# Childlessness and the Male Life Course: Factors Influencing Parenthood, Psychological Well-being and Marital Satisfaction in the UK

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## Summary

This thesis explores childlessness among men in the UK, focusing on factors that influence parenthood, subjective well-being, and marital satisfaction using data from the UK Household Longitudinal Study (Understanding Society UKHLS). In doing so, I examine how educational attainment and marital status influence the likelihood of men becoming parents. In the first chapter, I used a discrete-time complementary log-log model, and the results reveal that while both factors influence parenthood independently, their interplay role has a significant effect. I found that married men with higher education are more likely to become fathers than their single counterparts. These findings highlight the role of marital status in shaping men's decisions about fatherhood.

I then shift to the psychological well-being of men in the second chapter. Comparing the well-being of childless men with that of fathers, using OLS regression, I found no significant differences between the two groups; only after controlling for other factors childless men reported better well-being compared to fathers. Being married, cohabiting, and having a strong social connection increase well-being, controlling for parenthood status. To explore this further, I examine the role of marital status and social cohesion in moderating the relationship between childlessness and well-being. Showing that being married, cohabiting, and having a strong social connection does not change the effect of parenthood on well-being. The findings challenge the widely perceived assumption that childlessness negatively impacts psychological well-being.

Finally, I investigate marital satisfaction during the COVID-19 pandemic for married, focusing on the influence of parenthood, the age of the youngest child, and financial situation. Using the OLS with Difference Score Model, I found that childless married men experienced an increase in marital satisfaction post-pandemic, while those with younger children reported a decline. The interaction term between parenthood and subjective financial situation was insignificant. The study suggests that for childless men, marital satisfaction was influenced more by factors other than financial situation,

highlighting the complex nature of the marital dynamics during times of uncertainty. The findings contribute to the scarce literature on men's experience of childlessness, well-being, and marital satisfaction.

***Keywords:*** *childlessness, parenthood, Education, Marital Status, Well-being, Marital Satisfaction, life course perspective, gender roles.*

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*To the silent shore that carries untold stories,*

*to the sorrowful Syrian coast*

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"There's something missing,

holding a life-wide gap,

breathing wallpaper,

I am whole and incomplete

There's something missing,

first to be left behind,

first to be sent in,

this line is not complete"

(Hadley, The un-held hand. World Childless Week Blog. 2008)[1]

[1] Roben Hadly is an independent British researcher. With multidisciplinary expertise in sociology, ageing, counselling, and men's health and childlessness, Hadly was childless himself, and his experiences encouraged him to write his famous book "How is a Man Supposed to be a Man" in 2021. Hadly's work inspired this thesis.

# Introduction of the Thesis

Childlessness and the aspects influencing parenthood have gained more importance in demographic and sociological studies (Sobotka, 2017; Bradford, 2022). Since the 1970s, many developed countries, such as the UK, have experienced an apparent change in the traditional family formation, with a growing number of individuals choosing to delay or even forgo parenthood (Berrington, 2017; Sobotka, 2017; Fiori et al., 2017). This shift seems to be influenced by various economic and societal factors, such as higher levels of education, career ambitions, financial challenges, and the changing cultural and social attitudes towards family formation (Lesthaeghe, 1986; Bradford, 2022).

While these factors affect both men and women, much of the existing literature has focused on women's experiences, particularly how fertility decisions intersect with women's biological clocks, social expectations, and reproductive health (Berrington, 2017; Gillespie, 2003). Women's childlessness is often framed around medical and age-related infertility or societal stigma tied to gender norms.

However, men's experiences regarding these changes have received less attention, even though men play an essential role in family dynamics (Hadly, 2022). Much of the reason for this lack of analysis of male fertility histories has rested on the inaccuracy associated with male fertility information (Kiernan, 1989; Kneale and Joshi, 2008). Male childlessness is more likely to be linked to social factors such as not having a partner, delayed union formation, or economic insecurity (Keizer, 2010; Berrington and Pattaro, 2014). These gender-specific mechanisms highlight the importance of disaggregating findings between men and women.

In the UK, there has been a growing trend of delaying parenthood and raising the rate of childlessness (Berrington, 2019). This trend can be attributed to the socioeconomic changes that shaped these changes, including an increase in the average age of entering parenthood, more cohabitation modes in

contemporary behaviour, and the decrease in women's economic dependency on male partners due to women's position in education and labour markets (Jamieson et al., 2010). Moreover, marital status has also undergone a significant transformation, where cohabitation and later marriage have become more prevalent, influencing the timing and likelihood of parenthood (Berrington, 2017).

Many scholars studying childlessness have struggled with the difficulties inherent in defining and measuring this concept. Yet, the literature does offer some definitions (e.g. Letherby, 2002; Kneale and Joshi, 2008; Berrington, 2017). At its most basic level, childlessness denotes the absence of children (Miettinen, 2015; Moller and Clarke, 2016). This definition generally comes with a distinction: voluntary childlessness, where individuals choose not to have children, and involuntary childlessness, often resulting from biological infertility (Giles et al., 2009).

According to social norms, voluntary childless are sometimes viewed as selfish and deviant, while those who cannot have children due to biological reasons tend to receive more empathy and support (Letherby, 2002). Yet, as Berrington (2017) notes, this division between voluntary and involuntary childlessness is not always clear-cut and is rather complex. For example, individuals who are infertile might still express a desire to be childless if they were fertile. Additionally, involuntary childlessness can stem from reasons beyond biology, such as "social infertility" or "childlessness by circumstance", where people remain childless due to not having a suitable partner or because their partner is not ready or willing to have children (Berrington, 2017).

Letherby (2002) highlights that personal intentions and attitudes towards having children can shift and change over time. A person who initially decides not to have children might later question or reconsider that choice. Voluntary childlessness, then, often involves a mix of choice and persistence, in contrast with childlessness due to factors like biological constraints, delayed childbearing, or ongoing uncertainty.

With these distinctions in mind, Berrington (2017) and Letherby (2002) suggest that it is more accurate to view childlessness as a continuum. At one end are individuals who consciously reject the idea of parenthood altogether, while at the other end, those who are childless due to other medical or biological reasons. Between these extremes are individuals who may wish to have children but face delays due to circumstances such as financial pressure, personal considerations, or educational and career aspirations, ultimately ending up childless.

Different perspectives further complicate the definition of childlessness. Some scholars take a biological view, defining childlessness as the absence of any living or stillborn children, like Portanti and Whitworth (2009), defining childlessness based on biological criteria for simplicity. Berrington (2017), on the other hand, uses the term childlessness to describe individuals without biological children, acknowledging that some may be "social parents" by caring for others' children, like adoptive or step-parents.

This thesis adopts a biological perspective of childlessness, defining it as the absence of biological children, distinguishing it from social parenting roles, such as fostering, adoptions or stepparenting. This focus on biological childlessness allows for a precise examination of its impact on an individual's life course. Individuals without biological children who still engage in parental roles or settings may have distinct experiences and outcomes (Di Nallo, 2016), which future research could further explore.

The link between parenthood, childlessness, and psychological well-being has also been a central theme of research, as the experience of parenthood or—the lack of it—can influence individuals' mental health, social identity, and life satisfaction. This is particularly important considering recent events such as the COVID-19 pandemic, which has further impacted family dynamics and marital satisfaction (Epifani, Wisyaningrum and Ediati, 2021).

Despite the growing body of literature on parenthood, family dynamics, and well-being, this thesis aims to address several critical gaps in the literature. Much of the existing research focused

predominantly on women's experiences of parenthood and childlessness, often overlooking men's unique perspectives (Hadly, 2022). Childlessness, in particular, is usually framed around women's experiences (Berrington, 2017), while the societal and personal implications of men's childlessness have been less visible in academic discourse. However, it should be noted that some studies have looked at the factors associated with the likelihood of transition to parenthood elsewhere in different countries. Still, less has been found in the UK (Hadly, 2022). This thesis addresses explicitly the underrepresentation of men in studies on childlessness, providing a focus on how social, economic, and demographic factors shape men's paths towards or away from parenthood.

Additionally, while substantial research exists on general psychological well-being about parenthood, less focus has been placed on the intersection of childlessness, marital satisfaction, and mental health among men. This research aims to fill this gap in the literature by focusing on aspects of men's social cohesion and parenthood status and how these factors intersect, affecting men's outcomes. Moreover, significant societal events like the COVID-19 pandemic have introduced a new dynamic into family life and relationships (Borkowska and Laurence, 2021). While research has examined the effects of the pandemic on family stress, employment, and childbearing (Jackson et al., 2022), there is limited understanding of how the pandemic specifically impacted men's marital satisfaction, especially regarding their parenthood status. This research fills this gap by examining the pandemic influences on childless men's marital relationships.

By addressing these gaps, this research contributes to a broader understanding of men's life course, particularly in the context of changing societal norms and family structure. It extends current knowledge on the factors influencing parenthood and sheds light on childless men's often-overlooked psychological and relational experiences.

This study is grounded in several critical theoretical perspectives that guided our understanding of men's life course, parenthood, and family dynamics, particularly in the context of childlessness. The

primary framework used is life course theory, which emphasises the importance of timing, sequencing, and social context in shaping individuals' experiences in various life stages (Elder et al., 2003; Mayer, 2009). In this perspective, individual behaviour is viewed as being embedded in dynamic, interdependent contexts. It recognises the influence of historical changes on human behaviour. This approach identifies that all people's life stages are intricately intertwined with each other (Mayer, 2009). The life course perspective is helpful in understanding, for example, why some men choose to have children. In contrast, others remain childless and how significant life events, for instance, marriage or other events such as the COVID-19 pandemic, might influence marital satisfaction and their decision to transition to parenthood.

Another significant perspective is gender role theory, which posits the social expectations of masculinity and fatherhood influencing men's decisions and behaviours around family life (Connell, 2002; West and Zimmerman, 1987; Ashwin and Isupova, 2014). The traditional view of men as providers may influence their choices regarding parenthood and marriage, potentially placing different psychological pressure on childless men compared to those with children. This thesis examines how gender norms in contemporary UK society challenge traditional roles and how this evolution impacts men's experiences of childlessness and family life.

This thesis is motivated by the need to explore the unique factors influencing men's transition to parenthood, including how marital status and educational attainment interest shape these life choices. Moreover, while parenthood is often associated with positive psychological well-being and outcomes, this research questions whether childless men experience similar or different patterns in well-being compared to fathers.

Using data from the UK Household Longitudinal Study (Understanding Society UKHLS), it examines men's childlessness over three chapters. Chapter one focuses on the transition to parenthood, explicitly investigating how educational attainment and marital status influence the likelihood of men becoming

parents. While much research explores these factors independently, this chapter offers new insights by examining their interplay within the UK context. A Discrete-Time Complementary Log-Log Model supports the hypothesis, suggesting a negative association between education and the likelihood of becoming a father. Moreover, the analysis reveals a strong association between marital status and the probability of becoming a parent among British men. When marital status and level of education interplay, the results indicate that married men with higher education are more likely to transition into parenthood than their single counterparts with similar education levels.

Chapter two shifts focus to the psychological well-being of men in the UK, exploring whether childless men experience different subjective well-being outcomes compared to fathers. This chapter uses data from Wave Three, 2011, to investigate the role of social cohesion and marital status and how these factors mediate the relationship between parenthood and well-being. Using Ordinary Least Square OLS regression, the results show that childless men do not differ in well-being from those with children, only after controlling for other factors- childless men reported better well-being compared to fathers. Moreover, the results from this study suggest that marital status, social cohesion and parenthood independently influence well-being without significant interaction to diminish each other's effects. In other words, being married or cohabiting tends to enhance well-being regardless of whether an individual has children, and childlessness does not notably alter the impact of marital status on well-being.

Finally, chapter three explores marital satisfaction during the COVID-19 pandemic. This chapter examines how parenthood status, age of the youngest child, and financial situation influence men's marital satisfaction during heightened uncertainty and stress. The chapter focuses on two specific points: the pre-pandemic stage in 2019 and after the onset in 2021. The study employed a pre-post design to evaluate changes in marital satisfaction, with the Difference Score (DS) model of marital satisfaction as the critical outcome. The findings suggest that, after the pandemic's start, childless married individuals experienced a potential increase in marital satisfaction. When testing the

association between marital satisfaction and the age of the youngest child, the results suggest partial evidence that childless men are better off than those with very young children. These results indicate a decline in marital satisfaction among parents in the youngest age group, which weakly aligns with the hypothesis. The final analysis stage shows that the subjective financial situation and parenthood did not interact in a way that is meaningful to produce a change in marital satisfaction for married men.

The findings of this thesis illustrate how men's life circumstances and societal influences impact their experiences related to parenthood. Within the European societies experiencing a rise in childlessness, understanding these trends can be essential. This thesis contributes to the ongoing debate on parenthood and childlessness, psychological well-being, and the change in the social environment by offering an understanding of the experiences and factors that shape men's lives.

# Chapter One

## Transition into Parenthood: The Role of Education Attainment and Marital Status among Men in the United Kingdom

## 1.1 Introduction

Remaining childless or child-free is gaining increasing attention from sociologists and demographers. Although parenthood has traditionally been seen as a natural and expected milestone in adult life, many remain childless (Gillespie, 1999). Several factors can play a part in this decision, including personal values, career aspirations, financial elements, and environmental concerns (Sobotka, 2017; Bradford, 2022). Despite the growing body of research on childlessness for both men and women, there is still a need for more focused studies on the experiences and motivations of individuals who choose this path, particularly of men within the UK context. Much of the existing literature combines male and female experiences or focuses disproportionately on women, potentially overlooking the unique structural and cultural factors shaping male childlessness.

This paper explores the factors that may influence the likelihood of transition to parenthood for men in the UK. Guided by the life course perspective theory- emphasising the importance of timing life events and social context- the paper aims to gain more understanding of the relationship between individuals' different characteristics and transition to parenthood.

Viewing this chapter through a life course framework allows for a deeper understanding of how educational attainment and marital status jointly shape the likelihood of becoming a parent. This approach highlights that these factors do not operate in isolation but are conditionally related within the broader trajectories of individuals' lives (Elder et al., 2003; Mayer, 2009).Thus, for instance, previous research shows that higher educational attainment often corresponds with delayed entry into parenthood as individuals prioritise educational and career achievements. Likewise, marital status is a critical life course transition that significantly impacts family planning decisions (Mayer, 2009).

However, men and women may not experience these transitions equally (Sobotka, 2017). For women, delays in childbearing are often shaped by biological limitations and normative expectations of motherhood, while for men, postponement is more strongly tied to relationship formation, economic stability, and lower social pressure to have children (Keizer, 2010; Hadley, 2021).

Childlessness is an important topic that calls for more attention to understanding the experience of childless individuals. This can help equitable policies and programs to reflect their unique needs and challenges. Studying childlessness is relevant for several reasons. Firstly, it sheds light on a growing trend in modern society, where many individuals remain childless (Sobotka, 2017; Hadley, 2019, 2020; Bradford, 2022). Secondly, studying childlessness can provide insights into broader demographic trends, such as declining fertility rates and delayed childbearing (Keizer, 2010; Sobotka, 2017). This information can be effective for policymakers and researchers interested in understanding the social, economic, and cultural factors driving these trends. Thirdly, childlessness has important implications for individuals, families, and society, especially when it comes to care provision for older adults and the distribution of resources across generations (Bradford, 2022). By studying childlessness, we can better understand these implications and develop strategies for addressing them (Sobotka, 2017; Gouni, 2022).

Recent research shows that childlessness rates are rising throughout Europe, including in the UK, where childlessness rates are relatively high, but the same goes for fertility as well (Berrington, 2014, 2017; Rybińska and Morgan, 2019; Gouni, 2022). According to the data from the Office for National Statistics (2019), half of the women born in 1989 were childless by their 30$^{th}$ birthday (i.e., in 2019), and one in five British women had no biological children by the time they reached age 45. The results vary depending on unique circumstances, as some individuals may choose to remain childless, while others may face biological or other constraints preventing them from having children (Berrington, 2017; Sobotka, 2017; Hadly, 2021). Continued postponement of childbearing can also lead to extended

periods without children, potentially leading to a lifestyle with less stress and non-familial responsibilities (Keizer, 2010; Mynarska et al., 2015; Rybińska and Morgan, 2019).

While these statistics focus on women, data on men's childlessness are often overlooked, despite evidence that a larger proportion of men remain childless (Hadly, 2021).

Specifically in the UK context, the childlessness rate has increased over the past few decades and is expected to continue (Sobotka, 2017). While research on childless men in the UK has grown in response, it remains disproportionately underexplored compared to the extensive focus on women (Sobotka, 2017; Rybińska and Morgan, 2019; Gouni, 2022). In fact, statistics on men's fertility are systematically unrecorded (Hadly, 2024; ONS, 2014), rendering this demographic group "invisible"[2]. Research consistently shows that the childlessness rate for men is higher than that for women (Hadly, 2021). A British cohort study conducted by Berrington (2017) reveals that 25.4% of men have no biological children compared to 19% of women, and this disparity is expected to increase. Berrington noted that while men are more likely to be childless due to a lack of a partner or relationship status (Hadly, 2021), for women, childlessness is more often driven by health-related factors such as infertility (Berrington and Pattaro, 2014; Keizer, 2014). This distinction illustrates that male and female childlessness is shaped by different social and biological mechanisms, reinforcing the need to study men separately.

This gap in the literature is particularly significant in light of the higher rates of male childlessness, highlighting the urgency for more gender-specific research into the social and relational factors influencing men's pathways to parenthood. Childless men may face less societal pressure and stigma than childless women, who are often viewed as deviating from traditional gender roles and motherhood expectations (Gillespie, 1999; Miettinen, 2015).

[2] Hadley, R. A. 'No longer invincible', (2021b).

The current study aims to contribute to the literature on childlessness by further examining men's experiences, which, while increasingly addressed, still require more exploration. Sociologists and demographers have begun to explore men's roles as breadwinners and fathers (Sobotka, 2017; Rybińska and Morgan, 2019), yet much remains to be learned about men's decision-making processes regarding parenthood. This study tests correlational patterns observed in previous research conducted in other countries by examining factors associated with the transition to fatherhood among men in the UK. In doing so, it investigates whether the factors influencing women's decisions to become parents similarly affect men, with a particular focus on the roles of marital status and education—and their interaction. By isolating men in this analysis, the study aims to reveal how gendered life course patterns influence the timing and likelihood of parenthood.

Utilising data from the UK Household Longitudinal Study (UKHLS), this study employs discrete-time survival analysis using a complementary log-log regression model to examine the factors affecting the likelihood of transitioning into parenthood among men. The UKHLS provides rich, detailed information on various demographic, socioeconomic, and health-related variables, making it an appropriate dataset for this analysis.

I start the analysis by examining the association between education and the likelihood of becoming a parent. I found that having a higher education significantly lowers the odds of being a parent. The findings suggest that men with higher educational attainment typically experience a delay in parenthood by about one year (median time to parenthood is 8 years) compared to those with no qualifications, whose median time to parenthood is 7 years.

I also found that marital status is a significant element, with married men having a substantially higher probability of transitioning into parenthood compared to their single counterparts. Specifically, married men are 4.85 times more likely to become parents than single men. The interaction between education and marital status further explains these dynamics: the negative effect of higher education on the

likelihood of becoming a parent is less negative among married men. This interaction suggests that while education delays parenthood, marriage significantly increases the likelihood.

While this study investigates how education and marital status interact to influence the transition to parenthood, it is important to recognise that these variables may also operate through distinct pathways. Education may reflect broader life trajectories and socioeconomic positioning, while marital status often serves as a more immediate indicator of family formation readiness. Although the current analysis focuses on their interaction, this distinction is considered in the interpretation of the findings.

## 1.2. Theoretical Background and Hypotheses

### 1. 2.1 Factors Associated with Transition into Parenthood in the UK

These sections discuss the general findings on factors associated with transition to parenthood. Literature shows that the transition to parenthood is influenced by many life-course pathways, such as partnership, education attainment, employment, health, and career goals (DeOllos & Kapinus, 2002; Berrington, 2004; Kneale and Joshi, 2008; Dykstra and Jansen, 2008; Mynarska et al., 2015; Berrington, 2017; Beaujouan and Berghammer, 2019). While much of the literature focuses on women's experiences, there is an increasing body of studies exploring men's pathways to parenthood and childlessness.

Building on this, the study focuses on how, for men in the UK, the decision to become a parent is shaped by socioeconomic status, education, and social and cultural expectations. Therefore, the study emphasises that these factors interact in complex ways, influencing the likelihood of transitioning into parenthood or remaining childless.

While cultural expectations undoubtedly influence men's decisions regarding parenthood (Lundquist, Budig and Curtis, 2009), the current analysis does not include direct measures of these expectations. Instead, variables such as education and ethnicity may serve as light proxies for cultural norms, given their established correlation with values related to family formation, gender roles, and career priorities.

In particular, education, is treated in this study not only as a marker of socioeconomic status but also as a potential indicator of differing social attitudes toward parenthood. Although cultural factors are not explicitly measured, their influence is likely embedded in the broader patterns captured by these structural variables. Ethnicity is also included as a control variable to account for variations that may reflect underlying cultural norms across different groups. While cultural variation is not the main focus of this study, controlling for these structural variables allows the analysis to reflect, to some extent, the broader influence of cultural values.

Furthermore, educational attainment and socioeconomic status are critical influences on parenthood (Berrington, 2004; Kneale and Joshi, 2008; Dykstra and Jansen, 2008; Mynarska et al., 2015). According to Berrington (2017), higher education levels are associated with increased childlessness among men and women. For men, Berrington explains that economic factors such as unemployment and financial hardship are barriers to parenthood. Using data from the UK Household Longitudinal Study (UKHLS), Berrington's study found that childlessness rates were higher among the more educated and those living in urban areas. For men, the increase in childlessness rate is less influenced by attitudes towards marriage and having children and more by economic conditions and financial instability. Additionally, Berrington notes that changes in social attitudes towards marriage and parenting and the increasing cost of raising children may contribute to the rise in childlessness in the UK.

Aside from economic and educational factors, social norms and expectations around fatherhood also play an essential role in deciding "to be or not to be."[3] a parent. Bradford (2022) explores the experiences of childless men and highlights the societal pressures they face. The study shows that childless men might experience depression and isolation, partly due to limited social support networks compared to fathers. Bradford's study conducts numerous interviews in multiple countries to gather

[3] Shakespeare, William. Hamlet. Edited by G.R. Hibbard, Oxford UP, 2008.

diverse perspectives on male childlessness, examining how men's experiences differ from those of fathers and the societal pressures they might face. The author discusses the impact of male childlessness on marital relationships, identity, and mental health, finding that men who are childless might suffer more from depression and isolation compared to those with children.

Additionally, male childlessness can limit opportunities for social support, as men without children may not have access to the same types of social networks as men with children. This premise can be particularly challenging when social support becomes increasingly important in later life. However, the experience of childlessness is not the same for all men, as some might not experience all these challenges (Hadly, 2021).

Miettinen et al. (2015) further studied macro-trends in childlessness in European countries, the United States, and Australia. Focusing on men who remain childless, the authors looked at the possible social and demographic factors that may contribute to this trend. Using evidence from different countries, they identify some factors suggesting that childlessness among men could increase, such as changing attitudes towards parenthood, economic factors, and the availability of potential partners. While men have traditionally been less likely than women to face pressure to have children, the authors noted, however, that does not necessarily hold for all men, as fatherhood expectations continue to change. The authors also highlight the potential consequences of childlessness on men's well-being and social connections throughout life, especially in later life.

In the same area of research, Fiori et al., 2017 examined intended childlessness in Italy and Britain, using data from two nationally representative surveys, ISTAT and the UKHLS "Understanding Society". The study discussed that factors such as the timing of union formation and men's average age compared to their partners influence childlessness. The study suggests that socioeconomic disadvantages, particularly for men in Britain, play a critical role in childbearing decisions.

Additionally, education and employment status significantly impact men's intentions to remain childless, emphasising the gendered pathways into childlessness.

While factors such as economic disadvantage, social networks, and cultural expectations are highly relevant in explaining patterns of male childlessness, they are not directly analysed in this thesis. Instead, this study focuses specifically on how education and marital status influence the transition to fatherhood among men in the UK. These broader themes are included here to provide background context and illustrate the wider social conditions within which individual decisions about parenthood occur. Future research could build on these findings by directly examining how social isolation, changing norms, and economic hardship interact with structural factors such as education and relationship status to shape men's parenthood trajectories.

Building on this, the next section will look in detail at those factors, mainly education and marital status, that have been studied in the literature, and the study's hypothesis will also be presented.

### 1. 2.1.1 Education Attainment and Transition to Parenthood

Research in the UK shows a clear positive association between higher educational attainment and childlessness among women (Kneale and Joshi, 2008; Berrington, 2004). Many women choose to delay childbearing to pursue higher education and establish careers, with parenthood often perceived as a disruption to personal and professional development (Kneale and Joshi, 2008). Financial independence further supports these decisions, enabling greater control over reproductive choices (Berrington, 2014).

In contrast to the well-documented patterns among women, the relationship between education and childlessness for men is more varied and complex. Some studies report a positive association, others negative, and some find no significant relationship (Berrington, 2017; Ratcliffe and Smith, 2006; Miettinen, 2015; Moller and Clarke, 2016). This variation reflects the distinct mechanisms through

which education influences men's life choices, shaped by social norms, economic expectations, and changing family structures.

For men, higher education is closely tied to their traditional role as breadwinners. Societal expectations often position men as financial providers, and education becomes a gateway to stable employment, career advancement, and financial readiness for family life (Zuo and Tang, 2000; Bosoni, 2014). Consequently, men may postpone fatherhood until they achieve economic security, making education an indirect contributor to delayed parenthood, not only by extending years in education and training but by reinforcing the perceived need to achieve financial milestones before entering fatherhood.

Furthermore, men with higher education may internalise values related to individualism, career ambition, and delayed gratification, prioritising personal development over early family formation (Ratcliffe and Smith, 2006). This is compounded by fewer biological or societal pressures on men to become parents by a specific age, allowing greater flexibility in the timing-or avoidance-of parenthood altogether.

Although the literature often explores how education empowers women to renegotiate family roles and decision-making (Robey et al., 1993), it is important to highlight that for men, education may reinforce traditional expectations of masculine success through career and financial provision. In this way, educational attainment can serve both as an enabler of social mobility and a delaying factor for fatherhood, particularly when the perceived cost-financial and personal-of raising children remains high.

In summary, higher educational attainment for men can be associated with delayed or forgone parenthood due to both structural and cultural expectations tied to career preparation, financial stability, and traditional gender roles. This chapter explores the hypothesis that:

**H1**: *Higher levels of education are associated with a lower likelihood of becoming a father for men in the UK.*

### 1. 2.1.2 Marital Status and Transition to Parenthood

Marital status is one of the most critical influences on the transition to parenthood (Ratcliffe and Smith, 2006; Berrington, 2004). Marital stability creates an ideal environment for raising children. Married individuals often have greater financial security and emotional support, which are essential to starting a family. Studies have shown that married men are more likely to become fathers than unmarried men. The argument is that marriage provides economic and emotional stability to ease some of the uncertainties and pressures of parenthood, making it a more feasible prospect (Fieder et al., 2011).

In the same vein of research, societal and cultural norms often associate marriage with parenthood (Gillespie, 2003). In many cultures, couples are expected to have children only within the context of marriage (Jarnkvist, 2019). This societal pressure can influence individuals' decisions to become parents only after marriage. Unmarried men may delay fatherhood until they enter a stable marital relationship, aligning with these cultural norms (Allen and Hawkins, 1999; Gillespie, 2003; Berrington, 2017; Clarke et al., 2019; Jarnkvist, 2019).

