Life satisfaction amongst working parents: examining the case of mothers and fathers in Ireland

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Abstract

Purpose – The purpose of this paper is to explore the impact of having minor children on parents' life satisfaction. Given the demands on working parents in terms of their time and financial resources, the authors suspect a complex interaction between employment and parenthood and explore the effect of parenthood on life satisfaction of mothers and fathers, working parents and those with children of various ages.

Design/methodology/approach – Data from three rounds of the European Social Survey (R3 2006/07, R5 2010/11 and R8 2016/17) are used to account for Ireland's changing economic landscape. Three ordered probit models are estimated examining parents, and mothers and fathers separately.

Findings – The findings indicate that any life satisfaction benefits derived from having children appear to be eroded for working parents. There is a negative association between life satisfaction for working mothers with child(ren) aged between 5 and 12 years. Furthermore, when both parents are working, mothers' life satisfaction is also significantly reduced.

Practical implications – Family policies and supports can shape the effects of parenthood on individual wellbeing and decisions regarding parenthood. Such policies need to be purposeful for working parents of school going children and consistent with economic strategy and labour market goals.

Originality/value – Much of the existing economic research on individual wellbeing and parenthood are focused on the fertility decision rather than examining the factors affecting the life satisfaction of different cohorts of parents thus leading to more targeted and informed policies. Contemporary weighting methodology is employed.

Keywords Life satisfaction, Parents, Employment, Gender, Utility theory

Paper type Research paper

Introduction

Over the last decades there has been an extensive debate in the literature on the impact of having children on individual wellbeing. Analysis of wellbeing amongst parents, specifically working parents, however, has received less attention. Recent research suggests that more generous national family policies (Glass *et al.*, 2016), including family benefits and flexible work hours (Pollmann-schult, 2018), tend to ameliorate the economic burden of having children for parents thereby reducing the adverse effects on wellbeing. Of course, the impact of such policies depends on family characteristics, for example working versus non-working parents. So, as national policy makers seek to design policies to improve the wellbeing of all

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Informed Consent: Participants provided their informed consent.

parents with a view to encouraging childbearing, further research examining the factors affecting different types of parents' wellbeing is needed. This paper aims to address this research gap by focusing on the wellbeing of different cohorts of parents (working vs out of the labour force; mothers vs fathers), considering children's age.

The effects of declining mortality and fertility rates on dependency and replacement ratios are acknowledged as key concerns in many developed countries. Policy makers strive to address these concerns with meaningful and balanced policies, while simultaneously encouraging higher educational attainment and labour force participation for females. However, the latter serves to increase the opportunity costs of parenthood that impacts individuals' decisions to have children (Joshi, 1998; Waldfogel, 1998; Le moglie *et al.*, 2019). Coupled with this there have been large changes in men's and women's family roles for those who do have children (Wunder and Heineck, 2013; Goldin, 2006), yet traditional gender role expectations tend to persist (Fortin, 2005).

Evidence suggests that some Anglo-Saxon and Nordic countries have solved this paradigm, sustaining high rates of female tertiary education and high female labour force participation without sacrificing fertility rates (Le moglie *et al.*, 2019). Sustainability of these successes, however, is reliant on generous family policies and supports that vary from country to country (Esping-Andersen, 1990; Savolainen *et al.*, 2001; Kahneman *et al.*, 2010; Lee *et al.*, 2007; Abendroth and Den Dulk, 2011; Pollmann-schult, 2018). While these policies are vulnerable to macro-economic conditions, they can shape the effects of parenthood on individual wellbeing (Kahneman *et al.*, 2010).

At macro level it would appear that Ireland is included in that group of Anglo-Saxon and Nordic countries; it enjoys high rates of female tertiary education and high female labour force participation without sacrificing fertility rates. However, its family friendly policies rank poorly relative to other high/middle income OECD and European countries (Chzhen *et al.*, 2019). Furthermore, there is a dearth of evidence at micro level on the factors influencing wellbeing amongst parents in Ireland. Given that Ireland experienced great challenges and development in recent decades as the economy grew from "the poorest of the rich" to "Europe's shining light" during the "Celtic Tiger" boom, and its subsequent crash following the banking collapse during the eurozone's debt crisis (The Economist, 2004, 2011), it is a particularly interesting country in which to examine individual wellbeing.

This study utilises a pooled dataset incorporating three rounds of repeated cross-sectional data from the European Social Survey (Round 3 (2006/07), Round 5 (2010/11) and Round 8 (2016/17), so as to control for the aforementioned Irish economic environment (pre-recession, crisis years and post-recession), and investigates the effect of parenthood on individual parents' wellbeing. In this study wellbeing is captured by self-reported life satisfaction; a frequently used measure of wellbeing. We test a number of hypotheses to explore the complex relationship between parenthood and life satisfaction, which is conditional on household composition and labour force decisions. Employment status is shown to be a key predictor of life satisfaction (Di tella *et al.*, 2001; Blanchflower and Oswald, 2004; Frijters *et al.*, 2004; Andersson, 2008). However, we suspect a complex interaction between employment and parenthood owing to the demands on working parents in terms of their time and financial resources and hypothesize that being a working parent is negatively associated with parents' life satisfaction (H1). Moreover, given the fact that women bear the personal cost of childbearing, as well as a heavier burden when it comes to housework and caring for children (Fortin, 2005; Pollmann-schult, 2014; Pettit and Hook, 2009; Knudsen and Wærness, 2007) often sacrificing jobs and careers for family (Karabchuk, 2016), we examine gender differences for working parents' life satisfaction and hypothesize a significant negative effect on the life satisfaction of working mothers compared with working fathers (H2).

