Wellbeing in the UK PRS: a longitudinal analysis of outcomes for families and children

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Abstract

The housing system in the United Kingdom has seen substantial shifts over the last century, with its position amongst the policy priorities of government remaining consistently prominent. However, government ambitions regarding housing have taken different shapes and are reflected in those changes to the housing landscape, whether that be the clearances of poor-quality housing or the sale of vast swathes of social housing. There have been concurrent shifts in the demography of the private rented sector (PRS), also. In contrast to the common conception of the sector as a home to young people saving for a mortgage deposit, or those seeking mobility to access employment opportunities, the PRS now houses many who would prefer to live in other tenures. This includes those priced out of home-ownership and those who would have, in the past, been housed in social housing (SH). Increasingly, families and children have come to represent larger proportion of private tenants, while many renters are staying in the sector further into their lives.

These changes represent a marked shift in the use of the PRS and one that is argued to have not been reflected in policy relating to it. This is of particular consequence for families, who lack the long-term security and agency in housing decisions that they need. Indeed, the UK's lightly-regulated PRS is argued to be one that embodies insecurity. Alongside poor housing conditions and high housing costs, much qualitative research has found tenants face negative health effects owing to or exacerbated by the particular conditions of renting privately. This research does not show the scale of any effects, however. There is also little focus on families and children. While quantitative research on the effect of poor conditions on physical health has come to be well-represented in the literature, the impact on mental wellbeing remains little-studied in the UK context.

To meet these evidence needs, this thesis has sought to answer the following research questions: Do wellbeing outcomes differ between tenure groups across the life course? Does exposure to the UK PRS in childhood impact mental wellbeing in later life? Do PRS tenants with children exhibit different mental wellbeing outcomes than those without? To answer these questions, the thesis analyses data from two of the UK's largest cohort surveys, the 1970 British Cohort Study (BCS70) and the Millenium Cohort Study. Generalised Linear Mixed Models (GLMMs) are estimated on the BCS70 data in order to make robust estimates of effects over time. Generalised Linear Models (GLMs) and are also estimated to investigate effects in middle-age, while linear models are estimated on MCS data to investigate effects for a younger age cohort.

The research finds generalisable effects across the life-course of PRS tenants, adding important evidence to the literature. Controlling for a range of influential factors, tenure-wide disparities in wellbeing are found to persist and even grow as tenants age, while parents in the PRS facing significantly worse outcomes than owner-occupiers approaching middle-age. Importantly, the research finds significant negative effects across the life course for those who have early-life exposure to the PRS. Young people in the PRS are also estimated to have poorer wellbeing in the younger age cohort, implying that the negative effects of living in the sector are being replicated for a younger generation. In light of these results, recommendations are made to ameliorate the negative consequences of living in the PRS and to make it a more secure and livable sector, as well as for further research to explore the effects found.

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Author’s declaration

I declare that, except where explicit reference is made to the contribution of others, that this dissertation is the result of my own work and has not been submitted for any other degree at the University of Glasgow or any other institution.

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List of Abbreviations

AST	Assured Shorthold Tenancy
BCS70	1970 British Cohort Study
BTL	Buy-to-let
BTR	Build-to-rent
CM	Cohort member
DSS	Department for Social Security
FEM	Fixed effects model
GFC	Global Financial Crisis
GLM	Generalised linear model
GLMM	Generalised linear mixed model
HB	Housing Benefit
HTB	Help To Buy
LA	Local authority
LHA	Local Housing Allowance
LM	Linear model
MAR	Missing at random
MCS	Millennium Cohort Study
OVB	Omitted variable bias
PRS	Private rented sector
PRT	Private Residential Tenancy
REM	Random effects model
RQ	Research question
RR	Rate ratio
RTB	Right-to-buy
SE	Standard error
SH	Social housing
TA	Temporary Accommodation
UC	Universal Credit
SWEMWBS	Short Warwick-Edinburgh Mental Wellbeing Score

1. Introduction

1.1 The UK private rented sector and the experience of renting

Housing is rarely out of the news in the UK, with reports of the housing crisis being almost a daily occurrence in recent years. Yet this reporting usually takes two forms, with housing viewed differently in each. On the one hand, housing market growth is reported positively, reflecting housing as a consumption good and investment vehicle. On the other, the difficulty for first-time buyers and poorer households to enter home-ownership are decried amidst reports of ever-increasing house prices. This polarisation is telling, highlighting not only the privileging of home-ownership in the UK but also of its awkward status as a relatively inflexible means of investment. In contemporary discourse, home-ownership has come to be seen as a marker of success in life (Gurney, 1999) and of achieving adulthood (Scanlon, 2015). The reasons behind this are at once political and practical; home-ownership has been promoted by various governments since the 1980s in pursuit of the 'property-owning democracy' (McKee et al, 2017), while it also offers one of the surest ways to secure future financial security. An incoming Labour government in 2024, voters are told, will not change this; Labour are the 'party of homeownership', claim party leaders (Moules, 2024). Behind this lies the fact that the UK's other main tenures are rarely regarded as aspirational.

Throughout the 20th century, the private rented sector (PRS) had been in decline alongside the growth of the owner-occupied sector and the post-war expansion of the social-rented sector. However, the policies of the 1980s Conservative governments drastically reshaped the UK tenure landscape. Mortgage market deregulation, disinvestment in social housing (SH), and the weakening of tenant protections in the PRS saw the continued rise of home-ownership, decline of the SH sector and an arresting of the fall of PRS levels (Bramley et al, 2004). The decline of SH in the UK is of great importance for the PRS. The large reduction in housing stock in the former, through disinvestment and the 'Right to Buy', means that many who would have previously been housed in SH now live in the PRS (Bailey, 2020). The result of this 'residualisation' of the SH sector means that only those welfare-claimants with greatest complexity and urgency of need can access the sector, while it has lost much of its most desirable stock and become viewed with increased stigma (Kemp & Kofner, 2010; Mahony, 2020).

Also key to the PRS' revival was the introduction of Assured Shorthold Tenancies (ASTs) in the 1988 Housing Act, which greatly reduced tenant protections and allowed landlords freedom in setting rents. This has been argued to be a highly successful policy, attracting as did a vast number of investment landlords and expanding a sector that had been in decline (Bramley et al, 2004). Arguably, however, it was these changes that have resulted in the issues for which the PRS is now infamous. Perhaps the most well-known of these is Section 21 of the Housing Act 1988, permitting landlords to evict tenants at the end of a fixed-term tenancy period, in what has become known as 'no-fault' evictions (Walsh, 2019). Housing conditions are also notoriously poor in the PRS, with some of the worst facilities, services and level of repair found in the sector (Lister, 2005). While less scrupulous

landlords may ignore rules in areas where PRS stock is in short supply, the proliferation of small-portfolio landlords across the sector means that the light regulatory frameworks that do exist are difficult to enforce (Soaita et al, 2020). This situation is argued to result in a system whose ability to ensure quality is questionable and which relies on tenants exercising their rights rather than on enforcement of regulation (Marsh & Gibb, 2019).

As the PRS has changed due to knock-on effects from other tenures, it has become more heterogeneous. This includes those who would previously have lived in the SH sector as discussed previously, as well as those who would have bought a home who can no longer afford to do so. The latter, the so-called 'generation rent', has been the focus of significant attention (McKee et al, 2019). However, this serves to underplay the stratification that exists amongst young people (Coulter, 2017), as well as the experience of older renters and families (Soaita et al, 2020). It is argued that the framing of the PRS in policy has not changed to accommodate the rising numbers of tenants living in the sector long-term, or the increasing number of those who are raising families within it (Coulter, 2017; Walsh, 2019). Since the 1980s, governments have sought to portray the sector as flexible and short-term, a means by which to increase labour mobility and as a vehicle for investment capital (De Santos, 2012; Daly & Gulliver, 2014). The framing of the PRS as a short-term home for individuals preceding home-ownership means that the sector fails to cater to families, who, while not alone in requiring security in their living situation, are particularly affected by a reduced ability to plan into the future (Walsh, 2019). Similarly, families are argued to suffer from the reduced agency that living in the PRS confers, for example in relation to the ability to decorate or to keep pets (De Santos, 2012). Fears of reprisals from landlords, particularly the threat of forced moves, bear particular significance to families, who are more likely to be embedded in their area (Bailey et al, 2012). Children's socialisation, health and education outcomes are also at risk of being negatively impacted by forced moves, and particularly from moving home often (Shelter, 2012).

