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WHICH TYPE OF EMPLOYMENT UNCERTAINTY MATTERS WHEN BECOMING A PARENT? AN ANALYSIS BY EDUCATIONAL ATTAINMENT IN THE UNITED KINGDOM

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ABSTRACT

Multiple studies find that employment uncertainty has a negative association with the timing of first birth. However, there is significant debate about how to conceptualise and measure employment uncertainty—as contemporaneous objective measures, subjective perceptions, or early-career employment instability. Sex and education appear to determine which measures associate with delays in first birth timing. This study aims to empirically examine the influence of various employment uncertainty measures on individual timing of first birth by including social stratification and considering the relieving influences of partnership. It uses event history analysis starting three years after the end of formal education to examine how employment uncertainty is associated with the timing of first birth, differentiated by education. It employs data from the *United Kingdom Household Longitudinal Study 2009–2020*. The results indicate that employment uncertainty has a particularly negative association with timing of first birth among low educated individuals. For medium and high educated individuals, much of the significance disappears when adding partnership, but largely remains for low educated individuals. Contemporaneous objective measures like being employed at the time of interview accelerates the timing of first birth for women, while part-time work delays it for men. Low educated women who report that they are likely to lose their job in the next twelve months have an increased likelihood of first birth. Early-career joblessness appears to only delay first birth for low educated individuals.

KEYWORDS

Employment Uncertainty, Fertility, Measuring Uncertainty, First Birth, Event History Analysis, Understanding Society

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1 INTRODUCTION

Total fertility rates (TFR) have declined in Europe since the Great Recession, even in countries that largely escaped its worst economic effects (Hellstrand et al., 2020; Matysiak et al., 2020), with the United Kingdom (UK) being no exception (Ermisch, 2021). Earlier work presumed that higher observed TFRs in countries with strong welfare systems was due to the welfare system counter-balancing to the negative impact of employment uncertainty, among other factors (Adsera, 2011a; Comolli et al., 2021). In this regard, the UK had previously been an outlier, with a relatively high TFR but a less generous social welfare system. The decline in TFR in the UK is due to postponement of first birth, especially among the less educated (Ermisch, 2021). This unforeseen continual downward trend has led to a renewed interest in the role that employment uncertainty plays in the life course (Bernardi et al., 2019; Vignoli et al., 2020a).

There is significant debate surrounding the conceptualisation of employment uncertainty and its association with the timing of first birth (Buh, 2021; Scherer, 2009). Previous work on employment uncertainty largely focuses on an increase in fixed-term contracts, non-standard working situations, and volatile entries into the labour market, which promote later entry into parenthood (Adsera, 2011b; Barbieri et al., 2015; Golsch, 2003). Numerous studies using objective contemporaneous measures of employment uncertainty demonstrate that unemployment and fixed-term contracts negatively impact fertility, and the effect has become stronger in the last few decades throughout Europe (Alderotti et al., 2021). However, other researchers have pointed out that the decision to become a parent might be based on an individual's perception of their future employment status rather than their current situation (Gatta et al., 2021). Recent empirical work utilises subjective measure of employment uncertainty, revealing that perceived employment uncertainty also negatively associates with fertility (Fahlén & Oláh, 2018; Gatta et al., 2021; Hanappi et al., 2017). To my knowledge, only one existing publication explicitly compares objective and subjective measures of employment uncertainty (Bolano & Vignoli, 2021), although in the context of union formation. Studies that focus on objective and subjective measures generally use measures with close temporal proximity to the birth event. A third perspective considers long-term trends, in which later fertility behaviour depends on earlier employment circumstances. Life course literature argues that measuring employment uncertainty only in close temporal proximity to birth events is unlikely to capture the impact of linked life domains (Elder, 1985; Huinink & Kohli, 2014). Empirical work shows cumulative employment uncertainty negatively influences fertility (Özcan et al., 2010; Pailhé & Solaz, 2012). Nevertheless, there exists little literature comparing measures of early-career employment instability with later contemporaneous measures.

Studies of employment uncertainty's impact on the fertility can be divided into three main categories: using contemporaneous objective measures of employment situation, subjective perceptions of financial/employment stability, and longitudinal measures linking employment fluctuations and the life course. This paper aims to contribute to the literature by exploring how these different types of uncertainty—early-career joblessness and objective as well as subjective measures of employment uncertainty—influence the timing of the entry into parenthood. As theory suggests that fertility is shaped by the intersection of sex and social stratification (Lappegård, 2020), analyses are carried out separately by sex and educational attainment. Since employment uncertainty may be mitigated by partnership (Testa et al., 2011; Testa & Bolano, 2019), this paper examines both the individual and couple perspective. I use the 2009–2020 *Understanding Society* (*UKHLS*) data from the United Kingdom to study entry into parenthood. This longitudinal dataset provides employment, partnership, and fertility histories of all participants and includes objective measures of employment situations and subjective measures of employment uncertainty in selected waves. This rich data source allows for tracking employment uncertainty from the end of formal education until the birth of the first child. I aim to contribute to the discussion about the relative importance of various types of employment uncertainty on the timing of first birth.

2 BACKGROUND

2.1 MEASURES OF EMPLOYMENT UNCERTAINTY

The debate about the most appropriate measure for capturing employment uncertainty's influence on fertility goes back to early empirical work on the subject. The early work examines contemporaneous objective measure of employment status and income. Discussions about the role of employment uncertainty on fertility were already present in the New Home Economics' microeconomic model of fertility (Becker, 1960). Becker theorised that unemployment can produce competing effects on the demand for children: the income effect and the substitution effect. Numerous empirical studies have explored this model using increasingly complex measures of job status and unemployment (Andersson, 2000; Baizán, 2009; Bernardi & Nazio, 2005; Inanc, 2015; Kravdal, 2002). These studies uniformly show that the impact of unemployment on fertility is highly sex-specific, with men's unemployment constraining the demand for children because of lower income and the association with women's unemployment being more diverse (Adsera, 2004). Women may delay or forgo childbirth because of the opportunity cost of (temporarily) leaving the workforce (Kravdal, 1992). However, researchers have increasingly argued that employment status does not capture the full story of employment uncertainty (Özcan et al., 2010; Schmitt, 2012).

While individuals may be employed, there are various types of employment that are more and less secure. Recategorising employment status into "more and less secure clearly reveals that individuals who have non-permanent employment, seasonal, or irregular contract types delay entry into parenthood (Barbieri et al., 2015; Golsch, 2003; Vignoli et al., 2012). However, there is evidence that the negative association between fixed-term contracts and fertility is mitigated by income and subjective perceptions (van Wijk et al., 2021; Vignoli et al., 2020c). Other researchers have argued that uncertainty tolerance is specific to sectors or occupational classes (Bernardi & Nazio, 2005). While this approach further refines the employment status approach, it likely does not capture the heterogeneity of job characteristics between different working environments within the same sector (Begall & Mills, 2011). There are indications that other more universal factors like working hours might influence fertility, particularly with part-time work being equated to employment uncertainty for men (Ciganda, 2015), while simultaneously giving women more certainty by allowing for work-and-family reconciliation (Adsera, 2011a; Thévenon, 2009). The different results across sex, contract type, working hours, sector, and occupational class reinforce the need to consider employment uncertainty from different perspectives.

What most of these measures share is that they attempt to capture heterogeneities of employment experiences. Vignoli et al. (2020a) argue that contemporaneous objective measures are flawed because they capture what employment certainty *was* rather than what it will be. They reason that individuals create a narrative of their lives that it is the "shadow of the future," which makes them feel more or less secure in their employment (Bernardi et al., 2019; p. 4). Empirical work using survey questions that directly ask about the perceived likelihood of losing one's job show a similar negative relationship between perceived employment uncertainty and fertility (Fahlén & Oláh, 2018; Hanappi et al., 2017). Even then, questions that ask about the perceived likelihood of losing one's job may not capture uncertainty, as job loss may be largely anticipatory. Rather, feelings of uncertainty may be linked to individuals' sense of resilience or the belief that they could easily replace lost employment (Gatta et al., 2021). It may also be sector- and age-specific, with different occupations and different age groups having different expectations of stability (Vignoli et al., 2020b).

The studies mentioned above look at indicators that are in close temporal proximity to the birth event. However, the timing of entry into parenthood might be affected by events and decisions taken at a much younger age. When considering employment uncertainty, the cumulative disadvantage of spending time outside of the labour market weighs on the individual (Cheng, 2016). Empirical evidence from studies utilising indicators of cumulative time spent outside of the labour market observe that long-term unemployment negatively influences the timing of first birth (Özcan et al., 2010; Pailhé & Solaz, 2012). However, these indicators, which are counts of periods outside of the labour market, are not able to differentiate between the timing of unemployment spells. Rather, more sophisticated indicators that use sequence analysis may inform the effect that the number, length, proximity, and recentness of joblessness spells have on fertility (Busetta et al., 2019; Ciganda, 2015). The results from these papers suggest that more volatile career trajectories have a more negative influence on fertility.

An alternative approach could focus on the early-career period. The time between the end of education and parenthood is a busy period with several important transitions (Billari & Rosina, 2004). The first birth is a special and irreversible event that signifies the transition to parenthood (Hobcraft & Kiernan, 1997; Huinink et al., 2015). Parenthood is the last of a series of (generally sequenced) transitions to adulthood (Billari, 2001), while entering the labour market represents the first major transition therein (Billari & Rosina, 2004). The uncertainty that early-career workers experience can delay parenthood—not only through limiting their long-term economic outcomes, but by complicating transitions in other life course domains. These can affect outcomes favourable to fertility, all while increasing time and resources needed to pursue employment certainty (Mills & Blossfeld, 2003). A less smooth entry to the labour market and the inability to transition quickly to a stable career path delays parenthood.

Measuring early-career uncertainty like contemporaneous employment uncertainty is conceptually complicated. Defining *early-career* often depends on a specific metric (e.g., temporal, salary, position). The early-career transitionary period differs by occupational sectors and their potential causes of uncertainty, which might not be universal. Mills et al. (2005) define three specific types of uncertainty emerging from early-career instability: *economic, temporal*, and *employment related uncertainty*. First, economic uncertainty relates to the "affordability clause" of other life course events like having a baby (Rindfuss & VandenHeuvel, 1990; p. 715). Second, temporal uncertainty arises from not knowing if one will have a job in the future, which is most commonly manifested in the form of short-term contracts (Golsch, 2003) or spending long periods looking for an entry-level position. Finally, dependent workers do not have the flexibility to determine their own future, which can create uncertainty through employment relations (Barbieri et al., 2015). There is still considerable work to be done examining how these types of early-career uncertainty influence the timing of first birth. However, this paper will focus specifically on volatility due to joblessness in the first three years post-education.

Joblessness was chosen when considering the timing of first birth because any time spent outside of the labour market has an effect on delaying the transition to parenthood (Neels et al., 2013). Economic inactivity has a similar effect on unemployment, as individuals outside of the labour market forgo gains in human and social capital (Sloane et al., 2013). Therefore, joblessness is operationalised to include unemployment, family care, disability, homemakers, and return spells to education. While being inactive (activity statuses outside employed or unemployed) might create different types of human/social capital, individuals miss out on important social, economic, and network capital produced in continuous employment. For example, returning to education may build human capital, but significantly reduces fertility intentions in the short-term (Philipov, 2009). Longer, less volatile careers lead to more occupational prestige, which is associated with better fertility outcomes (Hopcroft & Whitmayer, 2010). Joblessness can be seen as a state that accumulates over the life course and time spent outside of the labour market, even events like returns to education which builds skills that help later employment, negatively influence fertility if they occur in the wrong moment (Bernardi et al., 2019). In other words, "an individual's life course should not be considered as an arbitrary chain of events [but] rather cumulative contingencies" (Busetta et al., 2019; p. 189).