The remainder of the paper is organised as follows. The next section provides an overview of the existing wellbeing literature and theoretical underpinning of this study, as well as setting out the rationale for employing Ireland as the country of investigation. The data and methodology are then described followed by an analysis of the results. The final section includes the discussion and conclusions of the study.

Literature and theory
Utility theory, individual wellbeing and parenthood
In recent years theoretical and empirical literature in the area of economics and wellbeing has surged (Blanchflower, 2009; Ferrer-I-Carbonell, 2013; Layard, 2005; Frey and Stutzer, 2002; Kahneman *et al.*, 1999). Utility theory provides an economic framework for the evaluation of alternative choices made by individuals and has underpinned key wellbeing research for decades (Frey and Stutzer, 2000a). Utility refers to the satisfaction that each choice provides to the decision maker and utility theory assumes that any decision is made on the basis of the utility maximisation principle. According to the utility maximisation principle the best choice is the one that provides the highest utility or satisfaction to the decision maker (Frey and Stutzer, 2000b). Assuming the individual is rational and fully informed they will choose the best alternative that maximises their utility (Aleskerov *et al.*, 2002). Recently, instead of the decision utility approach of revealed preferences and market-based choices, economics studies tend to use individual, self-reported levels of wellbeing (for example questions about happiness or life satisfaction answered on a scale from 0 to 10) as a proxy for utility (Dolan *et al.*, 2008; Rayo and Becker, 2007). These self-reported measures have been found to be relatively robust indicators of an individual's overall wellbeing (Dolan and White, 2007) and several empirical studies have sought to establish the economic and non-economic determinants of wellbeing using large datasets (for reviews of this research see Dolan *et al.*, 2008; Frey and Stutzer, 2002; Mackerron, 2012)

Within the economics literature to date there has been some examination of the association between individual wellbeing and parenthood as one of those determinants. In terms of childbearing, and consistent with utility theory, it may be assumed that individuals make a rational decision to have a child because they believe it will increase their utility or individual satisfaction, or in the case of subsequent children that they have derived additional utility from having their first child and predict an increase in satisfaction from additional childbearing (Becker, 1960). Conversely, those, who after the first child have experienced negative utility or predict that any additional children will not yield them any increase in satisfaction will decide not to have any more children (Aassve *et al.*, 2012). To that end, various research to date has examined the relationship between individual wellbeing and parenthood. Some recent literature that compares mothers and non-mothers amongst those with completed fertility (using 26-years panel data) rather than parents versus non-parents, found positive satisfaction gains amongst mothers (Baetschmann *et al.*, 2016). Prior to this any positive effects tended to be small and insignificant (Clark and Oswald, 2002; Baetschmann *et al.*, 2016).

Despite these recent findings, since the 1970s patterns of lower levels of wellbeing amongst parents compared to nonparents emerged (Mclanahan and Adams, 1989; Margolis and Myrskylä, 2011; Senior, 2014). A recent review (Baetschmann *et al.*, 2016) found an abundance of research showing significant negative associations between parenthood and wellbeing in developed countries (Blanchflower, 2009; Ferrer-I-Carbonell, 2013; Clark *et al.*, 2008b; Dolan *et al.*, 2008). These findings contradict the beliefs that parenthood is pivotal for developing and maintaining happiness in adulthood (Margolis and Myrskylä, 2011; Hansen, 2012) and an anomaly with respect to beliefs about social roles and the positive effect of relationships on mental health (House *et al.*, 1988), as well as going against utility theory. A reason for this could be that the emotional rewards of having children is out weighted by the emotional and financial costs associated with

contemporary parenthood (Nomaguchi and Milkie, 2003; Mclanahan and Adams, 1989; Evenson and Simon, 2005; Liefbroer, 2005; Woo and Kelly Raley, 2005; Begall and Mills, 2011; Balbo *et al.*, 2013). Other reasons proposed for the negative association of parenthood on individual wellbeing appear to be linked to theories of stress and mental health; children increase adults exposure to stressors which increase symptoms of distress, depression and anxiety, as well as other negative emotions. Such stressors include, the time and energy demands on parents, coupled with sleep deprivation (Avison *et al.*, 2007; Nelson *et al.*, 2014; Pollmann-schult, 2014); work-family conflicts (Nomaguchi *et al.*, 2005; Begall and Mills, 2011; Berger, 2013; Roeters *et al.*, 2016; Karabchuk, 2016); difficulties getting affordable, high-quality childcare and financial strains. These of course vary by family composition and environmental considerations (including socio-economic characteristics).