Beneath the demographic changes in the PRS there has also been a marked rise in the number of tenants who are in poverty, with a third of children in poverty now living in the PRS (Bailey, 2020) and a four-fold increase in the number of couple-parent families in poverty in the sector since 2000 (JRF, 2020). Along with families with children, landlords have been found to discriminate against those on low or unstable incomes and welfare recipients, placing them at a distinct disadvantage when trying to find a home (Hoolachan et al, 2016). The rise of such precarious living conditions reflects that of precarious work and reliance on a diminished social security system, potentially leading to a reliance on credit and a cycle of housing precarity (Hoolachan et al, 2016). The lower end of the PRS, where welfare claimants and others with few resources are likely forced to live, is also experientially different to other sub-sections of the PRS. Conditions in this part of the sector are often poor, with landlords who are more likely to hold their properties for investment purposes and to not keep up with repairs (Crook, 2002a).

Housing has an established link with health, which has in the past mostly been understood in relation to the physical conditions of a building (Clair et al, 2023). However, more contemporary research has investigated the psychosocial elements of home and how aspects of the housing experience such as affordability and security may be linked with health (Clair et al, 2023). Qualitative research with PRS tenants has repeatedly found that tenure insecurity and poor housing conditions are sources of

considerable anxiety for tenants (for example: Atkinson, 2015; JRF, 2020; Walsh, 2019), while housing precariousness' damaging impact on wellbeing is most harmful in the PRS (Ong ViforJ et al, 2022). However, the relationship between a tenant and landlord is also influential. For example, McKee et al (2021) find that negative responses from landlords to requests regarding repairs result in stress and the fear of retaliatory evictions. Similarly, evidence shows that high housing costs in the PRS markedly damages tenant wellbeing (Angel & Gregory, 2021). The argument that health-affecting features of the PRS reflect contingent factors or compositional characteristics (Angel & Gregory, 2021) can therefore be seen to be too simplistic, given that the above phenomena arise from policy, or lack thereof, relating to the PRS. As Clair et al (2023) state regarding the physical health consequences of living in the PRS, if the negative effects of living in the PRS on wellbeing are policy contingent they may too be policy ameliorable.

Longitudinal data, and in particular cohort studies, provide the means to investigate wellbeing outcomes and to meet the need for evidence in this area (Sharpe et al, 2022). In particular, they enable the investigation of effects of living in the PRS for families and children, which has had little attention in the research literature thus far (Soaita et al, 2020). This thesis uses two such cohort studies, the 1970 British Cohort Study and the Millenium Cohort Study, to investigate differences in wellbeing outcomes between individuals in each of the UK's housing tenures, focusing not only on disparities between the tenures on average, but on those with children and those who have grown up in the PRS also. The scale of these data, collected from over 40 years and following thousands of cohort members, enables the research to make inferences generalisable to the population and represents the first instance of such analysis in the area.

1.2 Thesis aims and objectives

This thesis aims to contribute to the housing literature by addressing the need for research on families and children in the UK PRS. Specifically, it aims to further understanding of wellbeing outcomes for PRS tenants over time and how these may differ for those growing up in the PRS or raising children within it. To do so, it answers the following research questions:

RQ1: Do wellbeing outcomes differ between tenure groups across the life course?

RQ2: Does exposure to the UK PRS in childhood impact mental wellbeing in later life?

RQ3: Do PRS tenants with children exhibit different mental wellbeing outcomes than those without?

1.3 Thesis structure

The following chapter (**Chapter two**) of the thesis reviews the current research literature surrounding housing and tenure in the UK and the debates concerning it. The chapter presents an overview of changes in the tenure landscape of the UK. This includes the financialisaton of the housing system and of the shifts away from the state's provision of social housing towards subsiding rents in the PRS for welfare claimants, as well as the promotion of owner-occupation. Changes within the demographic composition of the PRS are explored alongside demonstration of how issues surrounding the dominance of small-portfolio landlords, insecurity and poor housing conditions can affect tenants. Clearly emerging from the literature is the impact of these concerns on the wellbeing of those in the PRS, with particular concerns for those in the bottom-end of the PRS. A lack of longitudinal analysis in the investigation of the UK housing system is found, while examples of international studies using longitudinal data are argued to show the advantages of such methodology. Questions are raised regarding how families and children may face additional stresses and negative consequences of living in the PRS, highlighting a need for further evidence of relationships in this area. It concludes by presenting the research questions stated above that aim to address this need.

Chapter three details the methodological approach taken to answer the research questions in the thesis. It describes how large-scale social survey data meets the needs of the research questions due to large sample sizes and thus potential for generalisable findings. This addresses the gap in the housing literature regarding the PRS, which is primarily qualitative. It outlines the difficulties in disentangling effects arising from housing and the need to incorporate a wide range of control variables in analysis. The chapter then describes how existing quantitative research in the area is predominantly cross-sectional analysis and how longitudinal data, specifically cohort studies, provide an opportunity to not only make more reliable estimates but also to investigate changing effects on wellbeing across the life course. After an overview of the cohort studies available for analysis in the UK and the measures of wellbeing that they include, the chapter discusses the types of statistical model that can be used to estimate effects. Finally, it outlines the specific models used to analyse the chosen cohort surveys. Specifically, Generalised Linear Mixed Models (GLMMs) were chosen for longitudinal analysis of the 1970 British Cohort Study (BCS70) data with Malaise score utilised as the dependent variable in these models to measure wellbeing. These models, a type of random effects model, allow for the hierarchical nature of the data and enable robust estimates to me made while maintaining the granularity of the data. Generalised Linear models (GLMs) were also estimated on BCS70 age 46 data to further investigate differences between tenures in middle-age. Additional analysis of the Millennium Cohort Study (MCS) was undertaken via linear regression, utilising the Warwick-Edinburgh Mental Wellbeing Score.

The first of the empirical chapters presents findings from modelling wellbeing trajectories for those in different housing tenures in the UK. **Chapter four** outlines how housing tenure can affect mental wellbeing, particularly the lived effects of tenure insecurity, housing conditions and the regulatory landscape surrounding landlords and tenants. GLMMs estimated on BCS70 data from ages 26 to 46 find that that there are significant disparities in wellbeing outcomes for those in different tenures across the

age range. The models estimate that, when controlling for a wide range of confounding variables, those in the PRS exhibit poorer mental wellbeing than those in owner-occupation and that this gap widens with age. The non-linear relationship between wellbeing and age, also found in other studies (for example: Sacker & Wiggins, 2002; Gondek et al, 2021a), shows that wellbeing improves as cohort members enter their 30s, before declining steeply into middle-age. Generalised Linear Models (GLMs) were estimated on BCS70 data at age 46 to further investigate wellbeing differences at the age point estimated to have the widest disparities between those in different tenures. As well as confirming the finding that those with prior exposure to the PRS had poorer wellbeing outcomes, significant interaction effects were found between residing in the PRS and having a limiting long-term health condition. These results are further discussed in section 4.5.

Chapter five details the analysis undertaken to answer the second research question. Drawing upon the research literature surrounding housing and health, the chapter begins by outlining the effect that living in the tenure as children may have on wellbeing. Analysis of longitudinal data in GLMMs shows that those exposed to the PRS in childhood exhibit poorer well-being outcomes than those who were not. This is estimated to remain the case for most until middle-age, with those who stay in the PRS as adults showing considerably higher malaise scores until age 46. However, for those exposed to the PRS as children who go on to live in SH as adults, malaise scores are estimated to continue to increase throughout life and are estimated to be significantly higher than other groups at age 46. Linear models, estimated on MCS data for a younger age cohort at age 17, also finds that those young people in the PRS at this age exhibit poorer wellbeing scores than those in owner-occupation. While controlling for other important factors, the models also find that those who have lived in the PRS in younger years have poorer wellbeing. Additionally, those exposed to the PRS prior to sweep seven (age 17) of the MCS and with long-term health conditions are whose parents had poor wellbeing show a significant negative interaction effect on wellbeing. The chapter concludes by discussing the implications of the findings in light of other evidence in the area.