2.2 HETEROGENEITY OF EMPLOYMENT UNCERTAINTY

When studying the association between employment and fertility, differentiation by sex is well established in the empirical literature (Adsera, 2004). Beside Becker's theory that women choose between opportunity and substitution costs, the heterogenous effect of unemployment on their fertility plans might arise from individual career orientation (Hakim, 2003). However, many countries maintain a dominant male-breadwinner model, which may also explain the strong sex-specific heterogeneities (Raybould & Sear, 2020). Men who face more employment uncertainty—specifically in low-status, irregular, or temporary employment, or when experiencing job instability—are more likely to fare poorly on the partner market, which is a necessary precondition to family formation (Oppenheimer, 1988). A continued trend of men being less likely to serve as the family's single breadwinner helps understand their further postponement in marriage and fertility (Oppenheimer, 2003). The link between women's employment uncertainty, partnership, and fertility appears to be more complex. Women who change jobs or experience uncertainty have a lower risk of childbirth (Kreyenfeld, 2010; Testa & Bolano, 2019), although the mechanism for the lowered risk is less than for men (Kreyenfeld & Konietzka, 2005).

Social stratification also influences heterogeneity in the timing of first birth and is typically measured using educational attainment. The number of years between the end of education and birth of the first child has increased for all educational

groups in the UK and France (Ni Bhrolchain & Beaujouan, 2012). The high educated show a later age of first child than other groups (Joshi, 2002; Lappegård, 2002). However, high educated women in Austria, Norway, and France enter motherhood sooner and at a more rapid rate after finishing education than their less educated counterparts (Buber, 2001; Lappegård & Rønsen, 2005; Ni Bhrolchain & Beaujouan, 2012), while there was no clear, discernible pattern in the UK. Although some age and timing differences between educational groups reflect that less educated women finish their schooling and enter the labour force sooner, more work is needed to evaluate this for the UK.

Beyond being a proxy of social stratification, education is a precursor to the employment situation individuals will face in their transition to adulthood. Different educational backgrounds have distinct pathways to the labour market (Barbieri & Scherer, 2009). Temporary employment or job instability during the post-education early-career years can have long-term consequences on future employment prospects (Scherer, 2009). Young people may defer long-term, binding commitments like having a child when times are uncertain (Rindfuss & VandenHeuvel, 1990). However, decreased uncertainty cannot be explained by education alone (Adsera, 2011b). Employment uncertainty can reduce the risk of first birth for highly educated women (Kreyenfeld et al., 2012), but may increase its risk lower educated women (Kreyenfeld, 2010). Nevertheless, the interaction between educational attainment and employment uncertainty remains relatively understudied in regards to fertility. Qualitative findings suggest that high educated individuals are more focused on feeling that they are prepared for parenthood, including in an occupational sense (Perrier, 2013). Less educated women are more likely to pursue motherhood as a source of pride and social status, while higher educated women base their desire to have children to a greater degree on achieving personal fulfilment and establishing a satisfactory career (Rijken & Knijn, 2009). Hence, it is important to distinguish by educational attainment when studying the association between employment uncertainty and entry into parenthood.

2.3 THE BRITISH SETTING

In the UK TFR has continuously declined since the Great Recession (1.89 in 2009, down to 1.68 in 2018) (Human Fertility Database, 2021). I use the *Understanding Society* survey, which began collection at the onset of the Great Recession. Initial research suggested that the Great Recession would likely cause a delay in the timing of first birth, rather than a decline in the total number of children (Sobotka et al., 2011). However, the TFR has continued to decline in the UK—largely due to a decrease in first births—with the largest contributor being low educated women (Ermisch, 2021). Thus, the post-recession period has not only been characterised by a delayed entry to parenthood, but its abandonment altogether. Although analyses now depict which groups have made the greatest contributions to the TFR decline, there is still limited understanding in its mechanisms.

The UK stands out from Europe for its much stronger deregulated and flexible labour market (Deakin & Reed, 2000). Flexibility is mainly employer-led, with social risk primarily being passed on to the employee (Beck, 1992; Perrons, 2000), thereby making workers more exposed to market forces. This flexibility has led to a stronger polarisation of access to employment among certain households (López-Andreu & Rubery, 2021), with long-term unemployment concentrated to a minority of households and individuals with specific characteristics (Longhi, 2020), lower levels of upward mobility (Reay, 2021), and increased wage and wealth inequality (Atkinson et al., 2017). The country's cost of living has risen significantly faster than wages, especially for lower earners, placing more pressure on households and individuals to find stable employment (Gottfried, 2014). To understand employment in the British context, future research is strongly advised to consider job stability and social stratification.

Compared to Europe, the British liberal market economy is characterised by higher rates of employment mobility and job displacement (DiPrete, 2002), as well as comparatively lower levels of social welfare (Esping-Andersen, 1990). Its job tenure rates are among the lowest in Europe[1]. A high level of job displacement suggests that individuals are primarily concerned with maintaining constant employment. Additionally, the Flexible New Deal activation programme, introduced in 2008–2010, strongly incentivises quick re-entry into the labour market (Vegeris et al., 2010). This is partnered with the Jobseeker's Allowance programme, which provides unemployment benefits (means-tested) that require prior active participation in the labour market (Manning, 2009). Once eligibility for unemployment insurance expires, individuals no longer qualify for further

[1] Total mean job tenure in the UK is 8.6 years versus the 10.6-year average among European Union members (OECD, 2021b). However, comparing total job tenure rates can be tricky, as job loss more greatly affects short-tenured workers in the UK, with its strong "last-in-first-out" seniority norm (Böckerman et al., 2018).

benefits. This lack of long-term social welfare support—especially for childless couples—most likely disincentivises starting a family until benefits with sufficient employment are achieved (McDonald, 2006).

A related characteristic of the liberal market economy is the relatively low level of employment protection legislation (EPL) (Gebel & Gieseckbe, 2011)[2], although its relationship with fertility is far from clear. As previously discussed, job volatility may increase the time to first birth; however, higher levels of EPL may slow the flow of employment mobility by creating an insider–outsider labour market that makes it harder for those without jobs to enter the labour market (Kahn, 2007; Rovny, 2011). However, higher EPL should reduce employment uncertainty for those with paid employment. The EPL-mediated reduction in fertility has been observed in Germany but not in the UK (Schmitt, 2012). However, recent research from Italy suggests that reducing EPL led to a decline in the likelihood of becoming a parent for the country's higher status individuals (De Paola et al., 2021).

Finally, research on other low-fertility countries has focused on fixed-term contracts and part-time work. However, these probably reveal a smaller association with delays in first birth timing than in the UK, which has relatively low rates of short-term contracts and part-time workers.[3] While the share of fixed-term contracts is low in the UK, liberal market economies tend to have a much larger wage difference between permanent and fixed-term jobs than countries with stricter employment protection (Mertens et al., 2007), making fixed-term jobs less desirable and incentivising permanent employment. In the UK, part-time work is associated with the phenomenon of the working poor, whereas part-time work can be used, particularly by women in other EU countries, as an alternative way to reconcile work and family life (Prince Cooke, 2011).

3 DATA AND METHODS

3.1 DATA

Starting in 2009, *Understanding Society* (formally known as the *United Kingdom Household Longitudinal Study*) is a yearly panel survey that focuses on households and family issues (University of Essex, 2020). The survey includes life histories in which retrospective questions about employment, education, and partnership history occurring before entry into the panel are asked in the first interview. The respondents update their life histories in each successive interview, which are conducted at monthly intervals. Individuals answer questions about current employment status and perceived financial security in each wave, while job characteristics and perceived employment security are only captured during even-numbered waves. Data is collected at both the household and individual level, with the household level design enabling the inclusion of information about the partner's employment status. *Understanding Society* is generally representative of British society (Benzeval et al., 2020), with the sample's educational and ethnic distribution mirroring that of the 2011 census.

3.2 EMPIRICAL STRATEGY

This study includes sample groups from Understanding Society who were asked questions about their subjective perceptions of financial and employment situation (namely *UKHLS GB, NI*, and *Ethnic Minority Boost* 2009–10). This includes a total of 11,882 individuals, with 2,133 first birth events, and 46,062 yearly observations. In cases of non-participation during

[2] The OECD's EPL measures, with an indicator (scaled from 0 to 6; 0 meaning no employment protection) that illustrates the extent of legal protection for individual dismissal, collective dismissal, and temporary employment protection. For individual and collective dismissal, the UK had a score of 1.35 (OECD average is 2.11) and 0.38 for temporary employment (OECD average 1.69) (OECD, 2021e).
[3] The share of non-permanent contracts in the UK is 5.3% compared to 13.6% in the EU-27 (OECD, 2021c), although part-time work is higher in the UK (22.4%) than the EU–27 (15.1%) (OECD, 2021d).

intermediate waves, missing subjective measures about perceived present and future financial were imputed based on available later waves (13.4% of observations).[4] Questions concerning job characteristics and job security are only asked to employed or self-employed respondents, which restricted, analyses on employment-specific variables to these individuals (7,900 persons with 700 first birth events and 14,495 yearly observations).

This paper focuses on the transition to parenthood and uses event history analysis starting three years after the (self-reported) end of formal education[5] to examine how employment uncertainty is associated with the timing of first birth. Since different individuals complete education as their primary activity at different ages, the starting age in the sample varies by level of educational attainment. For the few individuals that finish their education before the age of 16, the month of their 16th birthday is the first observation. Individuals stay in the sample until they experience their first birth (backdated by nine months to capture the employment situation at the time of conception), age out (45 for women and 50 for men)[6], or at the end of the observation period.

The exposure variable is the time until conception of the first child, where the clock starts three years after the end of education. Since I utilise an indicator that measures joblessness in the first three years post-education, individuals who conceive a child in that period are excluded (191 persons). Individuals thus enter the model with a fixed indicator for their early-career experience in the labour market.

The effect of employment uncertainty on the timing of first birth is estimated through a discrete-time hazard model (Allison, 1982; Tutz & Schmid, 2016). The data is organised in a person-period format, with each observation representing a survey wave. A generalised linear model is used for estimations, with a complementary log-log link function that interprets the outcome variable as a log hazard. The models are estimated separately for women and men because of higher observed ages of first birth for men (Rendall et al., 1999). The models are further differentiated by educational attainment: low, medium, and high[7]. Since some individuals change educational attainment levels upward during the observation time, they are grouped into the highest observed category. Results are interpreted using odds ratios, where ratios larger than 1 indicate a higher likelihood of first birth than the reference group and ratios smaller than 1 indicate a lower likelihood.

The main explanatory variables are: (1) An index of early-career joblessness (*PJI – Early-career*), (2) subjective perception of present financial security, (3) subjective perception of future financial security, (4) a binary variable for being employed at the time of the survey wave, (5) having a permanent contract, (6) working part-time, and (7) perception of the likelihood to lose one's job in the next twelve months. One of the main explanatory variables is an indicator of early-career joblessness, which was computed using Busetta et al.'s (2019) Persistent Joblessness Index (PJI). The PJI uses the sequencing of employment and joblessness spells to calculate the index and assumes that the closer two episodes of joblessness are, the more severe their effects. The PJI creates an indicator scaled between 0 (no periods of joblessness observed) to 1 (all periods observed were jobless). It is a static variable (more detail in Appendix), while all other explanatory variables are time-varying. I selected three years post-education as my definition of early-career (more detail in Appendix).

[4] Imputation was done using the *MICE* R package, following the guidelines by Stef van Buuren (2018). The imputations were analysed using logistic regression with the outcome variable being employment status.