Specifically, previous empirical evidence demonstrates life satisfaction amongst parents is associated with age, education, income, marital status, parents' employment status, characteristics of children (including age and number of children) (Pollmann-schult, 2014; Louis and Zhao, 2002; Evans and Kelley, 2004; Musick *et al.*, 2016; Luppi, 2016; Aassve *et al.*, 2012, 2016; Mikucka and Rizzi, 2016; Myrskylä and Margolis, 2014; Stanca, 2012; Nomaguchi and Milkie, 2003). For example, single parents and divorced mothers appear to suffer the most when it comes to their overall wellbeing (Frey and Stutzer, 2000a; Schoon *et al.*, 2005). While the association varies in size, depending on personal and household characteristics, it is evident across household types, in both mothers and fathers and across dimensions of wellbeing (Glass *et al.*, 2016). Furthermore, supports and family policies such as subsidized childcare, work flexibility (Abendroth and Den dulk, 2011), for example, can reduce the gap between parents and nonparents, improving parents' wellbeing without negatively impacting non-parents (Glass *et al.*, 2016). More recently, Pollmann-schult (2018) investigated how the costs and rewards of parenthood are modified by socio-institutional contexts (such as family financial benefits; level of childcare provisions; flexible working arrangements etc.) thereby affecting parents' life satisfaction.

Despite the rich literature much of the economic research to date on individual wellbeing and parenthood are focused on the fertility decision, rather than examining the factors affecting different parents' wellbeing that could be addressed through targeted policies. Furthermore, many previous studies tend to compare parents to childless individuals; this can result in biases (Baetschmann *et al.*, 2016). We are motivated by Baetschmann *et al.* (2016)'s critique and focus our analysis on different types of parents. In doing, we are responding to calls by Margolis and Myrskylä (2015) and Kohler and Mencarini (2016) to provide evidence on the factors influencing parents' wellbeing which can be used to inform policies for generating sustainable high satisfaction amongst parents in developed societies.

Irish context/background
Unlike other Anglo-Saxon and Nordic countries, Ireland suffered to a greater extent from the Financial Crisis, the subsequent recession, austerity budgets and public sector reforms that followed. The latter did reduce the deficit and debt but at a significant cost; public services shrank and lack of investment has resulted in social problems, including rising poverty levels, economic stress, homelessness and persistent excess budgets in key areas such as health and welfare (Maccarthaigh, 2017; Watson *et al.*, 2017). These measures hindered progress in creating family enhancing policies; the effects of which are not yet known but we suspect could have long term consequences on dependency and replacement rates. Also, commentators suspect many of the austerity policies pursued may have an unacknowledged,

yet a significantly negative impact from a gender equality perspective (Barry and Conroy, 2013).

While female labour force participation in Ireland has increased substantially since the removal of the Marriage Bar in 1973 (prohibited most women from continuing employment as soon as they married – which was on average at age 24) it is still below the EU average (80.1%) (Eurostat, 2019b; Martyn, 2019). One reason for this may be from ambiguous policy principles as to whether women are encouraged to be in the labour market or stay at home (Barry and Conroy, 2013); and a welfare system that is a mixed hybrid model of private market action and women (largely) providing unpaid care and support in the family. Even during the Celtic Tiger decent and affordable childcare, after school facilities, and elder care supports were scarce and the situation worsened post-recession with severe austerity measures that placed pressure on primary carers (mainly women) transferring paid work to unpaid (Barry and Conroy, 2013).

Like elsewhere, fertility rates in Ireland have been steadily declining since the mid-1960s. Nevertheless, Ireland currently has the third highest fertility rate in Europe (Eurostat, 2019a). Previous international research found a negative relationship between parenthood and wellbeing in Ireland and suggests that Ireland ranks second after the USA with respect to the gap between parents and non-parents (Glass *et al.*, 2016). Moreover, earlier Irish research found a negative relationship between life satisfaction and number of children (Brereton *et al.*, 2008). More recently however, Pollmann-schult (2018) found large positive life satisfaction gaps between fathers and childless men in Ireland. These wellbeing gaps seem to be persisting and if national policy makers wish to design policies to improve the wellbeing of parents; and avoid discouraging childbearing, further country specific research untangling the factors affecting parents' wellbeing is warranted.

Methodology
Data preparation and methods
The analysis in this paper uses data from the Irish component of the European Social Survey (ESS). The ESS consists of "rounds" of data collection undertaken every 2-years with each round involving an independent cross-sectional sample in each country. In this study we utilise three rounds of data in one pooled dataset; Round 3 (2006/2007), Round 5 (2010/2011) and Round 8 (2016/2017). Pooling the data increases the sample size and these years take account of pre, during and post economic recessionary times in Ireland (Fitzgerald, 2014).

In order to represent a population it is important to take into account the survey design correctly. This is of particular importance in cross-country studies because it is usually necessary to use a different design in each nation as outlined in Lynn *et al.* (2007). According to Kaminska (2020) sample designs are designed to achieve a minimum effective sample size in the most cost effective way for each country, taking into account each country context. Thus, countries differ in selection probabilities, clustering and stratification (Kaminska, 2020). Although our analysis is focused on a single country we do combine three rounds from the ESS covering the aforementioned time periods, and so it is important to describe how and what estimation procedures were adopted for jointly taking into account three different sampling design plans. Correct specification of estimates requires the use of appropriate indicators of components of the sample design (Kaminska and Lynn, 2017).