The final empirical chapter, **chapter six**, presents analysis pertaining to the third research question. After outlining wider research evidence surrounding the experience of PRS tenants with children, the chapter presents the GLMMs estimated using BCS70 data. These models find that those in the PRS or SH with children show significantly poorer wellbeing outcomes than parents who own their home and those without children. Owner-occupiers who have children are estimated to exhibit malaise scores lower than those without children until age 46, when scores level. For those in the PRS, however, the disparity in wellbeing score continues to grow into middle-age. Investigating this disparity at age 46 specifically, GLMs were estimated using a range of variables taken from this measurement occasion and previous sweeps of the survey. These results find that, on average, there is not a significant difference in wellbeing scores between those in the PRS with children and those without children. However, significant interaction effects are found for those who have children in the PRS at this age and for those without a degree, who work part-time, or who have a limiting long-term health condition.

Chapter seven extends the discussion of results from each of the empirical chapters and brings them together in the context of existing evidence in the area. Inter-tenure differences are first discussed with a focus on the effects of renting across the life course and how the various factors affecting tenants'

wellbeing may change depending on an individual's exposure to the PRS. The impact of growing up in the PRS is then discussed, including the transfer of disadvantage to the children of PRS tenants and the effect of continued living in the sector in adulthood. Finally, the mental wellbeing of parents in the PRS is discussed in relation to the evidence surrounding their particular experience, including anxiety relating to their children's outcomes and problems parents in the PRS face in planning for the future.

Chapter eight presents the conclusions from the research and explains its contribution to the study of the PRS and housing system, meeting as it does the need for investigation of tenants' wellbeing outcomes, the provision of generalisable findings, and greater use of cohort data in the field more broadly. Bringing together the findings from the empirical chapters and the wider evidence reviewed, conclusions regarding long-term renting in the PRS, the impact of exposure to the PRS in childhood and families with children in the PRS are discussed. The policy implications of these over-arching conclusions are then outlined. These focus on improving the security of tenure in the PRS, improving the lived experience of private renting, and providing better protections for PRS tenants. Opportunities for further research in light of the findings of the research are also discussed, including opportunities for further utilisation of longitudinal studies for housing and wellbeing research, more granular measurement of psychosocial housing stressors, and the investigation of alternative models for PRS housing provision.

2. Literature review

2.1 Introduction

Concerns regarding the UK private rental sector (PRS) remain a regular feature in the news and print media, often citing poor conditions or high rents (Collinson, 2020; Booth, 2018), with fears following the COVID-19 pandemic culminating in an eviction ban for tenants in 2020 (MCHLG, 2020). Issues in the sector pre-date recent years, however, and its substantial growth since the latter half of the 20th century has ensured it a position of prominence in the public and political mind (Marsh & Gibb, 2019). This growth has been driven by a range of supply and demand factors, including policy changes that aimed to deregulate and grow the sector. As a result of the changing economic and policy landscape, the demographic composition of the sector has changed substantially, as has the length of time people stay in it (Marsh & Gibb, 2019; McKee et al, 2017). In particular, 'Generation Rent', young people in the PRS who cannot afford to buy a home and are unable to access social housing (SH) (McKee et al, 2017), has been the focus of much research and reporting. Authors argue, however, that attention needs to be given to analysis of more than inter-generational differences (Bone, 2014; Coulter; 2017; McKee et al, 2019), and to the variation within demographic groups such as families with children, whose presence in the PRS has grown substantially in recent decades (Scanlon, 2015; Bailey, 2020). The experience of those within the PRS can vary greatly, authors argue, and disparities extend to less tangible factors than the cost of rent or a dwelling's state of repair, such as feelings of insecurity or an inability to 'put down roots' (JRF, 2020; Bone & O'Reilly, 2010). There is not consensus, however, in who is affected most or in what way, or how pervasive concerns such as insecurity are.

2.2 Changes in the UK housing system

2.2.1 The rise of home-ownership and the decline of social housing

In their summary of changes to the UK housing market, Daly and Gulliver (2014) point to how housing policy had not been a major concern to governments before World War One. Only after a steep fall in private sector housing production during the war, as well as unrest over exploitative rents in industrial areas, did housing come to feature more prominently (Daly & Gulliver, 2014). Shifts in the pattern of tenure followed, as increasing numbers of people moved into owner-occupied housing or social housing (SH) (Figure 2.1). Figure 2.1 shows that, by the 1960s, private home-ownership was beginning to overtake the PRS. The latter had become less attractive to investors due to higher regulation, in conjunction with significant SH expansion (Coulter, 2017). The change in the tenure make-up of the

housing market seen here is indicative of Murie's (2017) argument that the nature and characteristics of tenures are not fixed, but subject to change from a number of influences, including the external environment and competition from other tenures. There was significant competition to the PRS from other sectors in this period, with the limited capacity of the PRS causing increasing numbers of middle- and lower-income households to move into the rapidly expanding SH sector and into owner-occupation (Murie, 2017).

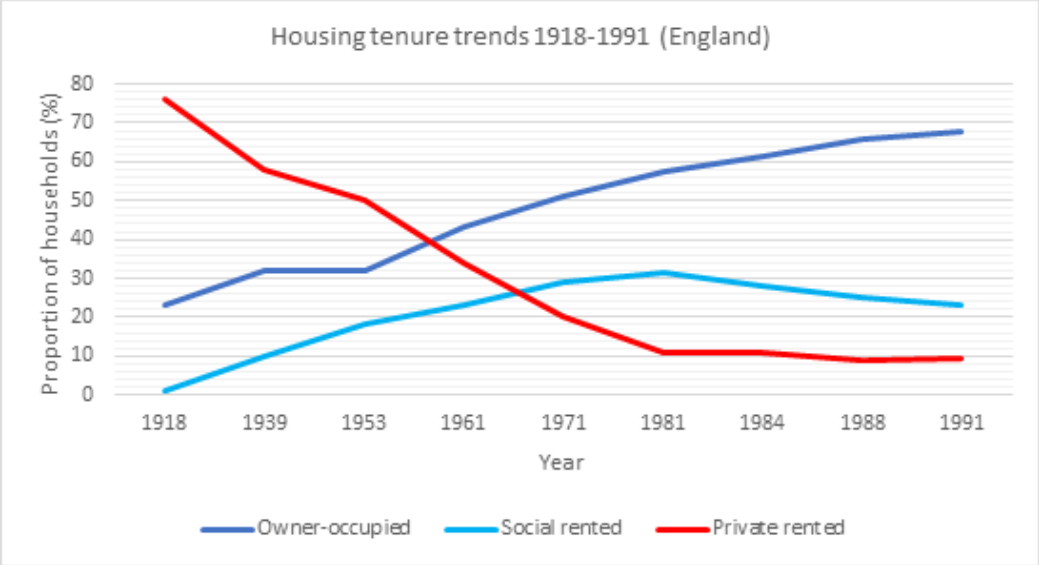

Figure 2. 1 Housing tenure trends (England) (Source: MHCLG, 2020b)

Throughout the 1980s, the PRS accounted for only around 10 per cent of households in England, down from over 75 per cent in 1918 (Figure 2.1). Levels of SH declined after 1981. This followed a shift towards market-based provision of housing by the then government, as seen in other countries at the time (Bailey, 2020). Margaret Thatcher's Conservative government capped residential taxes that Local Authorities could levy, leading to drastically reduced housing budgets (Williams, 2007). Not only did this affect councils' ability to maintain their stock, it also led to a significant reduction in SH building (Hatherley, 2013). An SH tenant's 'right to buy' their home was greatly subsidised as part of this shift in policy, leading to the sale of much of the more desirable council housing to more affluent tenants (Murie, 2017). This initially included a minimum discount of 33 per cent, increasing by one per cent for every further year of tenancy over three years to a maximum of £50,000 (Eardley, 2022). In 1984 the maximum discount was extended to up to 60 per cent of the value of a home, then to up to 70 per cent in the Housing and Planning Act 1986 (Eardley, 2022). From the 1981/82 financial year to that of 1983/84, almost 384,000 homes were sold under the scheme (MHCLG, 2018). The Housing Act 1996 introduced a similar 'right to buy' for housing association tenants, although with much smaller discounts. Over 1.95 million homes have been sold up to 2017/18 (MHCLG, 2018). While capacity in the SH sector was clearly reduced as a result, home-ownership also became more heterogenous (Murie, 2017), highlighting the knock-on effects between tenures.

