	79.77	49.07	41.84
Time spent in commuting to work				
Less than 10 minutes	15.16	12.06	17.86	17.99
10-20 minutes	25.20	25.68	30.73	34.31
20-30 minutes	19.20	17.12	20.05	15.06
30 minutes - 1hour	27.92	27.63	24.25	23.01
More than an hour	12.52	17.51	7.11	9.62
Travel to work time (minutes)	28.37	30.21	22.88	23.94
Travel mode to work				
Car etc.	74.35	64.98	73.69	60.25
Public Transport	10.75	16.34	9.40	17.99
Walk or cycle	14.91	18.68	16.92	21.76
Number of observations	11,177	257	15,315	239

Note: All in percentages except the log hourly wage and Travel to work time which are presented in means.

Table A3. Descriptive Statistics for the Attitudinal Moderators

	Men		Women	
	Employed	Unemployed	Employed	Unemployed
Gender attitudes	0.09	0.05	0.26	0.13
	(0.84)	(0.81)	(0.83)	(0.84)
Work Identity				
Do not have strong work identity	26.32	40.08	23.13	38.49
Have strong work identity	73.68	59.92	76.87	61.51
Personality Traits				
Openness to experience	4.67	4.59	4.44	4.52
	(1.18)	(1.24)	(1.23)	(1.24)
Conscientiousness	5.47	5.32	5.75	5.46
	(1.00)	(1.07)	(0.95)	(1.07)
Extraversion	4.47	4.31	4.78	4.79
	(1.25)	(1.31)	(1.26)	(1.35)
Agreeableness	5.40	5.24	5.78	5.77
	(1.02)	(1.13)	(0.94)	(0.96)
Neuroticism	3.31	3.54	3.83	4.04
	(1.32)	(1.41)	(1.36)	(1.37)
Number of observations	11,177	257	15,315	239

Note: Mean values for gender attitudes and personality traits, standard deviations for continuous variables are in parenthesis. Descriptive statistics for work identity are shown in percentages.