The target population for each country in the ESS is defined as "all persons 15 years or older resident in private households within the borders of the nation, regardless of nationality, citizenship, language or legal status" (Lynn *et al.*, 2007). In Ireland the sample is drawn from a database of all addresses using strict random probability

methods meaning that one person is selected at random at each address in a random sample of addresses. Therefore, it is important to correct for different selection probabilities because people living on their own have greater selection probabilities that people in households with more than one adult. Failing to correct for this (by not using the correct weights) will result in samples being heavily skewed towards one-adult households and estimates consequently being biased towards the opinions of such individuals (Kaminska, 2020). Errors due to non-response and sampling error may also lead to biased estimates, however the use of post-stratification weights reduce this impact (Kaminska, 2020).

The ESS recommend the use of analysis weights (anweight) in all analysis (European Social Survey, 2020). This weight is suitable for all types of analysis, including single country studies (Kaminska, 2020). The analysis weight corrects for differential selection probabilities within a country as specified by sample design and for nonresponse, noncoverage and sampling error related to four post-stratification variables (Kaminska, 2020). It was necessary to derive the anweight for use in our analysis as the ESS does not includes it prior to Round 9 (2018). For rounds 1 to 7 the sample design indicators (indicating the probability of selection for each sampled unit at each stage of the sample design) are recorded and supplied in separate sample design data files for each country and for each round. Following Kaminska (2020) the three sample design indicators files were merged with the main data files for each of the three datasets used. After pooling the datasets, the anweight was constructed in Stata 14.2 using the post-stratified design weight and the population size weight. Furthermore, we use the *svy* command in Stata 14.2 to provide estimates that fully take into account aspects of the sample design.

Descriptive statistics
In total, the pooled dataset consists of 7,133 individuals in three time-points. As this paper is primarily interested in analysing the life satisfaction of working parents, we restrict the sample to those individuals aged between 20 and 50 years old who reside with their minor children (<18 years old) (as per Aassve *et al.* (2012) and Le moglie *et al.* (2019)). To do so, questions relating to parenthood and household members are utilised. With regards to parenthood, the ESS asks if the individual currently resides with children (yes/no). Other questions were asked about members of the household and the respondent's relationship to the other members of the household. This information was used to confirm that the individual residing with children was indeed a parent and not another relative. We exclude empty nesters as minor children have a greater effect on life satisfaction (Evenson and Simon, 2005). This restricted sample accounts for 26% ($n = 1,830$) of the total sample; of which, 65% ($n = 1,194$) are mothers and the remainder (35%) are fathers. Table 1 presents the descriptive statistics.

For the dependent variable we used the responses to the following question on life satisfaction: "All things considered, how satisfied are you with your life as a whole nowadays?" Respondents are asked to choose a number on a scale from 0 to 10 (where 0 means extremely dissatisfied and 10 means extremely satisfied) that best represents a subjective rating of their own life satisfaction. This results in an ordered dependent variable. The inclusion of, and wording of this question has not changed in all eight rounds of the ESS and so we have a consistent measure across all respondents in the three rounds used in this analysis. Furthermore, this measure has been used extensively in life satisfaction studies and has been shown to be a reasonably valid and reliable indicator of subjective wellbeing (Diener *et al.*, 1999; Kahneman and Krueger, 2006). It correlates well with another wellbeing measure, "happiness", contained in the data ($r = 0.75$).

The main explanatory variables pertain to the individuals' parental status. We take into consideration the number of children and their ages. As well as confirming respondents'

Variable	n^a	All parents Mean/% (Std. dev)^b	n^a	Mothers Mean/% (Std. dev)^b	n^a	Fathers Mean/% (Std. dev)^b
Life Satisfaction	1,828	7.11 (1.99)	1,193	7.07 (1.98)	635	7.16 (2.0)
Pre-recession (2006/7)	509	33% (0.47)	335	32% (0.47)	174	34% (0.47)
Crisis years (2010/11)	630	32% (0.47)	428	33% (0.47)	202	31% (0.46)
Post-recession (2016/17)	691	35% (0.48)	431	35% (0.48)	260	36% (0.48)
Living comfortably on present income	491	29% (0.45)	289	26% (0.44)	202	33% (0.47)
Coping on present income	817	45% (0.50)	530	45% (0.50)	287	45% (0.50)
Difficult on present income	369	18% (0.39)	265	20% (0.40)	104	15% (0.36)
Very difficult on present income	147	7% (0.25)	105	7% (0.26)	42	6% (0.24)
Employed	1,046	60% (0.49)	542	46% (0.50)	504	81% (0.39)
Unemployed	169	8% (0.28)	88	6% (0.24)	81	11% (0.32)
Out of labour force	593	30% (0.46)	542	45% (0.50)	51	7% (0.26)
Working hours	1,637	37.17 (13.74)	1,040	32.33 (12.7)	597	43.7 (12.33)
Partner is employed	1,075	62% (0.48)	743	69% (0.46)	332	52% (0.50)
Both employed	652	39% (0.49)	367	34% (0.47)	285	45% (0.50)
Age	1,830	39.5 (7.1)	1,194	39.04 (7.36)	636	40.2 (6.64)
Age2	1,830	1,609.88 (541.55)	1,194	1,578.03 (558.33)	636	1,656.8 (512.62)
Female	1,194	60% (0.49)	–	–	–	–
ISCED1and2	393	22% (0.42)	246	21% (0.41)	147	24% (0.43)
ISCED3and4	600	32% (0.47)	397	31% (0.46)	203	33% (0.47)
ISCED5	821	45% (0.50)	539	47% (0.50)	282	43% (0.50)
Live with partner	1,472	87% (0.34)	872	81% (0.39)	600	96% (0.20)
Child(ren) aged 0–4 years	753	1.26 (0.48)	482	1.25 (0.47)	271	1.28 (0.49)
Child(ren) aged 5–12 years	1,081	1.54 (0.69)	716	1.54 (0.68)	365	1.54 (0.71)
Child(ren) aged 13–18 years	584	1.45 (0.68)	398	1.47 (0.70)	186	1.42 (0.64)
Working parent with child aged 0–4 years	410	21% (0.41)	200	16% (0.65)	210	30% (0.46)
Working parent with child aged 5–12 years	588	31% (0.46)	302	23% (0.42)	286	43% (0.49)
Working parent with child aged 13–18 years	333	23% (0.42)	181	18% (0.39)	152	31% (0.46)