However, it should also be noted that the SH sector in the UK is still relatively large when compared to other liberal market economies such as the USA, where it comprises less than 1% of housing (Soaita et al, 2020), or New Zealand and Australia, where it accounts for roughly five per cent of all housing (Kemeny, 2001; Bailey, 2020). Other countries in Europe have a similar figure for SH, Aarland et al (2021) states, where it is seen as a temporary safety net and high turnover is an explicit goal of government. In 2019, SH accounted for 24 per cent of households in Scotland (Figure 2.2) and 17 per cent of households in England (Figure 2.3). The fact that a substantial proportion of the population is therefore able to live in safe and less expensive accommodation is important, given that welfare policies in the UK do less to reduce poverty and inequality in comparison to some European countries (Stephens, 2008) and have been substantially reduced following 2010 (Fitzpatrick & Watts, 2017). Byrne (2019) notes that countries in which there is not a state-controlled tenure have seen an exacerbation of the cycles of house price volatility and housing finance and supply contraction in the wake of Global Financial Crisis (GFC). Others, such as Denmark and Austria, have used SH to counter this cycle, highlighting the importance of the size of the sector in the UK (Byrne, 2019). Indeed, Gibb and Hayton (2017) state the use of not-for-profit providers of affordable housing should be promoted more widely, 'not only for those unable to afford market prices, but also as a valuable mechanism for government to utilise at times when counter cyclical investment measures are required' (p.4).

In addition to the 'right to buy' (RTB), the UK housing landscape has been particularly affected by the regeneration of SH estates. The idea of urban 'regeneration' came about in the 1980s and was intended to improve areas that were seen to be problematic (Jones & Evans, 2008). This stands in opposition to the 'slum clearances' and 'urban renewal' earlier in the century that focussed solely on physical change (Jones & Evans, 2008). Regeneration is thought to create a 'virtuous cycle' in which improvements to an area mutually reinforce one another, creating places to which businesses and residents will want to move and invest in (Hastings, 2009). However, the ideological underpinnings of various governments' policies have changed substantially, as in turn have regeneration practices (Tallon, 2013). Faced with reduced borrowing powers, local authorities have regularly worked in partnership with private companies to 'lever in' finance for regeneration, as well as with the third sector since the 1990s (Jones & Evans, 2008). Importantly, this has often resulted in reduced SH numbers and increasing owner-occupied homes in their place, particularly in high demand areas such as London (Hatherley, 2013). As is discussed further on, the PRS now provides housing for many that would have previously been housed in SH, in the face of the local authority budget cuts outlined above.

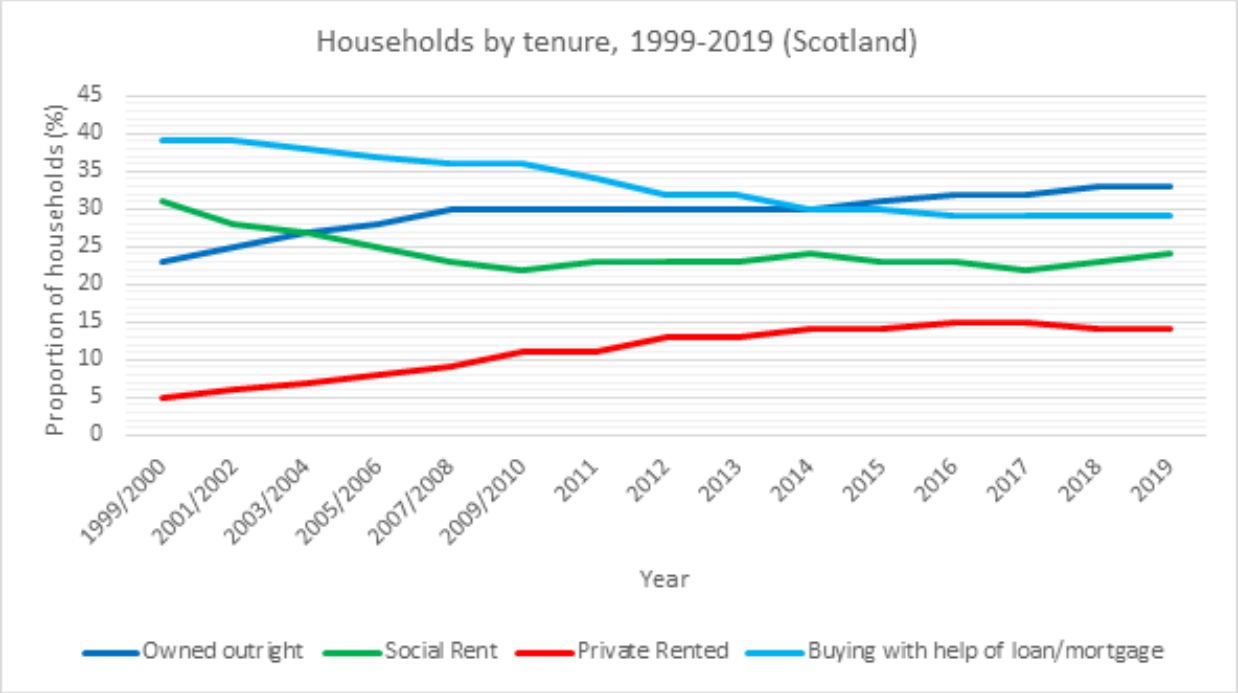

Figure 2.2 Households by tenure, 1999-2019 (Scotland). (Source: SHS, 2021)

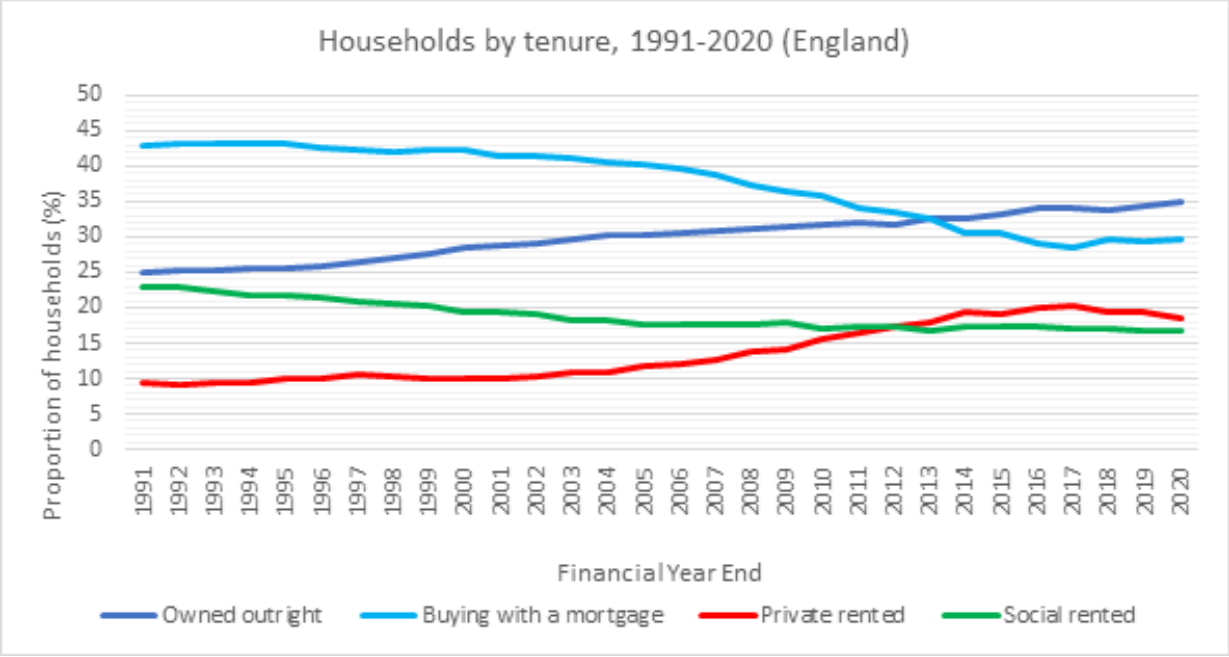

Figure 2. 3 Households by tenure, 1991-2020 (England). (Source: ONS, 2020)