[5] Since I focus on those who were in continuous education, individuals that leave education to enter the labour market and then return were included in the sample from the point in time they first left education, because they had already started the transition to adulthood (Billari, 2001). It is common for individuals to be temporarily employed during school breaks or take time off semesters to work in training or internships. Education histories were compared to the self-reported month of leaving education. I use the education and employment histories created by Wright (2020). I then compared these histories to the self-reported school leaving age (variable *scend*) and further education leaving age (variable *feend*) in the survey data. In case of discrepancies, the month of the end of education was defaulted to the self-reported end of education. The few individuals who had significant discrepancies (more than a few months) were excluded, as the dependent variable is the timing of first birth and these discrepancies could misconstrue the data.

[6] The Office of National Statistics (2019) reports that only 0.3% of babies were born to women over the age of 45, while 5% were born to men over 45. The decision to cut men off at 50 was based on the few observed births to men over 50 in the sample. There were 23 children born to men over 45 in the sample. Since the models are separated by sex, the difference in right censorship due to age did not affect the model.

[7] Educational level was categorised using the International Standard Classification of Education (ISCED). *Understanding Society* uses a separate variable for immigrants who report foreign-attained education. The sample was stratified along three groups: high (ISCED 5–6), medium (ISCED 3-4), and low education (ISCED 1–2).

The subjective perception of present financial security[8] was measured with three ordered categories: *Doing fine, Getting by*, and *Finding it difficult.* The future financial security[9] question contains three ordered categories: *Better off, About the same*, or *Worse off*. Since the subjective perception of financial security may be time period-specific due to macroeconomic factors, I controlled for the Consumer Confidence Index, as reported monthly by the OECD (2021a). The *employed* variable was coded as a dummy, with being employed or self-employed at the time of interview coded as 1 and all other statuses as 0. I added interaction terms between the subjective perception of financial security and *employed*, since their influences on the first birth hazard are not independent of each other. Employment characteristics (contract length, working hours, and perception of the likelihood to lose one's job in the next twelve months) were only asked in even waves to individuals who reported their employment status as employed or self-employed.[10] The question about the likelihood to lose one's job in the next twelve months has four ordered categories, which were recoded to *Likely* and *Unlikely*. I added dummies for permanent contracts and part-time employment[11] and included a standard set of controls for age, age-squared, cohort, and immigration.[12] Finally, the models included partnership status (single, cohabitating, or married) and partner's employment status (employed, non-employed, or unknown). Thus, I provided four models for both sexes and each educational group: The first model included all individuals from the complete sample, the second added partnership variables, the third included individuals who answered the employment question, and the fourth added the partnership variables to the employed sample.

3.3 DESCRIPTIVE RESULTS

The time-varying measures of employment uncertainty start for each individual's first interview three years after finishing education. Throughout all observations, women were employed 79.1% of the time (men 79.2%). Overall, 38.8% of women and 36.6% of men reported themselves as being outside the labour market in at least one observation (see Table 1 for data at the individual level and Table A1 in the Appendix for frequencies across all observations). Questions about the perception of present and future financial situation were asked in each wave, with 20.9% of women and 22.9% of men finding their present financial situation as difficult in at least one wave (Table 1). However, the total number of observations where individuals found their present financial situation difficult was below 10% (Table A2). The share of respondents who expected to be financially worse off in the future in at least one wave was 27.9% among women and 27.7% among men, although the total number of observations was again below 10%. As mentioned, the subjective perception of job security was only measured during even-numbered waves for those who reported themselves as employed or self-employed. It appears that 16% of women and 15% of men within these groups reported that they were likely to lose their job in the next twelve months in at least one wave. 31.9% of the observations where individuals expected to lose their jobs occurred when they did not have a permanent contract and 24.2% were related to working part-time.

Individuals were single in 62.8% of observations, cohabitating in 17.9%, and married in 19.3%. Excluding single individuals, the respondent's partner was employed in 28.3% of observations, non-employed in 4.3%, and unknown for 4.6%.

[8] The question asks: "How well would you say you yourself are managing financially these days? Would you say you are...". There are five discrete answers scaled as: "living comfortably, doing alright, just about getting by, finding it quite difficult, and finding it very difficult."
[9] The question asks: "Looking ahead, how do you think you will be financially a year from now, will you be...". There are three discrete answers: "better off, worse off than now, or about the same."
[10] The question asks: "I would like you to think about your employment prospects over the next 12 months. Thinking about losing your job by being sacked, laid-off, made redundant or not having your contract renewed, how likely do you think it is that you will lose your job during the next 12 months? Is it...". There are four discrete answers scaled as: "very likely, likely, unlikely, and very unlikely."
[11] Defined by the Office of National Statistics as individuals working less than 35 hours.
[12] Additional model runs using Government Office Region, International Standard Classification of Occupation, working location, and working in the private sector were performed, which did not significantly alter the results.

TABLE 1: SEX- AND EDUCATIONAL ATTAINMENT-SPECIFIC FIRST BIRTH STATISTICS

	Women			Men			Total	
Educational Attainment	**Low**	**Medium**	**High**	**Low**	**Medium**	**High**	**Women**	**Men**
Age at first birth	26.4	27.9	31.0	32.4	31.8	34.4	29.4	33.3
Mean duration in months between end of formal education and conception of first child (if experiencing a first child)	132	140	146	203	183	177	142	188
Persistent Joblessness Index (for the first 3 years after the end of education)	0.233	0.238	0.168	0.223	0.243	0.156	0.207	0.210
At least one observation outside the labour market	41.8%	49.7%	26.8%	40.1%	54.9%	25.9%	36.6%	38.8%
At least one observation reporting present financial situation as difficult	28.5%	16.4%	15.8%	28.6%	19.7%	16.4%	20.9%	22.9%
At least one observation reporting future financial situation as worse	20.6%	25.9%	27.5%	23.6%	27.2%	28.3%	27.9%	27.7%
At least one observation reporting likely to lose job in the next twelve months	15.0%	13.9%	15.7%	15.1%	12.1%	14.4%	16.0%	15.0%
N = Unique respondents	1,384	1,507	2,665	2,332	1,438	2,556	5,556	6,326

Differentiating the sample by education revealed clear differences between educational groups (Table A1). Compared to the high educated, the low educated were much more likely to report that they found their present financial situation difficult or were just getting by. However, there was almost no difference between educational groups in the perception of future financial situation and job security. The high educated were much more likely to report being employed than their less educated counterparts. Once again, however, there did not appear to be any notable differences for having a permanent contract. Women of each educational strata were more likely to work part-time than their male counterparts. Finally, the share of immigrants was larger among high than low educated persons.

The mean age of mothers at first birth in the complete sample was 29.4 (men 33.3). This is in line with British census data and supports to representativeness of the *Understanding Society* sample (Office for National Statistics, 2021). The survey's slightly higher mean ages were due to the sample not including births before the end of formal education and the first three years post-education. As mentioned above, the exposure variable was the number of months between the end of formal education and the conception of the first-born child. The mean number of months was 142 for women, or about 11.8 years (188 months, or about 15.6 years for men). However, there was significant heterogeneity when the sample was differentiated by sex and educational attainment (Table 1). The age of mother at first birth was 4.6 years greater for high educated women than for low educated women (2 years for men). However, differences in the number of months since the end of formal education were just slightly over 1 year (14 months) between low and high educated women. For men, the association worked in the opposite direction, with low educated men taking an average of two years (26.6 months) longer to expect their first child after the end of formal education than their high educated counterparts. Although this pattern of women's faster post-education transition to parenthood for the high educated has been previously observed in Norway, France, and Austria (Buber, 2001; Lappegård & Rønsen, 2005; Ni Bhrolchain & Beaujouan, 2012), it was true for men rather than women in this UK sample. I tested to ensure

educational strata. Including all births post-education reduced the mean age and months to first birth but did not change the pattern[13].

4 RESULTS

The multivariate analyses demonstrate that employment uncertainty appears to delay first birth. However, the type of employment uncertainty varied significantly by sex and educational attainment. Because the interactions between subjective measures of present and future financial situations and *employed* were significant, I controlled for this interaction; however, they were not the main interest of the study. I did not attempt to show causality, although I controlled for as many observable covariates as possible, recognising that unobserved variables may influence the timing of first birth.

The following highlights types of uncertainty that impact the individual and discusses the influence of partnership on individual employment uncertainty. Since employment questions were only asked to individuals who reported being employed or self-employed at the time of interview, additional analyses on part-time work, permanent contracts, and perceived job security were restricted to employed individuals. The results from the discrete-time hazard models for the key explanatory variables are provided in Tables 2 to 5. For the complete sample models, including control variables, I refer to the appendix (Tables A3–A5). Sections 1 to 3 provide results for the different educational groups, while Section 4 comprises the results for the partnership variables across all educational groups.

4.1 LOW EDUCATED

Multivariate analyses indicated that employment uncertainty remarkably delayed the timing of the entry into parenthood for low educated men and women (Table 2). Being employed significantly accelerated the timing of first birth for women and remained strong and significant after considering the couple perspective. Counterintuitively, low educated women who perceived that they would lose their job in the next twelve months also had an accelerated timing of entry into motherhood. Adding partnership did not affect the strength or significance of the association. This suggests that for low educated women, being employed was an important precursor to parenthood, but that these women were also likely to leave the labour force upon becoming mothers. These results are congruent with childcare costs forcing low educated women to choose between work and family. Furthermore, perceiving better future financial security strongly accelerated the timing of first birth for low educated women. Again, this association remained when accounting for the couple perspective. However, the timing of first birth was not influenced by a perception of a better financial future among employed women. I anticipated a significant negative association between perceived financial security and first birth timing, which was not the case. Interestingly, early-career joblessness did not appear to influence the timing of motherhood for low educated women.

[13] Some births occurred in the three years following the end of education, i.e., before the start of the event history analyses (191 births; 74 for men, and 117 for women). This includes a much larger percentage of the total observed first births for women (12.2%) than for men (5.4%). Including individuals who conceived their first child within the first three years post-education naturally decreased the number of months between ending formal education and conception. High educated women conceived their first child 138.8 months post-education versus 107.7 months for the low educated. High educated men conceived their first child 164.8 months post-education versus 196.7 months for low educated.

TABLE 2: ESTIMATED COEFFICIENTS FOR CONCEPTION OF FIRST CHILD AMONG LOW EDUCATED PERSONS, BY SEX, EMPLOYMENT STATUS, AND COUPLE-PERSPECTIVE

Odds Ratios: Low Education	Women				Men			
	All		Employed		All		Employed	
	Ind.	Couple	Ind.	Couple	Ind.	Couple	Ind.	Couple
PJI: Early career	0.77	0.81	0.52	0.64	0.35***	0.67+	0.61	0.97
Employed	2.33*	2.01+			2.21*	1.18		
Permanent contract			0.95	0.94			2.72+	2.00
Part-time			1.27	1.21			0.64+	0.77
Lose job next twelve months			2.61***	2.57***			0.90	0.88
Perception of Pres. Fin. *Reference = Doing fine*								
Finding it difficult	0.99	0.97	1.26	1.27	2.18*	2.11*	1.53+	1.34
Getting by	0.94	0.87	0.78	0.80	1.24	1.20	1.13	1.18
Perception of Fut. Fin. *Reference = About the same*								
Worse off	1.73	1.81	1.25	1.20	0.75	0.55	1.17	1.01
Better off	2.40*	2.35*	1.04	0.99	2.19**	1.31	0.94	0.86
N (observations)	4,899	4,899	1,394	1,394	8,990	8,990	2,356	2,356
Events	204	204	49	49	487	487	123	123
AIC	1531.20	1495.61	622.32	623.85	3132.44	2664.89	1237.41	1101.87

*** p < 0.001; ** p < 0.01; * p < 0.05; + p < 0.1.
(1) Controlled for Age, Age-squared, Cohort, Immigrant, Consumer Confidence Index, and an interaction between perceived financial situation and employment. Couple models also control for partnership status and partner's employment status.