Source(s): European Social Survey Rounds 3, 5, 8. [a]unweighted [b]weighted means on estimation sample

Table 1.
Descriptive statistics

relationships to each household member, the questionnaire also contains each household member's birth year. These data were used to create four separate variables to indicate the age of the children using the following age categories; 0–4 years, 5–12 years and 13–18 years, and the number of children in each age category. These categories were created to reflect preschool; primary education and secondary education years.

Other explanatory variables considered, and in line with previous literature, are economic climate, feelings about income, employment status, working hours, partner is employed, two income household, age, gender, education and relationship status (living with a partner). The former is controlled for using three dummy variables for pre-recession (2006/07), crisis years (2010/11) and post-recession (2016/17). Income is captured in the ESS as a categorical variable using income deciles. Respondents are asked to indicate their total net household income from all sources. However, the income deciles are not consistent across the 3 rounds of the ESS used in this study and therefore it was not possible to accurately harmonise the data into consistent income deciles. Furthermore, the data on reported income suffers from a large degree of missing/not reported data; 455 income observations are "missing" (25% of the

sample). As it was not possible to use income directly, a variable that captures how the individual feels their household is coping on the present household income is used as a proxy for income in this study (as similarly employed by Pollmann-schult (2018)). Four dummy variables are created to indicate if the household is, living comfortably on present income; coping on present income; finding things difficult on present income or finding things very difficult on present income. 99% of respondents answered this question. Most parents report that they are coping on their present income (45%) followed by those who say they are living comfortably (29%). About 25% of individuals are finding it difficult or very difficult to cope on their present income.

With regards to employment status, the ESS asks respondents to report the main activity they have undertaken in the past 7 days. From this information we constructed 3 categorical variables to indicate if an individual is in employment/paid work, unemployed (both looking and not looking for a job) and out of the labour force (in education, permanently sick/disabled, retired, community/military service, housework, other). 60% of parents report that they are in employment/paid work, 30% are out of the labour force and 8% report being unemployed. Respondents were also asked to indicate the total hours normally worked per week in their main job including overtime. The mean hours worked is 37.17 h per week (SD 13.74). Due to their relevance to this study we include; a variable to control for partner employment (62% report their partner is in paid employment) and partner and own employment (2 income household comprise 39% of the sample of parents).

Other individual information pertains to age, education and relationship status. The mean age of parents is 39.5 years (SD 7.1). Respondents' highest level of education was gathered using the ISCED educational coding system. These were subsumed into three categories as follows: ISCED 1 and ISCED 2 representing primary/lower secondary education (22%); ISCED 3 and ISCED 4 representing upper secondary and post-secondary/non-tertiary education (32%) and ISCED 5 representing tertiary education (45%). With regards to relationship status, the ESS holds data on whether the respondent lives with husband/wife/partner at house or not. This variable is chosen over data on "marital status" as some of the categories differ between rounds. 87% of parents live with a partner and the remainder do not.

Of particular importance to our analysis is the effect of employment on the life satisfaction of parents at various stages of parenthood. To that end we include 3 interaction variables that capture parental employment status and having any child(ren) in the different age categories. Here, 21% of the sample are working parents with a child aged between 0 and 4 years 31% of working parents' children lie between the ages of 5 and 12 years and 23% of working parents have child(ren) aged between 13 and 18 years old.

46% of mothers are in paid work, 45% are out of the labour force and 6% are unemployed. While 81% of fathers work, 11% are unemployed, 7% are out of the labour force. On average, per week, mothers work fewer hours than fathers. Mothers on average work 32 h per week (SD 12.7) whereas for fathers the mean is 43.7 h per week (SD 12.3).

For the multivariate regression we employ an ordered probit technique, given the ordered nature of the dependent variable, to estimate the effect of parenthood on life satisfaction in Ireland. The ordered probit model is an extension of the binary probit model but was designed to deal with discrete dependent variables with ordered multinomial outcomes. The model can be expressed in terms of an underlying latent variable y^*, which itself is not observed (Jones, 2007). This unobservable could be interpreted as the individual's underlying or "true" life satisfaction. However, subjective life satisfaction can be observed by capturing individuals' answers to a question on life satisfaction. Numerical values on a scale from 0 to 10 are frequently used and although the actual numbers are arbitrary, they do represent a ranking (Jones, 2007). Thus, the higher the value of y^* (unobserved, underlying state of life

satisfaction), the more likely the individual is to report a higher category of self-assessed life satisfaction (observed dependent variable) on an ordinal scale.