2.2.2 Revival of the private rented sector

The changes that have taken place in the housing market can largely be followed through successive government policies, as well as macro-economic changes, making the size of each sector important in signifying the impact of historic housing policy (Soaita et al, 2020). The post-1990 revival of the PRS, for example, is argued to show the success of policies that emphasised the PRS' ability to enhance and cater to flexibility and mobility in the labour market (Bramley et al, 2004). In particular, the 1988 Housing Act introduced Assured Shorthold Tenancies (ASTs) which enabled landlords to set rents without reference to a 'fair rent' (as had been the case previously) and to evict tenants with much greater ease (Kemp & Kofner, 2010). By contrast, the protected tenancies that preceded the 1988 act were thought to disincentivise investment as they allowed tenants to stay almost indefinitely and were able to be hereditary (Kemp & Kofner, 2010). There has been political consensus in England since the 1980s, write Kemp and Kofner (2010), that a viable PRS is needed for short-term housing needs, and that long-term leases are not required: a 'policy outlook fully congruent with the strong belief in England ... in the efficacy of free markets' (p.394). By 2019, the PRS housed 20 per cent of all British households (Marsh & Gibb, 2019). Much of the growth in the sector occurred since 2000, with it doubling in size in the 20 years since (Soaita et al, 2020; JRF, 2020; Rhodes & Rugg, 2018). Meanwhile, home-ownership peaked around 2000 but has declined since, partly because of the difficulty in accessing mortgage credit following the 2007/08 GFC (JRF, 2020), in addition to stagnant wages and high house prices (Gibb et al, 2019). Pre-GFC, Bramley et al (2004) wrote that, despite the popularity of buy-to-let (BTL) investment in the PRS (see section 2.3.2 for further discussion), the prospects of attracting more private investment into the sector were uncertain. They noted that investors were put off the PRS by the post-2000 boom in house prices that rental returns failed to match (Bramley et al, 2004). However, the PRS grew following the impact of the GFC on the housing market and the subsequent restrictions in mortgage availability, while property also became particularly attractive for investment, owing to extremely low interest rates (Byrne, 2019).

Scanlon and Whitehead (2014) argue that the deregulation of the PRS enabled, rather than caused, expansion of the sector post-1988. Kemp and Kofner (2010) support this view, stating that it is taken for granted, both by landlords and policy makers, that this state of deregulation is a precondition for a viable PRS. While the sector may have grown substantially in recent decades, it is smaller than countries such as Germany (50 per cent of households) (Berry et al, 2024), the USA and Canada (over 30 per cent), or Australia and New Zealand (over 25 per cent) (Soaita et al, 2020). However, the UK's relatively large PRS is unusual for having few in-tenancy rent regulations (Scanlon & Whitehead, 2014). Kemp and Kofner (2010) note that landlords in the UK PRS remain wary of any return to further regulation of private tenancies such as those of the first half of the 20th century, where security of tenure was far greater. Within-tenancy rent regulations are discussed further in section 2.3.3.

The changes outlined above do not mean that there has been a shift in thinking in policy or amongst the public when it comes to home-ownership, however. Owner-occupation remains the aspirational tenure of choice, with faith in the 'property owning democracy', popularised most notably by Margaret

Thatcher in the 1980s, remaining strong (McKee et al, 2017). In their qualitative research with young people across the UK, McKee et al (2017) found that home-ownership is regarded as an important investment medium in long-term financial planning, as well as a key marker of social mobility. These findings are echoed by Bone and O'Reilly (2010), whose scathing analysis of contemporary UK housing policy contends that property ownership is now a more important factor in social mobility than talent, education, or effort. It is the embrace of neoliberalism by successive UK governments since the 1980s, several authors argue, that has afforded such a dominant role to the private housing market and to a view of housing as an investment vehicle rather than a public good (McKee et al, 2017; Bone, 2014; Bone & O'Reilly, 2010). This applies to the PRS also, as the sector has been framed in economic policy as a means by which to increase labour mobility and economic performance, due to its perceived flexibility and low costs (De Santos, 2012; Daly & Gulliver, 2014; Coulter, 2017).

Home-ownership, in contrast, has been found to increase the transaction cost of moving and therefore lower migration rates (Botsch & Morris, 2020). Interestingly, owner-occupation is arguably now the most subsidised tenure in UK (Soaita et al, 2020), when taking into account indirect 'subsidies' through tax exemptions. This, accompanied by a reduction in state welfare through neoliberal restructuring, highlights the moralisation of home-ownership and how individuals have been made responsible for their own wellbeing through acquiring housing assets (Hoolachan et al, 2016; McKee et al, 2017). Coulter (2017) supports this view, arguing that austerity policies coupled with the commodification of housing are deepening social divisions. Coulter (2017) argues that this trend has been seen across Europe more broadly and was exacerbated in the UK by the 2010 Coalition government that reduced young people's Housing Benefit (HB) and forced many into poor-quality or shared housing.

While much of the research investigating the PRS and its consequences for tenants focusses on the UK as a whole, or simply on England due to its relative size, there has been notable re-regulation in Scotland and Wales (Soaita et al, 2020; Marsh & Gibb, 2019). This has led McKee et al (2017) to state that effectively UK housing policy does not exist, due to considerable spatial differentiation in legislation. This assertion is supported by other authors who note the divergence between the devolved nations' PRS regulations, with England having done little in the way of reform in comparison to Scotland's new Private Residential Tenancy (PRT), for example, that introduces new protections for tenants and ends 'no-fault' tenancy terminations (Scottish Government, 2017). PRT retains grounds for a landlord to evict tenants, however, including if the landlord or a family member wants to move into the property (Scottish Government, 2017). Bailey (2020) also notes that it is too early to know the efficacy of the PRT in giving tenants security of tenure, as much depends on how well enforced the legislation is as well as the response of landlords. Figure 2.2 highlights how the tenure composition of Scotland's housing markets differs from that of the UK overall (figure 2.4). 15 per cent of Scottish households were housed in the PRS in 2017 compared to 20 per cent for the UK overall, while 22 per cent lived in SH in Scotland compared with 17 per cent for the UK.

As well as looking at the changes in the UK's housing tenures, it is important to note that the number of households and their composition has changed substantially in recent decades. The number of households has increased by 17 per cent since 1996, to an estimated 27.8 million in 2020 (ONS, 2021). Daly and Gulliver (2014) note that the contemporary housing affordability crisis has arisen in this

context, with a particularly large increase being seen in single-person households. The trend towards living in single-person households is one of the factors behind overall composition changes, along with net in-migration and an ageing population (Bramley et al, 2004). Indeed, the proportion of pensioner households is increasing faster than any other group, with a record number of them living in the PRS (JRF, 2020). The average household size, meanwhile, has fallen from 2.42 to 2.39 people (ONS, 2021), and estimates state that it will continue to decline for decades to come (ONS, 2020). Bramley et al (2004) argue that the average household size is becoming smaller due to a range of factors including changing Higher and Further Education patterns, changes to labour force participation, and a decline in marriage rates and increase in divorces. These changes are also argued to have driven the growth in the PRS (Gibb et al, 2019). However, there is not a consensus, and others argue that the increase seen in the sector is due to constraints in entering owner-occupation, as discussed above (Gibb et al, 2019).