Early-career joblessness, however, appeared to strongly delay the timing of first birth for low educated men. After adding the couple perspective, the influence weakened but remained significant. The included objective measures of employment uncertainty like employment, having a permanent contract, and working part-time strongly delayed the timing of entry into fatherhood for low educated men. Nevertheless, the statistical significance disappeared when considering the couple perspective. This supports findings that employment uncertainty largely influences male fertility through their attractiveness on the marriage market (Kalmijn, 2011; Oppenheimer et al., 1997). Similar to women, men who perceived that their financial situation would be better in the future had an accelerated timing of becoming fathers. However, unlike low educated women, the statistical significance disappeared after accounting for the couple perspective. Finally, men who found their present financial situation difficult had a higher likelihood of becoming fathers. This association remained when controlling for the couple perspective and differentiating the sample by those who answered question about employment. There was a correlation

between low education and finding one's present financial situation difficult or just getting by.[14] This correlation helps explain previously puzzling results where "finding it difficult" seemed to be associated with an accelerated timing of first birth for men in a non-differentiated sample. The higher TFR of low educated men most likely explains this category's significance in the non-differentiated sample, but after differentiating, I could observe that a specific educational group influenced the complete sample.

4.2 MEDIUM EDUCATED

Unlike low educated women, the timing of first birth for medium educated women appeared to be significantly negatively influenced by early-career joblessness. However, the association only approached statistical significance when considering the couple perspective. For women who answered the employment questions, early-career joblessness had the most negative influence of any variable on employment uncertainty, which was true for both the individual and couple perspective. Furthermore, medium educated employed women who perceived their present financial situation as difficult delayed their timing of first birth. Perceiving their future financial situation to be *worse off* accelerated the timing of entry into motherhood, which the couple perspective did not mitigate. However, the results of the employed sample should not be over-interpreted, because the number of observed events became low at this level of stratification. The small PJI coefficients for employed women suggests that the medium educated who experienced their first birth might have been non-normally distributed in the sample for this covariate—possibly due to the small number of observed events.

Similar to women, early-career joblessness delayed the timing of first birth among men, but the estimated coefficient was only statistically significant after considering the couple perspective. For men that answered the employment question, perceiving their future financial situation to be *better off* accelerated the timing of first birth. This finding, like that for the less educated, suggests that the *income effect* was relevant for employed, medium educated men.

[14] We assessed this correlation using a Chi-squared test. Low education was strongly positively correlated with "Getting by" and "Finding it difficult." When combined, they contributed to about 45.2% of the total Chi-squared score. High education was strongly positively correlated with "Doing fine" and contributed to about 10.6% of the total Chi-squared score.

TABLE 3: ESTIMATED COEFFICIENTS FOR CONCEPTION OF FIRST CHILD AMONG MEDIUM EDUCATED PERSONS, BY SEX, EMPLOYMENT STATUS, AND COUPLE-PERSPECTIVE

Odds Ratios – Medium Education	Women				Men			
	All		Employed		All		Employed	
	Ind.	Couple	Ind.	Couple	Ind.	Couple	Ind.	Couple
PJI – Early-career	0.53	0.43+	0.01*	0.01*	0.51	0.52+	0.58	0.53
Employed	0.88	0.84			2.36	1.39		
Permanent contract			1.91	1.68			0.82	1.05
Part-time			1.61+	1.45			0.65	0.74
Lose job next twelve months			1.30	1.24			0.77	0.84
Perception of Pres. Fin.								
Ref. – Doing fine	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.
Finding it difficult	1.42	1.53	0.33+	0.41	0.94	1.08	1.57	1.15
Getting by	0.48	0.45	0.90	1.15	0.70	0.91	1.13	1.11
Perception of Fut. Fin.								
Ref. – About the same	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.
Worse off	0.29	0.26	2.18*	2.16*	1.59	2.48	1.70	1.64
Better off	0.87	0.91	0.99	0.98	1.61	1.30	1.51*	1.51+
N	4,836	4,836	1,411	1,411	5,629	5,629	1,542	1,542
Events	135	135	44	44	192	192	67	67
AIC	1049.33	959.21	578.41	512.44	1418.89	1208.88	712.67	580.36

*** p < 0.001; ** p < 0.01; * p < 0.05; + p < 0.1.
(1) Controlled for Age, Age-squared, Cohort, Immigrant, Consumer Confidence Index, and an interaction between perceived financial situation and employment. Couple models also control for partnership status and partner's employment status.

4.3 HIGH EDUCATED

When considering the individual perspective, early-career joblessness significantly delayed high educated women's timing of first birth. However, upon adding the couple perspective, the estimated coefficient was close to 1. This finding implies that partnership provides a type of financial/employment certainty for high educated women that allows them to overcome early-career joblessness. Being employed accelerated the timing of becoming mothers and, unlike early-career joblessness, the association became stronger and more significant when applying the couple perspective. Thus, both individual employment and partnership appeared to directly influence the timing of first birth for high educated women. However, unlike their less educated counterparts, subjective perceptions of financial situation and job security were largely irrelevant.

High educated men followed a similar pattern wherein early-career joblessness delayed the timing of first birth and being employment accelerated it. Conversely, a couple perspective eliminated the statistical significance both measures. Once again, working part-time only delayed the timing of first birth before considering the couple perspective. For both women and men, this pattern of disappearing statistical significance upon considering the couple perspective implies that for the high educated, the key factor determining their timing of first birth is partnership, not employment. Employed men who perceived their present financial situation as difficult or their future financial situation as worse off had a higher likelihood of becoming fathers. It could be that men who anticipate becoming fathers may be calculating the cost of children into the evaluation of their future (Hofmann & Hohmeyer, 2013). However, the statistical significance again disappeared when considering the couple perspective. It appeared that no other factors were as important for the timing of fatherhood for high educated men as partnership.

TABLE 4: ESTIMATED COEFFICIENTS FOR CONCEPTION OF FIRST CHILD AMONG HIGH EDUCATED PERSONS, BY SEX, EMPLOYMENT STATUS, AND COUPLE-PERSPECTIVE

Odds Ratios – High Education	Women				Men			
	All		Employed		All		Employed	
	Ind.	Couple	Ind.	Couple	Ind.	Couple	Ind.	Couple
PJI – Early-career	0.64+	0.96	0.81	1.14	0.62+	1.02	0.55	0.72
Employed	1.87+	2.36**			2.28+	1.44		
Permanent contract			1.15	1.28			0.93	0.79
Part-time			1.05	0.95			0.60*	0.74
Lose job next twelve months			0.78	0.83			0.86	0.96
Perception of Pres. Fin.								
Ref. – Doing fine	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.
Finding it difficult	0.62	0.99	0.99	1.42	1.85	2.22	1.46+	1.39
Getting by	0.98	1.47	0.72*	0.89	1.10	1.25	1.10	1.22
Perception of Fut. Fin.								
Ref. – About the same	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.
Worse off	0.73	0.74	0.97	0.97	1.24	1.14	1.41*	1.25
Better off	1.12	1.29	0.90	0.85	1.06	0.91	1.09	1.02
N	10,894	10,894	4,108	4,108	10,814	10,814	3,684	3,684
Events	514	514	197	197	620	620	220	220
AIC	3647.70	3294.64	2058.56	1824.57	4077.88	3525.84	2011.89	1699.46

*** p < 0.001; ** p < 0.01; * p < 0.05; + p < 0.1.

(1) Controlled for Age, Age-squared, Cohort, Immigrant, Consumer Confidence Index, and an interaction between perceived financial situation and employed. employment models also control for partnership status and partner's employment status.

4.4 PARTNERSHIP STATUS AND PARTNER'S EMPLOYMENT

Partnership was generally a prerequisite to becoming a parent for both men and women across all educational strata regardless of partner's employment status (see Table 5). The odds ratios were consistently larger for men than for women. Furthermore, the pattern of larger odds ratios for men with non-employed partners than for men with employed partners was present and significant across all educational groups, in the complete and employed samples, and consistent for couples cohabitating and married. This robust finding suggest that British society still has a strong male-breadwinner family model, and that the cost of childcare may incentivise families to have the mother leave the labour market (Raybould & Sear, 2020). Men in partnerships with non-employed partners likely specialise in paid employment, while the female partners focus on family care. These findings reinforce the hypothesis that partnership is particularly important for male fertility.

For high educated women, the size of the odds ratios went in the opposite direction. Having an employed partner accelerated the timing of first birth versus having a non-employed partner. However, this relationship was much weaker or non-existent for medium and low educated women. In section 4.3, I observed that high educated women only appeared to be strongly influenced by early-career joblessness and employment status before considering the couple perspective. Thus, the large differences in the size of the odds ratios for high educated women with employed partners suggests that they may gain certainty through their partner's job stability. This likely explains why the early-career joblessness measure became largely insignificant for high educated women when considering the couple perspective but not for their less educated counterparts.

TABLE 5: ESTIMATED COEFFICIENTS FOR PARTNERSHIP AND PARTNER'S EMPLOYMENT STATUS VARIABLE FOR CONCEPTION OF FIRST CHILD BY SEX, EMPLOYMENT STATUS, AND EDUCATIONAL ATTAINMENT

Odds ratios	Low				Medium				High			
	Women		Men		Women		Men		Women		Men	
	All	Employed	All	Employed	All	Employed	All	Employed	All	Employed	All	Employed
Single	ref.	ref	ref	ref	ref	ref	ref	ref	ref	ref	ref	ref
Cohabiting, partner employed	1.98***	1.73+	7.57***	4.24***	3.40***	4.39***	8.67***	8.11***	4.10***	4.63***	7.27***	5.55***
Cohabiting, partner non-employed	2.80**	2.77+	13.67***	6.26***	6.74***	0.00	17.11***	16.24***	2.50+	3.61*	8.54***	6.93***
Cohabiting, partner employment unknown	1.34	1.17	4.80***	2.84+	2.33	4.24*	5.63**	7.53**	3.86***	2.53*	4.17***	3.73***
Married, partner employed	3.97***	2.42**	18.58***	8.60***	9.78***	14.36***	24.73***	24.70***	10.66***	11.24***	20.57***	16.95***
Married, partner non-employed	4.39**	1.26	20.18***	12.91***	11.79***	15.3**	28.79***	43.17***	4.82***	5.31**	21.59***	21.00***
Married, partner employment unknown	1.79	0.77	7.27***	3.18+	11.29***	12.80***	12.83***	13.05***	7.69***	6.02***	12.49***	9.05***
N	4,899	1,394	8,990	2,356	4,836	1,411	5,629	1,542	10,894	4,108	10,814	3,684
Events	204	49	487	123	135	44	192	67	514	197	620	220
AIC	1531.20	623.85	2664.89	1101.87	959.21	512.44	1208.88	580.36	3294.64	1824.57	3525.84	1699.46

(1) Controlled for Persistent Joblessness Index, Employed, Present and Future Perception of Financial Security, Age in Months (linear and quadratic), Cohort, Immigrant, Consumer Confidence Index, and an interaction between perception of financial situation and employed. Part-time employment and Permanent contract controlled for only in Employed model.