Equation (1) shows the model employed in this research:

$$LS_i^* = \beta' Parent_i + \beta' Z_i + \mu_i \tag{1}$$

where LS^* is the unobserved, underlying latent variable [1] as measured by self-reported life satisfaction for individual i on scale from 0 to 10; $Parent_i$ is vector of observations on a set of explanatory variables pertaining to parenthood (number of children by age category, working parent, and child(ren) age*working parent (3 variables)), Z_i is a vector of control variables including year, age, gender, household status, education, employment status and a proxy for income, and μ is a random error term capturing unobserved characteristics and measurement errors.

The mean of y^* depends on the explanatory variables contained in the vectors, and therefore the whole distribution shifts when the value of one such variable changes, in a direction dictated by the sign of the corresponding β coefficient. The interpretation of the β coefficients is in terms of the underlying latent variable model. For example, a negative β coefficient means that the corresponding variable decreases an individual's life satisfaction and a positive β coefficient signaling the opposite effect.

The range of values y^* are divided into intervals based on the number of categories in the dependent variable. Threshold values are reported as cut points which represent the point at which an individual moves from reporting one category to another. The model does not also include a constant term, as the upper bound of the first interval is set to zero (Jones, 2007).

To run the ordered probit regression, explanatory variables are introduced into the model by making the latent variable y^* a linear function of the explanatory variables and a normally distributed error term μ is added. So then, the probability of an individual reporting a particular value of $y = j$, is given by the difference between the probability of having a value of y^* less than μ_j and the probability of the respondent having a value of y^* less than μ_{j-1} (Jones, 2007). Using these probabilities then it is feasible to use maximum likelihood estimation to calculate the probabilities of the models, which include the coefficients (βs) on the explanatory variables and the unknown cut-point values (Jones, 2007). As we have 11 categories (0–10, where 0 means extremely dissatisfied with life and 10 means extremely satisfied with life) so the range of values for y^* should be divided into 11 intervals, each one corresponding to a different category of life satisfaction.

In total three ordered probit regressions are estimated. According to the ESS omitting weights can cause estimates to be biased (Kaminska, 2020). Therefore, analysis weights are used in all regression analyses presented hereafter. Model 1 estimates the factors associated with parents' life satisfaction ($n = 1,828$). Mothers' and fathers' life satisfaction models are then estimated separately in Model 2 and Model 3 ($n = 1,193$ and $n = 635$). In all models we control for year, income proxy, individual and partner employment status, age, education and if the individual lives with a partner. We also control for a number of parental characteristics; age of and number of children and the age of the child if the parent is working.

Results

Table 2 presents the coefficients and linearized standard errors from the three ordered probit specifications estimating the parents' life satisfaction models. The results from Model 1 suggest, after controlling for a number of parenthood and socio-demographic characteristics, that there is a positive association between having children up to 12 years old and parents' life satisfaction, *ceteris paribus*. There is an interesting interaction between parenthood and employment suggesting a negative association between

Model	1 Parents Coef (Linearized SE)	2 Mothers Coef (Linearized SE)	3 Fathers Coef (Linearized SE)
Pre-recession (2006/7)	0.295**	0.351***	0.179
	(0.09)	(0.10)	(0.13)
Post-recession (2016/17)	0.278***	0.374***	0.140
	(0.08)	(0.08)	(0.12)
Coping on present income	−0.285***	−0.278**	−0.320**
	(0.07)	(0.09)	(0.10)
Difficult on present income	−0.666***	−0.604***	−0.770***
	(0.11)	(0.12)	(0.18)
Very difficult on present income	−1.001***	−0.953***	−1.012***
	(0.15)	(0.19)	(0.27)
Employed	0.184	0.111	0.366
	(0.15)	(0.19)	(0.25)
Out of labour force	−0.179	−0.245*	−0.120
	(0.11)	(0.12)	(0.22)
Working hours	0.001	−0.001	0.001
	(0.00)	(0.00)	(0.00)
Partner is employed	0.231*	0.230	0.109
	(0.12)	(0.15)	(0.24)
Both employed	−0.291*	−0.332*	−0.131
	(0.12)	(0.16)	(0.26)
Age	−0.043	−0.008	−0.113
	(0.04)	(0.05)	(0.08)
Age2	0.001	0.000	0.001
	(0.00)	(0.00)	(0.00)
Female	0.041	–	–
	(0.07)	–	–
ISCED3and4	−0.114	−0.017	−0.258*
	(0.08)	(0.11)	(0.12)
ISCED5	−0.038	0.033	−0.116
	(0.08)	(0.11)	(0.13)
Live with partner	0.086	0.107	0.195
	(0.10)	(0.14)	(0.20)
Child(ren) aged 0–4 years	0.208***	0.124*	0.424***
	(0.05)	(0.06)	(0.12)
Child(ren) aged 5–12 years	0.154***	0.121**	0.223**
	(0.04)	(0.04)	(0.08)
Child(ren) aged 13–18 years	0.055	0.014	0.166
	(0.05)	(0.05)	(0.11)
Working parent with child aged 0–4 years	0.018	0.058	−0.194
	(0.10)	(0.13)	(0.18)
Working parent with child aged 5–12 years	−0.200*	−0.218*	−0.215
	(0.09)	(0.11)	(0.16)
Working parent with child aged 13–18 years	0.031	−0.010	−0.016
	(0.10)	(0.13)	(0.17)
N	1,828	1,193	635