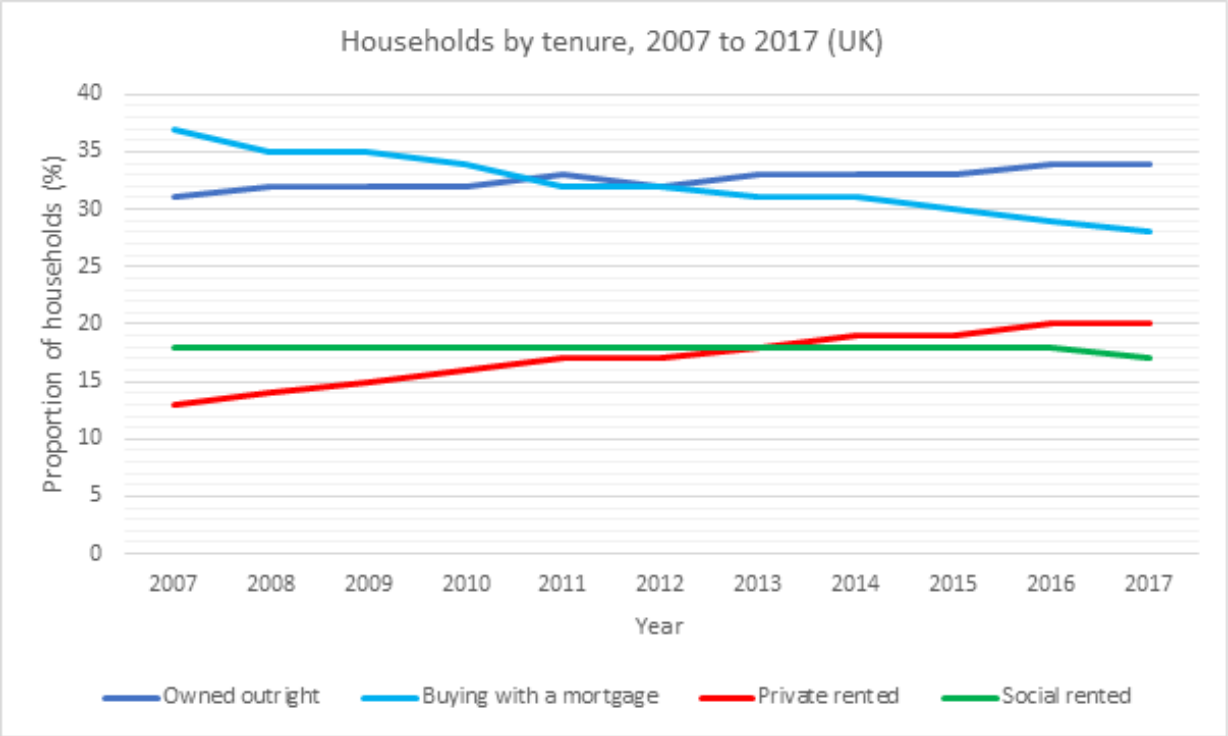

Figure 2. 4 UK tenure trends 2007-2017. (Source: ONS, 2019)

2.2.3 Financialisation of the UK property market

Financial deregulation in the 1980s saw the housing market fundamentally change, as credit became far easier to access and the mortgage market was flooded by banks and other private companies (Bramley et al, 2004). This process, in which high loan-to-value mortgages became widespread, was part of the 'financialisation' of housing, mirroring many other elements of the economy at the time (Byrne, 2019). Financialisation has been defined as 'the increasing dominance of financial actors markets, practices,

measurements and narratives, at various scales, resulting in a structural transformation of economies, firms (including financial institutions), states and households' (Aalbers quoted in Byrne, 2019, p.3). Within this process, housing became primarily valued as a tradeable commodity above its use as a home (Bone, 2014).

According to Marsh and Gibb (2019), the fragmented nature of the legal and regulatory framework of the PRS in the UK has been a source of concern for a long time. They argue that this is the cumulative result of policies influenced by different philosophies, enacted by various administrations (Marsh & Gibb, 2019). The deregulation of the PRS in the 1980s, coupled with the availability of mortgage credit to potential landlords, drastically changed the sector (Maclennan & O'Sullivan, 2008). Bramley et al (2004) support this view, noting that deregulation introduced by the 1988 Housing Act was partly responsible for the revival of the PRS. However, they also highlight how wider economic changes had an important role, including the housing market slump in the early 1990s. This drove many to let their homes in the PRS rather than selling, in order to avoid the risk of negative equity (Bramley et al, 2004). Meanwhile, falling stock markets and generous tax relief in this period meant that PRS property became an attractive investment vehicle, accounting for some of the increase in BTL mortgage take-up (Bramley et al, 2004).

One of the most often cited examples of Conservative government policies was the introduction of SH tenants' 'right to buy' (RTB) their home at a considerable discount in the 1980 Housing Act, which was made more accessible through easier access to mortgage finance in a newly deregulated financial sector (Rhodes, 2007). However, the RTB and the transfer of SH stock from LAs to housing associations has not been accompanied by a replacement of SH to meet demand, the Joseph Rowntree Foundation (2020) note. Instead, the remaining SH is often the least desirable and become a destination for the poorest, most vulnerable tenants, leading to residualisation of the sector and stigmatisation of its inhabitants (Kemp & Kofner, 2010; Mahony, 2020). A substantial minority of ex-SH stock, purchased through RTB, has also entered the PRS, note Sprigings and Smith (2012). This PRS stock is likely to be in the lower end of the market and the authors estimate that the additional cost of HB to support these tenants may exceed £1bn per year, far higher than SH rents for equivalent dwellings.

Volatility in the housing market is reported to be one of the most significant socio-economic events of the early 2000s, and one that is born of the legacy of marketisation (Somerville, 2005; Bone & O'Reilly, 2014). This volatility is argued to come from high-risk lending practices create a cycle 'boom and bust' in the housing market, which exacerbate inequalities further (Stephens, 2011). This cycle consists of a proliferation of credit in the 'up' cycle, where house prices outstrip wage increases, before the level of debt leads to a credit 'crunch' (Byrne, 2019). Indeed, trends in the early 2000s mirror those only decades earlier. The 1980s housing market boom led to increased interest rates and the end of mortgage interest tax relief in an effort to curtail the 'bubble' effect, but a drop in house prices in the early 1990s following changing economic conditions and very high interest rates forced many owners to sell their properties and others were left unable to secure a mortgage (Bramley et al, 2004). On the household level, the high ratio of house prices to wages during the 'boom' phase places a burden on incomes as repayments become unsustainable (Bramley et al, 2004). Byrne (2019) highlights the irony in how home-ownership

had for decades been promoted by government and the private sector, but in doing so undermined access to it, contributing to the PRS' resurgence.

The supply of owner-occupied housing has also not increased to meet demand, Bone (2014) argues, in contrast to other 'home-ownership societies' like Spain and Ireland that also saw financialisation of the housing market (Byrne, 2019). Bone (2014) argues that government policies such as Help to Buy (HTB) that aim to assist first time buyers who have been priced out of the market since deregulation have therefore inflated prices even further, as demand so outstrips supply. This is supported by other research (Elliott, 2013; Carozzi, 2024) which notes that HTB did not increase housing supply in areas where there were good jobs, but did increase demand and thus house prices themselves. A lack of supply is also argued to mean that demand-side policies create a lack of flexibility in the housing market, with policies such as Stamp Duty (and first-time buyers' exemption to paying it) discouraging downsizing and making it more difficult for families to acquire housing that meets their needs (Chesire, 2014). Indeed, housing remains a fairly fixed asset and therefore not one that can respond to rises in demand, driving house price inflation and thus problems of affordability (Cheshire et al, 2014). As Perry (2020) notes, the 2004 Barker report argued that 240,000 net additional homes are needed annually to restrict house price inflation, which has only been met in 2018/19 and 2019/20. However, this figure subsequently dropped and is estimated to be 234,000 for 2022/23 (DLUHC, 2023). Bramley (2018) writes that there is a requirement for 380,000 new homes annually for Great Britain (with 340,000 required in England), most of which is to address a backlog of over four million households with unmet housing need. While new build housing figures have been rising in England (around 130,000 in 2013/14 and 211,000 in 2021/22) (DLUHC, 2023). This is consistently below government targets (Perry, 2020) and the aforementioned figure stated by Bramley.