Married couples often have access to legal and institutional support systems that can facilitate parenthood. These advantages include parental leave, tax benefits, and health insurance coverage that are more readily available to married individuals (Ashwin and Isupova, 2014). These supports might significantly reduce raising children's financial and logistical burdens, making parenthood more accessible for married men (Neyer et al., 2009). Similarly, being married also affects emotional and psychological readiness for parenthood. Marriage is a commitment, a contractual bond between couples, which means raising children becomes less stressful. Married men are perhaps more ready to be fathers, knowing they have a partner to help them through the difficulties and pleasures of parenting (Ashwin and Isupova, 2014; Dykstra & Keizer, 2009).

Recent data highlights this connection in the UK, where, for example, childless women tend to be unmarried rather than married women. In the UK, the Office for National Statistics (ONS, 2021) reports that around 18% of women aged 45-49 are childless, but rates vary significantly for married and unmarried women. Within this age group, around 10 % of married women were childless. In contrast, it was considerably higher for unmarried women, reflecting societal and economic factors that make parenthood more accessible and desirable within marriage. This trend highlights the importance of marital status in shaping reproductive decisions and outcomes for women.

The discussion above highlights the significant advantages that marriage provides in the context of parenthood. The financial security and emotional support available to married individuals create an environment more favourable to starting and raising a family (Ratcliffe & Smith, 2006; Fieder et al., 2011). Moreover, cultural expectations associating marriage with parenthood further set marriage as a critical variable in the childbearing choice. Legal and institutional benefits, such as parental leave and health insurance, also play a crucial role in reducing the barriers to parenthood for married individuals. Such advantages are frequently less available to unmarried individuals, discouraging them from becoming parents (Moller & Clarke, 2016).

Additionally, the emotional and psychological benefits fostered by the stability and partnership of marriage further support the argument that married individuals are more likely to transition into parenthood. The shared responsibilities and support system in marriage provide a foundation to make raising children less overwhelming and more achievable (Fieder et al., 2011).

Therefore, considering the combination of financial, emotional, cultural, and institutional factors that favour married individuals, the study hypothesises the following:

***$H_2$**: Married men are more likely to become fathers than unmarried men in the UK.*

### 1. 2.1.3 The Joined Role of Education Attainment and Marital Status on the Transition to Parenthood

We learn from examining the previous literature that the relationship between education and parenthood varies significantly by marital status, with higher education having a more substantial effect on the likelihood of becoming a parent among married individuals (Fieder et al., 2011). For married people, higher education often brings better economic stability and job security, making parenthood more feasible. Cultural norms also play a role, as marriage is commonly associated with childbearing, encouraging educated married couples to have children (Allen and Hawkins, 1999).

However, recent demographic evidence highlights the increasing prevalence of cohabitation as an alternative to marriage for family formation. In the UK, over 40% of live births occur outside marriage, with many children born to cohabiting couples who often view cohabitation as a stable and long-term partnership (Steele et al., 2005, 2006).

Rather than presenting marriage as a prerequisite for parenthood, this study considers marriage as one of several pathways to family formation. Cohabitation, which offers many of the financial and emotional benefits traditionally associated with marriage, has emerged as an important context for childbearing-particularly in the UK where societal norms around family structures have evolved significantly (Steele et al., 2005).

Conversely, unmarried individuals with higher education might delay or forgo parenthood due to career aspirations and the lack of economic and emotional support typically provided by marriage. This dynamic is further influenced by gender, as educated, married men are likely to transit to parenthood once financially stable, while educated, married women might balance career commitments with family aspirations (Berrington, 2014, 2017; Baum & Cope, 1980).

This pattern is consistent with findings from Aassve et al. (2006), who reported that higher education is associated with a modest reduction in fertility among men—largely due to delayed financial

readiness-whereas for women, the effect is more pronounced due to the opportunity costs of childbearing.

In contrast, highly educated, unmarried individuals often prioritise personal and professional development over starting a family. Thus, marital status amplifies the positive effect of higher education on the likelihood of parenthood. While higher education generally decreases the probability of becoming a parent, this effect might be less pronounced among married individuals. In light of these considerations, the study hypothesises the following:

***$H_3$**: The negative effect of higher education on the likelihood of fatherhood is weaker (less negative) for those who are married.*

Below is a table (Table 1. 1) that lists all the hypotheses suggested in this research and the anticipated direction of the association.

**Table 1. 1** Hypotheses of Factors Associated with the Likelihood of Transition into Parenthood for Men

| Hypothesis | Independent Variables | Dependent Variable | Hypothesised Relationship |
|---|---|---|---|
| H1 | Education | Fatherhood | - |
| H2 | Married (Ref: Single) | Fatherhood | + |
| H3 | Married * Education (Ref: Single * Education) | Fatherhood | + |

*Ref: Reference Category*

## 1. 3. Material and Methods

### 1. 3.1 Data and Sample

#### 1. 3.1.1 Data

This research draws on data from the first nine waves of the Understanding Society (UKHLS) dataset, waves 1 (2009) to 9 (2019). The dataset includes information on individuals across the UK regarding important aspects such as marital and employment history, childhood circumstances, and family. The study is one of the largest datasets in the UK that interviews individuals annually and follows individuals if they change their households. It was initiated in 2009, covering around 40,000

households and an estimated 100,000 individuals. It succeeds the British Household Panel Study (BHPS) from 1991 to 2008 and is administered by the Institute for Social and Economic Research (ISER) at the University of Essex.

As a panel study, the UKHLS is a form of a longitudinal study that offers a great dataset to enable researchers to analyse life course dynamics, covering diverse subjects, including family dynamics, household health, education, finances, income, employment, and overall well-being. The dataset comprises respondents from Scotland, Wales, Northern Ireland, and England, and data collection was through modes of face-to-face, telephone, or web-based interviews. For this chapter, I exclude waves 10 and 11 due to potential distortions from the COVID-19 pandemic.

### 1. 3.1.2 Sample Selection

The study began with a sample of 40742 men and 187976 observations across all years. The sample selection process is presented in Figure 1.1 below.

Following this, the dataset is further refined by excluding individuals under the age of 18, as the age of 18 typically marks the transition to adulthood in the UK, where individuals are legally recognised as adults and can independently make decisions. This threshold ensures the study focuses on adults whose behaviour, decisions, and life circumstances are more stable and relevant for longitudinal analysis. The study, therefore, selects participants aged 18, resulting in excluding 1515 individuals with 6784 observations. Next, we exclude 5413 men who were fathers before the start of the study (i.e., wave 1), resulting in removing 6743 observations. This selection criterion ensures that the study focuses on those who had no children at the beginning of the study, enabling the tracking of their transition to fatherhood during the observation period. We further exclude men who only participated in one wave to ensure that we track changes in their circumstances (n= 5988 and 7238 observations). After completing these sequential steps of sample selection, the final stage involves using listwise deletion on the variables under consideration, resulting in excluding 2303 men with 22168

observations. As a result, the dataset consists of 145,043 person-period observations nested within 25,524 individuals. Of these, 15,023 individuals (59%) transitioned into fatherhood during the observation period, while 10,501 individuals (41%) remained childless.

This study includes men aged 18 and older who were childless at wave 1 and participated in at least two survey waves. Rather than selecting a birth cohort, we follow a pooled sample of individuals at various life stages (ages 18-98 at baseline) for up to nine years. Each individual is observed from their first appearance in the study until they become a parent or are censored due to attrition or the end of the observation window. This allows for a life-course perspective on the transition to fatherhood across different age groups.

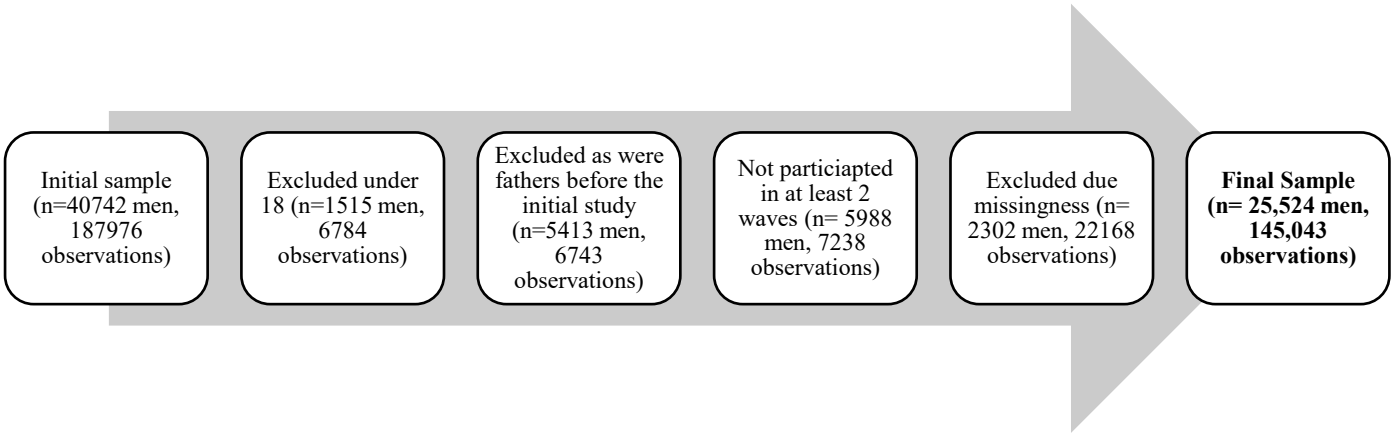



**Figure 1.1** Sample Selection Process

## 1. 3.2 Variables

### 1. 3.2.1 Time to Event Variable (Dependent Variable)

Constructing the 'parenthood' variable within the dataset is conditional upon two primary variables, the number of children in the household "nnatch" and "have you ever fathered/had any biological children? "lprnt", which asked participants retrospectively to indicate if they are parents *before* joining the study. To explain this, initially, the variable 'parenthood' is determined based on the reported number of children in the household (nnatch). The variable 'nnatch' captures the number of children reported within households across the dataset. With a total of 145,043 observations, the mean number of children per household is approximately 0.65, indicating a predominantly small family size within

the sample. The standard deviation of 1.03 suggests considerable variability around this mean, indicating instances of both larger and smaller households.

An example of the construction of the parenthood variable can be as follows. Suppose a participant in the first wave reports having children in the household during the initial survey wave, denoted by 'nnatch' greater than zero. In that case, they are classified as parents, thereby assigning a value of 1 to the 'parenthood' variable. Conversely, if a participant indicates no children in the household ('nnatch' equals zero) during the first wave, an inquiry into their fatherhood status ('lprnt') follows. Subsequently, participants who reported having fathered a child ('lprnt' equals 1) during the initial survey wave are categorised as parents, with the 'parenthood' variable assigned a value of 1. Conversely, those who reported never fathered a child before joining the survey ('lprnt' equals 2) are identified as non-parents, thereby assigning a value of 0 to the 'parenthood' variable.

Using these steps of variable construction, the data reveals that 41% of the total sample is classified as childless by the end of the observation period. Participants who did not become parents during the 9-year observation period are considered "censored" in the context of survival analysis.

In survival analysis, censoring refers to cases where we have incomplete information about an individual's event status (Singer and Willett, 1993). Specifically, suppose a participant does not become a parent during the study period. In that case, we only know that they were childless until the end of the study but do not know if they will eventually become parents. This uncertainty means that while we can track their status during the study period, we cannot confirm their outcome (whether they will remain childless or become a parent later). Thus, their data is considered censored because the event (i.e. fatherhood) was not observed by the end of the study. Using xtcloglog in the analysis will handle the censoring by appropriately accounting for the incomplete data, considering the varying length of follow-up for each man and estimating the likelihood of transitioning to parenthood over time (Singer and Willett, 1993).

The remaining 59% of the sample are classified as fathers, indicating these individuals have at least one child. The study includes men from various age groups (18-98 years), with those who had not reached 18 years by the first wave excluded. The study chooses age 18 as the starting point of the analysis as it is often considered a significant milestone and typically marks the transition into adulthood in many societies. Decisions about marriage, education, and family planning may take shape around this age.

### 1. 3.2.2 Covariates Variables

**Education**

One of the survey questions related to education asked participants to report their highest level of education, which was measured in categorical values. Specifically, the recording assigned a value of 4 for post-secondary tertiary (indicating that post-secondary education had been completed or is at least equivalent to a post-secondary qualification), 3 for other post-secondary (for other types of certification or qualifications completed after completing secondary education), 2 for A-level (completed A-level), 1 for A-level (if educational achievements are less than A-level ), and 0 for no qualification. For simplicity, I use a continuous measure of education where higher values indicate a higher level of educational attainment, and lower levels indicate no qualifications.

In this study, education is treated as a continuous variable, with higher values reflecting higher levels of attainment. This approach simplifies the analysis and helps identify broader patterns in how education relates to the transition to fatherhood. Although educational qualifications represent distinct categories, modelling education continuously is a common practice in demographic and sociological research (e.g., Kravdal, 2004; Nisén et al., 2014). This method enables more parsimonious modelling and avoids a large number of parameters, especially in interaction models. It is particularly useful when the aim is to capture general trends rather than make detailed comparisons between specific qualification types.

Nevertheless, to address concerns about potential oversimplification, a supplementary model using education as a categorical variable was also estimated. While this alternative coding allows for more detailed comparisons, it introduces additional complexity and reduces model parsimony. For these reasons, education was retained as a continuous variable in the main analysis.

**Marital Status**

The original UKHLS variable on marital status includes several categories, such as: "Single and never married/in a civil partnership," "Married," "In a registered same-sex civil partnership," "Living as a couple," "Separated but legally married," "Divorced," "Widowed," "Separated from a civil partner," "A former civil partner," and "A surviving civil partner." For analytical purposes, these categories were recoded into four distinct groups to ensure clarity and adequate statistical power.

The final recoded categories are: **Single** (never married or in a civil partnership), **Married** (including those in a registered same-sex civil partnership), **Cohabiting** (those living as a couple but not legally married or in a civil partnership), **Formerly Partnered** (those previously in a legal or cohabiting union, including separated, divorced, widowed, or formerly in a civil partnership).

The decision to group the various forms of past partnerships into a "Formerly Partnered" category was based on the low individual counts and their shared characteristic of having previously been in a committed relationship but currently not partnered. These recoded categories were entered separately into the models, ensuring that marital status was operationalised as a categorical variable with clear and distinct groups. This approach ensures conceptual clarity and enables robust estimation of group differences in relation to parenthood outcomes.

### 3.2.3 Control Variables

To reduce the potential impact of confounding variables on the findings, the study controls for various factors that may be associated with both parenthood and the main covariates of interest, i.e., education and marital status. The age of participants is accounted for in this analysis because age is a critical factor influencing the likelihood of transitioning to parenthood. As individuals age, the probability of becoming parents generally changes, reflecting biological, social, and economic factors. By accounting for age, the analysis can more accurately capture the timing and likelihood of parenthood, ensuring that the effects of other variables, such as education and marital status, are correctly interpreted. Age is also essential for understanding life course transitions, as decisions about parenthood are closely tied to different life stages.

Moreover, ethnicity is included because cultural norms and values related to family size and timing of parenthood can vary significantly across different ethnic groups, potentially influencing fertility behaviour (Perry-Jenkins and Schoppe-Sullivan, 2019). Furthermore, long-standing disability is considered since health limitations may affect an individual's ability or decision to have children, thereby impacting the transition to parenthood (Barimani, 2017). The subjective financial situation is included as perceptions of financial stability can influence decisions about starting a family, with those feeling financially secure being more likely to have children (Van, 2022). Finally, gross household income is controlled for as it provides an objective measure of economic resources, which can directly affect the ability to support children and, thus, the likelihood of transitioning to parenthood (Van, 2022). By accounting for these variables, the study aims to isolate the specific effects of education and marital status on parenthood transitions. The control variables are measured in this study as follows:

*Age*: Age was included as a continuous variable in the regression models to account for individual differences in the timing of parenthood across the life course. This allows for a precise estimation of how each additional year of age influences the likelihood of becoming a parent. Treating age continuously avoids arbitrary cut-offs and maximises statistical power. The average age in the sample

is 50 years, which reflects a wide age range and supports the study's aim of capturing variations in parenthood transitions over time.

*Ethnicity:* The dataset comprises a diverse range of ethnicities, initially classified into 18 categories. Upon examination, it is evident that the majority of responses fall under the "white British" category, with more minor counts recorded across other ethnic groups. For analysis purposes and to ensure meaningful representation, these categories are combined into a new variable called "ethnicity," with five categories representing broad ethnic groups. These groups may be more clearly defined as (1) White: British, Irish, or other white background; (2) Mixed: White and Black Caribbean, White and Black African, White and Asian, or other mixed background; (3) Asian: Indian, Pakistani, Bangladeshi, Chinese, or other Asian background, (4) Black, African, Caribbean, Black British, or other black background, and (5) Other Ethnic Group including Arab, or other ethnic groups. This construction allows for a more straightforward analysis and interpretation of ethnic diversity within the dataset.

*Long-standing Disability:* The research incorporates adjustments for chronic health issues, assessed based on responses to the question: "Do you experience any enduring physical or mental impairments, illnesses, or disabilities? By 'enduring,' the question means conditions persisting for at least 12 months or expected to persist for at least 12 months." Participants have provided either a "Yes" that they are suffering from a chronic health condition or a "No" otherwise.

*Subjective Financial Situation:* The survey asked the participants to report their subjective opinion regarding their financial situation for the upcoming years: "Considering the future, how do you anticipate your financial situation will be a year from now?". Responses were as follows: "Better," "Worse," or "Same. This question is designed to gauge what people expect their financial situation to be in the near future.

*Gross Household Income* is characterised by five quintiles, ranging from the lowest income quintile to the highest.

The control variables-subjective financial situation, gross household income, and long-standing illness-were treated as time-varying and updated annually in accordance with each wave of the UKHLS. This approach accounts for changes in individual circumstances over time, allowing for more accurate estimation of the relationship between educational attainment, marital status, and the transition to parenthood.

### 1. 3.3 Method and Descriptive Statistics

#### 1. 3.3.1 Methods: Survival Analysis (Discrete Time Complementary Log-Log Model)

This paper uses survival analysis methods to investigate the phenomenon of childlessness and the factors influencing the likelihood of transition to parenthood among men. In particular, this paper applies a discrete-time complementary log-log regression model to analyse this likelihood over discrete time intervals. The time-to-event model, also known as a survival model, is a statistical tool used to examine the time until an event of interest occurs (Allison, 1984; Singer and Willett, 1993). Here, the transition to parenthood is the event of interest, and survival analysis allows us to study the timing and duration (Singer and Willett, 2003) until individuals experience this transition. The complementary log-log model is well suited to this type of analysis, as it estimates the probability of an event occurring within specified time intervals.

Unlike continuous-time models, which assume events can occur at any moment, discrete-time models calculate the probability of an event within set periods and are especially appropriate for panel data with regular measurement intervals (Cleves and Gutierrez, 2004; Jenkins, 2005; 2008). This approach fits the structure of the UKHLS, which collects data annually.

A person-period dataset was prepared for the analysis, where each row corresponds to one year of observation for an individual. The key variables were "Period," which indexes each consecutive year of observation starting from the respondent's first wave of participation, and "Event," a binary indicator of whether the individual became a father in that year (Jenkins, 2005; 2008).

Table 1.2 illustrates this person-period structure, showing how individuals were followed across waves, with yearly updates to their parenthood status, education, marital status, and other characteristics. For each person, the table includes their age at entry (baseline), the total number of observation periods, and whether a transition to fatherhood occurred during the study. This format demonstrates how transitions were tracked over time.

The analysis uses a piecewise constant approach, dividing the time variable into equal intervals. This assumes a constant hazard within each time segment, which allows the model to accommodate flexible hazard shapes over time (Cleves and Gutierrez, 2004; Jenkins, 2005; 2008). This method is robust and aligns well with the UKHLS's yearly survey design.

In this study, each period corresponds to one year, and the maximum observation window spans nine years. Estimates beyond the 9-year window are not presented because the UKHLS design does not extend participant follow-up beyond this period for all individuals. The analysis is therefore limited to transitions occurring within this timeframe.

Although the chapter explores how education and marital status jointly influence the likelihood of becoming a father, it does so through interaction terms within the survival model rather than through causal mediation techniques. This modelling approach estimates conditional associations rather than implying direct or mediated causal relationships.

***Table 1. 2*** Example Person-Period Data Set: Events of Parenthood Over Time, Education, Marital Status, and Ethnicity of Individuals (Based on Example from UKHLS Data)

| ID | Period | Event | Education | Marital status | Age at Wave 1 | Total Observation | Became Parent? |
|---|---|---|---|---|---|---|---|
| **Person 1** | 1 | Childless | Other post-secondary | Single | 31 | 8 waves | Yes (period 7) |
| **Person 1** | 2 | Childless | Other post-secondary | Single | | | |
| **Person 1** | 3 | Childless | Other post-secondary | Living as couple | | | |
| **Person 1** | 4 | Childless | Other post-secondary | Living as couple | | | |
| **Person 1** | 5 | Childless | Other post-secondary | Living as couple | | | |
| **Person 1** | 6 | Childless | Other post-secondary | Living as couple | | | |
| **Person 1** | 7 | Father | Other post-secondary | Single | | | |
| **Person 1** | 8 | Father | Other post-secondary | Living as couple | | | |
| Person 2 | 1 | Childless | less than A-level | Married | 18 | 3 waves | Yes (period 3) |
| **Person 2** | 2 | Childless | less than A-level | Married | | | |
| **Person 2** | 3 | Father | less than A-level | Married | | | |

*Sources: UKHLS, 2009-2019*

The analysis began with estimating a baseline hazard using a piecewise constant hazard model. This model is much less restrictive than traditional methods (Singer and Willett, 2003; Cleves and Gutierrez, 2004; Jenkins, 2005) that estimate hazards by assuming a specific mathematical form. Instead, the piecewise constant model uses discrete time intervals represented by dummy variables: time_1_3 ( covering the period from year 1 to 3 ), time_4_6 ( covering the period from year 4 to 6 ), and time_7_9 ( covering the period from years 7 to 9). These binary variables indicate whether an event occurred during every interval compared to the last one (i.e., time_7_9). They are helpful because they afford a flexible representation of the hazard rates over time without imposing fixed assumptions (Jenkins, S.P., 2005). In the regression, the time_7_9 is selected as the reference category. By taking the last interval as the baseline, we can interpret the hazard ratios of the previous intervals (time_1_3 and time_4_6) relative to the last one.

### 1. 3.3.2 Descriptive Statistics

In this section, the study displays the descriptive statistics of the main covariates and the controls. The descriptive statistics table (Table 1. 3) shows the sample characteristics under examination. By the end of the observational period, 41% of the 25,524 individuals in the dataset- 145,043 person-period observations- were childless, and 59% were dads. The participants' ages range widely, with the average age being around 50 (SD =17.66). The average educational level is roughly 2.11, indicating an average educational attainment level above "Other post-secondary," which includes certifications beyond secondary school., with an SD of 1.37, suggesting a slight variation in education among the participants. Of the participants, 58% were married, 20% were single, 12% were living with a partner, and 10% were previously in a relationship, as seen in the table. The sample is primarily White 85%, with Asian 9% and Black 3% participants. A high percentage of respondents have no health problems, 65%, and 35% have health problems. Regarding subjective finance, 59% reported they expected their finances to stay the same, 26% hoped for the better, and 15% reported they would be worse off. Finally, 26% of the sample are in the highest household income quantiles, whereas 12% are in the lowest quantiles.

**Table 1. 3 Descriptive Statistics**

| Variables | Mean | SD | Min | Max |
|---|---|---|---|---|
| **Education** | 2.11 | 1.37 | 0 | 4 |
| **Marital Status** | | | | |
| Single | 0.20 | 0.40 | 0 | 1 |
| Married | 0.58 | 0.49 | 0 | 1 |
| Living as Couples | 0.12 | 0.33 | 0 | 1 |
| Formerly Partnered | 0.10 | 0.29 | 0 | 1 |
| **Age** | 49.95 | 17.66 | 18 | 98 |
| **Ethnicity** | | | | |
| White | 0.85 | 0.35 | 0 | 1 |
| Mixed | 0.01 | 0.12 | 0 | 1 |
| Asian | 0.09 | 0.29 | 0 | 1 |
| Black | 0.03 | 0.18 | 0 | 1 |
| Other Ethnic group | 0.01 | 0.08 | 0 | 1 |
| **Have Health Issues** | | | | |
| No | 0.65 | 0.47 | 0 | 1 |
| Yes | 0.35 | 0.47 | 0 | 1 |
| **Financial Situation** | | | | |
| Better | 0.26 | 0.44 | 0 | 1 |
| Worse | 0.15 | 0.36 | 0 | 1 |
| Same | 0.59 | 0.49 | 0 | 1 |
| **Household Income** | | | | |
| Lowest income quintile | 0.12 | 0.33 | 0 | 1 |
| 2nd quintile | 0.17 | 0.37 | 0 | 1 |
| 3rd quintile | 0.21 | 0.40 | 0 | 1 |
| 4th quintile | 0.24 | 0.42 | 0 | 1 |
| Highest income quintile | 0.26 | 0.44 | 0 | 1 |

Note. SD standard deviation; Min minimum; Max maximum. The dataset consists of 145,043 person-period observations nested within 25,524 individuals.

# 1. 4. Results

## 1. 4.1 Regression Analysis

### 1. 4.1.1 Baseline Model

The study examines the impact of discrete time intervals on the hazard of becoming a parent using a Complementary log-log model (xtcloglog) for panel data. The log-log model is used to estimate the log hazard ratio given the effect of the covaries in a panel data set. [4]See Table A.1 in the appendix for detailed baseline model results. The results show that the hazard ratio for the first three years (i.e., time_1_3) of the observation period is 0.137 (95% CI [0.1312 0.1421], p<0.001) compared to the reference group (time_7_9).

The results suggest that the likelihood of becoming a father is 86.3% lower in the first three-year period compared to the 7–9-year period. In other words, men in this study are less likely to become fathers during the first 1-3 years than over the subsequent 7-9 years. The results also show that the hazard ratio of the time_4_6 is 0.240 (95% CI: [0.231 0.2495], p<0.001) compared to the reference category. This result suggests that the likelihood of becoming a father during the 4–6-year period is 76.0% lower than in the 7–9-year period. Therefore, the probability of becoming a father is also lower in the 4–6-year period compared to the last period.

### 1. 4.1.2 Educational Attainment Model

Building on the baseline model, Model 1 is estimated by including the key independent variables of interest (education levels and time variables) without including control variables. Model 2 additionally includes variables (i.e., control variables) for ethnicity, household income, financial situation, age, and health status to account for potential confounding factors.

[4] Although participants range in age from 18 to 98 at baseline, each individual is observed for a maximum of nine years from the point of entry (i.e., wave 1). The focus of the analysis is not on lifetime fertility but on the transition to fatherhood during this fixed observation window. Therefore, estimates are not produced for periods beyond the 9-year span, as no participant was followed for longer than this period. This design enables a consistent follow-up window across all age groups.

Table 1.4 presents the results from the two models. In Model 1, the hazard ratio of education is (HR:0.934, 95% CI: [0.923,0.945], p<0.001), indicating that individuals with higher levels of education have a lower hazard (probability) of becoming fathers compared to those with no education, controlling for discrete-time variables.

In Model 2, controlling for other variables in the model, education continues to show a significant association with the hazard of the event of becoming a father. The hazard ratio for education in Model 2 is (HR: 0.908, 95% CI: [0.897, 0.919], p<0.001), indicating that for each unit increase in education level, there is an approximately 9.2% decrease in the hazard of becoming a parent. This finding suggests that higher education correlates with a lower likelihood of transition to fatherhood over time.