Note(s): Statistical significance ***$p < 0.001$; **$p < 0.01$; *$p < 0.05$. Estimated using svy command in Stata 14.2. Reference Categories: Crisis years (2010/11), Living comfortably on present income, Unemployed, Partner is not in employment, Male (in Model 1), ISCED1and2, Does not live with a partner. Cut points available from the authors

Table 2.
Estimates of parents' life satisfaction (ordered probit regression on estimation sample)

working parents of children aged between 5 and 12 and life satisfaction (statistically significant at 5% level). This may indicate that working could be offsetting the beneficial impacts on life satisfaction of having children of that age amongst working parents. The results for the year coefficient are significant; suggesting that compared to 2010/11 (mid recession), pre-recession (2006/07) and post-recession (2016/17) years yield positive effects on parents' life satisfaction.

Other significant results find that parents who are "coping on their present income"; finding it "difficult" or "very difficult" to manage on their present incomes are associated with significantly lower levels of life satisfaction compared to those who feel they are "living comfortably" on their present household income. The results from Model 1 also suggest a positive association between having a partner who is employed and parents' life satisfaction, however, when both parents are employed a significant negative effect on individual life satisfaction is evident. The coefficient is statistically significant at the 5% level.

When the results are disaggregated by gender (Models 2 and 3), interesting differences emerge in particular, children's age matters for life satisfaction. A positive association between mothers and fathers of children under the age of 12 and life satisfaction exists; although life satisfaction of mothers with children under the age of 4 is only just significant at the 5% level. Notably, gender differences emerge again when we consider working parents. Working mothers with child(ren) aged between 5 and 12 years report significantly reduced life satisfaction (significant at the 5% level). Having children and being employed seems to have no effect on fathers' life satisfaction given that the corresponding coefficients are insignificant. So, it appears the beneficial impact on life satisfaction of having children of primary school going age is offset for working mothers when we separate by gender. Interestingly, the results suggest that when both parents are working it is only mothers' life satisfaction that exhibits that negative association. We are aware that estimates of such models can be sensitive to the inclusion of control variables. Therefore, the models are further estimated removing age, gender and economic climate proxies (year) to test their robustness. As is evident in Table 3 the models are robust and the findings hold.

Discussion and conclusions

In this paper we explored the association between parenthood and life satisfaction for parents (aged 20–50) residing with minor children in Ireland. Our findings are based on ordered probit regressions that control for parenthood (including number and ages of children), gender, age, employment status, education and a proxy for income. The study was motivated to explore parents' life satisfaction in the context of persisting pressures on parents to balance family and work commitments. We suspect a complex interaction between employment and parenthood given the demands on working parents in terms of their time and financial resources. From the analysis we find that being a working parent is negatively and statistically significantly associated with parents' life satisfaction (H1). A novel approach of this paper is to account for age of children and interactions between this and parents' employment status. It appears that there is a positive association between having children of various ages from 0 to 12 years and life satisfaction. These results suggest children's ages matter (as proposed in previous literature (Myrskylä and Margolis, 2014; Clark et al., 2008a)). However, the results for working parents tell a different story. It appears the beneficial impact on life satisfaction of having children is reduced for working parents, specifically for parents with children aged 5 and 12 and when both parents are working.

We also estimated separate wellbeing regressions for mothers and fathers and again included the interactions of employment and children's ages to see if any associations with parents' life satisfaction exist. In examining gender differences for working parents' life satisfaction we hypothesised a significant negative effect on the life satisfaction of working

Model	4 Parents Coef (Linearized SE)	5 Parents Coef (Linearized SE)	6 Mothers Coef (Linearized SE)	7 Fathers Coef (Linearized SE)
Pre-recession (2006/7)	0.295*** (0.09)	–	–	–
Post-recession (2016/17)	0.279*** (0.08)	–	–	–
Coping on present income	−0.283*** (0.06)	−0.328*** (0.06)	−0.327*** (0.08)	−0.340*** (0.10)
Difficult on present income	−0.664*** (0.10)	−0.740*** (0.10)	−0.702*** (0.11)	−0.798*** (0.18)
Very difficult on present income	−1.001*** (0.15)	−1.139*** (0.15)	−1.138*** (0.18)	−1.072*** (0.26)
Employed	0.179 (0.15)	0.190 (0.15)	0.100 (0.20)	0.383 (0.25)
Out of labour force	−0.166 (0.11)	−0.150 (0.11)	−0.237 (0.12)	−0.115 (0.22)
Working hours	0.000 (0.00)	0.001 (0.00)	−0.001 (0.00)	0.001 (0.00)
Partner is employed	0.237* (0.11)	0.234* (0.11)	0.236 (0.15)	0.087 (0.24)
Both employed	−0.286* (0.12)	−0.286* (0.12)	−0.318* (0.16)	−0.120 (0.26)
ISCED3and4	−0.109 (0.08)	−0.144 (0.08)	−0.068 (0.10)	−0.261* (0.12)
ISCED5	−0.036 (0.08)	−0.047 (0.08)	0.016 (0.11)	−0.128 (0.13)
Live with partner	0.069 (0.10)	0.049 (0.10)	0.062 (0.14)	0.187 (0.20)
Child(ren) aged 0–4 years	0.198*** (0.05)	0.184*** (0.05)	0.104 (0.06)	0.393*** (0.11)
Child(ren) aged 5–12 years	0.143*** (0.04)	0.143*** (0.04)	0.121** (0.04)	0.198* (0.08)
Child(ren) aged 13–18 years	0.053 (0.05)	0.055 (0.05)	0.008 (0.05)	0.167 (0.11)
Working parent with child aged 0–4 years	0.006 (0.10)	0.014 (0.10)	0.052 (0.13)	−0.183 (0.17)
Working parent with child aged 5–12 years	−0.200* (0.09)	−0.205* (0.09)	−0.247* (0.11)	−0.206 (0.16)
Working parent with child aged 13–18 years	0.033 (0.10)	0.036 (0.10)	0.020 (0.13)	−0.032 (0.17)
N	1,828	1,828	1,193	635