Several authors contend that housing market deregulation and wider financial policy had the effect of shifting the returns on investment classes and making housing more attractive (Marsh & Gibb, 2019; Bone & O'Reilly, 2010). This means that the main beneficiaries of the housing boom were investors, along with the property industry (Marsh & Gibb, 2019; Bone & O'Reilly, 2010). Demand-side housing policy such as HTB, mentioned above, is an example of this: it did not improve housing affordability in urban areas with good labour markets, but did increase the profits of the housing developers signed up to the scheme (Carozzi et al, 2024). Much research, particularly that focussing on 'Generation Rent', state that this use of housing as an investment vehicle has created a situation in which many cannot afford to buy a home (McKee et al, 2017; McKee et al, 2019; Coulter, 2017; Marsh & Gibb, 2019). Byrne (2019), for example, highlights how specialised mortgage products available to small-scale landlords (i.e., BTL mortgages) as part of the financialisation of the housing market have ensured demand, even as first-time buyers cannot buy a home. These changes, coupled with a large increase in the number of Higher Education students (and thus the number leaving university with large debts) and restricted mortgage credit conditions following the GFC, have increased demand in the PRS substantially (Scanlon, 2015).

As mentioned earlier, the fact that many people will be missing out on the financial benefits of home-ownership has not diminished aspirations of owning. Discursive narratives drawn upon by young people

in McKee et al's (2017) research show the idea of home-ownership as a source of future individual welfare and wealth (that can be passed on to future familial generations) has been internalised. This is particularly important given how economic inequality will become cyclical if the patterns of home-ownership continue in current trajectories, as Coulter's (2017) analysis of the ONS Longitudinal Survey highlights. Taken together, these assertions imply that attitudes towards the PRS and home-ownership will be reproduced in future generations, compounding the consequent wealth disparities. Looking at past evidence, large mortgages become a considerable risk, where any future increase in interest rates or the withdrawal of government incentives may leave home-owners facing damaging long-term debt, negative equity, or repossession (Stephens, 2011; Bone, 2014). It is suggested that this risk has become accepted as a part of the housing system, reflecting how governments in the UK have transferred investment risk from the state to the individual (Malpass, 2005; Madden & Marcuse, 2016).

2.3 The UK PRS after 1980

2.3.1 Introduction

As discussed in the preceding sections, much of the regrowth of the PRS follows changes in other tenures, such as falling SH levels and rapidly growing house prices. However, it does not imply that the sector has become generally more desirable. Families, for example, are predominantly in the sector due to financial constraints, with less than 10 per cent enjoying the freedom and flexibility of the sector (Shelter, 2013). In part, this is due to poor housing conditions. While the overall condition of PRS stock has been improved with the help of good quality homes being transferred from owner-occupation, conditions in the sector are still worse than in the other tenures (Kemp, 2011). Other problems in the PRS include the difficult regulatory environment arising from the dominance of small-portfolio landlords, the affordability of private rents and lack of rent controls, and insecurity of tenure. This section outlines the evidence surrounding each of these issues, as well as that of tenants' wellbeing, which has often been found to be impacted by these factors.

2.3.2 Small-portfolio landlords

A 'peculiarity of British housing provision' (Daly & Gulliver, 2014: 397) is the dominance of small-scale landlords in the PRS (Soaita et al, 2020). While private individuals account for 94% of landlords in England, for example, 43% of landlords own one property while 39% own two to four (DLUHC, 2022).

Amateur landlords account for much of the recent growth in the sector and often have small and highly localised portfolios (Coulter, 2017). Much of the newly converted PRS stock came from private owner-occupied housing, with landlords being incentivised by financial products such as BTL mortgages (emerging during the 1990s) as well as the expectation of capital gains (Coulter, 2017). Rather than a government subsidy or policy, BTL mortgages were created by mortgage lenders in partnership with letting agents (Gibb et al, 2019). These mortgages were brought about in view of the potential gains that could be made from a growing rental market and the promise of loan interest tax relief, unavailable on home-owner loans (Gibb et al, 2019). BTL mortgages proved extremely popular, with an 18-times increase in their take up between 1998 and 2004 (Daly & Gulliver, 2014) and accounting for a large proportion of investment in the sector since the GFC (Byrne, 2019). Stock market drops, low interest rates and the availability of 100 per cent mortgages are believed to be factors behind their popularity as an investment medium (Bramley et al, 2004; Daly & Gulliver, 2014), while limited stock in the SH sector have ensured that there is high demand for the PRS (Gibb et al, 2019). The popularity of BTL mortgages is argued to have driven housing demand significantly (Bramley et al, 2004; Daly & Gulliver, 2014). The subsequent proliferation of small landlords can be seen as problematic, as they cannot spread the risks of investment in the housing market in a way open to larger landlords (Bramley et al, 2004). This view of the rapid growth in BTL mortgages is shared by the government in recent years, Gibb et al (2019) note. Driven by concerns that the market is being destabilised, they have attempted to slow down BTL take-up through fiscal instruments, hoping that this will encourage sales into owner-occupation and re-shape the market in favour of institutional landlords (Gibb et al, 2019).

Policies have also been created to incentivise large-scale institutions to become landlords in the PRS, such as the Build to Rent Fund and real estate investment trusts (Marsh & Gibb, 2019), or to facilitate investment, such as the Business Expansion Scheme (Gibb et al, 2019). A de-regulated PRS dominated by large-scale landlords backed by investment capital was what the 1980s Conservative governments originally envisaged for the sector, although this did not come to fruition (Rhodes & Kemp, 2002; Crook & Kemp, 2011). 'Build to Rent' (BTR) policies have also been created by government more recently in an effort to encourage corporate landlords (Gibb et al, 2019). BTR is a submarket in the PRS that can include purpose-built student accommodation or homes to let to 'working professionals'. Mahony (2020) argues that the latter is out of reach of most within the PRS, with landlords excluding those who do not fit the target demographic and average rents being considerably higher than other properties nearby. New BTR schemes have mostly come to be concentrated in particular local markets, such as around universities, and still make up a small proportion of the sector overall (Rhodes & Rugg, 2018). Research also indicates that regulations have allowed for a blurring of landlord types, as many individual landlords list themselves as incorporated companies (Rhodes & Rugg, 2018; Marsh & Gibb, 2019). This, together with a general lack of available data on landlords (Livingston et al, 2018), makes analysis of the sector more difficult. Other types of landlords also exist in the PRS, such as Housing Associations and Local Authorities letting properties on ASTs under arms-length companies or separate branding (i.e., not as social housing) (Rhodes & Rugg, 2018). It is for this reason that Murie (2017) argues that the PRS is not a homogenous sector, with the treatment of it as such missing much nuance that would help better understand it.

The literature suggests that there are several other difficulties and problems that this configuration of the PRS creates. Due to consumerist regulatory mechanisms, there is a reliance on tenants exercising choice or asserting their rights (through complaints or legal proceedings) (Marsh & Gibb, 2019), in line with the assumptions of neoclassical economics that has influenced much of the economic policy since the 1980s (Chang, 2014). It is argued that this system has long been questioned for its ability to secure and sustain quality in the sector (Marsh & Gibb, 2019) and that it has created incentives for less scrupulous landlords to ignore regulations, particularly where housing is in short supply (Soaita et al, 2020; Bone, 2014). The sheer number of small-scale landlords mean that 'even the light regulatory frameworks intended to give tenants some protection from eviction or in relation to minimum quality standards are not well enforced' (Soaita et al, 2020, p.6). There is also an increased risk of discrimination due to this difficulty to enforce regulation, manifested in a reluctance to let properties to families, benefit claimants or young people (Bone, 2014; Mahony, 2020; McKee et al, 2019). Rhodes and Rugg (2018) point to how the characteristics of landlords tell us little about their motivations, and echo Marsh and Gibb (2019) in suggesting that reasons can vary from the accidental to the highly strategic, including inheritance, short-term income gains, or long-term financial planning. Part of the growth in the PRS was down to a rise in the number of 'reluctant landlords', particularly following the housing price slump in the '90s (Bramley et al, 2004). This group found that moving home and letting out their previous property was more financially viable than selling (Bramley et al, 2004). It can be argued that it is therefore unsurprising that regulations are not always followed, as legislation regarding the sector is highly complex (Rhodes & Rugg, 2018). Taking into account how the PRS has come to house increasing numbers of vulnerable households, as well as small-scale landlordism making the sector liable to market volatility (Stephens, 2011), Bone's (2014) contention that the PRS is unsuitable as a major tenure in its current, de-regulated state is persuasive.