5 DISCUSSION AND CONCLUSION

The discourse surrounding the association between employment uncertainty and first birth timing involves a debate about how best to conceptualise and measure uncertainty (Liefbroer & Zoutewelle-Terovan, 2021; Vignoli et al., 2020a). These conceptual differences are best summarised as a debate about the temporality of uncertainty. Essentially, the discourse in the literature debates if past, contemporary, or (perceived) future uncertainty most negatively influence the timing of first birth. Previous literature often did not make the conceptualisation of employment uncertainty explicit, rather the it was dictated by the measure (e.g., Andersson, 2000; Bernardi & Nazio, 2005; Bhaumik & Nugent, 2011). This paper attempted to directly compare the three types of potential conceptualisations to see how they influence each other. Additionally, I differentiated the sample by sex and education, as it is clear that different groups react differently to employment uncertainty when determining their entry into parenthood. I added partnership and partner's employment to the model, because these factors reduce the uncertainty in individuals' lives that employment uncertainty might create. Thus, it is not surprising that many results became insignificant after controlling for partnership variables. Furthermore, employment uncertainty may negatively associate with first birth timing through attractiveness in the marriage market.

I observed that employment uncertainty had a negative association with the timing of first birth. However, there were significance differences in measures of employment uncertainty by sex and educational attainment. Previous work in Italy shows strong educational effects of education and employment on the entry to motherhood (Barbieri et al., 2015). This, however, contrasts previous research from France where there appears to be little educational heterogeneity in first birth timing due to employment uncertainty (Pailhé & Solaz, 2012). In the UK context, differentiating the sample by education helped refine some of the non-significant results observed in previous literature (Schmitt, 2012). Employment uncertainty appeared to have a more uniformly negative association with the timing of first birth for the low educated than their higher educated counterparts. The lack in social stratification in previous studies from other countries was likely due to the more generous social welfare benefits that parents in other European countries receive (Bergsvik et al., 2021).

Looking at the first type of employment uncertainty measures—contemporaneous objective ones—I observed that being employed accelerated the timing of first birth for both high and low educated women and men. However, when adding partnership to the model, being employed only remained significant for women. This differs from previous research in Germany where including questions about economic worries accelerated the timing of first birth for non-employed women (Kreyenfeld, 2005). The other contemporaneous measures of employment uncertainty—having a permanent contract or working part-time—appeared to associate with men's first birth timing but disappeared after adding partnership. These results mirror findings from the UK, where part-time work has a negative association with the entry into parenthood for men but not for women (Schmitt, 2012). The reason for the sex-specific association is likely that fixed-term contracts and part-time work are associated with lower pay and less prestige, causing a direct ripple effect on first birth timing for men through their attractiveness in the marriage market (Oppenheimer, 2003). Finally, I observed a consistent pattern across educational group for the employment status of men's partners and first birth timing. Men whose partners were outside of the labour force had an accelerated entry into parenthood, which has been observed in multiple studies (Matysiak & Vignoli, 2008) and supports the male-breadwinner model hypothesis for the UK. However, only high educated women demonstrated a larger difference in the effect sizes between partners who were employed and non-employed. The effect sizes of low and medium educated women were relatively close and were not larger for employed partners.

The second type of employment uncertainty measures—subjective questions—showed little consistency in the direction of the association. Only low educated women displayed a strong positive association between reporting *that it is likely they will lose their job in the next twelve months* and the timing of first birth. It is possible that this measure did not capture employment uncertainty, but rather indicates how childcare costs act a barrier to staying in the workforce for low educated, first-time mothers. Instead, their responses reflect the reality of probably leaving their job to pursue family (Mamolo et al., 2011). The measures of perceived financial security were not consistent when differentiating by sex, education, or those who answered the questions about employment. This mirrors previous work in which there appeared to be no association in the entire sample, but competing associations when differentiating by education (Kreyenfeld, 2005). Other literature that uses subjective measures has been largely restricted to observing fertility intentions due to the lack of longitudinal data, leaving longitudinal subjective

employment and financial security an area for further exploration (Begall & Mills, 2011; Guetto et al., 2020; Lappegård et al., 2022).

Finally, the third measure of employment uncertainty concerns previous experience. I proxied this by measuring joblessness in the first three years post-education. While there was a negative association between early-career joblessness and the timing of first birth, it appears that this was overcome through partnership. This suggests that the negative lifelong impact of a slow entry into the labour market may be detrimental, but overcome by partnership. Future research may consider investigating how early-career joblessness associates with the timing of first partnership rather than first birth. The difference in the association by education was that that the effect sizes almost disappeared for the high educated while the statistical significance disappeared for the low educated, but not the effect sizes. However, the types of early-career joblessness that the high educated face may differ in nature from their lower educated counterparts (i.e., they face joblessness due to internships, longer periods interviewing, or entrepreneurial endeavours) that ultimately builds human capital rather than periods of joblessness with little human capital accumulation (Kohler et al., 2002). However, since much of the employment data is retrospective, I cannot conclusively say if different educational groups were experiencing distinct types of early-career joblessness. Hence, alternative approaches to studying early-career job instability beyond binary joblessness may help inform future research.

This study is not without limitations. I assumed employment status at the time of interview to be valid for the entire period until the next interview, although some respondents were likely to change status between waves. While employment histories can feasibly be created on a monthly basis for individual respondents, I was limited in the ability to recreate job characteristics (contract length and working hours) and subjective measures. I elected to choose the limitation of assuming consistent employment status across the observation window in order to not make assumptions about subjective measures, even though employment is available at a monthly-level. To maintain internal consistency with the PJI, I kept the focus on employment as an in/out binary of the labour market, although it was not clear if all jobless individuals are unemployed. I was also limited in the choice of subjective measures. Optimally, I would have had additional, diverse questions that specifically asked about perceived job security, rather than relying on questions about financial situation that serve as proxies of employment uncertainty. Furthermore, there may have been selection issues due to latent traits like personal outlook and risk propensity, which can affect both an individual's perception of their financial/employment situation and their likelihood of entering parenthood in uncertain times. The discrete-time hazard model did not account for time-constant unobserved heterogeneity. I tested the sample using a basic frailty model, which used random effects to account for the influences of unobserved covariates in a proportional hazard model, but it did not alter the effect sizes nor improve the model fit. Finally, I cannot make strong claims about the results of the medium educated employed strata, as the number of observed events was too small.

Despite these limitations, my study illustrates how socioeconomic status influences the wider life course in the UK. I provided evidence that contemporaneous objective measures of employment remain good indicators of how employment uncertainty influences first birth timing. However, the results on the association between subjective measures and first birth timing were largely inconclusive and I recommend future research in this direction. Including analysis at the individual and couple level demonstrated how partnership mitigated both the association of employment uncertainty and fertility, but did not always eliminate its significance—notably for the low educated. A particularly interesting observation was that early-career joblessness had little to no effect when considering partnership, while the same could not be said for the low educated. I presume that is due to how early-career instability manifests itself for different educational groups, which should be likewise further explored. The results contribute to a rich source of literature that demonstrates the gendered differences in the association between employment uncertainty and the entry into parenthood. However, this study did not cover children conceived before the end of education or within the first three years post-education. These individuals may have different motivations for the quick transition to parenthood and the theoretical role that employment plays in such cases is not entirely clear. I renew calls (e.g., (Graham, 2021; Lappegård, 2020)) to consider social stratification when studying the association of employment uncertainty on fertility.

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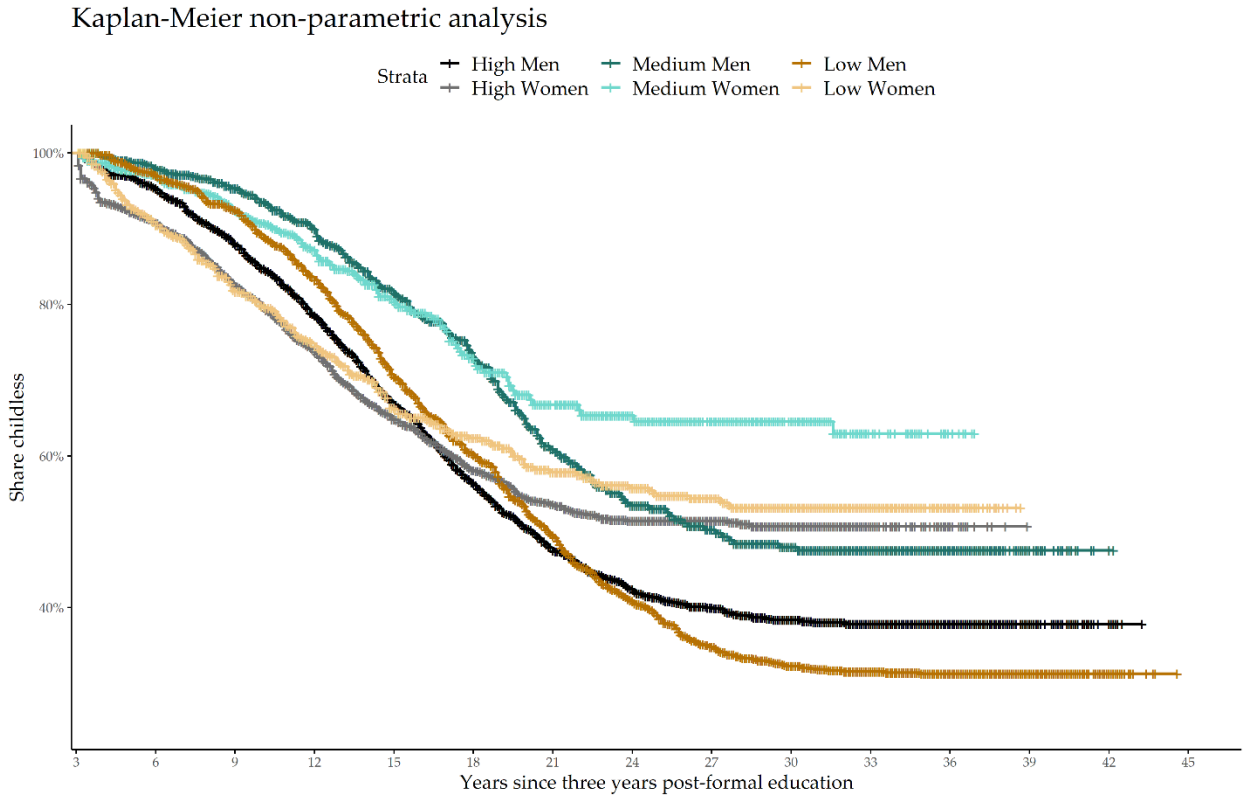
APPENDIX

SURVIVAL CURVE ANALYSIS

An analysis of the survival curves for each sex and education group helps clarify the need to differentiate the sample in the analysis (Figure A1). I fit a Kaplan-Meyer non-parametric analysis to the sample using the time since three years post-education to see if the survival curves were non-proportional. It is clear that the survival curves differed by sex, with the lighter-hued curves (women) following a similar pattern of quickly declining then plateauing, while the darker-hued curves (men) started to decline more rapidly later. The education curves—especially for the high educated (black hues)—were closer to being proportional; however, they followed a distinct pattern compared to the curves for the medium and low educated. This indicates that, at a minimum, including the high educated in the same model as the medium and low educated may bias the results. Conversely, the education curves for women appear to be largely proportional.