In both Model 1 and Model 2, the time intervals provide results of how the hazard of the event changes over different periods. We can see a gradual decrease in the hazard ratios, indicating a lower likelihood of experiencing the event as time progresses. For instance, in Moodle 2, during the earliest interval (1-3 period), the hazard is significantly low (HR: 0.144, 95% CI: [0. 138, 0. 150], p<0.001), reflecting a period of relatively lower risk. Note that results for the control variables are presented in the Appendix (see Table A.2). The Wald test $X^2$ and its degree of freedom (df)[5] tests if the independent variables collectively have a significant relationship with the outcome variables. In both models, we observe a significant $X^2$ (p< 0.001), indicating that the included predictors jointly contribute to explaining the outcome variable.

Based on the results of Model 2, Hypothesis 1 is supported.

[5] The Wald test $X^2$ is a statistical test used to determine whether the hazard ratios of the variables in the model are significantly different from 1. It is calculated as the square of the estimated coefficient divided by the standard error by that coefficient. The test examines if the null hypothesis of no association is rejected.

**Table 1. 4** Complementary Log-Log Regression Results for Education with and without Control Variables

| | **(Model 1) HRs/CIs** | **(Model 2) HRs/CIs** |
|---|---|---|
| **Education** | 0.934*** | 0.908*** |
| | [0.923,0.945] | [0.897, 0.919] |
| **time_1_3 (Ref: time_7_9 )** | 0.134*** | 0.144*** |
| | [0. 129,0.140] | [0.138,0.150] |
| **time_4_6** | 0.238*** | 0.247*** |
| | [0.230,0.140] | [0.237,0.256] |
| Control Variables | NO | YES |
| Wald $X^2$ (df) | 11, 82 (3) | 13,03 (15) |
| p-value | < 0.001 | < 0.001 |
| N | 145043 | 145043 |

Note. Complementary log-log regressions with Hazard Ratios (HRs); 95% confidence intervals in brackets; controlling for ethnicity, household income, financial situation, and health issues. UKHLS 2009-2019. Significance levels: * = p < 0.05, ** = p < 0.01, *** = p < 0.001; N person-period (145,043/25,524). Analyses were conducted using the xtcloglog model.

### 1. 4.1.3 Marital Status Models

Now, the study tests whether being married increases the likelihood of becoming parents compared to being single by fitting two models: the baseline hazard function (Model 3), which includes dummy variables for time intervals and the marital status variable. The second model, Model 4, extends Model 3 by adding control variables that may confound the relationship between marital status and parenthood hazard.

**Table 1. 5.** Complementary Log-Log Regression Results for Marital Status and Parenthood with and without Control Variables

| | **(Model 3) HRs/CIs** | **(Model 4) HRs/CIs** |
|---|---|---|
| **Marital Status (Ref: Single)** | | |
| **Married** | 5.948*** | 6.026*** |
| | [5.471,6.467] | [5.522,6.575] |
| **Living as Couples** | 4.846*** | 5.272*** |
| | [4.412,5.324] | [4.792,5.799] |
| **Formerly Partnered** | 5.162*** | 5.429*** |
| | [4.698,5.673] | [4.921,5.990] |
| **time_1_3 (Ref: time 7-9)** | 0.151*** | 0.146*** |
| | [0.145,0.157] | [0.140,0.152] |
| **time_4_6** | 0.247*** | 0.244*** |
| | [0.238,0.257] | [0.235,0.254] |
| Wald $X^2$ (df) | 12,94(5) | 13,64 (17) |
| p-value | < 0.001 | < 0.001 |
| Control Variables | NO | YES |
| *N* | 145043 | 145043 |

Note. Complementary log-log regressions with Hazard Ratios (HRs); 95% confidence intervals in brackets; controlling for ethnicity, household income, financial situation, and health issues. UKHLS 2009-2019. Significance levels: * = p < 0.05, ** = p < 0.01, *** = p < 0.001; N person-period (145,043/25,524). Analyses were conducted using the xtcloglog model.

Table 1. 5 presents the results from the complementary log-log regression models (Models 3 and 4), testing the association between marital status and time intervals on the likelihood of transitioning into parenthood. The table shows that, in both models, being married, living as a couple, and being formally partnered significantly increases the risk of parenthood transition compared to being single. For example, Model 3 shows that, compared to single men, the hazard ratio (HR) for married men is 5.948 (95% CI: [5.471,6.467], p<0.001), for those living as couples, is 4.846 (95% CI: [4.412,5.324], p<0.001), and for formerly partnered individuals is 5.162 (95% CI: [4.698,5.673], p<0.001).

These associations are slightly more pronounced in Model 4, which includes additional control variables. In Model 4, the results show that, for married men, the hazard ratio increases slightly to 6.026 (95% CI: [5.522, 6.575], p<0.001), indicating that the effect of being married on the likelihood of becoming a parent remains strong and significant even when control variables are included. This result suggests that married men are about six times more likely to become parents compared to those who are single. For those living as couples, the hazard ratio of 4.846 (95% CI: [ 4.412, 5.324], p<0.001) means they have about 4.85 times the hazard of becoming a parent compared to single individuals, and this result is statistically significant. With the inclusion of control variables, the hazard ratio increases to 5.272 (95% CI: [4.792, 5.799], p<0.001), indicating that the likelihood of becoming a parent is still significantly higher for those living as couples. Results for the control variables are presented in the Appendix (see Table A. 3). The significant $X^2$ tests in both models show that the overall model is statistically significant (p <0.001), indicating that the predictors included significantly explain the outcome variables.

These findings support Hypothesis 2, indicating that married individuals are more likely to become parents than single individuals, even after adjusting for various demographic and socioeconomic factors.

### 1. 4.1.4 Interaction Model

The final stage of the analysis aims to fit a model with interaction terms between education attainment and marital status to assess how the effect of education on the hazard of becoming a parent varies by marital status. First, the study fits a model that examines the main effects of educational attainment and marital status on the hazard of becoming a parent, controlling for the time periods and other variables (Model 5, Table 1. 6). This model helps to establish the independent effects of education and marital status before considering their interaction. Next, Model 6 fits the interaction terms between education and marital status, exploring how the relationship between education and parenthood changes based on marital status.

Results from Model 5 show that education levels have a significant association with parenthood, where each unit increase in education reduces the hazard of parenthood by 9.4% (HR = 0.906, 95% CI: [0.895,0.917], $p<0.001$). Furthermore, Model 5 shows that controlling for education, marital status also plays a crucial role, with married individuals demonstrating a substantially higher hazard of transition to parenthood compared to single individuals (HR = 6.06, 95% CI: [5.554,6.613], $p<0.001$). These results suggest that married individuals have about 6.06 times the hazard of becoming a parent compared to single individuals. This finding indicates a substantially higher likelihood of parenthood for married individuals compared to those who are single. Similarly, those living as couples or formerly partnered also have increased hazards of parenthood (HR = 5.215, 95% CI: [4.740,5.737], $p<0.001$) and (HR = 5.495, 95% CI: [4.980,6.064], $p<0.001$), respectively.

**Table 1. 6** Complementary Log-Log Regression Results: Main and Interaction Effects of Education and Marital Status on Parenthood

| | **(Model 5) HRs/CIs** | **(Model 6) HRs/CIs** |
|---|---|---|
| **Education** | 0.906*** | 0.690*** |
| | [0.895,0.917] | [0.645,0.738] |
| **Marital Status (Ref: Single)** | | |
| **Married** | 6.060*** | 3.446*** |
| | [5.554,6.613] | [2.987,3.976] |
| **Living as Couples** | 5.215*** | 4.163*** |
| | [4.740,5.737] | [3.543,4.892] |
| **Formerly Partnered** | 5.495*** | 3.259*** |
| | [4.980,6.064] | [2.785,3.813] |
| **time_1_3** | 0.143*** | 0.143*** |
| | [0.137,0.149] | [0.137,0.149] |
| **time_4_6** | 0.241*** | 0.242*** |
| | [0.232,0.251] | [0.233,0.251] |
| Married # Education | | 1.350*** |
| | | [1.261,1.446] |
| Living as Couples # Education | | 1.140*** |
| | | [1.055,1.231] |
| Formerly Partnered # Education | | 1.330*** |
| | | [1.233,1.434] |
| **Control Variables** | YES | YES |
| Wald $X^2$ (df) | 13,91 (18) | 13,96(21) |
| p-value | <0.001 | <0.001 |
| ***N*** | 145043 | 145043 |

Note. Complementary log-log regressions with Hazard Ratios (HRs); 95% confidence intervals in brackets; controlling for ethnicity, household income, financial situation, and health issues. UKHLS 2009-2019. Significance levels: * = p < 0.05, ** = p < 0.01, *** = p < 0.001; N person-period (145,043/25,524). Analyses were conducted using the xtcloglog model.

Finally, Model 6 presents the results of the interaction terms, explicitly focusing on the interaction between marital status and educational attainment, as outlined in Hypothesis 3. The complete model, including these interaction terms, is detailed in the Appendix (see Table A. 4). In both models, the predictors included significantly explain the outcome variables, indicated by the Wald $X^2$ ($p < 0.001$). The results from the interaction terms model reveal significant associations. The hazard ratio (HR) for the interaction term of Married # Education is 1.350 (95% CI: [1.261, 1.446], $p<0.001$). This means that for married individuals, the hazard of becoming a parent is 35% higher for each additional unit of education than for single individuals. For individuals living as couples (Living as Couples # Education), the hazard of becoming a parent is 14% higher for each additional unit of education compared to single individuals (HR= 1.140, (95% CI: [1.055,1.231], $p<0.001$). This indicates a

moderate positive interaction effect of education for those living as couples. Surprisingly, for formerly partnered individuals (Formerly Partnered # Education), the hazard of becoming a parent is 33% higher for each additional unit of education compared to single individuals (HR= 1.330, 95% CI: [1.233, 1.434], $p<0.001$). This suggests that education also has significant positive interaction for formerly partnered men.

As a robustness check, educational attainment was also modelled as a categorical variable to address concerns about the linearity assumption in the continuous specification. Education was recoded into five distinct categories: No Qualification, less than A-Level, A-Level, other Post-secondary, and Post-secondary Tertiary (the reference group). The model results using these categories produce patterns consistent with those obtained using the continuous measure. Specifically, the findings confirmed that higher educational attainment was generally associated with a lower likelihood of transitioning to fatherhood, and the direction and strength of associations across marital status groups remained stable. These consistent results support the validity of using a continuous education variable in the main analysis, while demonstrating that the conclusions are robust to alternative coding strategies.

To ensure that these results are robust, the study further conducted an additional analysis to examine whether religiosity influences the likelihood of becoming a parent. Religiosity might affect parenthood because religious beliefs and community norms often emphasise family formation and having children. Religious people might feel a more substantial societal or moral obligation to become parents or receive more social support for family life within their religious communities (Jennings, 2010). The study checks this by adding a variable representing whether individuals belong to a religious affiliation with the original model. These variables capture if participants identify with any religion (Yes/No), providing insight into the role of religiosity in their family planning decisions. The results indicate that while religiosity might influence family planning in some social contexts, it does not independently affect the likelihood of becoming a parent for the individuals in this study. This finding suggests that adding religiosity to the model did not change the main result from the previous model; as such, marital

status, ethnicity, and income play a more significant role in the decision to have children.

## 1. 5. Discussion

The study investigates the factors associated with the likelihood of transitioning to parenthood among men in the UK. With this specific focus, the study looks at the role of educational attainment and marital status in shaping men's experiences. Utilising a Complementary log-log model (xtcloglog) for panel data, the study examines how these variables interact to affect the outcome of becoming a parent over time.

The study finds that the likelihood of becoming a father increases over time, with a significantly lower probability of fatherhood observed in the earlier (1-3 years) and mid (4-6 years) periods compared to the later (7-9 years) periods. This temporal pattern may potentially be caused by the inherent social and economic dynamics that influence the decision to become a father. For instance, individuals may experience increased stability or shifts in personal circumstances, such as enhanced career development and financial security, or it could be relationship stability making the transition to fatherhood more likely as time progresses. Understanding these changes can provide a valuable understanding of the factors influencing parenthood decisions.

Our analysis reveals a significant negative relationship between education level and the hazard of becoming a parent. Specifically, each unit increase in education is associated with a 9.4% decrease in the hazard of parenthood. This finding is consistent with a body of research that suggests higher educational attainment often correlates with delayed parenthood. For example, Kneale and Joshi (2008) and Berrington (2014) explain why higher education might lead to delayed parenthood. They argue that individuals with higher levels of education are more likely to prioritise their careers and financial stability before starting a family. Higher education often leads to better job opportunities, higher incomes, and more stable career trajectories. As a result, individuals may invest more time establishing their professional lives before transitioning to parenthood.

The analysis of this study also shows a strong association between marital status and the probability of becoming a parent. Compared to single individuals, those who are married or living as couples exhibit significantly higher chances of becoming parents. Moreover, married individuals show the highest probability, followed closely by those living as couples and formerly partnered individuals. Hence, this study highlights the critical role that marital status plays in the decision and likelihood of becoming a parent. These findings are consistent with previous studies such as Gillespie (2003), Berrington (2017), Clarke et al. (2019), and Andersson et al. (2009), which emphasise that marriage is often associated with greater social and economic stability and that can aid the transition to parenthood.

Furthermore, social norms and expectations play a crucial role in shaping decisions around parenthood. Marriage is traditionally considered the ideal context for raising children, as it is often perceived to provide greater social approval, emotional stability, and institutional support (Cherlin, 2004; Thornton, Axinn and Xie, 2007; Reimann, 2020). These societal expectations help explain the significantly higher hazard ratios observed for married and cohabiting individuals, as marriage is commonly viewed as a more secure foundation for starting a family.

Considering the social norms, this study explains that married couples typically experience more economic stability than their single counterparts. Reasons such as dual incomes, shared resources, and potential tax benefits can make planning and raising children financially easier. This economic stability reduces the financial stress associated with parenting, making it more feasible for married couples to consider having children sooner than single individuals (Andersson et al., 2009). Moreover, a partnership comes with emotional, physical, and psychological support, which are considered another important factor influencing the transition to parenthood. Married individuals often benefit from a supportive partner who can share the responsibilities and emotional burdens of parenting. This support system can significantly reduce the perceived barriers to becoming a parent, increasing the likelihood of transitioning to parenthood (Andersson et al., 2009).

A notable finding is that men who were formerly partnered displayed a higher likelihood of becoming fathers compared to those who were single. This result appears counterintuitive, as men who are no longer in relationships might be assumed to have fewer opportunities to transition into parenthood. One plausible explanation is that some of these men re-entered new partnerships during the observation period, but their status as "formerly partnered" was recorded at the time of data collection rather than reflecting their full partnership history. It is also possible that some men became fathers outside of co-residential unions, a pattern increasingly observed in diverse family forms. These interpretations suggest that the observed association may be influenced by the dynamic nature of relationships, and future research could benefit from a more nuanced measure of partnership trajectories over time.

Finally, the findings of this study highlight the complex relationship between education and marital status. The interaction between marital status and education further enriches our understanding of these dynamics. For instance, the positive interaction term for married individuals with higher education indicates that education increases the likelihood of parenthood for married individuals. This suggests that while higher education generally delays parenthood, its effect is moderated by marital status, where the stability and support of marriage can balance the delay caused by education. One potential justification offered by this study for these findings is that married individuals with higher education levels may feel more prepared and confident in their financial and personal stability to start a family.

The study also reveals a moderate positive interaction effect of education for those living as couples. The less pronounced impact compared to married individuals could be due to the relatively lower legal and financial stability associated with cohabitation versus marriage. However, cohabiting couples still share resources and responsibilities to some extent, making parenthood more practical than single individuals. For formerly partnered individuals, each unit increase in education was associated with a 33% increase in the hazard of becoming a parent compared to single individuals. This could be due to formerly partnered individuals having previously shared resources and responsibilities, which might continue to influence their stability for parenthood even after a partnership ends. Additionally, formerly

partnered individuals may have had children during their previous partnerships and continue to exhibit parenting behaviours and responsibilities that affect their likelihood of becoming parents again.

While this study treats education and marital status as interacting predictors, it is important to recognise that they may influence the transition to parenthood through distinct mechanisms. Educational attainment often acts as a proxy for socioeconomic background, long-term career aspirations, and life priorities. Its influence on childbearing decisions may be indirect, delaying parenthood as individuals pursue educational and financial stability. In contrast, marital status typically has a more immediate and direct impact on the likelihood of becoming a parent. Entering into marriage or a stable partnership often signals readiness for family formation and provides the relational context in which parenthood is most likely to occur. In this sense, marital status may mediate the effect of education and other life circumstances on the decision to have children. While the present analysis focuses on interaction effects between these variables, future research may benefit from exploring mediation pathways to further disentangle these relationships.

## 1. 6. Conclusion and Limitation of the study

This chapter examines the complex interplay between educational attainment, marital status, and the probability of becoming a parent. It uses data from the first nine waves of the Understanding Society UKHLS- one of the most extensive longitudinal datasets on health, work, education, income, and family. Using a complementary log-log model, the analysis reveals several vital findings contributing to our understanding of the transition to parenthood in the UK.

Firstly, higher educational attainment is associated with a decreased likelihood of parenthood. Each additional education unit corresponds to a 9.4% reduction in the hazard of becoming a parent, suggesting that individuals with higher education levels are more likely to delay parenthood. This finding supports the hypothesis that higher education often correlates with career prioritisation and a desire for financial stability before starting a family.

Secondly, marital status significantly influences the likelihood of parenthood. Married individuals have a much higher probability of becoming parents than single individuals. This can be attributed to the economic stability, shared resources, and social support structures that marriage provides, which make it more feasible to plan and raise children.

The interaction between education and marital status further highlights these dynamics. While the probability of parenthood decreases with higher education levels for single individuals, it declines only slightly for married individuals. This suggests that the supportive context of marriage can buffer the potential limited effect of higher education on parenthood. Married couples can have a shared responsibility, which may offset the career and financial considerations typically accompanying higher educational attainment.

These findings align with and expand upon previous research, demonstrating that education and marital status are critical factors in family planning decisions. These findings highlight the importance of considering marital status and education when examining parenthood trends. Policies supporting family planning and parenthood should consider the different needs and circumstances of single, married, cohabiting, and formerly partnered individuals, especially their educational backgrounds. This understanding can help improve support systems to better assist individuals in making informed decisions about parenthood.

While this study offers valuable insights into the factors influencing men's transition to parenthood, it has several limitations that should be acknowledged. The present study focuses exclusively on biological parenthood, which excludes individuals who may have become parents through adoption, fostering, or other non-biological means such as stepparents. This limitation narrows the scope of our findings and does not account for many individuals' diverse pathways to parenthood. Research by (Di Nallo, 2016) highlights the growing prevalence of adoption, fostering and step-family as alternative

routes to parenthood, indicating that non-biological parenthood is a significant aspect of family formation that demands further exploration.

Moreover, our analysis does not differentiate between men who are childless by choice and those who are childless due to infertility or other health-related reasons. This distinction is crucial as the motivations and experiences of these two groups can be markedly different, potentially influencing their life routes in unique ways. Furthermore, the study does not consider the characteristics of the partners of the men included in this study. Partner characteristics such as age, educational attainment, socioeconomic status, and fertility can significantly impact decisions and opportunities related to parenthood. Future research should include partner data to understand better the factors influencing men's transition to parenthood.

This study does not include other factors that could influence the transition to parenthood, such as cultural norms, personal values, social support networks, and broader societal trends. These factors can strongly affect family planning decisions and could be explored in future research. Future research may also benefit from employing qualitative methods. I think that similar to the work of Hadly (2021), qualitative studies could provide deeper insights into men's personal experiences, societal pressures, and individual motivations behind decisions related to parenthood. Such an approach would complement our quantitative findings and help to build a better understanding of the complexities surrounding men's pathways to parenthood and childlessness.

Finally, although cultural expectations likely play a significant role in men's decisions regarding parenthood, the dataset used in this study does not contain direct measures of cultural attitudes or beliefs. Instead, variables such as education and ethnicity were used as light proxies for broader cultural norms. Future research could benefit from incorporating more explicit cultural indicators to better understand how norms and values influence family formation decisions

To sum up, this chapter highlights the importance of an approach to understanding parenthood dynamics. By acknowledging the different impacts of education and marital status, we can better support diverse family planning needs and foster stability and well-being across various demographic groups. Future research should continue to explore these relationships in greater detail, considering additional factors such as cultural norms, employment patterns, and policy contexts to understand family planning behaviour carefully.

# Chapter Two

## The Influence of Parenthood Status, Marital Status and Social Cohesion on Psychological Well-being: A Cross-Sectional Study of Middle-aged Men in the UK.

## 2.1 Introduction

The relationship between childlessness and well-being has been a centre of interest for researchers across various fields such as sociology, psychology and demography. Parenthood is a transformative life event that involves significant change and adjustments. This premise has shaped studies on how ageing without children may impact psychological well-being (Dykstra & Keizer, 2009; Keizer and Poortman, 2010; Hadley, 2021). It has long been assumed that children are the primary source of support for older individuals and form a central part of their social world.

As a result, we assume that childless individuals are somewhat disadvantaged because they are socially isolated, and having children offers a whole network for socialising with other parents (Dykstra & Keizer, 2009). This claim provides that parenthood strengthens social ties and cohesion by developing mutual support and cooperation between the family and community members.

However, many of these assumptions have been examined primarily in relation to women, and less is known about how these mechanisms function for men. Despite the increase in their number, childless men in the UK still need to be studied more, and the experiences and outcomes of their childlessness still need to be explored. Sources such as Hadley (2021, 2024) and Dykstra & Keizer (2009) emphasise the need for more research on childless men to fully understand the impact of childlessness across genders. They claim that literature has primarily focused on the experiences of childless women, leaving a gap in our knowledge regarding the consequences of childlessness for men (Hadley, 2021).

Gendered mechanisms, such as societal expectations around masculinity, fatherhood, and emotional stoicism, may play a unique role in shaping how men experience childlessness. Men may be less likely to seek emotional support and more reliant on partners and children for social connection, which can amplify the effects of childlessness (Hadley, 2021; Connell and Messerschmidt, 2005).

The UK has been seen as a unique case compared to other European contexts since it has experienced a decline in fertility rates and an increase in childless individuals (Berrington, 2017). This trend is

related to changing social norms, economic demands, and increased access to contraception (Cohen and Janicki-Deverts, 2009).

This paper investigates the experience and implications of childlessness among men in the UK, a relatively under-explored topic. The rising incidence of childlessness among middle-aged individuals introduces significant concerns about its potential effects on social and health services (Vicente & Guadalupe, 2022). Statistics reveal that life expectancy increases, and mortality rates are declining. As a result, the demand for social care among older adults is projected to escalate dramatically by 2041. However, the growth of the caregiver workforce is anticipated to occur at a much slower rate, which leads to what is often termed the "carer gap" (Wittenberg et al., 2018; Hadley, 2021). This scenario presents considerable challenges for future welfare systems, although the full implications remain largely unclear.

By examining the well-being of middle-aged individuals with and without children, this study seeks to illuminate policies that could enhance the lives of those without offspring while addressing some of the difficulties associated with an ageing population. Scholars such as Wittenberg et al. (2018), Kendig et al. (2017) and Hadley (2021) suggest that the connection between parenthood and well-being is quite intricate. They point out important questions about the extent to which childlessness would be linked with later-life well-being, which factors influence well-being and the strength of social connections among childless individuals compared to parents.

While this body of literature has shed light on the consequences of childlessness, much of it still centres on women's outcomes. Studies focusing on men often remain scarce, resulting in a limited understanding of how childlessness affects men's emotional health, social networks, and identity. This study directly addresses that gap by focusing on men's experiences.

However, prior studies report mixed results regarding the primary influence of childlessness on well-being. Some researchers suggest a negative link between childlessness and well-being for women

(Umberson, 2010), while other studies report a positive or insignificant relationship (Nomaguchi & Milkie, 2003; Koropeckyj-Cox, 2017).

In contrast, research on men shows varied findings. Some studies show a positive association between childlessness and well-being, while others find no significant relationship (Nomaguchi and Milkie, 2003; Wetherell and Howe, 2020) or even some harmful effect, as proposed by Dykstra and Keizer (2009). This suggests that childlessness does not impact all men in the same way, and gender-specific mechanisms, such as social stigma, reduced access to emotional support, or role expectations related to being a provider, may shape how childless men experience well-being.

In exploring the complicated consequences of childlessness on well-being, the above research has shown that the effects exhibit significant heterogeneity. While some studies have found that childless adults experience greater freedom and flexibility in their lives (Dykstra & Keizer, 2009), others have highlighted the potential negative consequences of childlessness, such as increased feelings of loneliness or social isolation (Umberson, 2010). In this regard, it is essential to note that the influence of childlessness seems intensely dependent on other factors. For instance, childlessness may interact with age to influence well-being. The negative impact of childlessness on well-being may be more significant among older rather than younger childless adults. The social and emotional transformations associated with ageing without offspring often become increasingly evident in later life (Koropeckyj-Cox and Pendell, 2007).

Gender is another critical factor influencing these outcomes. Studies have revealed that childlessness generally exerts a more pronounced effect on women's well-being than men's (Koropeckyj-Cox and Pendell, 2007; Hansen, 2020). This correlation is further moderated by marital status: married individuals tend to express a greater level of life satisfaction, whereas those who are both childless and single often report diminished levels (Hansen, 2020).

However, for men, the presence or absence of a partner may be especially influential, as men tend to rely more heavily on their spouses for emotional and social support than women do. Consequently, childless men who are also single may face an elevated risk of loneliness, isolation, and reduced well-being (Umberson & Montez, 2010; Dykstra & Keizer, 2009; Hadley, 2021).

It is essential to understand the role of social cohesion in the relationship between parenthood and well-being in order to develop effective policies and strategies that promote the well-being of individuals without children, particularly for men at later life stages (Rybińska and Morgan, 2019). In his article, Hardley (2021) argues that social cohesion is an essential factor that can significantly influence well-being, particularly for childless individuals who may rely more on broader social networks for support.

For men, who are often less socially embedded than women, these networks may be more fragile or insignificant, making strong cohesion particularly important (Dykstra and Keizer, 2009; Kendig et al., 2007). The literature shows that childless men are at a disadvantage compared to fathers, with weaker social connections and isolation contributing to adverse outcomes such as depression and anxiety (Hansen et al., 2009; Bures et al., 2009). Nevertheless, the strength of social connections and cohesion can vary based on individual circumstances and cultural norms (Helliwell and Aknin, 2018). Therefore, examining the role of social cohesion can shed light on how social connections influence the well-being of childless men and fathers. Consequently, academic research and policy development must examine the moderation effect of social cohesion on the relationship between parenthood and well-being for men in the UK- which is the primary context of this chapter.

Using a life course perspective, the present study associates parenthood status and marital status with social cohesion and subjective psychological well-being in mid-life men in the UK. The focus is on men in their mid-life stage, as it is essential to explore their experience, given that they are more likely to encounter unique challenges related to social norms and expectations about parenthood, as well as

potential feelings of isolation and stigmatisation. Furthermore, they will eventually form the older adult population, and therefore, understanding their experiences can help provide specific policies that might enhance their well-being in later life.

I use Wave 3 of the Understanding Society: UK Household Longitudinal Study (UKHLS) data for this analysis, which was collected in 2011. Despite being collected over a decade ago, this wave of the UKHLS provides comprehensive information relevant to the research objectives, including detailed measures of parenthood status, marital status, social cohesion, and psychological well-being.

The study reveals that childlessness per se significantly reduces subjective well-being, but this relationship becomes insignificant when control variables are introduced to the analysis. Furthermore, results show that being married, cohabited, or formally partnered was positively associated with well-being compared to being single or never married. More importantly, we found that married and childless men have lower well-being levels than single ones. The results show that the positive association between social cohesion and well-being did not differ significantly between parents and childless men. These findings help demonstrate the importance of parenthood and marital status in understanding the well-being of middle-aged men in the UK.