Note(s): Additional specifications omitting; age and gender (model 4), age, gender and year (model 5), age and year (models 6 and 7). Statistical significance ***$p < 0.001$; **$p < 0.01$; *$p < 0.05$. Estimated using svy command in Stata 14.2. Reference Categories: Living comfortably on present income, Unemployed, Partner is not in employment, ISCED1and2, Does not live with a partner. Cut points available from the authors

Table 3. Additional specification estimates of parents' life satisfaction (ordered probit regressions on estimation sample)

mothers compared with working fathers (H2), given mothers' frequent dual roles in the workforce and as primary carer of children in the home. Both mothers' and fathers' life satisfaction is significantly higher with child(ren) of any age under 12. For working mothers however, the association between their life satisfaction and having child(ren) aged between 5 and 12 years is significant and negative. Furthermore, when both parents are working the life

satisfaction of mothers is also significantly reduced. This is a worrying finding, especially when wellbeing is contagious and given the potential for spill over effects arising from caring preferences (Wunder and Heineck, 2013).

We acknowledge that this study has used pooled cross-sectional data and not panel data, and therefore does not estimate the relative change in life satisfaction over time. Furthermore, we suspect that endogeneity may be present in the models but given the cross-sectional nature of the data and the variables available in the dataset the appropriate statistical techniques available to overcome this issue are limited. Finally, we are unable to control for personality traits which may account for some of the unexplained variation in the models (Piekałkiewicz, 2017).

Despite the limitations of a single-country study, our findings provide new insights into the important interaction between parenthood and employment in Ireland. Most aggregate studies on wellbeing fail to take account of the fact that different individuals, or different groups of individuals, are likely to derive utility from different things (Kroll, 2011). Here we find parents do derive life satisfaction from having young children, however parents' employment status and children's age matters. In particular one group stands out, parents of 5 to 12-year olds. This may be linked to lack of afterschool facilities and childcare options. Previous investigations have focused on early childhood years. Also, this study employs contemporary weighting methods to correct for differential selection probabilities in sample design or differential nonresponse from three cross-sectional datasets (Kaminska, 2020), and to the best of our knowledge this is first empirical study to do so.

From the period 2017 to Q1 2020, the Irish economy was recovering and heading towards full employment. The results of this study suggest working parents, and specifically working mothers, may experience negative effects on their life satisfaction. This has worrying personal implications for parents who participate in the labour force. While in the longer-term concerns arise with respect to dependency ratios and replacement rates if individuals decide to opt-out of having children due to the negative effects on their life satisfaction. Interestingly, the negative effect of parenthood on the life satisfaction of those in the labour force appears to be more severe for mothers in our study. Moreover, as our results suggest when both parents are working it is mothers' life satisfaction that is most negatively affected, suggesting gender differences exist and trade-offs are made in dual-earner households with the burden being felt by mothers more than fathers. These trade-offs force parents essentially to choose to be either "poor and happy" in a single income household or "rich and miserable" as part of a dual-income unit (Pollmann-schult, 2014). If the current barriers to decent and affordable childcare and after school care (Barry and Conroy, 2013) persist, the problem is likely to worsen and have greater effects for working women.

But these adverse consequences can be prevented, or at least minimised. Evidence demonstrates generous family policies can improve parental happiness without making nonparents worse off (Glass et al., 2016) and there is scope for richer countries to improve their policies (Chzhen et al., 2019). While Ireland has some long-established child related policies, chiefly in terms of universal financial supports for parents (the child benefit allowance), progress is being made in terms of paternity leave and early childhood education. However, these are mainly focused on the pre-school years and are poor in comparison to policies in other high/middle income countries (Ireland ranks 27th out of 31 OECD/European Union countries (Chzhen et al., 2019). As Ireland and other poorly ranking countries look at policy reform, the results of this study suggest a greater focus on working parents of school going children in particular is warranted; as there is a growing need to ensure public policies aimed to support parents and families are purposeful and consistent with economic strategy and labour market goals.

Note

1. If y_i^* was observed for all observations, β could be consistently estimated by ordinary least squares without requiring a distributional assumption on μ (Jones, 2007).

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