FIGURE A1: KAPLAN-MEIER SURVIVAL CURVES OF THE SAMPLE FOR TIME FROM THE END OF EDUCATION UNTIL NINE MONTHS BEFORE FIRST BIRTH, DIFFERENTIATED BY SEX AND EDUCATIONAL ATTAINMENT



COMPUTING THE PERSISTENT JOBLESSNESS INDEX

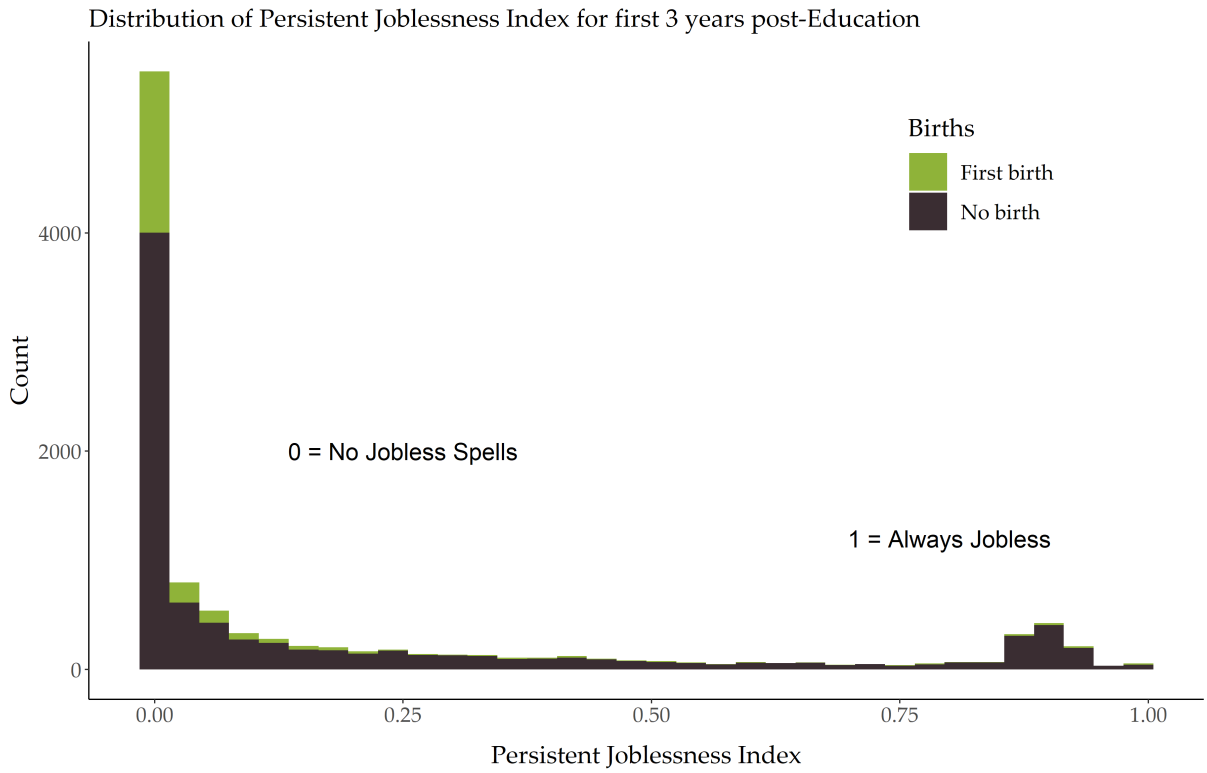
The index has two vectors. First, the Labor profile (LP), is a binary count of years spent in discontinuous employment, noted as 1 for a period of discontinuous employment and 0 for a year completely employed. The Intensity profile (IP) is a ratio of months spent jobless within the year. Hence, IP reports the severity of the joblessness in each spell (year) within the LP. I used the PJI to calculate the severity of joblessness in the first three years post-education. The time needed to recover between discontinuous employment spells was calculated by the pairwise proximity of spells within the LP vector. The importance of jobless spell proximity assumes that longer continuous employed periods allow individuals to gain important skills, network, and obtain economic resources that alleviate the effect of joblessness. However, since this paper uses shorter observational periods for its early-career joblessness, the effect of the pairwise sequencing was relatively small versus the effect of overall jobless spells. The PJI also allowed for additional calculations on the effects of the local labour market as well as the recentness of the spells to the time of measurement. Neither of these features were included in the paper, because its early-career joblessness indicator examines a specific window of the career trajectory that is equalised by its similar occurrence in the life course trajectory.

$$PJI = \alpha \frac{\sum_{i,j \epsilon S^*} (d_{ij} + 1)^{-p_{ij}(o_{ij}+1)} w_{ij}}{(\frac{T}{2})} \quad with\ i > j\ and\ 0 \leq \alpha \leq 1 \qquad \text{EQ. 1}$$

The outcome is a continuous number between 0 and 1, with 0 representing no observed spells of joblessness in the observation period and 1 representing complete joblessness[15]. The, i and j are the generic elements of set S*, which represent the ordinal positions in the LP of the spells of discontinuous employment (Equation 1). The distance between years spent in non-continuous employment is measured by d_{ij}, and the alleviating effect of continuous employment is measured by o_{ij}. The intensity of each jobless spell is included through the weight w_{ij}, expressed by the average of the corresponding elements in the IP vector. The vectors in the dataset correspond to calendar years, which allows for direct comparison between experiences of joblessness in the first three years post-education among individuals who finished education at different points in time. The p_{ij} goes beyond the individual to measure the probability of being discontinuously employed in both calendar years i and j. Hence, the p_{ij} links the probability of finding employment in a specific calendar year for the entire sample and permits a better comparison with the market situation of the school-leaving for various number of years. More discussion on the model background and calculation can be found in Mendola et al. (2011).

[15] For example, when the LP is comprised entirely of 1, the PJI would be 1; when the LP is comprised entirely of 0 the PJI would be 0.

FIGURE A2: DISTRIBUTION OF PERSISTENT JOBLESSNESS INDEX IN THE FIRST THREE YEARS POST-EDUCATION



To ensure the robustness of the indicator, I compared the PJI for the entire employment history of each individual in the sample to their first three years post-education. The results demonstrated that most of the sample's joblessness came from the years immediately following the end of education. The mean early-career PJI was 0.209 (0.207 for men and 0.210 for women) versus 0.200 when calculated for the entire career history of the sample. The mean early-career PJI for those who experienced first birth was 0.082 compared to 0.240 for those who did not, indicating a significant difference according to childbirth experiences. Individuals experiencing first birth are concentrated on the left side of the distribution (Figure 2); 56.6% of individuals experienced no joblessness after leaving education. Figure 2 shows the PJI distribution for the first three years. Most individuals experienced little or no joblessness, with a small concentration on the right side of the distribution indicating individuals that experienced significant amounts of joblessness. The early-career PJI distribution mirrors the PJI for the entire career of the sample. There is a clear pattern in the difference of the mean PJI when differentiating by sex and educational attainment (Table 1), with high educated individual having a lower mean PJI.

ROBUSTNESS ANALYSIS—EARLY-CAREER TIMING

The literature is not straightforward in what qualifies as early-career. Many sources define it with time-, chronological-, age-, skill-, supervisory-, or compensation-based definitions and appear to be sector-specific (Bazeley, 2003). Due to the variation in definition by sector, I selected a uniform time-based definition. I built employment histories for each individual in six-month intervals from one-year post-education to five years post-education, then calculated the PJI for each length of time. In order to evaluate the change in the explanatory variable according to the selected timeframe, I examined the change in mean PJI and the number of first birth events lost (Figure A3). Mean PJI declined exponentially from one-year post-education to five years post-education, with the inflection point[16] occurring between 2.0 and 2.5 years, depending on the smoothing technique (Figure A3A). To examine the effect of varying temporal definitions of early-career joblessness on model fit, I ran the discrete-time hazard model for one year on each side of the inflection point (two, three, and four years post-education, respectively) differentiated by sex. The odds ratios for the PJI were similar across models; however, the number of observations and events rapidly declined as the defined early-career period grew longer (Table A6). Conversely, the measures of model fit, AIC, and Pseudo R^2, improved as the early-career period increased. Meanwhile, first birth events declined linearly (Figure A3B), meaning additional six-month intervals reduced the model's sensitivity. Therefore, I chose to select the discrete-time point just beyond the inflection of three years as my cut off for what signifies the early-career period.

FIGURE A3: ANALYSIS OF MEAN PERSISTENT JOBLESSNESS INDEX AND TOTAL OBSERVED FIRST BIRTH EVENTS FOR VARIOUS TEMPORAL DEFINITIONS OF EARLY-CAREER PERIOD IN SIX-MONTH INTERVALS

Time intervals are given in six months increments. The left-hand figure shows the calculated mean PJI for the sample across different temporal definitions of early career. The right-hand figure shows the decline in number of events as individuals who experience a first birth within the early-career period are removed from the sample.

[16] The inflection point was calculated by first plotting the model (see Figure 3A). I then created a smoothed line using a locally estimated scatterplot smoothing (LOESS) technique. Next, I used the R package *inflection* and its *bede* (Bisection Extremum Distance Estimator Method) function to calculate the inflection point. The inflection point varied depending on smoothing technique and inflection estimator.

TABLE A1: SAMPLE DESCRIPTION FOR TIME-VARYING COVARIATES AND IMMIGRANT/COHORT, BY SEX AND EDUCATION

Frequencies	Low				Medium				High			
	Women		Men		Women		Men		Women		Men	
	All	Employed	All	Employed	All	Employed	All	Employed	All	Employed	All	Employed
Perception of Present Financial Security												
Finding it difficult	14.2	9.5	13.4	7.8	8.5	7.4	9.0	5.3	6.3	3.8	6.8	4.0
Getting by	26.3	24.2	28.2	22.8	21.6	18.0	22.7	19.7	19.1	16.3	19.1	15.6
Doing fine	59.5	66.3	58.5	69.4	69.9	74.6	68.4	75.0	74.5	79.9	74.1	80.4
Perception of Future Financial Security												
Worse off	7.6	6.1	8.8	7.4	10.5	9.1	10.0	8.3	10.2	10.6	10.2	8.9
About the same	49.8	46.0	48.1	47.7	46.2	45.9	42.9	45.1	46.2	47.7	43.5	46.0
Better off	42.6	40.9	43.2	41.5	43.3	45.0	47.1	46.6	43.7	41.7	46.3	45.1
Employed	71.9		73.9		67.9		71.0		87.3		88.0	
Permanent Contract		93.1		94.4		91.2		92.7		91.0		92.7
Part-Time		33.9		15.4		24.9		17.7		17.6		11.7
Think you will lose job in the next twelve months		9.2		8.7		7.4		8.0		8.9		8.3
Immigrant	9.3	7.7	8.2	6.3	10.3	8.9	11.7	11.5	16.4	15.5	17.6	15.6

TABLE A1 (CONTINUED): SAMPLE DESCRIPTION FOR TIME-VARYING COVARIATES AND IMMIGRANT/COHORT, BY SEX AND EDUCATION

Frequencies	Low				Medium				High			
	Women		Men		Women		Women		Men		Women	
	All	Employed	All	Employed	All	Employed	All	Employed	All	Employed	All	Employed
Cohort												
1959–1975	16.9	19.0	28.2	29.9	7.3	7.9	14.5	14.7	16.3	13.7	27.7	26.4
1976–1989	40.5	40.9	40.3	41.6	37.4	46.1	43.5	49.8	59.7	62.3	54.1	55.3
1990–2001	42.6	40.1	31.5	28.5	55.3	46.0	42.0	35.5	24.1	24.0	18.2	18.3
Partnership												
Single	69.5	63.7	66.9	61.5	74.6	66.8	71.4	62.3	54.7	53.4	54.9	50.9
Cohabiting, partner employed	11.6	14.6	12.3	15.4	11.4	15.2	11.0	15.2	18.4	19.8	14.6	16.3
Cohabiting, partner non-employed	22.2	1.4	2.3	1.8	1.2	1.1	1.8	1.8	1.2	1.0	1.9	1.7
Cohabiting, partner employment unknown	1.9	2.9	1.2	1.6	2.5	4.0	1.7	2.7	3.3	3.7	2.3	2.9
Married, partner employed	11.3	13.7	12.1	15.5	8.1	10.1	9.1	12.5	18.1	18.1	19.1	21.5
Married, partner non-employed	1.3	1.1	3.6	2.9	0.6	0.6	3.0	3.0	1.2	0.9	4.4	3.8
Married, partner employment unknown	2.2	2.6	1.5	1.4	1.7	2.3	2.0	2.7	3.1	3.1	2.9	2.9
N (number of observations)	4,899	1,394	8,990	2,356	4,836	1,411	5,629	1,542	10,894	4,108	10,814	3,684