## 2. 2. Theoretical Background and Hypotheses

### 2.2.1 The Association Between Parenthood Status and Well-being

The association between parenthood and well-being has been the attention of academics examining whether having children would affect the mental health of their parents (Nomaguchi and Milkie, 2020. Cohen and Janicki-Deverts, 2009). Although recent research focuses primarily on the effects of parenting on the well-being of parents, there remains an underlying assumption that being a parent, compared to remaining childless, influences well-being. Some studies suggested that having children is positively associated with the well-being of the parents (Kreyenfeld and Konietzka, 2017; Grundy et al., 2019). However, some studies have contradicted this finding and found that childless individuals

are less stressed than parents at older ages (Dykstra and Keizer, 2009). Several recent studies have explicitly compared the well-being of parents and the childless in later life (See, for example, Keizer et al., 2010). This issue is more relevant now because of increasing longevity, lower marriage rates, and increasing numbers of childless individuals—a combination of factors that may contribute to more isolation and distress in older populations. As Grundy et al. (2019) have pointed out, challenges for the ageing individual in later life, such as health deterioration and financial struggles, may play an essential role in reporting bad mental health for this group of individuals. However, having close family relations and having children may alter these difficulties for them.

In contrast, other studies, such as the work of Umberson et al. (2010); and Nomaguchi and Milkie (2003) suggest that parenthood can be seen as a source of stress, especially in the early years when children require extensive attention and care. Such parenthood responsibilities can lead to exhaustion, frustration, and being overwhelmed, resulting in a long-lasting impact on well-being. Such impact is even greater on the well-being of parents who are single or those who are socially or economically disadvantaged. For instance, Evenson and Simon (2005) illustrated how parents, especially those juggling work and family responsibilities, often report higher levels of stress and lower levels of happiness compared to their childless peers. Therefore, while parenthood has the potential to enhance well-being, it also presents challenges that can have a profound impact on this relationship (Nomaguchi and Milkie, 2003; Dykstra and Keizer, 2009).

In addition to generating a mixed and inconclusive result, prior studies on the relationship between parenthood and well-being have been exclusively focused on the well-being of women, with a few exceptions. Hadley (2011), for instance, conducted in-depth interviews with ten men aged 33 to 60 who were childless due to infertility. The study found that men's desire for fatherhood was strongest in their 30s, gradually fading with age but never fully going away. Many of these men felt like "outsiders" to family, social, and work settings. Moreover, men in their sample have reported feeling loss, depression, isolation, and a high risk-taking behaviour, which is similar to those feelings reported

by people in infertility treatments. The author has also reported that such feelings do fade over time as individuals adjust how they see themselves emotionally, psychologically, and socially. In a more recent study, Hadley (2022) explored the experience of involuntary childlessness among British men. The in-depth interviews with 14 men aged 49 to 82 revealed how various factors, such as personal agency, biology, financial situation, health, relationships, and broader social-cultural forces intersect in these men's lives. Based on their findings, Hadley suggests that involuntary childlessness is understood as a complex form of "loss". This has been confirmed by other studies reporting that the psychological distress of childless people can be compared to that experienced by people with severe medical conditions. Such findings challenge the stereotypical view that men are not interested in having children and suggest that childlessness is a significant factor in older men's health and well-being (ibid).

In a similar study, Huijts et al. (2013) examined the association between childlessness and psychological well-being across 24 European countries, including the UK. The study reveals that the association between well-being and childlessness is weaker for men aged 40. Such association, according to the authors, is weaker in countries with higher levels of social contact and more tolerance toward childlessness, suggesting that the broader societal context moderates the impact of childlessness on wellbeing.

In contrast, some other studies found no association between childlessness and well-being for both men and women. For example, using the first wave of the Norwegian Life Course, Ageing and Generations among men and women aged 40–80, Hansen et al. (2009) examined this association. Their findings suggest that the subjective well-being and life satisfaction of childless individuals, especially men, do not differ significantly from those who have children. Such findings have also been supported by the findings of Koropeckyj-Cox (1998), who utilised a sample from the 1988 National Survey of Families and Households. In their study, Koropeckyj-Cox (1998) examined the relationship between childlessness and two aspects of psychological well-being (i.e., loneliness and depression). The results

show that childlessness has no significant direct effect on well-being for men but a slightly substantial effect on women. The author has also reported slight but notable differences when considering the marital and parental statuses together. However, Although the trends appear consistent, this does not imply that childless individuals experience the same emotional state. It is essential to acknowledge that these results may vary due to significant differences in individual experiences.

Another interesting work was done by Zhang and Hayward (2011), who examined the impact of childlessness on psychological well-being. Data from the 1993 Asset and Health Dynamics Among the Oldest Old survey AHEAD revealed that childlessness has no impact on the well-being of divorced, widowed, or never-married elderly individuals. Suggesting that other factors have a moderating effect on the relationship between childlessness and well-being.

To this end, the findings of prior studies reveal the complexity of the association between childlessness and well-being. Such inconsistent findings suggest that other factors, alongside childlessness, such as the differences in social support networks, cultural norms, personal experiences, and expectations, can all influence men's well-being. Moreover, such inconsistent findings can also be attributed to the sample variations, sample characteristics, and the methodological choices of prior studies.

To contribute to this debate, the current study holds the view that children provide support to their parents in addressing loneliness. Hence, it can be hypothesised that:

***H*$_1$***: Childlessness is negatively associated with well-being for middle-aged men in the UK.*

**2. 2.2 The Moderating Effect of Marital Status.**

As discussed above, the relationship between parenthood and well-being is shaped by various factors, including, for instance, marital status, personal values, and cultural expectations (Kohler et al., 2005; Rothrauff and Cooney, 2008; Albertini and Arpino, 2018). Prior research, however, has yet to reach an agreement on the nature and the magnitude of the influence such factors have on the relationship

between parenthood and well-being. On one hand, Dykstra and Keizer (2009), for instance, explain that for both men and women, choosing to remain childless can be seen as a positive and fulfilling decision that supports their overall well-being. Childless individuals may, in fact, have more time and freedom to pursue their ambitions and interests and would likely be under less stress and financial strain than those who are parents (ibid). Conversely, not having children can lead to feelings of loneliness, social isolation, and a sense of unfulfillment. And cultures stigmatise childlessness or view it as a failure to comply with societal expectations (Zhang & Hayward, 2001; Koksal, 2022).

Middle-aged men in the UK, the focus of this study, are no different. The dynamics of the relationship between childlessness and well-being for men in the UK is complex and can be influenced by multiple factors. While some studies suggest that childless men report better life satisfaction and well-being, others indicate that childless men may experience social isolation and lower well-being (Dykstra and Keizer, 2009; Koksal, 2022). Suggesting that the experience of childlessness varies greatly depending on individual circumstances, marriage and economic status, as well as the availability of social support. Such factors, alongside parenthood status, have a profound impact on the well-being of middle-aged men (Kohler et al., 2005; Rothrauff and Cooney, 2008; Albertini and Arpino, 2018).

One important factor, marital status, is often seen to co-relate with childlessness and well-being, resulting in a complex structure. Among men, marriage is consistently associated with improved psychosocial well-being compared to being single, divorced, or widowed (Williams et al., 2011; Eggebeen, 2005). However, the gendered dynamics of these associations merit closer examination. Marriage is generally perceived to offer emotional support, companionship, and financial stability (Williams et al., 2011; Hank and Wagner, 2013; and Eggebeen, 2005). Married couples share the responsibilities associated with child-rearing, which reduces stress and increases satisfaction. Conversely, single parents are overwhelmed by the dual demands of work and child-rearing, having no one to share this burden with can potentially leads to lower well-being.

Still, some argue that childless married individuals can still benefit from the emotional and social support that comes with a partnership, which can buffer the negative feelings of loneliness or social isolation often associated with childlessness (Eggebeen, 2005; Wetherell and Howe, 2020). Accordingly, childless individuals who are also single may experience a double disadvantage, lacking both the emotional support typically derived from a partner and the social roles or fulfilment associated with parenthood.

However, such contradictory views have often led to inconsistent findings and have been rarely tested - to begin with- in prior empirical literature, with a few noticeable exceptions. Kohler et al. (2005), for instance, investigate the relationship between childlessness and life satisfaction, focusing specifically on the moderating effect of marital status. Their findings show that childlessness does not have an effect on men's well-being. However, childless married individuals reported lower life satisfaction levels than married individuals with children. The authors suggest that the absence of children may result in a greater sense of low societal expectations, leading to decreased well-being for married individuals.

Zhang and Hayward (2001) analysed data from individuals aged 70 and older. The authors concluded that the effects of childlessness on well-being are apparent only within the context of marital status and gender for US citizens aged 70 and over. In essence, according to Zhang and Hayward (2001), childlessness is associated with higher rates of depression and loneliness, but only for unmarried men. While Graham (2015) highlights how childlessness interacts with marital history to influence well-being among Australian women, similar gendered patterns may exist for men, particularly in contexts of divorce or widowhood. However, further exploration specific to men is needed.

Studies such as Graham (2015) show that the impact of childlessness varies based on marital history. While much of this evidence focuses on women, similar patterns may be expected for men, particularly when childlessness is combined with divorce or widowhood.

Consistent with findings from the USA and Australia, a cross-national study based on data from Finland and the Netherlands reveals that formerly married, childless men have reported poor health (Kendig et al., 2007).

Fewer studies have investigated these relationships for men, but Eggebeen (2005) found that fathers maintain stronger social connections and attachment to the labour force compared to childless men, highlighting potential gender-specific dynamics.

Rindfuss and VandenHeuvel (1990) also report that married and cohabiting men have higher physical health and psychological well-being levels than their single male counterparts.

Several studies have highlighted the fact that the relationship between childlessness, marital status, and well-being is not homogeneous across all cultures, encouraging the use of sociocultural models to understand such complex relationships (Hadley, 2022; Kendig et al., 2007). Nevertheless, only a limited body of research has studied the effect of childlessness and marital status in shaping well-being among men in the UK. Within the UK context and in a related study, Gubrium (2009) suggest that being both childless and unmarried increases the likelihood of social isolation and reduces social support, negatively impacting mental health and, hence, overall well-being. However, further research is needed to better understand the complex interplay between these factors and their impact on men's well-being in the UK.

To contribute to this debate, the present study holds the view that marriage provides emotional, social and psychological benefits for middle-aged men in the UK. Married men might benefit from having a partner and experience great emotional support, and less societal pressure. All of which can reduce the negative effects of being childless. Thereby the study hypothesis is as follows:

***H*$_2$**: The negative association between childlessness and well-being is less pronounced for married middle-aged UK men compared to their single counterparts.

## 2. 2.3 The Moderating Role of Social Cohesion

Another important factor – social networks and cohesion – is also seen to moderate the relationship between childlessness and well-being among men. In this regard, social cohesion refers to the degree to which members of society feel connected to one another and feel a sense of shared identity and purpose; and it operates within the individual, household, or community level (Helliwell and Putnam, 2004; Portela and Salinas-Jiménez, 2013; Helliwell and Aknin, 2018).

Many studies have found a positive association between measures of social cohesion and individuals' well-being. For example, a survey by Ehsan et al. (2019) offers a comprehensive overview of the existing literature on the relationship between social capital and health. The authors conducted a systematic review of previous studies published between 2000 and 2017. The results indicate that there is a positive association of social capital with various aspects of health, including physical health, mental health, and overall well-being. Such findings suggest that individuals who have strong social connections, trusting relationships, and a sense of belonging are less likely to feel less isolated and more likely to receive social support. This can lead to decreased stress, improved mental health, and greater life satisfaction.

Similarly, Giordano and Lindström (2011) examine the relationship between social capital and changes in psychological health over time. Using the longitudinal data from a sample of Swedish adults, they found that individuals with higher levels of social capital tend to experience better psychological health outcomes over time, even after controlling for various demographic and socioeconomic factors. However, these studies often adopt a gender-neutral approach, overlooking how social cohesion operates differently for men, especially those without children (Dykstra and Keizer, 2009; Hadley, 2021).

Accordingly, social cohesion can moderate the relationship between childlessness and well-being. In essence, being childless may lead to loneliness and social isolation, negatively affecting well-being

(Koropeckyj-Cox, 2002; Koksal, 2022). However, for men, more robust social networks, community ties, and supportive relationships can lessen these adverse effects since they provide the needed emotional support and companionship (Quashie et al., 2021). Therefore, the relationship between childlessness and well-being is complex and moderated by the presence and quality of social connections (Koropeckyj-Cox, 2002; Kohler et al., 2005; Rothrauff and Cooney, 2008; Dykstra and Keizer, 2009; Albertini and Arpino, 2018, Quashie et al., 2021).

Research on this topic, including Dykstra and Keizer (2009), finds that social isolation is one of the most essential variables that predict variation in the well-being of childless individuals. In a related study, Dykstra and Hagestad (2007) suggest that childless individuals have a weaker support network than parents, resulting in lower levels of well-being. This issue may be especially pronounced for men, who often rely more heavily on partners and children for emotional support, and may have smaller and less emotionally expressive friendship networks (Umberson and Montez, 2010; Kendig et al., 2007).

Similarly, a German study by Schnettler and Wöhler (2016) examines how the presence or absence of children influences individuals' personal and support networks at older ages. The authors surveyed individuals aged 40 to 85, analysing their social networks in terms of size, diversity, and frequency of contact with various ties such as family, friends, neighbours, and colleagues. The results reveal that childless individuals have more diversified personal networks than parents, including relatively more non-kin ties such as friends, neighbours, and colleagues. However, parents tend to have more regular and meaningful contact with family members, especially their adult children, who often become a key support source as they age.

In a more recent and gender-specific study, Hadley (2021) explores the social networks of involuntarily childless older British men and explains how they build and maintain social connections. The study finds that these men often engage in group activities to create substitute support systems, such as

volunteering or joining clubs, to combat loneliness. However, these relationships may be less emotionally intimate than kin-based support.

Taking a broader perspective, a recent study conducted by Vicente and Guadalupe (2022) explores the relationship between childlessness, personal social networks, and well-being among older adults in a Southern European country with a robust family-oriented welfare system. The study found that childless older adults had smaller social networks than those with children and were less likely to have close relationships with family members. However, childlessness had no significant impact on overall well-being. While the study did not examine whether social networks moderate the relationship between childlessness and well-being, it provides valuable insight into the importance of personal social networks for the well-being of older adults in a Southern European environment.

To this end, it can be inferred that individuals without children typically exhibit more extensive and diverse social networks (Wöhler, 2016; Hadley, 2021). Indeed, the absence of children among childless individuals allows for greater flexibility and availability to invest in personal relationships. However, for men, this diversification may not fully compensate for the absence of close kin-based ties that are often crucial for emotional and practical support in later life (Dykstra and Keizer, 2009)

Accordingly, the current study holds the view that childless men rely on broader social networks to mitigate the negative effects of childlessness (Schnettler and Wöhler, 2016), but the depth and reliability of these networks may vary.

Hence, it can be hypothesised that:

**$H_3$:** *The positive association between social cohesion and well-being is more pronounced for married middle-aged UK men compared to those who have children.*

Below is a table (Table 2. 1) that lists all the hypotheses suggested in this study and the anticipated direction of the association.

**Table 2. 1** Hypotheses of the association between parenthood, social cohesion, and well-being for middle-aged men.

| Hypothesis | Independent Variables | Dependent Variable | Hypothesised Relationship |
|---|---|---|---|
| **H1** | Childless (Ref: Parents) | Well-being | - |
| **H2** | Childless (Ref: Parents) × Married (Ref: Single) | Well-being | + |
| **H3** | Social Cohesion × Childless (Ref: Parents) | Well-being | + |

*Ref: Reference Category*

## *2.* 3. Materials and Methods

### 2. 3.1 Data and Sample

I use Wave 3, 2011 data from the Understanding Society UKHLS - the UK. Household Longitudinal Studies, compiled by the Institute for Social and Economic Research (ISER) at the University of Essex. This wave seems especially relevant because it offers comprehensive coverage of the data on childlessness, incorporating a wide range of variables related to well-being, fertility, and aspects that reflect social cohesion. This allows for a detailed analysis of factors contributing to childlessness, such as educational attainment, income, and marital status.

Although Wave 3 was collected over a decade ago, it remains highly relevant for this analysis due to the stable nature of the critical constructs under examination—parenthood status, marital status, and psychological well-being. While subject to gradual societal shifts, these factors do not experience rapid changes, allowing insights from the 2011 data to remain relevant today. Furthermore, Wave 3 provides a comprehensive set of variables crucial for exploring the interplay between parenthood and well-being, particularly concerning social cohesion. The richness of this dataset offers a depth of analysis that may not be as readily available in more recent waves.

The study defines childlessness as not having any biological children and considers it a permanent status after age 45. The age threshold is set at this point due to the limited number of men (n=39- less than 2%) who had their first child after age 45 in the data.

The sample selection process is illustrated in Figure 2. 1. The figure shows that the total number of males participating in Wave 3 (2011) is 34,097. As mentioned, the study recognises the age of 45 as the point where men are permanently childless. As a result, 20,618 participants were omitted because

they were younger than the age threshold. Furthermore, the sample consists of individuals born in different cohorts (the oldest born around the 1940s). Therefore, the differences in life expectancy between individuals may generate a survival effect bias. Hence, an upper age limit is set at 69 years to avoid such a bias. This step results in excluding 3,254 more individuals. The total number of excluded cases due to age restriction is 23,872.

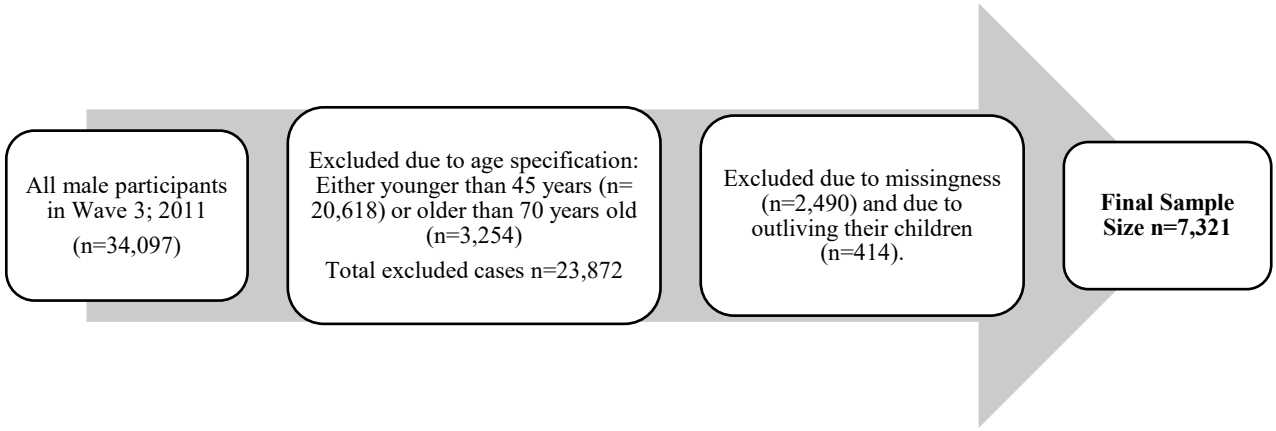



***Figure 2.1*** Sample Selection Process

Furthermore, respondents who outlived their children were excluded from the analysis (n = 414), as their experience of childlessness involves very different emotional and social adaptations compared to individuals who never had children by choice or circumstance. This group is likely to exhibit distinct well-being outcomes and was therefore not included.

The final step in the sample selection process involved applying listwise deletion, excluding all cases with missing data on covariates. This resulted in the removal of 2,490 observations, leaving a final analytic sample of 7,321 men aged 45 and over in 2011.

It should be noted that while this study uses listwise deletion to handle missing data, this approach may introduce bias if data are not missing at random. For example, individuals with lower levels of subjective well-being may be less likely to complete survey items, leading to their systematic exclusion. An alternative approach- such as including flag indicators (dummy variables) for missing data on key covariates- would retain more cases and account for missingness. Although this method is

not implemented here, it may be considered in future analyses or journal submissions to enhance inclusivity and reduce bias.

### 2. 3.2 Variables

#### 2. 3.2.1 Dependent Variables

**Subjective Well-being GHQ**

This measurement converts the valid answers to 12 questions from the General Health Questionnaire (GHQ) into a single scale, allowing the scale for individual variables to run from 0 to 3 instead of 1 to 4 and then sums up the answers. As a result, a scale running from 0 (the least distressed) to 36 (the most distressed) is generated. It is a brief, reliable, and valid version of the original 36-item questionnaire that helps evaluate subjective well-being (Cox et al., 1987; Vieweg and Hedlund, 1983). The 12 items used to construct the GHQ scale are listed in the Appendix See note 1). For simplicity of interpretation, the GHQ variable is reverse-coded, meaning that lower values indicate adverse outcomes and higher values indicate positive outcomes.

#### 2. 3.2.2 Explanatory Variables

**Parenthood Status**

The primary explanatory variable is the parenthood status. The study differentiates between those who are fathers and those who are childless. According to the data, the number of childless men aged 45 and over is 1,140 (15.6%). The study uses a dummy variable where 1 indicates those who are childless and 0 indicates those who are fathers.

**Marital Status**

The current marital status of the respondents is captured using a definite measure. The measure has four categories: 1 "Single or Never Married; 2 "Married, Same-sex civil partner"; 3 "Cohabited"; and 4 "Formerly Partnered" to include those who were separated, divorced or widowed and those who reported being separated but legally still married, comprising 2% of the sample.

**Social Cohesion**

This study aims to measure social cohesion by aggregating eight variables that are believed to be relevant to the concept. All items on the scale are equally rated, with lower values indicating negative opinions and higher values indicating positive opinions. Respondents were asked whether they agreed or disagreed with the following statements: "This is a close-knit neighbourhood," "People in this neighbourhood are willing to help their neighbours," "People in this neighbourhood can be trusted," "People in this neighbourhood don't get along with each other," "I feel like I belong to this neighbourhood," "I talk regularly to my neighbours," "I am willing to work to improve my neighbourhood," and "I can borrow things from my neighbours." The Cronbach's alpha for the scale was 0.81. More details are available in the appendixes, where the study presents the correlation table (Table B.1).

**2.3.2.3 Control Variables**

To reduce the potential confounding influence of other variables on the findings, I consider various factors that may be associated with parenthood, social cohesion, and psychological well-being. These control variables are family ties, education, employment status, ethnicity, and household income.

Family ties in this study refer specifically to the frequency and quality of interactions with close relatives, such as parents, siblings, or adult children. This measure captures familial support and emotional closeness, which is distinct from broader social cohesion based on neighbourhood or community-level networks. This clarification ensures conceptual separation, supporting clearer interpretation of the model findings.

Family relationships provide social support, which is known to influence mental health and life satisfaction (Gilligan, 2015). Moreover, parenthood and marital status are closely tied to family ties, influencing family dynamics and social interactions (Martire and Franks, 2014).

Controlling for participant's age is essential, given its strong link to health and well-being (Steptoe et al., 2015). Studies frequently reveal a U-shaped relationship between age and well-being: individuals generally experience higher well-being in early adulthood, face a decline in midlife due to typical pressures around work and family, and experience improvement later in life. Additionally, age is closely tied to parenthood, with older individuals more likely to have children than younger adults.

Education and employment status are also associated with socioeconomic status and employment opportunities, influencing well-being (Knoester & Eggebeen, 2006; Dykstra and Keizer, 2009). Moreover, controlling for ethnicity as a variable in the study is essential to account for potential differences in experiences, cultural norms, and social contexts associated with different ethnic groups. Ethnicity can influence social cohesion, family dynamics, and individuals' well-being through various mechanisms, including cultural values, traditions, discrimination, and access to resources (Williams and Mohammed, 2009). By controlling for these factors, the unique effects of parenthood, marital status, and social cohesion on well-being can be examined independently of the broader family context, thus providing a more accurate understanding of the factors influencing middle-aged men's well-being. These factors are measured as follows:

*Family Ties Scale*: Family ties encompass aspects like emotional closeness, regular communication, and mutual support between family members, which play an essential role in well-being and social connectedness (Gilligan, 2015). We use two measures of family ties, including how often respondents contact their parents and the support they exchange with them.

First, we use information to capture the communication between the mother and father to determine the frequency of contact with parents. Answers include face-to-face, phone calls, emails, letters, or through Skype or webcam. Participants who reported that both parents were deceased were assigned a value of 0. Thus, the categories become 0 for no contact (both parents deceased/never), 1 for several times per year/less often, 2 for at least once per month, and 3 for daily or once a week.

Second, we capture the level of support exchange between respondents and their parents by posing two specific questions: "Nowadays, do you regularly or frequently do any of these things for your parent(s)?" and "And do you regularly or frequently receive any of these things from your parent(s)?" The answers to both questions include various types of support, such as housework and financial support. As before, participants who reported that both parents were deceased or that no support was provided or received were given a value of 0 on their support scale.

Finally, to measure the strength of family ties, the frequency of contact with parents and the level of support provided and received are combined into a single scale where lower values denote the low level of family ties, and higher values mean the opposite. The Cronbach's alpha coefficient for these measures is $\alpha = .70$, suggesting a solid internal consistency. Table B.2 in the appendix further explains the construction of the family scale with a list of all items included.

*Age:* The age of the participants is a continuous measure that ranges from 45 to 69 years old.

*Education:* The highest educational level ever obtained was used to assess the educational attainment of the sample. The original variable[6] was used to distinguish between five categories. The study categorised educational qualifications into five distinct groups to better capture differences in well-being outcomes across levels. These categories were: (1) Degree, (2) Other Higher Education, (3) A-Level or Equivalent, (4) GCSE or Other Qualifications, and (5) No Qualification.

*Current Employment*: National Statistics Socioeconomic Classification (NS-SEC) is used to identify the current employment status. The NS-SEC has eight categorical classifications of current job status. No code is assigned to those who are not currently employed. It should be noted that the current job refers to being in paid employment during the last week, even if the respondent was away from work

[6] The original variable of educational attainment included the following categories: (1) "Postsecondary tertiary": to include "Higher degree," (2) "Other Postsecondary" including "1st degree or equivalent; (3) "A-level" those who completed their secondary school at around 16 or 18, including Welsh baccalaureate", International baccalaureate, AS-level, and higher Scot; and NVQ, (4) "Less than A-level": to include those who have a certificate with six-years study, "NVQ3/CSEE /GCSE/O level", "CSE grade B to D", "Standard/O-level/NVQ 1&2", "other school," (5) "No qualification": The last category is classified to include those with no educational attainment.

that week. In this study, the NS-SEC categories are recorded and have now only four categories, namely: 1) Managerial & professional, including large employers & higher management; Higher professional; Lower management & professional (2) intermediate- including Intermediate; Small employers & own account; Lower supervisory & technical, and (3) Routine and semi-routine. Another category is added to include those who are currently not working.

*Ethnicity:* The ethnicity groups in this dataset are classified into 18 categories. Having examined the frequency of each category, most answers in the sample refer to "white British." However, there are also cases where the count in some categories is relatively small. Hence, the study combines the other classes to form a new variable with five ethnic groups. The newly created variable "ethnicity" has five categories: (1) White: British; English; Scottish; Welsh; Northern; Irish; gypsy or Irish traveller; or any other white background; (2) Mixed: white and black Caribbean, white and black African white and Asian, any other mixed background; (3) Asian: Indian, Pakistani, Bangladeshi, Chinese, any other Asian background, (4) Black; African; Caribbean; Black British: including Caribbean, African, any other black background, and (5) Other ethnic groups consisting of Arabs or any others ethnic group.

*Gross Household Income*: Household income is measured using five income quintiles. The first category represents the lower income quintile, whereas the last category corresponds to the highest.

*Employment Discontinuity*: As much as possible, the study uses retrospective information on the employment history of the individuals included. Employment discontinuity is measured using retrospective information of reported unemployment and non-employment spells. Initially, both sets of information were combined to capture when one was not working. Afterwards, the information collected in Waves 1 was used to construct gap measures based on employment status, such as those who stated that they never worked or retired. Subsequently, information on any reported unemployment spell was used to calculate the gap length (years and months). A dichotomous variable was created to set the gap to 0 if the respondent reported no gaps and 1 if there was at least one gap

longer than six months since they started their first job. Finally, reasons for non-employment were reported as unemployed, looking after family or home, long-term sick or disabled, national Service/war Service, and unspecified reasons that were labelled under "Something else". Training spells were treated as being employed.

**2 .3 Method and Descriptive Statistics**

Ordinary least-squares (OLS) linear regression with robust standard error[7] It is used to estimate subjective well-being outcomes. All statistical analysis was performed using Stata version 18. The descriptive statistics for the variables are presented in Table 2.2 below. The table shows that 70% of middle-aged men in the sample were married.

In terms of education, 25% of the participants held a university degree, 11% had other forms of higher education, 21% held A-level qualifications, 31% had GCSEs or other qualifications, and 12% had no qualifications. Moreover, 35% of the middle-aged men were currently not working. Regarding ethnicity, the majority (91%) of the sample identified as White. Regarding household income, the highest income quintile accounted for 28% of the participants. Additionally, the well-being indicator demonstrated a mean score of 25.4, highlighting this sample's overall average well-being level.

[7] The study uses robust standard errors to ensure more accurate statistical analysis by addressing potential issues like varying variance and correlation that may violate ordinary least squares regression assumptions.

**Table 2. 2 Descriptive Statistics**

| | Mean | SD | Min | Max |
|---|---|---|---|---|
| Childless | 0.28 | 0.45 | 0 | 1 |
| Parents | 0.72 | 0.45 | 0 | 1 |
| **Education** | | | | |
| Degree | 0.25 | 0.43 | 0 | 1 |
| Other Degree | 0.11 | 0.31 | 0 | 1 |
| A-Level or equivalent | 0.21 | 0.41 | 0 | 1 |
| GCSE or Other qualification | 0.31 | 0.46 | 0 | 1 |
| No Qualification | 0.12 | 0.33 | 0 | 1 |
| **Marital Status** | | | | |
| Single | 0.09 | 0.29 | 0 | 1 |
| Married | 0.70 | 0.45 | 0 | 1 |
| Cohabited | 0.09 | 0.28 | 0 | 1 |
| Formerly Partnered | 0.12 | 0.32 | 0 | 1 |
| **Job Status** | | | | |
| Managerial | 0.27 | 0.44 | 0 | 1 |
| Middle | 0 .21 | 0.40 | 0 | 1 |
| Sem Routine/ Routine | 0.15 | 0.36 | 0 | 1 |
| Currently not working | 0.35 | 0 .47 | 0 | 1 |
| **Ethnicity** | | | | |
| White | 0.91 | 0.28 | 0 | 1 |
| Mixed | 0.01 | 0.08 | 0 | 1 |
| Asian | 0.04 | 0 .20 | 0 | 1 |
| Black | 0.02 | 0.16 | 0 | 1 |
| Other Ethnic group | 0.01 | 0.07 | 0 | 1 |
| **Household Income** | | | | |
| Lowest | 0.12 | 0.32 | 0 | 1 |
| 2nd quintile | 0.15 | 0.36 | 0 | 1 |
| 3rd quintile | 0.19 | 0.39 | 0 | 1 |
| 4th quintile | 0.23 | 0.42 | 0 | 1 |
| Highest income quintile | 0.28 | 0.45 | 0 | 1 |
| **Job Disruption** | | | | |
| No | 0.65 | 0.47 | 0 | 1 |
| Yes | 0.34 | 0.47 | 0 | 1 |
| **Well-being** | 25.4 | 5.19 | 0 | 36 |
| **Family ties** | 0.12 | 0.85 | 0 | 7 |
| **Social Cohesion** | 2.76 | 0.55 | 1 | 5 |
| **Age** | 56.3 | 7.20 | 45 | 69 |

*SD standard Deviation: Min minimum; Max maximum; Total sample size: 7321.*

## 2.4. Results

The initial analysis examines the association between childlessness and subjective well-being; results are presented in Table 2.3, Model 1. Next, the study augments the previously fitted model by adding the control variables, and the results are presented in Model 2 (see Table B.3 Appendix for complete and detailed results). In Model 1, childlessness is associated with a lower well-being score, with a coefficient of B=-0.230 (SE=0.170, $p > 0.05$), though the result is statistically insignificant. This suggests that childless men, on average, report lower well-being than those with children.

When we add the control variables to the analysis (Model 2), the results show that childlessness is associated with an increase in well-being (B=0.378, SE=0.180, $p < 0.05$). The results can be interpreted as childless men have significantly higher well-being than parents by 0.378 points. This suggests that, under certain conditions, childlessness may indeed be linked to lower well-being, highlighting potential differences that only emerge when other factors are considered.

Factors included in Model 2 explain 7.13% of the variance in well-being (as indicated by the $R^2$ value). Although this value improved from Model 1, it suggests that many other factors not included in the model will likely influence well-being.

In this study, we proposed that childlessness will be negatively associated with well-being for men in the analysis. While Model 1 shows an insignificant association, Model 2 presents a significant positive association when adding the control variables to the analysis. As a result, we can conclude that childlessness is positively associated with well-being for middle-aged men in the UK, and thus H1 is not supported.

**Table 2. 3.** Association between childless and well-being with and without controls

| | **(Model 1)** | **(Model 2)** |
|---|---|---|
| | **B (SE)** | **B (SE)** |
| **Childless (Ref: Parents)** | -0.230 | 0.378* |
| | (0.170) | (0.180) |
| Controls Variables | No | Yes |
| Constant | 25.444*** | 16.475*** |
| | (0.066) | (0.673) |
| $R^2$ | 0.0003 | 0.0713 |
| Observations | **7321** | **7321** |

Unstandardised coefficients control family ties, marital status, education, current employment, ethnicity, gross household income, age, and employment discontinuity. Significance level * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; REF: Reference category; Robust standard errors in parentheses.

The next step of the analysis involves examining the association between marital status and well-being and their interaction. This is achieved by fitting a model that includes marital and parenthood status as predictor variables (Model 3). A separate model estimates the role of the interaction term between the marital status and parenthood variable (Model 4). Including the interaction term in the model is essential for examining whether the association between having children and well-being

varies based on marital status- finally, (Model 5) augments Model 4 with addition to the control variables. Table 2. 4 presents the results of the three models (see Table B.4 Appendix for complete and detailed results).

Model 3 reveals a positive, though statistically insignificant, association between childlessness and well-being (B= 0.220, SE= 0.182, $p>0.05$), controlling for marital status. This lack of significance indicates that, within this model, well-being scores do not differ meaningfully between parents and childless men, even when accounting for marital status. These findings suggest that childlessness, on its own, may not strongly influence well-being in this sample. The model also shows that married or cohabited men score higher in their well-being compared to those who are single, controlling for parenthood status. Moreover, those who were formally partnered have no significant differences compared to those who are single in their subjective well-being.

As presented in Table 2. 4, Models 4 and 5, childlessness has no significant association with well-being across any models. Marriage, however, significantly boosts well-being compared to being single (Model 4), though this effect weakens once additional control variables are introduced in Model 5. Furthermore, the interaction between childlessness and marital status is not significant. This indicates that the association between childlessness and well-being does not significantly vary across marital statuses. In other words, being childless does not impact well-being differently, considering whether someone is married, cohabited, or formerly partnered. Therefore, the findings do not support Hypothesis 2 (H2).

The $R^2$ of the final model (Model 5) is 0.0715, indicating that parenthood, marital status, and control variables explain approximately 7.15% of the variance in well-being. We understand from the findings that well-being is shaped by a complex mix of socioeconomic and health factors rather than marital and parenthood status.

**Table 2. 4** The interaction term between marital status and parenthood on well-being, with and without controls

| | **(Model 3)** | **(Model 4)** | **(Model 5)** |
|---|---|---|---|
| | **B (SE)** | **B (SE)** | **B (SE)** |
| **Childless (Ref: Parents)** | 0.220 | 0.422 | 0.491 |
| | (0.182) | (0.459) | (0.439) |
| **Marital Status (Ref: Single)** | | | |
| Married | 1.438*** | 1.578*** | 0.418 |
| | (0.253) | (0.366) | (0.355) |
| Cohabited | 0.832** | 0.857* | 0.053 |
| | (0.310) | (0.429) | (0.414) |
| Formerly Partnered | 0.251 | 0.369 | -0.152 |
| | (0.307) | (0.414) | (0.390) |
| **Childless # Married** | | -0.401 | -0.297 |
| | | (0.515) | (0.492) |
| **Childless # cohabited** | | 0.233 | 0.413 |
| | | (0.654) | (0.634) |
| **Childless # Formerly Partnered** | | -0.169 | -0.104 |
| | | (0.713) | (0.683) |
| Control Variables | No | No | Yes |
| Constant | 24.268*** | 24.145*** | 16.415*** |
| | (0.250) | (0.359) | (0.717) |
| $R^2$ | **0.0100** | **0.0102** | **0.0715** |
| Observations | **7321** | **7321** | **7321** |

Unstandardised coefficients control family ties, marital status, education, current employment, ethnicity, gross household income, age, and employment discontinuity. Significance level * p < 0.05, ** p < 0.01, *** p <0.001; REF: Reference category; Robust standard errors in parentheses.

In the final stage of the analysis, we examine the association between social cohesion, parenthood, and well-being. Model 6, Table 2.5, presets the association between social cohesion and parenthood without control variables, while Model 7 augments the previous model by adding the interaction term between the two variables. Finally, Model 8 includes the control variables (see Table B.5 Appendix for complete and detailed results)

The results from Model 6 show no association between childlessness and well-being, controlling for the social cohesion factor. However, social cohesion presents a significant association with well-being and controlling for parenthood status, and these results are consistent across models.

Models 7 and 8 indicate that the interaction terms for social cohesion and parenthood are not statistically significant, meaning that social cohesion impacts well-being in the same way for both childless and parents. While social cohesion is essential in predicting well-being, this relationship does not appear to be influenced by whether someone has children in this sample. Put differently, social cohesion tends to enhance well-being equally across both groups, without one group benefiting more than the other. Based on this, the findings do not support Hypothesis 3 (H3).

Finally, the $R^2$ of Model 8 shows that parenthood status, social cohesion and the control variables explain 9.6% of the variations in well-being, meaning that other factors influence someone's well-being other than parenthood and social cohesion factors.

**Table 2. 5** The interaction term between social cohesion and parenthood on wellbeing, with and without controls

| | **(Model 6)** | **(Model 7)** | **(Model 8)** |
|---|---|---|---|
| | **B (SE)** | **B (SE)** | **B (SE)** |
| **Childless (Ref: Parents)** | -0.131 | -0.365 | 0.552 |
| | (0.167) | (0.978) | (0.943) |
| **Social Cohesion** | 1.703*** | 1.687*** | 1.500*** |
| | (0.123) | (0.134) | (0.127) |
| **Childless # Social cohesion** | | 0.086 | -0.057 |
| | | (0.341) | (0.328) |
| Control Variables | No | No | Yes |
| Constant | 20.721*** | 20.764*** | 13.209*** |
| | (0.359) | (0.388) | (0.740) |
| $R^2$ | 0.0333 | 0.0335 | 0.0961 |
| Observations | **7321** | **7321** | **7321** |

Unstandardised coefficients control family ties, marital status, education, current employment, ethnicity, gross household income, age, and employment discontinuity. Significance level * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; REF: Reference category; Robust standard errors in parentheses.

## 2.5. Discussion and Limitations of the Study

The present study examines how parenthood, marital status, and social cohesion influence the subjective well-being of middle-aged men in the UK. While research often focuses on families and women, childless men remain underexplored (Dykstra and Keizer, 2009).

By centring on men's mid-life experiences, this study helps fill a notable gap in the literature. Although quantitative studies on this topic exist in countries like the Netherlands (Dykstra and Keizer, 2009;

Keizer, Dykstra, and Poortman, 2010), Australia (Parr, 2010), and Canda (Ravanera and Beaujot, 2014), this study offers a unique contribution by providing insight into the UK context.

In this research, we proposed that childishness might be linked to lower well-being among middle-aged men. Interestingly, the findings suggest that childlessness alone does not correspond to lower well-being; however, once demographic factors are considered, the association shifts to a positive and significant one. This finding is consistent with findings by Zhang & Hayward (2001). Still, it diverges from studies in the US (Quashie et al., 2021) and Portugal (Vicente & Guadalupe, 2022), where no significant differences in well-being were found between childless individuals and parents. The literature on childlessness and well-being offers mixed results. Studies indicate a negative link, while others show a positive association. This inconsistency suggests that factors beyond parental statuses, such as broader socioeconomic or life-course experiences, might more powerfully shape the well-being of middle-aged men (Penning, 2022). Nonetheless, the study's broader findings underscore the importance of marital status and social cohesion in understanding the well-being of middle-aged men in the UK.

One of the main contributions of this study is its focus on how marital status and social cohesion interact with parenthood among middle-aged men. Prior research has shown that marital status often influences the relationship between parenthood and well-being (Keizer et al., 2008), with married individuals reporting higher well-being than those who are single. The findings of this study are in light with Hansen et al. (2009) study, which suggests that marital status and parenthood independently affect well-being without weakening each other's impact. In simpler terms, being married or in a partnership tends to boost well-being whether or not a person has children, and childlessness does not seem to change the positive effect of marriage on well-being.

These findings challenge the common assumption that childless individuals' well-being would differ substantially depending on their marital status, as previous studies have suggested (Kendig et al., 2007;

Dykstra and Keizer, 2009; Williams et al., 2011). Instead, the results emphasise the importance of considering a wide range of influences- beyond parenthood or marital status-when studying well-being. One possible explanation is that, for childless individuals, the typical belief that marriage or parenthood is essential for well-being may not apply. Instead, they might experience fulfilment and life satisfaction through other areas, such as career, social network, or personal interests.

Marriage often brings emotional and social support that can boost well-being, regardless of whether people have children. For fathers, as noted before, marriage can enhance well-being through the emotional rewards of parenthood. However, for childless individuals, the benefit of marriage may come from the stability and companionship it provides rather than from having children. This might explain why the interaction between parenthood and marital status is insignificant here: both married parents and married, childless men may experience well-being, though likely for different reasons that do not necessarily relate to having children.

Moreover, research has shown that people without children often build broader and more varied social circles than parents. Parents usually stay closely connected with family members, especially their adult children, who become the primary source of support as they age (Schnettler and Wöhler, 2016). In the UK, Hadley (2021) found that involuntary childless men often depend on social networks for support, staying active in social groups to keep these connections strong. However, contrasting these two studies, our findings show no differences in social cohesion between childless men and fathers. This may suggest that at least in terms of social ties, childless men and parents may experience similar levels of social cohesion.

While this study offers insight into how parenthood, marital status, social connection, and well-being are related, it has some limitations. One fundamental limitation is that the study's cross-sectional design means we cannot conclude cause and effect. Future research could use a longitudinal approach in the UK context to understand better how childlessness impacts subjective well-being over time.

Additionally, the study did not distinguish between voluntary and involuntary childless men. With this distinction, it is easier to conclude the subjective well-being of childless individuals, as their experience with childlessness may vary depending on their life circumstances. The study also excludes individuals who have outlived their children, which could involve a different set of coping strategies compared to those who have never had children. Finally, because the main focus of this study is looking at childless men with no biological children, it excludes men who have stepchildren and considers them as "social parents"- as referred to in the literature. This could impact how well the study's findings apply to men who are stepfathers.

### 2.6. Conclusion and Future Research

In conclusion, the study uses a life course perspective to examine the association between parenthood, marital status, social cohesion, and well-being among men in the UK. The findings of this study suggest that childlessness alone is not associated with well-being, only after accounting for other factors. Marital status plays an important role in improving the well-being of those men, meaning that being married or having a partner is important to the overall well-being of this group of population. Surprisingly, we found that the association between marital status and well-being does not differ by parenthood. Put differently, being married or partnered enhances well-being regardless of whether someone has children, and being childless does not appear to affect the positive influence of marriage on well-being. We also can learn from this study that childless men and parents do not have different social cohesion effects on well-being.

The finding of this study highlights the importance of considering marital status- with its positive direct association with well-being- when studying the topic of childlessness among men. the nonsignificant association between parenthood and marital status on well-being has interesting implications. The previous research has emphasised that married, childless men are disadvantaged, whereas our research shows being married or partnered is linked to positive effects on well-being, just

as having children may bring its own benefits. However, the positive effects of marriage are not diminished or enhanced by whether or not a man has children, and vice versa. We suggest that policymakers and healthcare providers should prioritise social support and marital status in promoting the well-being of middle-aged men.

# Chapter Three

## Men's Marital Satisfaction and Childlessness During the Pandemic. A pre-post study in the UK

## 3.1 Introduction

The COVID-19 pandemic has strongly changed every part of life, affecting work, social connections, and personal relationships (Schmid et al., 2021; Borkowska and Laurence, 2021). When the national lockdown was announced in the UK in March 2020, social interaction outside the household was reduced, and couples spent much more time together at home (Pieh et al., 2021; Borkowska and Laurence, 2021). This situation introduced new challenges for married couples as they navigate health concerns, financial uncertainty, and the pressure of isolation due to the lockdown (Sewpersadh, 2021).

The pandemic affected nearly every aspect of life, from health to the economy and personal connection, which put additional stress on individuals and relationships (Karalis, 2020). This context is crucial in realising the different experiences various demographic groups face. Research on the pandemic's consequences has highlighted its effects on factors such as health, economic stability, and social connections (e.g., Karalis, 2020; Iivari et al., 2020; Lo Iacono et al., 2021; Borkowska and Laurence, 2021).

Despite significant research, we still have a lack of knowledge of the specific experience of childless married men and how the pandemic may have influenced their marital satisfaction. Much focus has been on parents, leaving this demographic group less explored. A clear distinction exists between married individuals with children and those without. Existing studies highlight that the responsibilities, stressors, and coping strategies differ significantly (Jackson et al., 2022).

This chapter focuses specifically on changes in marital satisfaction among married men before and after the COVID-19 pandemic. It is important to clarify that the Understanding Society dataset includes the marital satisfaction question only for individuals who are legally married. Therefore, cohabiting

men are not included in the analysis because they were not asked the marital satisfaction question in the pre-pandemic wave.

Additionally, while cohabiting relationships have grown in prevalence, they differ in key ways from marriage. Marriage is a legally and socially formalized institution that may provide different levels of societal recognition, legal protection, and long-term stability compared to cohabitation (Connell, 2002; West and Zimmerman, 1987). For this reason, the current chapter focuses exclusively on married men, whose relationship structure allows for a consistent and comparable measure of marital satisfaction across time. Cohabiting men are excluded not only due to data availability but also because combining them with single or formerly partnered men ensures conceptual clarity in distinguishing between marital and non-marital groups.

This chapter looks at the unique experience of married men, comparing those who have children with those who are childless to understand these challenges better. Men's experiences in marriage, particularly during challenging times like the pandemic, are exclusive and deserve special attention.

One major factor is the societal expectation for men to be their families' primary breadwinners and decision-makers. Many men feel social pressure to be their families' main financial providers or decision-makers (Connell, 2002; West and Zimmerman, 1987; Ashwin and Isupova, 2014), which can be stressful, especially during economic instability. The pressure to meet these traditional expectations can strongly impact men's feelings and satisfaction within their marriage.

Another important reason for focusing on men is that cultural norms often discourage them from expressing vulnerability or seeking emotional support (Addis, 2008). This cultural expectation can lead men to feel "unmanly" (Addis, 2008) when asking for emotional support, which leads to feelings of isolation, particularly during times when they need help the most. By examining these emotional

dynamics within marriage, we can better understand men's challenges and how these affect their relationships.

The pandemic has also pushed many men to take on more responsibilities at home, such as childcare and remote learning. For those who might not have taken on these roles thoroughly, this shift can be challenging and a chance for personal growth (Epifani et al., 2021). For married men with children, the experience of fatherhood during such a difficult time can significantly influence their marital satisfaction. The added responsibilities that come with parenting can create a complex mix of challenges and rewards, shaping how men interact with their partners and their overall family dynamics (Epifani et al., 2021). Additionally, many men feel pressured to stick to traditional ideas of masculinity (Addis, 2008), making it hard for them to adapt to changing family roles and share responsibilities equally. This struggle can lead to marriage tension, providing an additional rationale for examining and understanding men's experiences.

This chapter explores various factors' short- to medium-term effects on marital satisfaction among married men in the UK during the COVID-19 pandemic. It focuses on the experiences of men with and without children, examining how the specific challenges of the pandemic have influenced their happiness within their relationships. By analysing the complexities of marital satisfaction, this study seeks to understand how external factors, like the pandemic, and parenthood status have shaped the dynamics within marriage. Building on existing research, which highlights the different impacts of parenthood and childlessness on relationships, I anticipate that childless married men may have different levels of marital satisfaction compared to fathers during this period.

In addition, the study will explore how parenthood status and the age of the youngest child affect marital satisfaction, aiming to clarify the extent of these effects. Another key focus will be the subjective financial situations reported by participants during the pandemic and how these financial perceptions relate to their marital satisfaction. Special attention will be given to identifying differences

between childless married men and fathers, offering a more profound understanding of how these groups have been affected by the pandemic.

To address the research objectives, the study utilises data from the Understanding Society UK Household Longitudinal Study, a nationally representative survey of UK households. Focusing on two essential time points, 2019 (pre-pandemic) and 2021 (post-pandemic onset), the research examines marital satisfaction changes. The data, derived from the Understanding Society COVID-19 Study collected between January and March 2021, includes responses only from married individuals, as the marital satisfaction question was not asked of cohabiting or formerly partnered men in the pre-pandemic wave. This provides a consistent sample for assessing longitudinal changes in marital satisfaction. Using the Difference Score (DS) of marital satisfaction with OLS regressions, the results align with my expectations. I found that childless married men reported increased marital satisfaction compared to married men with children. Moreover, the findings indicate a general trend supporting the idea that married men with younger children have experienced a decrease in marital satisfaction compared to childless married men. However, it's important to note that this hypothesis is only partially validated, indicating that other factors may contribute to the overall understanding of the relationship between parenthood, the age of children, and marital satisfaction. These findings enhance our understanding of the unique experiences of men in the UK during the pandemic.

### 3. 2. Theoretical Background and Hypotheses

Historically, research on marital satisfaction has primarily focused on women's experiences in heterosexual relationships, often comparing men's roles to those of women (Allen and Hawkins, 1999; Proulx et al., 2007). While this has provided valuable insights, it has tended to overlook the distinctive experiences of men within marriage (Ferree, 2010; Kalmijn, 2010). Traditionally, men's roles in marriage have been defined in relation to their female partners, emphasising that their experiences complement women's (Connell, 2002; West and Zimmerman, 1987; Ashwin and Isupova, 2014).

However, men's experiences in marriage are complex and diverse, and it is essential to examine them independently.

This gendered perspective often assumes that men occupy a secondary, supporting role within the relationship (Kalmijn, 2010). Therefore, focusing on men's experience, without including their spouses in this study, allows us to understand better how childlessness impacts their marital lives. This approach acknowledges that men's experiences in marriage should be viewed as distinct rather than mere counterparts to their partners. This study seeks to challenge traditional frameworks and offer a deeper understanding of childlessness and its impact on men in marital relationships by focusing on men only.

Further, this approach aligns with the broader aim of this thesis, which is to investigate how various factors influence marital satisfaction within this demographic. By narrowing the focus, we are better equipped to uncover the aspects of marital satisfaction within the context of childlessness, thus contributing to a richer understanding of this demographic's challenges.

The pandemic has brought various challenges affecting multiple aspects of life (World Health Organisation, 2020), encouraging extensive research to understand its broader impact on individuals and societies. Studies have examined the pandemic's direct health implications, such as infection rates and vaccine development (Leung et al., 2020; Wong et al., 2021), as well as its broader societal consequences, including remote work trend (Arunprasad et al., 2022), and change in social trust and cohesion (Lo lacono et al., 2021; Borkowska and Laurence, 2021). Vulnerable populations such as older adults (Lo lacono et al., 2021), ethnic minorities, and people living in deprived neighbourhoods (Borkowska and Laurence, 2021, along with individuals with pre-existing health conditions (Lo lacono et al., 2021; Choukou et al., 2022) have also been uniquely affected. The pandemic has prompted new avenues of research in various fields, highlighting the complex factors that influence our lives during

crises. Understanding these outcomes is essential for addressing immediate challenges and better preparing for future global health threats (Vermicelli et al., 2021; Arunprasad et al., 2022).

While much of the research on the pandemic's impact on family dynamics has focused on parents and children (Wisyaningrum et al., 2021), there remains a gap in our understanding of how childless couples have navigated the challenge posed by COVID-19. This study seeks to fill this gap by examining the experience of married men with and without children and exploring how the pandemic influences their marital satisfaction. While the study concentrates on the short to medium-term effects, it also recognises that these factors can have different long-term consequences over time.

### 3. 2.1 The Association between Parenthood and Marital Satisfaction

Psychological and sociological research have widely studied the association between parenthood and marital satisfaction, especially during the COVID-19 pandemic (Wisyaningrum et al., 2021). Research shows that parenthood can positively and negatively affect marital satisfaction (Alijanzadeh et al., 2023; Nomaguchi and Mikie, 2003). Becoming parents can enrich a couple's relationship and increase overall marital fulfilment (Nomaguchi and Milkie, 2003; Guttmann and Lazar, 2004). Nevertheless, other studies suggest that parenthood can also be associated with increased stress, reduced communication, and diminished marital satisfaction between couples (Nomaguchi and Milkie, 2003; Twenge et al., 2003; Lawrence et al., 2008; Doss et al., 2009; Bilgen; Dew et al., 2011; Faircloth; 2021; Kapıkıran, 2023).

The experiences of childless couples offer another dimension to this complexity. Childlessness, whether by choice or circumstance, can influence marital satisfaction in unique ways (Renne, 1979; Dykstra, 2009; Greil et al., 2010; Amiri, 2016; Erkaya and Ustunel, 2023; Lioe, 2023; Isokääntä et al., 2023). For childless couples, the absence of parenting responsibilities might provide opportunities for increased emotional closeness and bonding, much like the positive findings observed in some studies on parenthood and marital satisfaction (Umberson et al., 2010; Erkaya and Ustunel, 2023). However,

childlessness can also bring its own set of challenges, such as feelings of societal pressure, stigma, or even a sense of unfulfillment (Guttmann and Lazar, 2004; Inhorn & Patrizio, 2015; Gana and Jakubowska, 2016; Koksal, 2022).

Throughout life, individuals experience various changes and work to adapt to them (Faircloth, 2021; Twenge et al., 2003). These changes often bring new responsibilities, roles, and behaviour patterns that require individuals to adapt (McKenry and Price, 2005; Faircloth, 2021). Shifting into parenthood is one of individuals' most profound transformations (Block, 2016). The transition to parenthood holds significance for individual adaptation and overall satisfaction within a marriage (Crohan, 1996). This transitional period of becoming parents, especially for the first time, can influence marital satisfaction due to the required adjustments.