TABLE A2: SAMPLE DESCRIPTION FOR TIME-VARYING COVARIATES AND IMMIGRANT/COHORT, COMPLETE SAMPLE BY SEX

Frequencies	Women		Men	
	All	Employed	All	Employed
Education				
High	52.8	59.4	42.5	48.6
Medium	23.4	20.4	22.1	20.3
Low	23.7	20.2	35.3	31.1
Perception of Present Financial Security				
Finding it difficult	8.7	5.7	9.6	5.4
Getting by	21.4	18.2	23.1	18.7
Doing fine	69.9	76.1	67.3	75.9
Perception of Future Financial Security				
Worse off	9.6	9.4	9.6	8.3
About the same	47.0	48.4	45.0	47.4
Better off	43.4	42.2	45.4	44.3
Employed	79.1		79.2	
Permanent Contract		91.5		93.2
Part-Time		22.4		14.1
Think you will lose job in the next twelve months		8.6		8.3

TABLE A2 (CONTINUED): SAMPLE DESCRIPTION FOR TIME-VARYING COVARIATES AND IMMIGRANT/COHORT, COMPLETE SAMPLE BY SEX

Frequencies	Women		Men	
	All	Employed	All	All
Immigrant	13.3	12.6	13.0	11.9
Cohort				
1959–1975	14.3	13.6	25.0	25.1
1976–1989	49.9	54.7	46.8	49.9
1990–2001	35.8	31.7	28.2	25.0
Partnership				
Single	62.9	58.2	62.8	56.5
Cohabiting, partner employed	15.1	17.8	13.0	15.8
Cohabiting, partner non-employed	1.4	1.1	2.0	1.8
Cohabiting, partner employment unknown	2.8	3.6	1.7	2.4
Married, partner employed	14.1	15.6	14.4	17.8
Married, partner non-employed	1.1	0.9	3.8	3.4
Married, partner employment unknown	2.6	2.8	2.2	2.4
N (number of observations)	20,629	6,913	25,433	7,582

TABLE A3: ESTIMATED COEFFICIENTS FOR CONCEPTION OF FIRST CHILD AMONG LOW EDUCATED PERSONS, BY SEX, EMPLOYMENT STATUS, AND COUPLE PERSPECTIVE. ODDS RATIOS, STANDARD ERROR IN PARENTHESES.

Odds ratios	Women				Men			
	All		Employed		All		Employed	
	Ind.	Couple	Ind.	Couple	Ind.	Couple	Ind.	Couple
PJI – Early-career	0.77	0.81	0.52	0.64	0.35 ***	0.67 +	0.61	0.97
	(0.29)	(0.30)	(0.61)	(0.62)	(0.23)	(0.24)	(0.43)	(0.43)
Employed	2.33 *	2.01 +			2.21 *	1.18		
	(0.37)	(0.37)			(0.34)	(0.35)		
Permanent Contract			0.95	0.94			2.72 +	2.00
			(0.39)	(0.39)			(0.59)	(0.58)
Part-Time			1.27	1.21			0.64 +	0.77
			(0.23)	(0.24)			(0.26)	(0.26)
Lose job next twelve months			2.61 ***	2.57 **			0.90	0.88
			(0.29)	(0.29)			(0.25)	(0.26)
Perception of Pres. Fin.								
Ref. – Doing fine								
Finding it difficult	0.99	0.97	1.26	1.27	2.18 *	2.11 *	1.53 +	1.34
	(0.38)	(0.38)	(0.32)	(0.33)	(0.33)	(0.33)	(0.22)	(0.23)
Getting by	0.99	0.97	1.26	1.27	2.18 *	2.11 *	1.53 +	1.34
	(0.38)	(0.38)	(0.32)	(0.33)	(0.33)	(0.33)	(0.22)	(0.23)
Perception of Fut. Fin.								
Ref. – About the same								
Worse off	1.73	1.81	1.25	1.20	0.75	0.55	1.17	1.01
	(0.66)	(0.66)	(0.40)	(0.41)	(0.54)	(0.54)	(0.24)	(0.24)
Better off	2.40 *	2.35 *	1.04	0.99	2.19 **	1.31	0.94	0.86
	(0.36)	(0.36)	(0.23)	(0.23)	(0.27)	(0.27)	(0.15)	(0.15)
Marital Status & Partner's Employment								
Ref. Single								
Cohabiting, partner employed		1.98 ***		1.73 +		7.57 ***		4.24 ***
		(0.21)		(0.28)		(0.18)		(0.22)
Cohabiting, partner non-employed		2.80 **		2.77 +		13.67 ***		6.26 ***
		(0.35)		(0.61)		(0.21)		(0.35)
Cohabiting, partner employment unknown		1.34		1.17		4.80 ***		2.84 +
		(0.52)		(0.61)		(0.47)		(0.61)
Married, partner employed		3.97 ***		2.42 **		18.58 ***		8.60 ***
		(0.22)		(0.32)		(0.17)		(0.21)
Married, partner non-employed		4.39 **		1.26		20.18 ***		12.91 ***
		(0.48)		(1.04)		(0.20)		(0.29)
Married, partner employment unknown		1.79		0.77		7.27 ***		3.18 +
		(0.48)		(1.03)		(0.33)		(0.61)
Pres. Fin. Finding it difficult * Employed	1.10	1.23			0.60	0.56		
	(0.45)	(0.45)			(0.36)	(0.36)		
Pres. Fin. Getting by * Employed	1.00	1.09			0.78	0.84		
	(0.42)	(0.42)			(0.37)	(0.36)		
Fut. Fin. Worse off * Employed	0.63	0.62			1.64	2.07		
	(0.72)	(0.72)			(0.57)	(0.56)		
Fut. Fin. Better off * Employed	0.39 *	0.39 *			0.48 **	0.74		
	(0.40)	(0.40)			(0.29)	(0.29)		

TABLE A3 (CONTINUED): ESTIMATED COEFFICIENTS FOR CONCEPTION OF FIRST CHILD AMONG LOW EDUCATED PERSONS, BY SEX, EMPLOYMENT STATUS, AND COUPLE PERSPECTIVE. ODDS RATIOS, STANDARD ERROR IN PARENTHESES.

Odds ratios	Women				Men			
	All		Employed		All		Employed	
	Ind.	Couple	Ind.	Couple	Ind.	Couple	Ind.	Couple
CCI	0.91 **	0.91 **	0.97	0.96	0.90 ***	0.93 **	0.88 ***	0.91 **
	(0.03)	(0.03)	(0.05)	(0.05)	(0.02)	(0.02)	(0.03)	(0.03)
Age in months	1.04 **	1.03 +	1.05 **	1.05 *	1.08 ***	1.05 ***	1.07 ***	1.05 ***
	(0.01)	(0.01)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)
(Age in months)²	1.00 +	1.00	1.00 **	1.00 *	1.00 ***	1.00 ***	1.00 ***	1.00 ***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Cohort								
Ref. – 1976–1989								
< = 1975	1.09	1.15	2.64	2.48	1.60 **	1.49 *	1.88 *	1.70 *
	(0.49)	(0.48)	(0.63)	(0.63)	(0.17)	(0.17)	(0.26)	(0.26)
>= 1990	0.53 **	0.55 *	0.36 **	0.36 **	0.36 ***	0.46 **	0.21 ***	0.24 **
	(0.24)	(0.24)	(0.38)	(0.38)	(0.27)	(0.27)	(0.44)	(0.44)
Immigrant	0.75	0.56 *	0.40 +	0.37 +	1.07	0.74 *	1.18	0.84
	(0.26)	(0.27)	(0.52)	(0.53)	(0.13)	(0.14)	(0.23)	(0.24)
N	4899	4899	1394	1394	8990	8990	2356	2356
AIC	1531.20	1495.61	622.32	623.85	3132.44	2664.89	1237.41	1101.87
Pseudo R^2	0.13	0.16	0.13	0.15	0.21	0.35	0.21	0.33

*** p < 0.001; ** p < 0.01; * p < 0.05; + p < 0.1

TABLE A4: ESTIMATED COEFFICIENTS FOR CONCEPTION OF FIRST CHILD AMONG MEDIUM EDUCATED PERSONS, BY SEX, EMPLOYMENT STATUS, AND COUPLE PERSPECTIVE. ODDS RATIOS, STANDARD ERROR IN PARENTHESES.

Odds ratios	Women				Men			
	All		Employed		All		Employed	
	Ind.	Couple	Ind.	Couple	Ind.	Couple	Ind.	Couple
PJI – Early-career	0.53	0.43 +	0.01 *	0.01 *	0.51	0.52 +	0.58	0.53
	(0.45)	(0.45)	(1.78)	(1.80)	(0.42)	(0.40)	(0.57)	(0.53)
Employed	0.88	0.84			2.36	1.39		
	(0.42)	(0.42)			(0.63)	(0.65)		
Permanent Contract			1.91	1.68			0.82	1.05
			(0.61)	(0.59)			(0.47)	(0.49)
Part-Time			1.61 +	1.45			0.65	0.74
			(0.26)	(0.27)			(0.33)	(0.34)
Lose job next twelve months			1.91	1.68			0.82	1.05
			(0.61)	(0.59)			(0.47)	(0.49)
Perception of Pres. Fin.								
Ref. – Doing fine								
Finding it difficult	1.42	1.53	0.33 +	0.41	0.94	1.08	1.57	1.15
	(0.51)	(0.51)	(0.60)	(0.61)	(0.68)	(0.68)	(0.35)	(0.37)
Getting by	0.48	0.45	0.90	1.15	0.70	0.91	1.13	1.11
	(0.57)	(0.58)	(0.30)	(0.30)	(0.67)	(0.68)	(0.22)	(0.23)
Perception of Fut. Fin.								
Ref. – About the same								
Worse off	0.29	0.26	2.18 *	2.16 *	1.59	2.48	1.70	1.64
	(1.05)	(1.06)	(0.32)	(0.33)	(0.88)	(0.86)	(0.33)	(0.34)
Better off	0.87	0.91	0.99	0.98	1.61	1.30	1.51 *	1.50 +
	(0.43)	(0.44)	(0.25)	(0.25)	(0.63)	(0.64)	(0.20)	(0.21)
Marital Status & Partner's Employment								
Ref. - Single								
Cohabiting, partner employed		3.40 ***		4.39 ***		8.67 ***		8.11 ***
		(0.27)		(0.34)		(0.30)		(0.38)
Cohabiting, partner non-employed		6.74 **		0.00		17.11 ***		16.24 ***
		(0.61)		(540.84)		(0.38)		(0.54)
Cohabiting, partner employment unknown		2.33		4.24 *		5.63 **		7.53 **
		(0.61)		(0.57)		(0.63)		(0.67)
Married, partner employed		9.78 ***		14.36 ***		24.73 ***		24.70 ***
		(0.25)		(0.33)		(0.29)		(0.37)
Married, partner non-employed		11.79 ***		15.33 **		28.79 ***		43.17 ***
		(0.65)		(1.03)		(0.32)		(0.44)
Married, partner employment unknown		11.29 ***		12.80 ***		12.83 ***		13.05 ***
		(0.39)		(0.55)		(0.46)		(0.60)
Pres. Fin. Finding it difficult * Employed	0.32	0.38			1.23	1.00		
	(0.72)	(0.73)			(0.74)	(0.74)		
Pres. Fin. Getting by * Employed	1.87	2.46			1.86	1.42		
	(0.62)	(0.63)			(0.69)	(0.70)		
Fut. Fin. Worse off * Employed	4.37	4.90			0.71	0.41		
	(1.09)	(1.11)			(0.92)	(0.90)		
Fut. Fin. Better off * Employed	0.98	0.83			0.73	0.82		
	(0.49)	(0.49)			(0.65)	(0.66)		

TABLE A4 (CONTINUED): ESTIMATED COEFFICIENTS FOR CONCEPTION OF FIRST CHILD AMONG MEDIUM EDUCATED PERSONS, BY SEX, EMPLOYMENT STATUS, AND COUPLE PERSPECTIVE. ODDS RATIOS, STANDARD ERROR IN PARENTHESES.