As individuals adjust to their new roles as parents, they often face changes in their relationship dynamics, the distribution of responsibility, and how they manage their time (Crohan, 1996; Greil et al., 2010). Research suggests that parenting demands, such as routine changes, increased responsibilities, and sleep disruptions, can strain couples' relationships (Doss et al., 2009). The division of household and childcare tasks may also shift, requiring open communication and negotiation between partners (McHale and Huston, 2001). This suggests that the shifts in roles and the time constraints that come with parenthood can reduce the quality of time and closeness couples share, potentially leading to a negative impact on marital satisfaction (Belsky and Rovine, 1990)

A meta-analytic review conducted by Nelson et al. (2014) finds that parents report lower marital satisfaction than non-parents. The authors explain that childless individuals tend to have higher levels of marital satisfaction than parents due to their greater freedom to pursue their goals and hobbies. On the other hand, parents tend to experience greater emotional fulfilment and life satisfaction overall compared to childless individuals due to the sense of purpose and completion provided by parenting (also referenced in Nomaguchi and Milkie, 2003). Our understanding from reading the meta-analytic

review posits that while parenting can bring profound emotional fulfilment and a strong sense of life satisfaction, it also introduces a unique set of challenges. For instance, the financial strain of raising children can negatively influence marital satisfaction, while the emotional fulfilment of parenting can positively affect it (Nelson et al., 2014).

Building on similar research, a meta-analytic review by Twenge et al. (2003) examines the relationship between parenthood and marital satisfaction, reviewing 97 studies that measured marital satisfaction among parents and non-parents. Like Nelson et al. (2014), this study found that, on average, parents reported declining marital satisfaction compared to non-parents. It also found that the impact of parenthood on marital satisfaction did not vary based on gender or age. A possible reason for this decline in satisfaction includes, as noted by the authors, increased stress, less time spent together, and shifting priorities after becoming parents.

The COVID-19 pandemic, however, has added new complexity to the relationship between childlessness and marital satisfaction. The literature shows that, much like parenthood, the impact of childlessness on marital satisfaction is complex and multifaceted (Vermicelli et al., 2021). Couples without children experience positive and challenging aspects, reflecting broader discussions about what influences marital happiness. Whether couples have children or not, the strength of their relationship is shaped by a complex mix of personal, relational, and societal factors, all of which come together to form the complex structure of human connections (Wisyaningrum et al., 2021).

In the complex realm of marital satisfaction, it's crucial to consider how external factors, like the COVID-19 pandemic, influence these dynamics. Research shows that both parenthood and childlessness have diverse effects on relationships (Arunprasad et al., 2022), with many factors contributing to a couple's happiness. Building on this, I propose that married men without children may have experienced higher levels of marital satisfaction than those with children after the onset of the pandemic.

Childless couples may have benefited from increased emotional closeness, more quality time together, and greater autonomy in decision-making. Without the added parenting responsibilities, they could focus more on their relationship and individual interests, which might have contributed to stronger bonds. This hypothesis stems from the unique circumstances of the pandemic-extended periods of togetherness due to lockdowns, heightened health concerns, and financial uncertainty (Smith et al., 2020).

With fewer caregiving duties and no need to juggle homeschooling, childless couples have likely had more opportunities for shared activities and uninterrupted time together. The absence of parenting pressures could also lead to fewer conflicts, as they would have more control over their routines and decisions. These combined factors may have led to greater marital satisfaction for childless couples during the pandemic. Based on this discussion, I propose the following:

***$H_1$**: During COVID-19, childless married men will report increased marital satisfaction compared to married men with children.*

### 3.2.2 The Moderating Role of Age of Children

Research has suggested that the age of the children can be a factor that influences the link between parenthood status and marital satisfaction ( Hartley et al., 2011; Onyishi et al., 2021; Tenge ae al., 2003). With the added exceptional pressures introduced by the COVID-19 pandemic, understanding how the age of the children affects marital satisfaction has become even more essential, as families face greater challenges during lockdown and other restrictions.

Studying a number of factors, such as the age of children, gender, birth cohort, and socioeconomic status, Twenge et al. (2003) show that parents of infants reported declining marital satisfaction compared to parents of older children. This difference is likely due to the increased demands of caring

for infants, which often include disrupted sleep and constant attention. Similarly, research by Khezri et al. (2020) found that parents of older children reported higher marital satisfaction than those with young children. Reasons, as noted by the authors, like parenting demands and the stress resulting from them, are linked to marital satisfaction decline. This connection between children's ages and marital satisfaction has been particularly relevant during the exceptional challenge posed by the COVID-19 lockdown, where families had to experience new pressure and dynamics (Reichelt et al., 2021).

Different age groups bring distinct responsibilities and needs that can significantly impact parents. For example, younger children often require constant attention, care, and support with home-based learning, which can create considerable stress for parents. On the other hand, teenagers may struggle with the lack of social interactions, resulting in an increase in the need for parental involvement (Aznar et al., 2021). This variability in needs required by children forces parents to manage multiple roles as caregivers and educators, which could impact healthy marital relationships. Therefore, it is crucial to understand how the age of children interacts with the challenges posed by the pandemic to grasp the dynamics of marital satisfaction during these exceptional times. If children's ages significantly impact marital satisfaction, then the relationship between parenthood and the age of children is likely to play a vital role in shaping couples' happiness.

I specifically aim to understand how these factors influence the marital satisfaction of married men.

Understanding the experiences of married men is crucial, as they often hold distinct roles and responsibilities within the family unit. The pandemic may have altered or challenged these roles, impacting overall family dynamics (Reichelt et al., 2021). For instance, Elgendi et al. (2022) noted that lockdowns have intensified parental responsibilities, particularly for those with younger children, leading parents to engage more deeply in their children's activities, such as homeschooling. In families holding to traditional gender roles, where women typically spend more time with children, fathers may find themselves under increased pressure to take on more childcare duties. This shift in expectations

can create stress, unhappiness, and tension in the marital relationship, especially for men who may feel challenged to adapt to these newly acquired roles (Craig and Churchill, 2020; Aznar et al., 2021; Isokääntä et al., 2023).

Therefore, examining the marital satisfaction of married men with and without children can offer a valuable understanding of how partnerships change during times of crisis and societal change. If traditional gender roles are challenged and parental responsibilities increase- particularly for those with younger children- married men with children may face pressure from their partners to adjust to new expectations, leading to potential marital tension. In contrast, married men without children may not experience the same level of tension, as the source of stress (the children) is absent. As a result, I propose the following hypothesis:

***$H_2$:*** *During COVID-19, married men with younger children will report decreased marital satisfaction compared to childless married men.*

### 3.2.3 The Moderating Role of Financial Situation

As I examine the impact of employment and financial factors on marital satisfaction, it's fundamental to recognise that these elements do not operate independently (Craig and Churchill, 2020). Rather than functioning in isolation, they intersect with the dynamics of parenthood, adding complexity to the overall situation. Just as the age of children significantly influences marital satisfaction, the way couples have managed their employment responsibilities after the start of the COVID-19 pandemic is closely linked to their roles as parents. In this section, I explore how the employment challenges posed by the pandemic may interact with parenthood status, ultimately shaping marital satisfaction.

The COVID-19 pandemic and physical distancing and isolation measures have significantly impacted how people organise their time and where they spend it (Isokääntä et al., 2023). School closures and rising health concerns increased the demand for family caregiving, while workplace lockdowns forced

a sudden shift towards remote work (Craig and Churchill, 2020; Reichelt, 2021). These shifts have disrupted the boundaries between paid work and caregiving roles (Jacobs and Gerson, 2005; Craig and Churchill, 2020). While there is a growing recognition of the challenges the pandemic has introduced for individuals and families, research comparing the financial situation of childless individuals and parents during this period remains limited. Balancing work demands and family care has become a significant challenge for individuals during this period.

Research indicates that many parents express dissatisfaction with the balance between their professional and family lives, with women experiencing these challenges more acutely (Craig and Brown, 2017). While the difficulties faced by women in juggling work and family life have been extensively studied (Viglione, 2020; Connor et al., 2020; Adisa et al., 2021), men's experiences have not received as much attention. In particular, the experiences and challenges of childless men during the COVID-19 pandemic remain relatively unexplored, making them an interesting group to investigate.

Although women are a crucial subgroup in this discussion, I assert that men's experiences hold equal importance. Men's distinctive challenges and viewpoints during the pandemic deserve comprehensive exploration and consideration.

I argue that while the rise in women's employment was expected to increase men's involvement in unpaid domestic work (Bergmann, 2005; Reichelt, 2021), several factors- including workplace norms and persistent masculine stereotypes- have kept many men focused more on work than on household responsibilities (Gregory and Milner, 2009). However, societal views on gender roles are changing. The British Social Attitudes Survey by the National Centre for Social Research (NatCen) reflects a noticeable shift away from traditional roles.

This shift, especially during the COVID-19 pandemic, has introduced men to a complex mix of expectations. Traditionally, men have been seen as primary breadwinners, responsible for family

financial security. This expectation, deeply rooted in culture and historical traditions, has shaped many men's identities. Yet, as a society increasingly values gender equality and moves to more egalitarian gender roles, men are now balancing the role of breadwinner with a rising expectation to participate actively in family and domestic life (Thompson and Walker, 1989; Taylor and Tucker, 1999). The pandemic, with lockdowns and remote work, has increased this challenge, prompting many households to re-evaluate traditional roles.

Additionally, the pandemic's economic consequences, such as job losses and reduced income, have intensified financial stress for families. Fathers have often felt pressured to provide for their families during these economic challenges, which can further strain marital relationships, affecting their overall marital satisfaction (Adisa et al., 2021).

In contrast, childless men have generally experienced a different dynamic (Sewpersadh, 2021). Their employment responsibilities have remained relatively stable, as they have not faced the added demands of childcare and homeschooling. Being less loaded by the costs associated with raising children may have shielded them from some financial stressors during the pandemic (Sewpersadh, 2021). This relative stability could have contributed to a more consistent marital satisfaction than fathers.

Schmid et al. (2021) studied the impact of COVID-19 on couples' relationship satisfaction and employment status. Using data from the German Family Panel; the authors reported a decrease in a marital decrease in marital satisfaction, regardless of the change in their employment status. They noted that the effects of COVID-19-related employment changes on couples' relationship satisfaction vary based on whether children are present in the household.

In this study, I aim to explore how participants report their subjective financial situations during the COVID-19 pandemic and how these relate to marital satisfaction in the UK context. Particularly, I examine whether there are differences between childless married men and married men with children. Given the above discussion, I hypothesise that the interplay between parenthood status, subjective

financial situation during the pandemic, and marital satisfaction may yield different outcomes for childless men and fathers, with fathers likely experiencing a decline in marital satisfaction. Therefore, I propose the following hypothesis:

***$H_3$:*** *During the COVID-19 pandemic, the positive correlation between subjective financial situation and marital satisfaction will be stronger for childless married men compared to married men with children.*

Table 3.1 below outlines all the hypotheses proposed in this study, including the expected direction of each association.

**Table 3. 1.** Hypotheses of the association between parenthood, age of children, income, and marital satisfaction for men.

| Hypothesis | Independent Variables | Dependent Variable | Hypothesised Relationship |
|---|---|---|---|
| **H1** | Childless (Ref: Parents) | Marital Satisfaction | + |
| **H2** | Parent of younger Child (Ref: Childless) | Marital Satisfaction | - |
| **H3** | Childless (Ref: Parents) × subjective finance situation | Marital Satisfaction | + |

*Ref: Reference Category*

## 3. 3. Materials and Methods

### *3.3.1 Data and Sample*

The study draws on data from the Understanding Society study (UKHLS), combining data from two key sources: the 2019 wave of the main survey and data from the COVID-19 study collected between January and March 2021. This approach allows for a comparison between pre-pandemic (2019) and after the onset of the pandemic (2021) conditions, providing an understanding of how participant's experiences and behaviour may have changed.

Data collected for the Understanding Society main survey in 2019 8 Gathering information on survey respondents in the pre-COVID-19 period provides a snapshot of marital satisfaction before the pandemic's onset. The COVID-19 dataset builds on the main UKHLS and thus can be linked to participants' previous and future responses in the main study through a personal identifier. 9.

In this chapter, no lower age restriction is imposed on the sample in this analysis. This decision is motivated by the study's primary research focus on understanding the relationship between the age of children and marital satisfaction. Imposing lower age restrictions limits the ability to capture the full range of parents with different age groups among children. Note that the age of the respondents will be utilised as a control variable in the analysis.

However, given the potential differences in life experiences, health status, and perspectives on marital satisfaction among individuals over 70, I have chosen to implement an upper age limit within the sample. Including participants within this age group could introduce confounding factors that might skew the results and obscure the specific impacts of the COVID-19 pandemic on marital dynamics. Moreover, the unique health concerns and potential physical limitations that older individuals face during the pandemic might significantly influence their perceptions and experiences, justifying their exclusion from the study.

The sample selection process was as follows (see also Figure 3.1). First, the total number of male participants in the pre-pandemic wave (2011) was 16184. I selected men who were married in a pre-pandemic wave. The total number of married men was 9262. This process leads to excludes all non-marital men before the pandemic (n= 6922, 43%)[10]. The next step involves excluding men who did not participate in both waves (pre- and post-pandemic) of the UKHLS using their personal identifiers (n=5222 cases). This step ensures that I compare marital satisfaction for the same individuals before

8 The data used in this analysis is derived from Understanding Society, focusing on Wave 9, which was collected between 2017 and 2019.
9 All information about the survey questionnaire can be found in the Institute for Social and Economic Research (2021) Understanding Society COVID-19 User Guide. Version 10.0, October 2021. Colchester: University of Essex.
10 This includes single or never married, cohabiting, and formally partnered.

and after the pandemic's start. Including this step allows 4,040 men to participate in both observed periods. Next, I excluded participants above the age threshold defined in this analysis, deleting (n= 381) cases to avoid upper-age selection bias.

The central focus of this study is to investigate the changes in marital satisfaction within ongoing partnerships. Individuals who changed their partners are excluded from the analysis to align with this primary research objective. The procedure used to identify individuals who changed partners during the study period is detailed in the appendices. As a result, participants who changed their partners during the study timeframe were excluded from the analysis, excluding (n=234) participants. The final step of the sample selection process excludes all missing cases on the covariates, which has resulted in excluding (n=442) participants. The final sample size is 2,983 men.

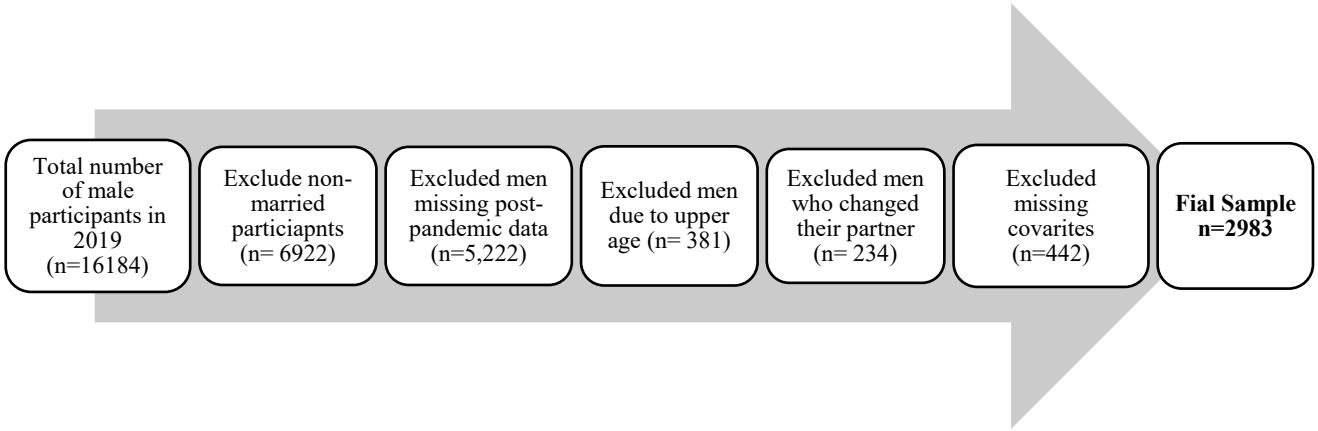



**Figure 3.1** Sample Selection Process

### 3.3.2 Variables

3.3.2.1 Dependent Variable: Marital Satisfaction Change

The marital satisfaction variable in this study is derived from the Relationship Satisfaction subscale of the Revised Dyadic Adjustment Scale (RDAS). This self-report questionnaire assesses seven dimensions of couple relationship quality. For this study, I focus on the sum of four items that measure respondents' perceptions of their relationship on a 6-point scale, where higher values indicate higher

levels of satisfaction. The first item concerns how often individuals discuss or consider divorce, separation, or ending their relationship with their partner. The second item examines whether they ever regret getting married or living together. The third item measures the frequency of quarrels between partners, and the fourth item assesses how often they 'get on each other's nerves.' Each item is recorded to have values ranging from 0 to 5. The subscale's total score can range from 0 to 20, and the full details of these items can be found in Table C.1 in the appendix.

To calculate the change in marital satisfaction, the difference score is obtained by subtracting the marital satisfaction score during the pre-pandemic period (Marital Satisfaction $_{2019}$) from the marital satisfaction score after the pandemic's start (Marital Satisfaction $_{2021}$). It is important to note that the marital satisfaction variable is available in both waves (2019 and 2021) and is measured identically in both instances, ensuring consistency in the assessment across the specified time frame.

#### 3.3.2.2 Independent Variables

**Parenthood Status**

The primary independent variable in this study is parenthood status, which distinguishes between two groups: fathers and childless individuals. This distinction is made to compare men who are fathers with those who are childless. For this study, 'childless' participants are defined as those who reported never having had a biological child before or at the start of the pandemic. Information on childlessness prior to the pandemic was collected retrospectively from previous waves (i.e., from waves 1 to 9). This retrospective data collection ensures that respondents reported never having a child before the specified time frame, emphasizing the accuracy of the parenthood status distinction.

**Age of the Youngest Child**

In this study, the age of the youngest child is used to measure the age of children within the household. Focusing on the age of the youngest child allows us to understand how families' experiences with younger children may differ from those with older children. This choice is particularly relevant during

the pandemic, as families with younger children might have faced unique challenges related to childcare, remote learning, and other aspects that may have influenced marital satisfaction differently than families with older children.

However, it is essential to acknowledge that using the age of the youngest child as a measure does not fully account for situations where respondents have multiple children in one age group. This limitation could potentially impact the precision of our analysis, as the experiences and challenges within families vary depending on the specific age groups of multiple children.

To construct this variable, I identify the reported age of the youngest child living in the household, noting that the minimum age is 0 and the maximum age is 15. Then, I construct a categorical variable coded as follows: Childless individuals are assigned a value of 0; 1 = 'Parent 0-4'; 2 = 'Parent 5-10'; 3 = 'Parent 11-15'. Finally, when the youngest child is 16 or older (inside or outside the household), fathers are assigned a code 4.

**Subjective Financial Situation**

The subjective financial situation variable is used from data collected in March 2021 to capture participants' subjective financial satisfaction. Originally coded based on respondents' self-assessed perceptions of their economic well-being on a scale from 1 to 5, the coding indicates that 1 represents individuals who feel they are "Living comfortably," 2 suggests they are "Doing all right," 3 shows those who perceive their financial situation as "Just about getting by," and 4 and 5 correspond to individuals who find it "Quite difficult" or "Very difficult," respectively. The variable is reversed-coded to facilitate interpretation, assigning higher values to indicate a more favourable financial situation and used as a continuous measure.

**3.3.2.3 Control Variables**

In this study, I recognise the importance of controlling for variables influencing the relationship between the independent variables and marital satisfaction. The control variables selected for this

analysis include a range of socio-demographic and health-related factors associated with marital satisfaction. These control variables include the age of the participants, highest education qualification, household size, overall life satisfaction, ethnicity, and whether the participants have long-term health issues.

Controlling for age is essential because marital satisfaction often varies throughout life. Previous research shows that age can significantly predict marital satisfaction (Tavakol et al., 2017). Younger couples might experience different challenges and priorities than older couples, making it essential to consider age as a potential confounding factor. In addition, age can also be associated with parenthood, influencing both the decision to become parents and the experiences of individuals as parents (Waldenström, 2016).

Another control variable added in this study is household size, which can impact marital satisfaction, with larger households experiencing additional stressors related to managing resources, and individual needs (Nomaguchi and Milkie, 2003). This could impact marital satisfaction. Additionally, household size is directly linked to parenthood status, as having children contributes to the overall household size. (Tavakol et al., 2017; Nomaguchi and Milkie, 2003).

The study also considers ethnicity an essential factor influencing marital dynamics due to changes in cultural norms and expectations (Mustafa, 2013). Research shows that ethnicity affects marital satisfaction (Sussman and Alexander, 1999) through cultural norms, communication style, social support and family involvement (Acosta, 2020). By controlling for ethnicity, we can account for potential differences in marital satisfaction across ethnic groups. Parenthood experiences can also vary across cultural contexts (Nomaguchi and Milkie, 2003).

Health conditions are another factor that can influence marital satisfaction. Long-term health issues often affect overall well-being, impacting marital satisfaction (Tavakol et al., 2017). Health concerns

can also play a role in parenthood, as they may impact fertility, the ability to raise a child, and the overall well-being and health of the family.

Numerous studies emphasise the significance of educational attainment in shaping marital satisfaction, often predicting the quality of relationships (Sussman and Alexander, 1999). Education can impact how individuals think, communicate, and make decisions, all of which play a role in how they experience and handle marriage. Additionally, educational attainment can significantly impact individuals' socioeconomic status, which in turn can affect their access to resources, financial stability, marital satisfaction, and overall quality of life (Madanian and Mansor, 2013; Tavakol et al., 2017). Lastly, general life satisfaction can influence marital satisfaction. Individuals content with their lives may bring positive energy into their marriages. Parenthood status may interact with life satisfaction, as the joys and challenges of raising children can significantly impact overall life satisfaction (Kasapoğlu and Yabanigül, 2018).

These control variables are measured in the present study as follows:

*Age of the Participants:* In this study, the participant's age was measured at two-time points: before the onset of the COVID-19 pandemic and at the start of the pandemic. An average age variable is created by calculating each participant's mean of these two values. Therefore, age is treated as a continuous variable in the analysis to allow for an examination of its relationship with the outcomes of interest.

*Highest Education Qualification*: In this study, the variable "Education" is used based on the respondents' highest educational qualifications, which were collected in the most recent wave (i.e., 2021). The categories for educational levels include: "Postsecondary tertiary" (indicating a post-secondary or higher degree), "Other post-secondary" (for certifications or qualifications beyond secondary education), "A-level" (indicating completion of A-level qualifications), "Less than A-level" (representing educational attainments below A-level qualifications), and "No qualification".

*Household Size***:** This variable was derived from the Understanding Society COVID-19 Study, based on the following question:

"Including yourself, how many people are currently living in your household? Please include everyone, even if it is only a temporary arrangement." Respondents' answers ranged from 1 to 11 individuals. To address small cell sizes at the upper end of the distribution, household sizes above six were grouped into a single category labelled "6+". The final categorical variable includes the following categories: 1, 2, 3, 4, 5, 6+. This measure reflects the total number of individuals living in the household in 2021, including the respondent.

It is important to note that this variable does not specify the relationship between household members (e.g., spouse, children, or extended family). Since the sample consists exclusively of married men, most are assumed to live with a spouse, and variation in household size is likely to reflect the presence of children or other co-residing relatives.

*Satisfaction with Life Overall***:** The variable "Satisfaction with Life Overall" reflects respondents' self-assessment of their general life satisfaction. The variable categories are as follows: 1 "Completely Dissatisfied", 2 "Mostly Dissatisfied", 3 "Somewhat Dissatisfied", 4 "Neither Satisfied nor Dissatisfied", 5 "Somewhat Satisfied", 6 "Mostly Satisfied", and 7 "Completely Satisfied". I use this variable as a continuous measure of satisfaction with life, where lower values contribute to a lower level of life satisfaction.

*Ethnicity***:** In the dataset, the variable ethnicity initially has 18 different categories to capture individual's ethnic backgrounds. However, upon reviewing the data, we observe that a significant majority identify as "White British," while other categories have limited responses. To simplify the analysis, we regroup these categories into a new variable called "Ethnicity," which now consists of five broader categories: "White," "Mixed," "Asian," "Black: African; Caribbean; Black British," and

"Other Ethnic Groups." This reclassification enables us to examine the relationship more effectively between ethnicity and marital satisfaction in our study.

*Long-term health issues are* a binary variable used in the study. It differentiates between individuals who report having a long-term health issue and those who do not. By including it as a control variable, we can better establish the specific effects of our primary independent variables on marital satisfaction while considering the impact of long-term health issues.

### 3.3.3 Statistical Model and Descriptive Statistics

This study uses a pre-post design to evaluate changes in marital satisfaction, with the Difference Score (DS) of marital satisfaction as the critical outcome. For a detailed explanation of this method, refer to Clarke (2014). To explore the relationship between changes in marital satisfaction and the factors influencing it, we apply ordinary least squares (OLS) regression with robust standard error.

Table 3. 2 provides a descriptive statistic of the key variables within the study based on a sample of 2,983 observations. Most respondents have post-secondary education (41%), and a small proportion have no qualifications (3%). Age distribution shows a concentration in the 50-59 age group (30%) and 60-70 age group (31%). The sample is predominantly white participants, who consist of ( 90%) of the sample, with (6%) Asian, (2%) Black, (1%) Mixed, and (1%) identified as other ethnic groups. Health status varies, with 42% reporting having no health issues, while the remaining (58%) reporting having health concerns. The mean marital satisfaction score was 12.93 (SD= 7.04) in 2019 and 12.71(SD= 7.43) in 2021. The changes in marital satisfaction scales in the two points range from -20 to 20, with a mean change of 0.22. The average household size is 2,66 individuals. The descriptive results also show that 56% of the sample were childless, and 17% were parents to adult children (aged 16 and over). Finally, respondents report an average of 4.72 (SD=0.80 ) on overall satisfaction with life.

**Table 3. 2** Descriptive Statistics

| Variable | mean | SD | min | max |
|---|---|---|---|---|
| **Education** | | | | |
| **Post-secondary** | 0.41 | 0.49 | 0 | 1 |
| Other post-secondary | 0.13 | 0.34 | 0 | 1 |
| A-level | 0.22 | 0.42 | 0 | 1 |
| less than A-level | 0.22 | 0.42 | 0 | 1 |
| no qualification | 0.03 | 0.16 | 0 | 1 |
| **Ethnicity** | | | | |
| White | 0.90 | 0.30 | 0 | 1 |
| Mixed | 0.01 | 0.12 | 0 | 1 |
| Asian | 0.06 | 0.24 | 0 | 1 |
| Black | 0.02 | 0.12 | 0 | 1 |
| Other Ethnic group | 0.01 | 0.07 | 0 | 1 |
| **Have Health Issues** | | | | |
| No | 0.42 | 0.49 | 0 | 1 |
| Yes | 0.58 | 0.49 | 0 | 1 |
| **Age** | 52 | 11.9 | 19 | 69 |
| **Household size** | | | | |
| **1** | 0.15 | 0.35 | 0 | 1 |
| **2** | 0.39 | 0.48 | 0 | 1 |
| **3** | 0.19 | 0.39 | 0 | 1 |
| **4** | 0.18 | 0.38 | 0 | 1 |
| **5** | 0.05 | 0.22 | 0 | 1 |
| **6+** | | | | |
| **Overall Life Satisfaction** | 4.72 | 1.52 | 1 | 7 |
| Marital Satisfaction 2019 | 12.93 | 7.04 | 0 | 20 |
| Marital Satisfaction 2021 | 12.71 | 7.43 | 0 | 20 |
| Marital Satisfaction Change | -0.24 | 3.97 | -20 | 20 |
| Childless | 0.56 | 0.50 | 1 | 2 |
| Fathers | 0.44 | 0.50 | 1 | 2 |
| **Age of Youngest Child** | | | | |
| Childless | 0.56 | 0.50 | 0 | 1 |
| 0-4 Years | 0.09 | 0.28 | 0 | 1 |
| 5-10 Years | 0.09 | 0.29 | 0 | 1 |
| 11-15 Years | 0.09 | 0.28 | 0 | 1 |
| 16+ Years | 0.17 | 0.38 | 0 | 1 |
| **Subjective financial situation** | 4.07 | 0.80 | 1 | 5 |
| Observations | 2,983 | | | |

**Note.** SD standard deviation; Min minimum; Max maximum; Total sample size 2,983 (n childless= 1,667; n fathers= 1,316).

### 3. 4. Results

Results from a paired t-test indicate that overall marital satisfaction significantly decreases by 0.22 points (Marital satisfaction2021 = 12.71, SD = 7.43; Marital satisfaction2019 = 12.93, SD = 7.04; t(2,983) = (-2.93), $p < 0.01$).

Table 3. 3 and Figure 3. 211 present the results from Models 1 and 2 of OLS regressions with DS of marital satisfaction. Model 2 augments Model 1 by adding the control variables. Full models with all the control variables can be seen in the appendixes (Table C.2). Figure 3. 2 presents the predicted marital satisfaction change by parenthood status.

In Model 1, the coefficient for childless men is 0.160 (SE=0. 150, $p>0.05$). This suggests that, on average, childless married men report a slight increase in marital satisfaction compared to men with children after the start of the pandemic, which is, however, statistically insignificant.

Figure 3. 2 and Model 2, where the control variables are included[12], show that childless married men report an insignificant increase of 0.08 points in comparison to the pre-pandemic period ($t = 0.84$, $p = 0.401$)13, whereas married men with children report a statistically significant loss of 0.60 points ($t = -4.67$, $p < 0.001$) on the marital satisfaction scale, meaning that on average, childless married men gain 0.674 marital satisfaction points more than married men with children ($t = 3.92$, $p < 0.001$; Model 2). These results support H1 in this study.

[11] Figure 3.2 presents the coefficients with 95% CIs from OLS regressions with robust standard errors.

[12] General life satisfaction was included as a control variable to account for broader subjective well-being. While conceptually related to marital satisfaction, multicollinearity diagnostics (Variance Inflation Factors VIF ) confirmed that this did not present a statistical concern. For instance, VIF= 1.04 in Model 2, 1.04 in Model 4, and 1.11 in Model 7, therefore, the variable was therefore retained in the model.

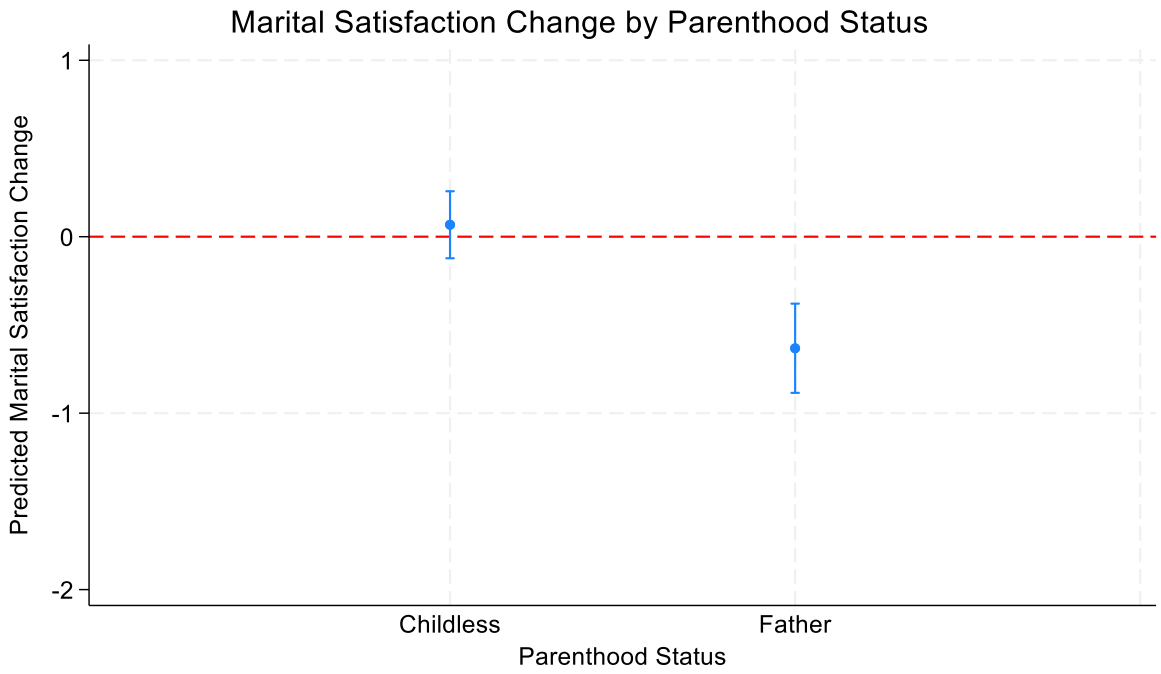
[13] The T-test values with correspondent p-values are taken from the margins results.

**Table 3. 3** Association between childless and Marital Satisfaction, with and without controls

| **DV : Marital Satisfaction$_{2021}$- Marital Satisfaction$_{2019}$** | **(Model 1) B (SE)** | **(Model 2) B (SE)** |
|---|---|---|
| **Childless (Ref: Fathers)** | 0.160 | 0.674*** |
| | (0.150) | (0.175) |
| Control Variables | NO | YES |
| Constant | -0.305** | -4.46*** |
| | (0.116) | (0.565) |
| $R^2$ | 0.000 | 0.086 |
| Observations | 2,983 | 2,983 |

Note. OLS regressions with robust standard errors in parentheses. Unstandardised coefficients controlling for age, education, ethnicity, household size, overall life satisfaction and health issues. UKHLS 2019-2021. Significance level * = p < 0.05, ** = p < 0.01, *** = p < 0.001; REF: Reference category.

**Figure 3. 2**. Marital Satisfaction Changes by Parenthood Status




Moving forward, we examine the relationship between the age of the youngest child and marital satisfaction, both with and without control variables. The results are presented in Table 3. 4. See Table C.3 in the appendixes for full models with all the control variables.

As shown in Model 3, which does not include the control variables, the coefficient for parents with the youngest child aged 0-4 is 0.168 (SE=0. 275, p>0.05). This suggests that, on average, those parents

reported a slight increase in marital satisfaction compared to men without children after the start of the pandemic, which is, however, statistically insignificant. The same insignificant results are seen for the other age groups, except for those parents with the youngest child aged 16+ (B= -0.447, SE=0. 200, p<0.05), who reported a significant decrease in marital satisfaction compared to married men without children.

**Table 3. 4.** Association between the age of children and marital satisfaction, with and without controls.

| **DV : Marital Satisfaction$_{2021}$- Marital Satisfaction$_{2019}$** | **(Model 3) B (SE)** | **(Model 4) B (SE)** |
|---|---|---|
| **Age of the Youngest Child (Ref: Childless)** | | |
| **Parents 0-4** | 0.168 | -0.606 |
| | (0.275) | (0.338) |
| **Parents 5-10** | -0.229 | -.997** |
| | (0.298) | (0.351) |
| **Parents 11-15** | 0.161 | -0.648 |
| | (0.264) | (0.326) |
| **Parents 16+** | -0.447* | -0.614** |
| | (0.200) | (0.193) |
| Controls Variables | No | Yes |
| Constant | -0.145 | -3.783*** |
| | (0.095) | (0.498) |
| $R^2$ | 0.002 | 0.086 |
| Observations | 2,983 | 2,983 |

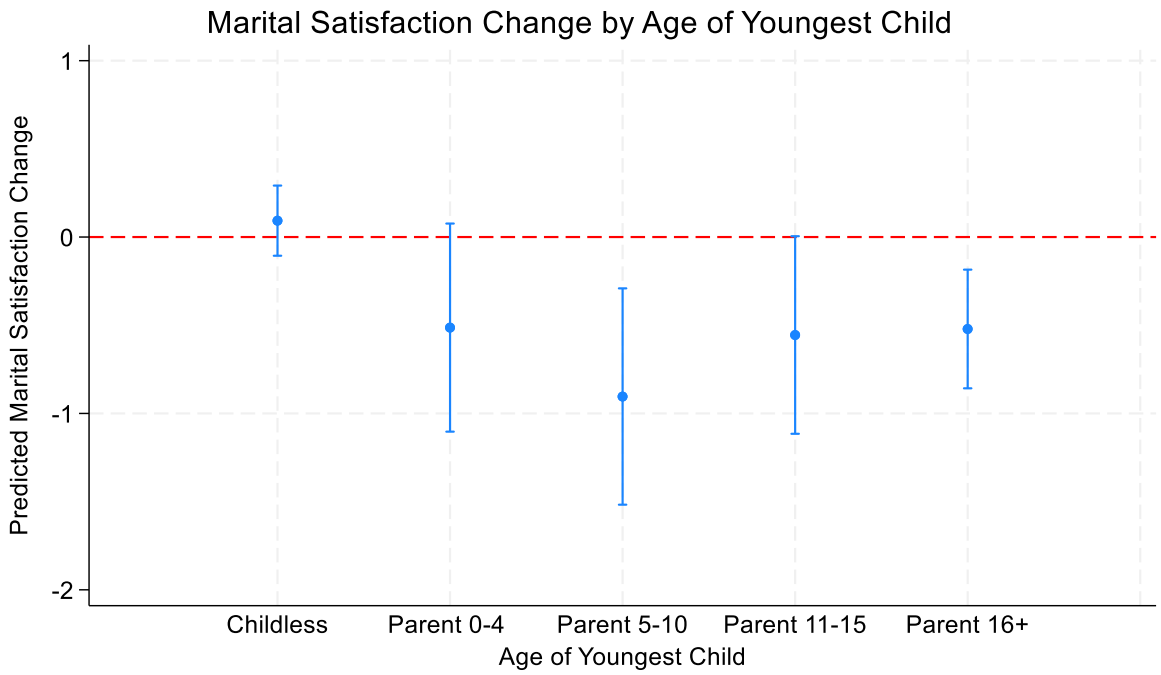
**Note.** OLS regressions with robust standard errors in parentheses. Unstandardised coefficients controlling for age, education, ethnicity, household size, overall life satisfaction and health issues. UKHLS 2019-2021. Significance level * = p < 0.05, ** = p < 0.01, *** = p < 0.001; REF: Reference category.

In Model 4, control variables are added to account for potential confounding factors. The results from Model 4 and the margins estimates (Figure 3.3) suggest that parents with the youngest child aged 0-4 years experienced a statistically insignificant decrease of 0.51 points compared to the pre-pandemic period (t = -1.70, p = 0.09). Although this suggests a decline, the result is insignificant (p > 0.05). In contrast, men without children reported an insignificant increase of 0.093 points (t = 0.92, p = 0.35) in marital satisfaction. This small positive change, although statistically insignificant, shows that childless men were somewhat less affected by the challenges of the pandemic on marital satisfaction. On average, parents with the youngest child aged 0-4 years experienced a statistically insignificant

loss of 0.606 marital satisfaction points compared to married men without children ($t = -1.83$, $p < 0.10$; Model 4). Further, parents with the youngest child aged 5-10 years reported a significant loss of 0.997 points in marital satisfaction compared to childless men ($p < 0.01$), while parents of children aged 11-15 years reported a just significant decrease of 0.648 points ($p = 0.052$). Similarly, parents of children aged 16 years and older experienced a significant reduction of 0.614 points in marital satisfaction ($p < 0.01$).

Including control variables in Model 4 notably improves the model's explanatory power ($R^2 = 0.086$), compared to Model 3, which has minimal explanatory power ($R^2 = 0.002$).

**Figure 3. 3**. Marital satisfaction changes by the age of the youngest child




The findings are in the direction of the hypothesis (H2) that the age of the youngest child reduces marital satisfaction for parents, but not as exactly expected. The overall results indicate that while one might expect the age of the youngest child to influence the change in marital satisfaction, the data

suggest it could be the status of being a parent that is most influential. The exact age of children has a minimal additional impact on the outcome.

The analysis's final stage examines the interaction between the reported subjective financial situation and parenthood. The results are presented in Table 3. 5.

**Table 3. 5** Regression results of the association between Subjective Finance Situation and Marital Satisfaction, with and without controls.

| **DV: Marital Satisfaction 2021 Marital Satisfaction 2019** | **Model (5) B (SE)** | **Model (6) B (SE)** | **Model (7) B (SE)** |
|---|---|---|---|
| **Childless (Ref: Fathers)** | 0.147 | 0.751 | 1.562 |
| | (0.150) | (0.912) | (0.909) |
| **Subjective finance situation** | 0.219* | 0.301 | 0.181 |
| | (0.108) | (0.161) | (0.159) |
| **Childless # Subjective financial situation** | | -0.149 | -0.212 |
| | | (0.217) | (0.214) |
| Controls Variables | No | No | Yes |
| Constant | -1.187** | -1.520* | -5.085*** |
| | (0.459) | (0.671) | (0.827) |
| **$R^2$** | 0.002 | 0.002 | 0.085 |

**Note.** OLS regressions with robust standard errors in parentheses. Unstandardised coefficients control for age, education, ethnicity, household size, overall life satisfaction, and health issues. UKHLS 2019-2021. Significance level * = p < 0.05, ** = p < 0.01, *** = p < 0.001; REF: Reference category.

Results presented in Table 3. 5 show the association between subjective finance situation and marital satisfaction change. The coefficient for childless men is 01.47 (SE=0.15, P >0.05, Model 5). On average, childless married men reported a slight increase in marital satisfaction compared to men with children after the start of the pandemic, which is, however, statistically insignificant. Moreover, for a 1 unit increase in the subjective finance situation (reported better situation), there will be, on average, a significant increase of 0.219 points in marital satisfaction for men after the start of the pandemic.

Model 6 includes the interaction between childlessness, subjective finance situations and the control variables (Model 7)[14]; see Table C.4 in the appendixes for full models with all the control variables. The results show that the interaction term is insignificant, indicating changes in marital satisfaction

[14] Ethnicity was included as a control variable across Models 2, 4, and 7. To assess whether ethnic background significantly contributed to differences in marital satisfaction change, joint significance tests were conducted. The results indicated that ethnicity was not statistically significant in any of the models (Model 2: F(4, 2965) = 1.59, p = 0.174; Model 4: F(4, 2962) = 1.61, p = 0.170; Model 7: F(4, 2963) = 1.73, p = 0.141). These findings suggest that there were no meaningful differences in marital satisfaction change between ethnic groups within the sample, after controlling for other covariates.

between childless married men and fathers when considering their subjective financial situation and controlling for all other factors included in the model ( Model 7).

While this study initially used a continuous version of the subjective financial situation variable, concerns about the assumption of equal intervals between categories prompted a robustness check using a categorical specification. The results remained substantively unchanged, and interaction terms with childlessness continued to be statistically insignificant. The categorical model is not reported in the main text to maintain focus and avoid redundancy, but results are available upon request.

### 3. 5. Discussion and Limitations

The analysis of marital satisfaction in the context of the COVID-19 pandemic reveals complex patterns shaped by factors such as parenthood status and variations in the age of the youngest child. Notably, the findings suggest that, after the start of the pandemic, childless married individuals experienced a potential increase in marital satisfaction. Several factors influence the interpretation of the results. One plausible interpretation is that childless couples experience less stress related to parenting responsibilities during the pandemic. With school closures and homeschooling, childcare challenges, and increased time spent at home, couples with children face additional stressors that childless couples may not experience. The impact of the pandemic on childless individuals may arise from their unique circumstances, which could enhance specific stressors or encourage stronger personal connections (Nomaguchi & Milkie, 2003). In addition, the results align with the previous literature suggesting that childless couples enjoy more flexibility and freedom in terms of daily routines and activities. This flexibility increases satisfaction as they may not face the same constraints and challenges as couples with children during lockdowns (Pieh et al., 2021; Aznar et al., 2021). Without the added responsibilities of childcare, childless couples are likely to spend more quality time together and focus on their relationship, potentially leading to increased marital satisfaction as they navigate the challenges of the pandemic together (Faircloth, 2021; Kapıkıran, 2023). Factors like socioeconomic

status (Kevin and Risla, 2020), support networks (Işık and Kaya, 2022), and coping mechanisms (Genç et al., 2023) can further shape the outcomes.

Part of the study focuses on the association between marital satisfaction and age of children. The results suggest partial evidence that men without children are better than those with young children. The results indicate a decline in marital satisfaction among parents with the youngest age group (0-4 years) in alignment with H2. However, the most substantial decrease observed among parents with the youngest child aged 5-10 years deserves more discussion. Various factors may contribute to this finding, making it essential to consider the complexity of parenting experiences and their impact on marital satisfaction, especially in light of the pressure of the pandemic. One plausible interpretation of such a result is that parents of children aged 5-10 years (school-aged) may face additional stress and challenges due to their dual responsibilities of balancing work and schooling commitments. These challenges potentially affect the quality of the marital relationship (Pieh et al., 2021; Aznar et al., 2021).

Regarding the subjective finance situation, and in agreement with Sewpersadh (2021), the findings suggest that the relationship between subjective finance situation and marital satisfaction is inconsistent across different groups. Childless married men reported a slight increase in marital satisfaction compared to men with children after the start of the pandemic. However, there is insufficient evidence to support this result strongly. This indicates that, for childless individuals, factors other than subjective financial situations play a more outstanding role in shaping marital satisfaction. Marital satisfaction is a subjective and multifaceted construct influenced by various individual, relational, and contextual factors. The pandemic has introduced unique stressors and challenges, but individual responses can vary widely. This study argues that factors such as coping mechanisms and personal circumstances contribute to the experiences of individuals and couples. Furthermore, the reported slight increase in marital satisfaction among childless married men may reflect short-term

adjustments to the challenges posed by the pandemic. Long-term effects may differ, and future research could explore how these dynamics evolve.

Given the pandemic context, these results can be understood, as the absence of childcare responsibilities during lockdowns might have provided childless couples with increased emotional connection and shared coping strategies during these challenging times, as Craig and Churchill (2021) posted. Shared experiences, such as adapting to remote work, managing uncertainties, and supporting each other through the unique stressors of the pandemic, could have played a more pivotal role in shaping marital satisfaction than variations in household income.

The study's temporal focus on the early stages of the COVID-19 pandemic poses limitations in capturing this crisis's dynamic and changing nature. The changing setting of the pandemic can profoundly influence marital satisfaction over time. A more extended time frame can provide a comprehensive understanding of how these variables interact throughout the pandemic, allowing for a good analysis of long-term impacts. Future research should consider investigating the dynamics of marital satisfaction and financial changes across different pandemic stages. This approach can provide a more comprehensive understanding of the intricate interplay between these variables, enriching the literature on the topic.

Additionally, a limitation of the sample selection is the exclusion of individuals who changed partners between the 2019 and 2021 waves. While this decision ensured consistency by tracking satisfaction within ongoing marital relationships, it may have also resulted in the omission of couples who experienced severe relationship strain and separation during the pandemic. These excluded individuals may represent those at the extreme end of marital dissatisfaction, and therefore, the study findings might underrepresent the most distressed cases.

Furthermore, while ethnicity was included as a control variable in all models, it was not found to be a statistically significant predictor of changes in marital satisfaction. This suggests that, within this

study's sample and context, ethnic background did not strongly differentiate men's experiences during the pandemic. However, cultural values, norms, and familial expectations may still shape relationship satisfaction in important ways. These aspects were beyond the scope of the current analysis and merit further exploration in future research.

### 3. 6. Conclusion

This chapter looks at how marital satisfaction changed for married men during the COVID-19 pandemic, especially considering whether couples have children, the age of the youngest child, and how stable their financial situation is. The pandemic has brought many challenges to individuals' lives, which may have affected the quality of their relationships. The support systems must understand how parenthood status, age of the children, and financial changes intersect with marital satisfaction during this challenging period. Despite existing research on marital satisfaction and its determinants, we still know little about how the pandemic specifically influenced these factors, especially for married men with and without children. This study aims to address this gap, offering a new insight and understanding into how these different factions act together to shape marital satisfaction during such a challenging time.

This chapter highlights that the experience of marital satisfaction during the pandemic varies significantly between childless men and fathers. While fathers experience a notable decline in marital satisfaction, childless men appear to maintain or improve their satisfaction levels. Moreover, the analysis highlights the role of the age of the youngest children, indicating a decline in marital satisfaction among parents with younger children. This suggests that the challenges associated with parenting younger children may negatively impact marital satisfaction. Moreover, the findings indicate no differences between those two groups regarding their subjective financial situation, highlighting the importance of including factors such as coping mechanisms and personal circumstances that contribute to the experiences of individuals and couples.

**Conclusion of the Thesis**

In recent years, the rise in the childlessness rate has become a notable social trend across Europe, especially in countries such as the UK. This trend raises essential questions about why many individuals choose or experience life without children. What is the consequence of not having children on health and psychological well-being outcomes? To what extent do economic and health uncertainties affect childlessness? What roles do individuals' social networks play to those without children? Is it different for those who are parents? What impact can policymakers have on family policies to assess those individuals? This thesis contributes to this conversation by addressing multiple points. Importantly, it focuses on men, a group often overlooked in studies on childlessness, despite growing numbers of men also remaining childless.

The findings of the thesis align with some of the above broader questions facing European society today. For example, it addresses how education and marital status influence the choice to have children. Why do highly educated men tend to delay or forgo fatherhood? To what extent does having a stable partnership play a role in this decision? The findings suggest that men with higher education are less likely to become fathers over time, and those who are in a partnership (married or cohabited) or formally partnered are more likely to transition to parenthood. Considering both education and marital status, we found that, while education tends to reduce the chance of those men becoming parents, partnership status increases this likelihood, showing that social and economic position profoundly impacts decisions around parenthood.

Further, considering the consequences of childlessness, this study contributes to the broader debate of whether the childless are disadvantaged and stigmatised. It asks how much a social network or stable partnership influences psychological health outcomes for men. Specifically, it looks at how parenthood, marital status, and social cohesion are related to subjective well-being among middle-aged men. We found that controlling for parenthood status, marriage, or partnership can influence life

satisfaction, and having a solid social support network appears to have an even more powerful effect. However, when looking at the combination of marital status and parenthood, being childless does not impact well-being differently, considering whether someone is married, cohabited, or formerly partnered. Our interpretation to these results is that feeling connected to a community may be more impactful on men's well-being than parenthood status alone. This implies that fostering social connection could be essential to supporting men's quality of life.

The study also relates to the broader discussion of how economic and health uncertainty affect childlessness. It explores explicitly whether life events, such as the COVID-19 pandemic, might alter marital satisfaction levels or bring out differences between fathers and childless men, revealing that childless married men tend to have more marital satisfaction during this challenging time and, thus, parenthood might introduce specific challenges or stains within marriages. We learn from these findings that the responsibility and stress associated with raising children may affect relationship dynamics, potentially reducing the quality of marriage for fathers. Conversely, childless married men might have fewer household and parenting-related stressors, allowing them to maintain higher levels of marital satisfaction. We highlight how parenthood can influence marital relationships and emphasise the potential importance of additional support for fathers in managing these responsibilities within their partnership.

While this thesis provides new insights into the relationships between childlessness, marital status, and well-being among men, several refinements could be made in future work or when submitting for publication. These include treating education as a categorical variable to better capture the discrete nature of qualifications, revisiting the treatment of subjective financial situation as a potentially nonlinear variable, and acknowledging the exclusion of men who experienced relationship dissolution during the study period. Moreover, future research might explore the role of fatherhood timing, as the age at which men become fathers could moderate the impact on well-being and satisfaction outcomes.

To sum up, this thesis explains how men's life circumstances and social factors shape their choices and experiences regarding parenthood. As European societies face increasing childlessness, understanding this dynamic can be crucial. The findings highlight that policies and social support can shape these choices; broader social structures, like education, relationships and social cohesion, are also powerful forces in influencing men's life outcomes, regardless of parenthood. Future research could continue exploring how childlessness intersects with broader social and economic factors to enrich our understanding of men's varied experiences across the life course.

# Appendix List

## Chapter one

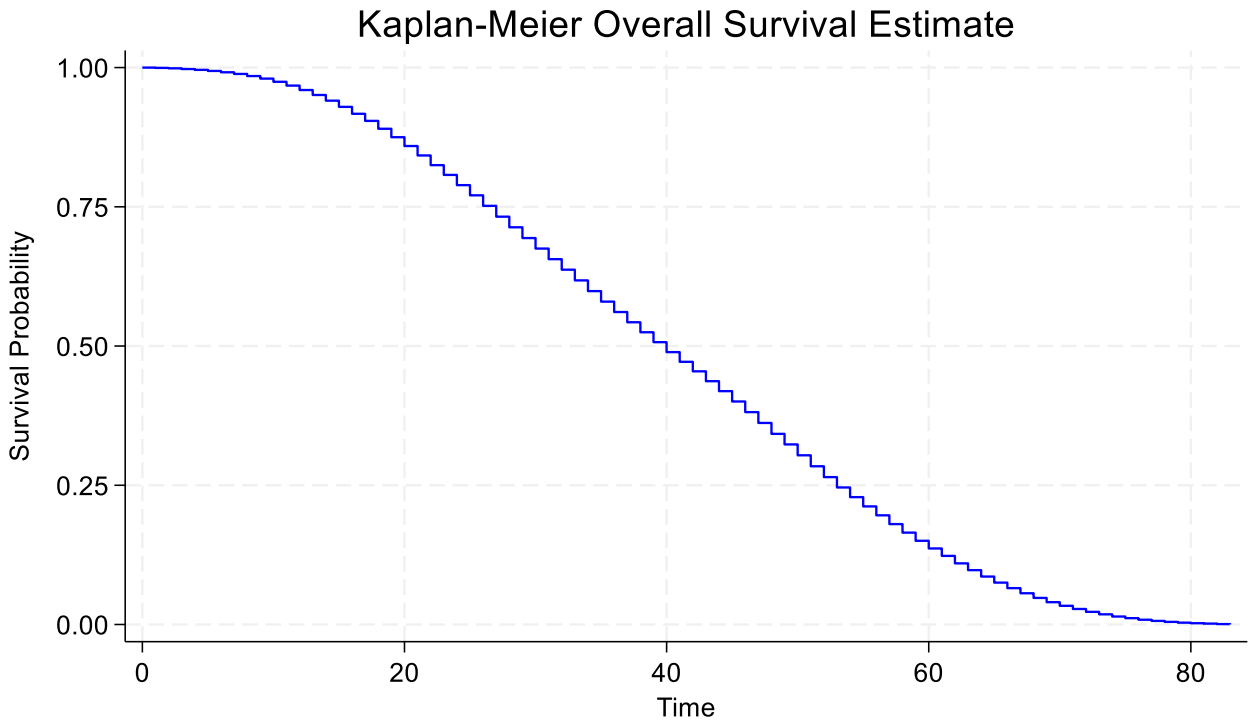



Figure A. Kaplan-Meier Overall Survival Estimate

**Note A.1:** The survival curve represents the likelihood of remaining childless over time; The time variable is the number of years since the individual turned 18. The graph visually represents how the hazard of becoming a parent changes with age.

In the appendix, the study presents a survival curve based on the original time variable, which represents the number of years since an individual turned 18. Initially, the data was set up for survival analysis starting from the age of 18, tracking the time until individuals became parents. However, for the discrete-time complementary log-log model, we needed to adjust the data structure to focus on 9-year intervals, which involved creating a different time indicator specific to these periods.

The curve begins at a survival probability of 1 at the start (age 18); the survival probability is 1 (or 100%), meaning no one has become a parent yet and remains relatively flat until around age 20. After this point, the probability of remaining childless gradually decreases. As time progresses, the survival curve decreases at each event (when individuals become parents). There are more noticeable decreases between ages 38 and 58, after which the rate of change slows significantly. At age 58 (time 40), the survival probability reaches approximately 0.5, which signifies the median survival time. This suggests that by this age, half of the individuals in the sample have not yet become parents, while the other half have. By age 78, the survival probability curve begins to flatten and remains stable until age 101, indicating that the proportion remaining childless stabilises as individuals reach older ages.