Odds ratios	Women				Men			
	All		Employed		All		Employed	
	Ind.	Couple	Ind.	Couple	Ind.	Couple	Ind.	Couple
CCI	0.88	0.54	0.47	0.24	1.82 +	1.70 +	2.47 *	3.11 **
	(0.61)	(0.61)	(0.93)	(1.00)	(0.31)	(0.30)	(0.43)	(0.43)
Age in Months	0.32 **	0.42 *	0.48 +	0.48 +	0.46 *	0.49 +	0.35 *	0.34 *
	(0.35)	(0.36)	(0.41)	(0.41)	(0.39)	(0.38)	(0.49)	(0.50)
Age Squared	0.88	0.54	0.47	0.24	1.82 +	1.70 +	2.47 *	3.11 **
	(0.61)	(0.61)	(0.93)	(1.00)	(0.31)	(0.30)	(0.43)	(0.43)
Cohort								
Ref. – 1976–1989								
< = 1975	0.88	0.54	0.47	0.24	1.82 +	1.70 +	2.47 *	3.11 **
	(0.61)	(0.61)	(0.93)	(1.00)	(0.31)	(0.30)	(0.43)	(0.43)
>= 1990	0.32 **	0.42 *	0.48 +	0.48 +	0.46 *	0.49 +	0.35 *	0.34 *
	(0.35)	(0.36)	(0.41)	(0.41)	(0.39)	(0.38)	(0.49)	(0.50)
Immigrant	1.06	0.79	1.03	0.75	1.27	0.92	1.40	1.17
	(0.25)	(0.25)	(0.35)	(0.36)	(0.19)	(0.20)	(0.25)	(0.27)
N	4836	4836	1411	1411	5629	5629	1542	1542
AIC	1049.33	959.21	578.41	512.44	1418.89	1208.88	712.67	580.36
Pseudo R2	0.17	0.26	0.16	0.30	0.19	0.33	0.21	0.41

*** p < 0.001; ** p < 0.01; * p < 0.05; + p < 0.1

TABLE A5: ESTIMATED COEFFICIENTS FOR CONCEPTION OF FIRST CHILD AMONG HIGH EDUCATED PERSONS, BY SEX, EMPLOYMENT STATUS, AND COUPLE PERSPECTIVE. ODDS RATIOS, STANDARD ERROR IN PARENTHESES.

Odds ratios	Women				Men			
	All		Employed		All		Employed	
	Ind.	Couple	Ind.	Couple	Ind.	Couple	Ind.	Couple
PJI – Early-career	0.64 +	0.96	0.81	1.41	0.62 +	1.02	0.55	0.72
	(0.25)	(0.25)	(0.32)	(0.32)	(0.26)	(0.25)	(0.39)	(0.37)
Employed	1.87 +	2.36 **			2.28 +	1.44		
	(0.33)	(0.33)			(0.47)	(0.47)		
Permanent Contract			1.15	1.28			0.93	0.79
			(0.23)	(0.23)			(0.22)	(0.23)
Part-Time			1.05	0.95			0.60 *	0.74
			(0.16)	(0.16)			(0.22)	(0.23)
Lose job next twelve months			0.78	0.83			0.86	0.96
			(0.21)	(0.21)			(0.20)	(0.20)
Perception of Pres. Fin.								
Ref. – Doing fine								
Finding it difficult	0.62	0.99	0.99	1.42	1.85	2.22	1.46 +	1.39
	(0.56)	(0.57)	(0.30)	(0.31)	(0.50)	(0.51)	(0.23)	(0.24)
Getting by	0.98	1.47	0.72 *	0.89	1.10	1.25	1.10	1.22
	(0.40)	(0.40)	(0.17)	(0.17)	(0.50)	(0.51)	(0.15)	(0.15)
Perception of Fut. Fin.								
Ref. – About the same								
Worse off	0.73	0.74	0.97	0.97	1.24	1.14	1.41 *	1.25
	(0.76)	(0.77)	(0.17)	(0.17)	(0.69)	(0.69)	(0.17)	(0.17)
Better off	1.12	1.29	0.90	0.85	1.06	0.91	1.09	1.02
	(0.38)	(0.38)	(0.12)	(0.12)	(0.47)	(0.48)	(0.12)	(0.12)
Marital Status & Partner's Employment								
Ref. - Single								
Cohabiting, partner employed		4.10 ***		4.63 ***		7.27 ***		5.55 ***
		(0.16)		(0.19)		(0.20)		(0.24)
Cohabiting, partner non-employed		2.50 +		3.61 *		8.54 ***		6.93 ***
		(0.47)		(0.53)		(0.32)		(0.43)
Cohabiting, partner employment unknown		3.86 ***		2.53 *		4.17 ***		3.73 **
		(0.29)		(0.39)		(0.42)		(0.49)
Married, partner employed		10.66 ***		11.24 ***		20.57 ***		16.95 ***
		(0.15)		(0.18)		(0.18)		(0.22)
Married, partner non-employed		4.82 ***		5.31 **		21.59 ***		21.00 ***
		(0.43)		(0.53)		(0.20)		(0.26)
Married, partner employment unknown		7.69 ***		6.02 ***		12.49 ***		9.05 ***
		(0.24)		(0.32)		(0.25)		(0.33)
Pres. Fin. Finding it difficult * Employed	1.44	1.27			0.67	0.62		
	(0.61)	(0.62)			(0.52)	(0.54)		
Pres. Fin. Getting by * Employed	0.71	0.60			0.91	0.96		
	(0.42)	(0.43)			(0.52)	(0.52)		
Fut. Fin. Worse off * Employed	1.32	1.34			1.05	1.11		
	(0.78)	(0.78)			(0.70)	(0.70)		
Fut. Fin. Better off * Employed	0.53	0.46 *			0.93	1.05		
	(0.39)	(0.40)			(0.48)	(0.48)		

TABLE A5 (CONTINUED): ESTIMATED COEFFICIENTS FOR CONCEPTION OF FIRST CHILD AMONG HIGH EDUCATED PERSONS, BY SEX, EMPLOYMENT STATUS, AND COUPLE PERSPECTIVE. ODDS RATIOS, STANDARD ERROR IN PARENTHESES.

Odds ratios	Women				Men			
	All		Employed		All		Employed	
	Ind.	Couple	Ind.	Couple	Ind.	Couple	Ind.	Couple
CCI	0.94 **	0.95 *	0.85 ***	0.85 ***	0.91 ***	0.93 ***	0.86 ***	0.87 ***
	(0.02)	(0.02)	(0.03)	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)
Age in Months	1.11 ***	1.07 ***	1.12 ***	1.07 ***	1.11 ***	1.07 ***	1.11 ***	1.07 ***
	(0.01)	(0.01)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)
Age Squared	1.00 ***	1.00 ***	1.00 ***	1.00 ***	1.00 ***	1.00 ***	1.00 ***	1.00 ***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Cohort								
Ref. – 1976–1989								
< = 1975	1.68 **	1.84 **	1.87 *	2.00 *	1.58 ***	1.73 ***	1.98 ***	2.41 ***
	(0.20)	(0.20)	(0.30)	(0.31)	(0.13)	(0.13)	(0.18)	(0.18)
>= 1990	0.37 ***	0.39 ***	0.24 ***	0.24 ***	0.47 *	0.45 *	0.25 **	0.25 **
	(0.27)	(0.27)	(0.34)	(0.34)	(0.39)	(0.39)	(0.54)	(0.54)
Immigrant	0.90	0.71 **	0.98	0.88	1.07	0.93	1.18	0.98
	(0.12)	(0.12)	(0.14)	(0.15)	(0.10)	(0.10)	(0.13)	(0.14)
N	10894	10894	4108	4108	10814	10814	3684	3684
AIC	3647.70	3294.64	2058.56	1824.57	4077.88	3525.84	2011.89	1699.46
Pseudo R2	0.15	0.25	0.17	0.29	0.17	0.31	0.21	0.37

*** p < 0.001; ** p < 0.01; * p < 0.05; + p < 0.1

TABLE A6: ROBUSTNESS ANALYSIS COMPARING MODELS INCORPORATING DIFFERENT TIME-BASED DEFINITIONS OF THE EARLY-CAREER PERIOD; INTERVALS OF TWO, THREE, AND FOUR YEARS. ODDS RATIOS, STANDARD ERROR IN PARENTHESES.

Odds Ratios	2 Years		3 Years		4 Years	
	Women	Men	Women	Men	Women	Men
PJI						
2 Years	0.44 ***	0.40 ***				
	(0.14)	(0.14)				
3yrs			0.48 ***	0.35 ***		
			(0.17)	(0.16)		
4yrs					0.50 ***	0.32 ***
					(0.19)	(0.18)
Perception of Pres. Fin.						
Ref. – Doing fine						
Finding it difficult	1.06	1.43 ***	0.95	1.47 ***	0.96	1.49 ***
	(0.13)	(0.09)	(0.13)	(0.09)	(0.14)	(0.09)
Getting by	0.87	1.08	0.81 *	1.08	0.80 *	1.10
	(0.09)	(0.07)	(0.09)	(0.07)	(0.10)	(0.07)
Employed	1.26 *	1.57 ***	1.26 +	1.51 ***	1.22	1.48 ***
	(0.11)	(0.11)	(0.12)	(0.11)	(0.13)	(0.11)
Perception of Fut. Fin.						
Ref. – About the same						
Worse off	1.06	1.28 **	1.05	1.28 **	1.04	1.29 **
	(0.11)	(0.09)	(0.11)	(0.09)	(0.12)	(0.09)
Better off	0.74 ***	1.06	0.73 ***	1.07	0.71 ***	1.08
	(0.07)	(0.06)	(0.08)	(0.06)	(0.08)	(0.06)
Education						
Ref. – High						
Low	2.12 ***	2.11 ***	2.22 ***	2.26 ***	2.20 ***	2.33 ***
	(0.09)	(0.07)	(0.09)	(0.07)	(0.10)	(0.07)
Medium	1.06	1.18 +	1.15	1.25 **	1.22 +	1.28 **
	(0.10)	(0.09)	(0.10)	(0.09)	(0.11)	(0.09)
Age in Months	1.07 ***	1.10 ***	1.08 ***	1.10 ***	1.09 ***	1.10 ***
	(0.00)	(0.00)	(0.01)	(0.00)	(0.01)	(0.00)
Age Squared	1.00 ***	1.00 ***	1.00 ***	1.00 ***	1.00 ***	1.00 ***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
N	22314	27020	20629	25433	19202	24054
AIC	6789.53	8981.09	6341.60	8763.17	5934.12	8518.54
Pseudo R2	0.11	0.17	0.12	0.17	0.13	0.17

*** p < 0.001; ** p < 0.01; * p < 0.05; + p < 0.1.

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