Table A: Age Group Distribution Across All Person-Periods (2009–2019)

| Age Group | Frequency | Percent |
|---|---|---|
| **18–24** | 12,951 | 8.93% |
| **25–34** | 19,414 | 13.38% |
| **35–44** | 25,755 | 17.76% |
| **45–59** | 40,422 | 27.87% |
| **60+** | 46,501 | 32.06% |
| **Total** | 145,043 | 100% |

**Table A. 1** Baseline Complementary Log-Log Regression Results for Parenthood Hazard Model

| | **(Baseline Model) HRs/CIs** |
|---|---|
| time_1_3 (Ref: time_7_9) | 0.137*** |
| | [0.131,0.142] |
| time_4_6 | 0.240*** |
| | [0.231,0.250] |
| ***N*** | 145043 |

Note. Complementary log-log regressions with Hazard Ratios (HRs); 95% confidence intervals in brackets; controlling for ethnicity, household income, financial situation, age, and health issues. UKHLS 2009-2019. Significance levels: * = $p < 0.05$, ** = $p < 0.01$, *** = $p < 0.001$; N person-period (145,043/25,524). Analyses were conducted using the xtcloglog model.

Table A.1 provides the detailed results of the baseline complementary log-log regression model, which includes the effects of two time intervals (time_0_3, time_4_6) compared to the last interval (time_7_10) on the hazard of becoming a parent. The findings show a significant increase in the hazard rates over time, underscoring our analysis's importance of accounting for time.

**Table A. 2.** Complete Complementary Log-Log Regression Results for Education and Parenthood with and without Control Variables

| | **(Model 1) HRs/CIs** | **(Model 2) HRs/CIs** |
|---|---|---|
| **Education** | 0.934*** | 0.909*** |
| | [0.923,0.945] | [0.898,0.920] |
| **time_1_3 (Ref: time 7-9)** | 0.135*** | 0.145*** |
| | [0.129,0.140] | [0.139,0.151] |
| time_4_6 | 0.239*** | 0.247*** |
| | [0.230,0.248] | [0.238,0.256] |
| age | | 1.012*** |
| | | [1.011,1.013] |
| Ethnicity (Ref: White) | | |
| Mixed | | 1.336*** |
| | | [1.164,1.534] |
| Asian | | 1.825*** |
| | | [1.736,1.919] |
| Black | | 2.116*** |
| | | [1.959,2.286] |
| Other Ethnic group | | 1.682*** |
| | | [1.414,2.000] |
| Health Issue (Ref: No) | | |
| Yes | | 0.986 |
| | | [0.952,1.021] |
| Financial Situation (Ref: Better) | | |
| Worse | | 0.997 |
| | | [0.943,1.054] |
| Same | | 0.973 |
| | | [0.933,1.014] |
| Household Income (ref: Lowest income quintile | | |
| 2nd quintile | | 1.261*** |
| | | [1.181,1.346] |
| 3rd quintile | | 1.463*** |
| | | [1.373,1.559] |
| 4th quintile | | 1.655*** |
| | | [1.553,1.763] |
| Highest income quintile | | 1.839*** |
| | | [1.726,1.960] |
| Wald $X^2$ (df) | 11, 82(3) | 13,03 (15) |
| p-value | < 0.001 | < 0.001 |
| N | 145043 | 145043 |

**Note.** Complementary log-log regressions with Hazard Ratios (HRs); 95% confidence intervals in brackets; controlling for ethnicity, household income, financial situation, age, and health issues. UKHLS 2009-2019. Significance levels: * = p < 0.05, ** = p < 0.01, *** = p < 0.001; N person-period (145,043/25,524). Analyses were conducted using the xtcloglog model.

**Table A. 3.** Complete Complementary Log-Log Regression Results for Marital Status and Parenthood with and without Control Variables

| | **(Model 3) HRs/CIs** | **(Model 4) HRs/CIs** |
|---|---|---|
| Marital Status (Ref: Single) | | |
| Married | 5.948*** | 6.026*** |
| | [5.471,6.467] | [5.522,6.575] |
| Living as Couples | 4.846*** | 5.272*** |
| | [4.412,5.324] | [4.792,5.799] |
| Formerly Partnered | 5.162*** | 5.429*** |
| | [4.698,5.673] | [4.921,5.990] |
| time_1_3 (Ref: time 7-9) | 0.151*** | 0.146*** |
| | [0.145,0.157] | [0.140,0.152] |
| time_4_6 | 0.247*** | 0.244*** |
| | [0.238,0.257] | [0.235,0.254] |
| age | | 1.002** |
| | | [1.000,1.003] |
| Ethnicity (Ref: White) | | |
| Mixed | | 1.518*** |
| | | [1.322,1.742] |
| Asian | | 1.693*** |
| | | [1.609,1.781] |
| Black | | 2.366*** |
| | | [2.190,2.557] |
| Other Ethnic group | | 1.647*** |
| | | [1.385,1.959] |
| Health Issue (Ref: No) | | |
| Yes | | 1.029 |
| | | [0.994,1.066] |
| Financial Situation (Ref: Better) | | |
| Worse | | 0.969 |
| | | [0.916,1.024] |
| Same | | 0.977 |
| | | [0.937,1.018] |
| Household Income (ref: Lowest income quintile | | |
| 2nd quintile | | 1.035 |
| | | [0.968,1.106] |
| 3rd quintile | | 1.054 |
| | | [0.986,1.125] |
| 4th quintile | | 1.068 |
| | | [1.000,1.142] |
| Highest income quintile | | 1.100** |
| | | [1.029,1.175] |
| Wald $X^2$ (df) | 12,94 (5) | 13,64(17) |
| p-value | < 0.001 | < 0.001 |
| N | 145043 | 145043 |

Note. Complementary log-log regressions with Hazard Ratios (HRs); 95% confidence intervals in brackets; controlling for ethnicity, household income, financial situation, and health issues. UKHLS 2009-2019. Significance levels: * = p < 0.05, ** = p < 0.01, *** = p < 0.001; N person-period (145,043/25,524). Analyses were conducted using the xtcloglog model.

**Table A. 4** Complete Complementary Log-Log Regression Results for the interaction with Education and Marital Status on Parenthood with control variables.

| | **(Model 5) HRs/CIs** | **(Model 6) HRs/CIs** |
|---|---|---|
| **Education** | 0.906*** | 0.690*** |
| | [0.895,0.917] | [0.645,0.738] |
| **Marital Status (Ref: Single)** | | |
| **Married** | 6.060*** | 3.446*** |
| | [5.554,6.613] | [2.987,3.976] |
| **Living as Couples** | 5.215*** | 4.163*** |
| | [4.740,5.737] | [3.543,4.892] |
| **Formerly Partnered** | 5.495*** | 3.259*** |
| | [4.980,6.064] | [2.785,3.813] |
| time_1_3 | 0.143*** | 0.143*** |
| | [0.137,0.149] | [0.137,0.149] |
| time_4_6 | 0.241*** | 0.242*** |
| | [0.232,0.251] | [0.233,0.251] |
| age | 1.001 | 1.001 |
| | [0.999,1.002] | [0.999,1.002] |
| Ethnicity (Ref: White) | | |
| Mixed | 1.577*** | 1.583*** |
| | [1.373,1.811] | [1.378,1.817] |
| Asian | 1.715*** | 1.726*** |
| | [1.630,1.804] | [1.640,1.816] |
| Black | 2.419*** | 2.424*** |
| | [2.238,2.613] | [2.244,2.619] |
| Other Ethnic group | 1.717*** | 1.721*** |
| | [1.443,2.043] | [1.446,2.047] |
| Health Issue (Ref: No) | | |
| Yes | 1.016 | 1.015 |
| | [0.981,1.052] | [0.981,1.051] |
| Financial Situation (Ref: Better) | | |
| Worse | 0.962 | 0.961 |
| | [0.910,1.017] | [0.909,1.015] |
| Same | 0.964 | 0.961 |
| | [0.925,1.004] | [0.922,1.001] |
| Household Income (Ref: Lowest income quintile | | |
| 2nd quintile | 1.048 | 1.064 |
| | [0.980,1.121] | [0.994,1.138] |
| 3rd quintile | 1.107** | 1.122*** |
| | [1.036,1.183] | [1.049,1.200] |
| 4th quintile | 1.156*** | 1.170*** |
| | [1.080,1.236] | [1.093,1.252] |
| Highest income quintile | 1.246*** | 1.258*** |
| | [1.164,1.334] | [1.175,1.347] |
| **Married # Education** | | 1.350*** |
| | | [1.261,1.446] |
| **Living as Couples # Education** | | 1.140*** |
| | | [1.055,1.231] |
| **Formerly Partnered # Education** | | 1.330*** |
| | | [1.233,1.434] |
| Wald $X^2$ (df) | 13,910 (18) | 13,96 (21) |
| p-value | <0.001 | <0.001 |
| *N* | 145043 | 145043 |

Note. Log-Log regressions with robust standard errors. Hazard Ratios (HRs); 95% confidence intervals in brackets; controlling ethnicity, household income, financial situation, and health issues. UKHLS 2009-2019. Significance level * = $p < 0.05$, ** = $p < 0.01$, *** = $p < 0.001$; REF: Reference category; SEs not shown

# Chapter Two

**Table B. 1** Correlation Matrix of Eight Items from the Social Cohesion Scale

| 1. Close-knit neighborhood | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** |
|---|---|---|---|---|---|---|---|---|
| 2. People willing to help their neighbours | 0.5319 | 1 | | | | | | |
| 3. People in this neighbourhood can be trusted | 0.4391 | 0.5810 | 1 | | | | | |
| 4. People don't get along with each other | 0.3214 | 0.4642 | 0.4790 | 1 | | | | |
| 5. Belong to neighborhood | 0.4470 | 0.4351 | 0.4066 | 0.3068 | 1 | | | |
| 6. Talk regularly to neighbours | 0.3737 | 0.3691 | 0.3056 | 0.2416 | 0.4791 | 1 | | |
| 7. Willing to improve neighbourhood | 0.1937 | 0.2387 | 0.2294 | 0.1732 | 0.3181 | 0.3742 | 1 | |
| 8. Can borrow things from neighbours | 0.3002 | 0.3962 | 0.3049 | 0.2320 | 0.3815 | 0.4182 | 0.3225 | 1 |
| **Test scale** | | **Alpha 0.8132** | | | | | | |

*Source: UKHLS 2011*

**Table B. 2** Construction of family tie scale

| **Family Ties components** | **Scale Items** | **Measures** | **Cronbach's alpha** |
|---|---|---|---|
| **Support exchange between respondents and their parent** | • getting a lift in their car<br>• shopping<br>• providing or cooking meals<br>• looking after your children<br>• washing, ironing or cleaning<br>• dealing with personal affairs, e.g. paying bills<br>• decorating, gardening or house repairs<br>• financial help | The total support scale is 0-6, where 0 donates both parents who are deceased or have no support, and 6 is the maximum support exchange. | **0.70** |
| **Frequency of contact with parents** | • Parents are deceased<br>• Never<br>• Several times per year<br>• at least once per month<br>• at least once per week<br>• Daily | Total contact with either parent ranges from 0-6, where 0 donates both parents deceased or contact, and six maximum contacts. | |

The family scale variables were measured using two family components- contact and support. This information can be found in the "Family life" index in the UKHLS.

**Table B. 3** Regression results from the association between parenthood and well-being, with and without controls

| | **(Model 1)** | **(Model 2)** |
|---|---|---|
| | **B (SE)** | **B (SE)** |
| **Childless (Ref: Parents)** | -0.230 | 0.378* |
| | (0.170) | (0.180) |
| **Education (Ref: Degree)** | | |
| Other higher education | | -0.145 |
| | | (0.205) |
| A-Level or equivalent | | -0.243 |
| | | (0.176) |
| GCSE or Other qualification | | -0.263 |
| | | (0.169) |
| No Qualification | | -0.973*** |
| | | (0.238) |
| **Job Status (Ref: Managerial)** | | |
| Middle | | 0.274 |
| | | (0.160) |
| Sem Routine/ Routine | | 0.543** |
| | | (0.186) |
| currently not working | | -1.759*** |
| | | (0.202) |
| **Ethnicity (Ref: White)** | | |
| 2. Mixed | | 0.099 |
| | | (0.685) |
| 3. Asian | | -0.555 |
| | | (0.318) |
| 4. Black | | 0.528 |
| | | (0.360) |
| 5. Other Ethnic group | | -1.683 |
| | | (1.062) |
| Household Income (Ref: Lowest | | |
| 2nd quintile | | 0.401 |
| | | (0.263) |
| 3rd quintile | | 0.791** |
| | | (0.261) |
| 4th quintile | | 1.055*** |
| | | (0.275) |
| Highest income quintile | | 1.260*** |
| | | (0.281) |
| Job Disruption (Ref: No) | | |
| Yes | | -0.465*** |
| | | (0.139) |
| Marital Status (Ref: Single) | | |
| 2. Married | | 0.339 |
| | | (0.255) |
| 3. cohabited | | 0.113 |
| | | (0.309) |
| 4. Formerly Partnered | | -0.210 |
| | | (0.291) |
| Family ties | | -0.039 |

| | | |
|---|---|---|
| | | (0.076) |
| Age | | 0.154*** |
| | | (0.011) |
| Constant | 25.444*** | 16.475*** |
| | (0.066) | (0.673) |
| Observations | 7321 | 7321 |
| **$R^2$** | 0.0003 | **0.0703** |

Unstandardised coefficients control family ties, marital status, education, current employment, ethnicity, gross household income, age, and employment discontinuity. Significance level * p < 0.05, ** p < 0.01, *** p <0.001; REF: Reference category; Robust standard errors in parentheses.

**Table B. 4** Interaction Terms between Marital Status and Parenthood, with and without Controls

| | **(Model 3)** | **(Model 4)** | **(Model 5)** |
|---|---|---|---|
| | **B/SE** | **B/SE** | **B/SE** |
| **Childless (Ref: Parents)** | 0.220 | 0.422 | 0.491 |
| | (0.182) | (0.459) | (0.439) |
| **Marital Status (Ref: Single)** | | | |
| **2. Married** | 1.438*** | 1.578*** | 0.418 |
| | (0.253) | (0.366) | (0.355) |
| **3. cohabited** | 0.832** | 0.857* | 0.053 |
| | (0.310) | (0.429) | (0.414) |
| **4. Formerly Partnered** | 0.251 | 0.369 | -0.152 |
| | (0.307) | (0.414) | (0.390) |
| **Childless # Married** | | -0.401 | -0.297 |
| | | (0.515) | (0.492) |
| **Childless # cohabited** | | 0.233 | 0.413 |
| | | (0.654) | (0.634) |
| **Childless # Formerly Partnered** | | -0.169 | -0.104 |
| | | (0.713) | (0.683) |
| **Education (Ref: Degree)** | | | |
| Other higher education | | | -0.147 |
| | | | (0.205) |
| A-Level or equivalent | | | -0243 |
| | | | (0.176) |
| GCSE or Other qualification | | | -0.269 |
| | | | (0.169) |
| No Qualification | | | 0.978*** |
| | | | (0.237) |
| **Job Status (Ref: Managerial)** | | | |
| Middle | | | 0.233 |
| | | | (0.161) |
| Sem Routine/ Routine | | | 0.489** |
| | | | (0.186) |
| Currently not working | | | -1.759*** |
| | | | (0.202) |
| **Ethnicity (Ref: White)** | | | |
| 2. Mixed | | | 0.073 |
| | | | (0.691) |
| 3. Asian | | | -0.506 |
| | | | (0.318) |
| 4. Black | | | 0.563 |
| | | | (0.361) |
| 5. Other Ethnic group | | | -1.692 |
| | | | (1.065) |
| **Household Income (Ref: Lowest)** | | | |
| 2nd quintile | | | 0.370 |
| | | | (0.263) |
| 3rd quintile | | | 0.752** |
| | | | (0.261) |
| 4th quintile | | | 1.006*** |
| | | | (0.275) |
| Highest income quintile | | | 1.232*** |
| | | | (0.281) |
| **Job Disruption (Ref: No)** | | | 0.000 |
| Yes | | | -0.473*** |
| | | | (0.139) |

| | | | |
|---|---|---|---|
| Family ties | | | -0.040 |
| | | | (0.076) |
| Age | | | 0.156*** |
| | | | (0.011) |
| Constant | 24.268*** | 24.145*** | 16.415*** |
| | (0.250) | (0.359) | (0.717) |
| **Observations** | 7321 | 7321 | 7321 |
| **$R^2$** | 0.0100 | 0.0102 | 0.0715 |

Unstandardised coefficients control family ties, marital status, education, current employment, ethnicity, gross household income, age, and employment discontinuity. Significance level * p < 0.05, ** p < 0.01, *** p <0.001; REF: Reference category; Robust standard errors in parentheses.

**Table B. 5** Interaction Terms between Social Cohesion and Parenthood on Wellbeing, with and without Controls

| | **(Model 6)** | **(Model 7)** | **(Model 8)** |
|---|---|---|---|
| | **B/SE** | **B/SE** | **B/SE** |
| Childless (Ref: Parents) | -0.131 | -0.365 | 0.552 |
| | (0.167) | (0.978) | (0.943) |
| Social Cohesion | 1.703*** | 1.687*** | 1.500*** |
| | (0.123) | (0.134) | (0.127) |
| childless # Social Cohesion | | 0.086 | -0.057 |
| | | (0.341) | (0.328) |
| Education (ref: Degree) | | | |
| Other higher education | | | -0.112 |
| | | | (0.203) |
| A-Level or equivalent | | | -0.170 |
| | | | (0.174) |
| GCSE or Other qualification | | | -0.209 |
| | | | (0.167) |
| No Qualification | | | -0.932*** |
| | | | (0.233) |
| Job Status (Ref: Managerial) | | | |
| Middle | | | 0.218 |
| | | | (0.159) |
| Sem Routine/ Routine | | | 0.534** |
| | | | (0.185) |
| currently not working | | | -1.718*** |
| | | | (0.199) |
| Ethnicity (Ref: White) | | | |
| 2. Mixed | | | 0.362 |
| | | | (0.685) |
| 3. Asian | | | -0.520 |
| | | | (0.311) |
| 4. Black | | | 0.735* |
| | | | (0.355) |
| 5. Other Ethnic group | | | -1.527 |
| | | | (1.001) |
| Household Income (Ref: Lowest) | | | |
| 2nd quintile | | | 0.308 |
| | | | (0.260) |
| 3rd quintile | | | 0.715** |
| | | | (0.256) |
| 4th quintile | | | 0.914*** |
| | | | (0.272) |
| Highest income quintile | | | 1.120*** |
| | | | (0.277) |
| Job Disruption (Ref: No) | | | |
| Yes | | | -0.450** |
| | | | (0.137) |
| Marital Status (Ref: Single) | | | |
| 2. Married | | | 0.240 |
| | | | (0.251) |
| 3. cohabited | | | 0.163 |
| | | | (0.304) |
| 4. Formerly Partnered | | | -0.223 |
| | | | (0.286) |

| | | | |
|---|---|---|---|
| **Family ties** | | | -0.093 |
| | | | (0.075) |
| Age | | | 0.142*** |
| | | | (0.010) |
| Constant | 20.721*** | 20.764*** | 13.209*** |
| | (0.359) | (0.388) | (0.740) |
| **$R^2$** | 0.0333 | 0.0335 | 0.0961 |
| **Observations** | **7321** | **7321** | **7321** |

Unstandardised coefficients control family ties, marital status, education, current employment, ethnicity, gross household income, age, and employment discontinuity. Significance level * p < 0.05, ** p < 0.01, *** p <0.001; REF: Reference category; Robust standard errors in parentheses.

## Chapter Three

In the COVID-19 survey, all eligible adults in sampled households were surveyed. Since the survey lacked a direct method to identify partners or spouses, we used an indirect approach. We tracked the unique identifier (PID) of co-resident partners or spouses from the most recent primary annual survey wave when the respondent was last surveyed. If this identifier matched someone currently residing at the same address as the respondent and both individuals reported living as a couple, we inferred them to be partners or spouses. A new binary variable named (spouse_partner) is created to identify spouses or partners and is initially set to zero. If their bid corresponds to someone with the same address (cg_aid_dv == 1) and they report living as a couple (cg_couple == 1), they are considered likely to be a partner or spouse. For individuals who meet the specified criteria in either wave, the spouse_partner variable is updated to 1, indicating they are identified as a spouse or partner.

**Table C**. *1* . The Four Items Used to Construct the Marital Satisfaction Scale with Cronbach's Alpha Coefficient.

| Items | Measures | Cronbach's alpha |
|---|---|---|
| **1. How often do you discuss or consider divorce, separation or terminating your relationship?**<br>**2. Do you ever regret that you married or lived together?**<br>**3. How often do you and your partner quarrel?**<br>**4. How often do you and your partner "get on each other's nerves"** | 1. All of the time<br>2. Most of the time<br>3. More often than not<br>4. Occasionally<br>5. Rarely<br>6. Never | (0.81) |

Reference: Understanding Society, Main Survey, 2019-2021

(https://www.understandingsociety.ac.uk/documentation/mainstage/dataset-documentation/variable/scdassat_dv)

The Following Tables, C.2, 3, 4, and 5, show complete OLS regression results for Models 1- 7 in the main text, including controls for demographics and health conditions. All analyses have been conducted in Stata 18.0.

**Table C. 2.** Regression results of the association between parenthood and Marital Satisfaction

| **DV: Marital Satisfaction $_{2021}$- Marital Satisfaction $_{2019}$** | **Model (1) B (SE)** | **Model (2) B (SE)** |
|---|---|---|
| **Childless (Ref: Fathers)** | 0.160 | 0.674*** |
| | (0.150) | (0.175) |
| Average Age | | 0.008 |
| | | (0.006) |
| Ethnicity (Ref: White) | | |
| Mixed | | 0.862 |
| | | (0.478) |
| Asian | | 0.468 |
| | | (0.355) |
| Black | | 0.758 |
| | | (0.649) |
| Other Ethnic group | | -0.315 |
| | | (0.565) |
| Household Size (ref: 1) | | |
| 2 | | 2.954*** |
| | | (0.312) |
| 3 | | 2.942*** |
| | | (0.334) |
| 4 | | 3.44*** |
| | | (0.353) |
| 5 | | 3.007*** |
| | | (0.462) |
| 6 | | 3.101*** |
| | | (0.786) |
| Have Health Issue (Ref: No) | | |
| Yes | | 0.048 |
| | | (0.152) |
| Education (Ref: Post-secondary tertiary) | | |
| other post-secondary | | -0.187 |
| | | (0.225) |
| A-level | | -0.142 |
| | | (0.187) |
| less than A-level | | -0.111 |
| | | (0.186) |
| no qualification | | 0.341 |
| | | (0.537) |
| Satisfaction with life overall | | 0.177*** |
| | | (0.052) |
| Constant | -0.305** | -4.469*** |
| | (0.116) | (0.565) |
| $R^2$ | 0.000 | 0.084 |

**Note.** OLS regressions with robust standard errors in parentheses. UKHLS 2019-2021. Significance level * = p < 0.05, ** = p < 0.01, *** = p < 0.001; REF: Reference category.

**Table C. 3.** Regression results of the association between age of youngest children and Marital Satisfaction

| DV: **Marital Satisfaction** $_{2021}$ **- Marital Satisfaction** $_{2019}$ | **Model (3)** **B (SE)** | **Model (4)** **B (SE)** |
|---|---|---|
| **Age of youngest child (Ref: childless)** | | |
| **Parent 0-4** | 0.168 | -0.606 |
| | (0.275) | (0.338) |
| **Parent 5-10** | -0.229 | -.997** |
| | (0.298) | (0.351) |
| **Parents 11-15** | 0.161 | -0.648* |
| | (0.264) | (0.326) |
| **Parent 16+** | -0.447* | -0.614** |
| | (0.200) | (0.193) |
| Age | | 0.008 |
| | | (0.006) |
| Household Size (Ref: 1) | | |
| 2 | | 2.944*** |
| | | (0.312) |
| 3 | | 2.961*** |
| | | (0.338) |
| 4 | | 3.507*** |
| | | (0.387) |
| 5 | | 3.076*** |
| | | (0.497) |
| 6 | | 3.123*** |
| | | (0.799) |
| Ethnicity (Ref: White) | | |
| Mixed | | 0.850 |
| | | (0.480) |
| Asian | | 0.471 |
| | | (0.357) |
| Black | | 0.789 |
| | | (0.641) |
| Other Ethnic group | | -0.326 |
| | | (0.570) |
| Have Health Issue (Ref: No) | | |
| Yes | | 0.047 |
| | | (0.152) |
| Education (Ref: Post-secondary tertiary) | | |
| other post-secondary | | -0.192 |
| | | (0.225) |
| A-level | | -0.151 |
| | | (0.187) |
| less than A-level | | -0.113 |
| | | (0.186) |
| no qualification | | 0.319 |
| | | (0.539) |
| Satisfaction with life overall | | 0.176*** |
| | | (0.052) |
| Constant | -0.145 | -3.783*** |
| | (0.095) | (0.450) |
| r2 | 0.002 | 0.086 |

**Note.** OLS regressions with robust standard errors in parentheses. Unstandardised coefficients UKHLS 2019-2021. Significance level * = $p < 0.05$, ** = $p < 0.01$, *** = $p < 0.001$; REF: Reference category.

**Table C. 4.** Regression results of the association between Subjective Finance Situation and Marital Satisfaction

| **DV: Marital Satisfaction 2021- Marital Satisfaction 2019** | **Model (5) B (SE)** | **Model (6) B (SE)** | **Model (7) B (SE)** |
|---|---|---|---|
| Childless (Ref: Fathers) | 0.147 | 0.751 | 1.562* |
| | (0.150) | (0.912) | (0.909) |
| Subjective financial situation | 0.219** | 0.301* | 0.181 |
| | (0.108) | (0.161) | (0.159) |
| Childless # Subjective financial situation | | -0.149 | -0.212 |
| | | (0.217) | (0.214) |
| Age (Ref: 19-29) | | | |
| 30-39 | | | 0.009 |
| | | | (0.316) |
| 40-49 | | | 0.539* |
| | | | (0.283) |
| 50-59 | | | 0.364 |
| | | | (0.287) |
| 60-70 | | | 0.275 |
| | | | (0.302) |
| Household Size ( Ref:1) | | | |
| 2 | | | 2.979*** |
| | | | (0.313) |
| 3 | | | 2.926*** |
| | | | (0.335) |
| 4 | | | 3.380*** |
| | | | (0.354) |
| 5 | | | 2.962*** |
| | | | (0.463) |
| 6 | | | 3.126*** |
| | | | (0.790) |
| Ethnicity (Ref: White) | | | |
| Mixed | | | 0.863* |
| | | | (0.488) |
| Asian | | | 0.479 |
| | | | (0.354) |
| Black | | | 0.748 |
| | | | (0.653) |
| Other Ethnic group | | | -0.309 |
| | | | (0.574) |
| Have Health Issue (Ref No) | | | 0.000 |
| Yes | | | 0.075 |
| | | | (0.152) |
| Education (Ref: Post-secondary tertiary) | | | |
| other post-secondary | | | -0.180 |
| | | | (0.226) |
| A-level | | | -0.104 |
| | | | (0.189) |
| less than A-level | | | -0.097 |
| | | | (0.188) |
| no qualification | | | 0.427 |
| | | | (0.543) |
| Satisfaction with life overall | | | 0.170*** |
| | | | (0.053) |
| Constant | -1.187*** | -1.520** | -5.085*** |
| | (0.459) | (0.671) | (0.827) |
| $R^2$ | 0.002 | 0.002 | 0.085 |

**Note.** OLS regressions with robust standard errors in parentheses. Unstandardised coefficients UKHLS 2019-2021. Significance level * = p < 0.05, ** = p < 0.01, *** = p < 0.001; REF: Reference category.

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