2.3.3 Rent controls in the PRS

While the abolition of Section 21 (discussed further in the following section) has been tabled in the UK in the Renters Reform Bill and has wide-ranging support, other measures are also argued to be needed in order for security of tenure to not be undermined. Berry et al (2024) state that, in England's lightly regulated PRS, rent rises can be so unaffordable that they can be as good as eviction notices. Commenting on the Australian PRS, Hulse and Goodall (2023) also argue that the abolition of 'no-fault' evictions and the introduction of rent regulations would improve tenant wellbeing and reduce housing stress. Australia has a comparable PRS to the UK, with an increasing number of tenants renting long-term and mortgage deposits becoming increasingly hard to attain (Hulse & Goodall, 2023). Scotland and Ireland have undertaken PRS reforms that have encompassed both tenure security and rent regulations (Soaita et al, 2020), with PRT tenancies in Scotland, for example, limiting rent increases to a maximum of 12% every 12 months (Scottish Government, 2017). Other countries with a large PRS often also have

rent stabilisation measures, which act to regulate rents within existing tenancies (as opposed to at their inception) including France, Belgium, Switzerland and Germany (Berry et al, 2024). In the latter's case, 52% of households rent privately, while their rents can only be raised once annually to a maximum of 20% over three years (Berry et al, 2024).

A recent, Labour-commissioned review of the PRS called for a range of measures to improve the sector, including a national register of private landlords, the abolition of Section 21, and the introduction of rent stabilisation measures (Cowan, 2024). However, the PRS featured very little in the UK Labour Party's 2024 manifesto, while any new regulations on rents are likely to be limited to tenants having the power to challenge 'unreasonable' rent increases (UK Labour Party, 2024). This can be seen as a part of the considerable reluctance in England to reintroduce any form of rent control that would make it more difficult for landlords to repossess their properties, with market liberalisation often being credited with the regrowth of the PRS (Kemp & Kofner, 2010). It is also claimed that capping rent increases may cause landlords to raise rents where they otherwise may not. However, evidence from Belgium (where rent increases are permitted annually, in line with the Consumer Price Index (CPI)) shows that this is not guaranteed to be the case; almost 80% of landlords chose not to raise their rents amidst rapidly rising inflation in 2021/22 (Berry et al, 2024). In general, it is claimed that there is little evidence that measures regulating rents would affect the numbers of landlords or properties in the PRS, with Scanlon and Whitehead (2014) stating that it is changes in the wider housing system that determine this. The authors also write that all major landlords interviewed in their research look for stability in the regulatory environment and would therefore react positively to carefully considered rent stabilisation measures (Scanlon & Whitehead, 2014). This reflects the difficulties in long-term investment in the UK PRS due to the instability of the wider housing market, with returns needing to be high to account for uncertainty (Scanlon & Whitehead, 2014). In contrast, the German PRS does not offer opportunities for capital gains on short-term investment and landlords have consequently long-term investment horizons (Kemp & Kofner, 2010). As house prices are also less volatile in Germany than in England, Kemp and Kofner (2010) note that households do not need to enter home-ownership simply for fear of house prices moving out of their reach. The high quality of German PRS accommodation also points to the benefit of having a private sector that is more than a short-term necessity. Indeed, Hulse and Goodall (2023) argue that it would in fact be beneficial if landlords left the sector where could not provide a safe and secure home.

The method by which to control rents, if they are controlled, varies across countries. As mentioned above, Belgium's rent increases are limited by CPI, as are those in Spain (Hulse & Goodall, 2023). An index of local rents is also a possibility, Scanlon and Whitehead (2014) note, that would allow for spatial heterogeneity. The availability of data is argued to be important for the success of these policies, it is argued. Berry et al (2024) explain that attempts to broaden rent regulations in Germany have had limited impact, partly because data on permitted rents has not been published, but point to the clarity and accessibility of Belgium's index for showing what is permitted. In Scotland, a lack of data availability has also contributed to the fact that no Rent Pressure Zones (RPZs) (which would enable local authorities to cap rent increases) have been created thus far (Marsh et al, 2023). Marsh et al (2023) state that a database that included all contractual rents under PRT would mitigate many of the problems

that have stopped RPZs being instigated. Again, however, research makes it clear that regulations on rent increases must go hand-in-hand with consideration of the housing system as a whole. Scanlon and Whitehead (2014) state that 'the international evidence suggests that while both tenants and landlords can benefit from rent stabilisation under particular conditions, the impact depends upon broader housing market conditions' (p.6). In part, this pertains to housing supply, as rent stabilisation may benefit existing tenants to the detriment of new tenants, who would potentially face higher costs (Scanlon & Whitehead, 2014).

2.3.4 Security of tenure

One of the most prevalent negative effects of living in the PRS is insecurity, whether that be insecurity of tenure or ontological insecurity (a concept explored more fully later in this section), although it is contended that the former is often a key driver of the latter (Shelter, 2013; McKee et al, 2019; Walsh, 2019; Bone, 2014). There is generally also consensus regarding insecurity's particularly damaging effect on vulnerable sections of society, such as those in poverty, migrants, or families, and the insecurity bred by Assured Shorthold Tenancies (ASTs) in England. For example, contracts can be ended by landlords without reason in ASTs by means of Section 21 of the Housing Act 1988, in what is known as 'no-fault' evictions (Walsh, 2019), accounting for some of the high turnover in the sector (Clarke et al, 2017; JRF, 2020). ASTs were introduced in the 1988 Housing Act as a type of assured tenancy, with the main difference between the two tenancy types being the ability of a landlord to use Section 21 to regain possession of a property in an AST (Shelter, 2021). Assured tenancies replaced regulated tenancies (previously 'controlled' tenancies) that afforded tenants significantly greater protections. Tenancies granted by a private landlord (including a private registered provider of social housing) after February 1997 are automatically ASTs, unless the landlord informs the tenant otherwise (UK Government, 2024). Most housing association tenancies are assured tenancies, however, although many impose an initial AST on new tenants (Shelter, 2021). ASTs usually include a fixed-term period (usually six or 12 months) followed by a periodic tenancy contract. Eviction under Section 21 cannot be used in the fixed-term period of the contract, although 'break clauses' enable landlords to evict within this period if they are included in the terms of the contract. These tenancies can be seen as being designed around the landlord, as they have been given certainty in their ability to end tenancy contracts and access their capital if they desire (Gibb et al, 2019). The tenancies also enable landlords to more easily repossess their properties if tenants engaged in anti-social behaviour or ran into rent arrears (Clarke et al, 2017).

In general, PRS housing has become a much more liquid investment that would be the case if not for short-term leases and weak security of tenure, Kemp and Kofner (2010) write. This is because the value of housing property has risen greatly in real terms, increasing the potential for capital gains. However, the authors note that to realise this, landlords need to obtain vacant possession, particularly those investing for short-term gains (Kemp & Kofner, 2010). In England, Section 21 notices can still be used to

realise this. Indeed, the end of a tenancy in the PRS is the leading reason for individuals becoming homeless, with most not due to rent arrears or other breaches of tenancy (Berry et al, 2024). This situation stands in contrast with countries such as Germany, where landlords have longer investment horizons and tenancies offer long-term security (Kemp & Kofner, 2010). The sector consequently has broader range of tenants, including middle-aged and older households who require greater security (Kemp & Kofner, 2010). Scanlon and Whitehead (2014) note that estate agents and mortgage lenders have often operated in ways that work against long-term investment and stability in the PRS. The former is incentivised to let homes on short-term leases in pursuit of higher commission and fees, while most BTL mortgage lenders have required borrowers to let homes on ASTs of no more than 12 months duration (Scanlon & Whitehead, 2014).

However, there is not agreement in how extensive the issue of insecurity is, or in whether this is a problem that is endemic in the PRS or merely a facet of ASTs. Some research, finding the PRS less problematic in general, points to survey work that has shown that most private tenancies end voluntarily at the behest of the tenant; Rhodes and Rugg's (2018) analysis of the English Housing Survey showed that 66 per cent of tenants said their last tenancy had ended because they had wanted it to. This argument, echoed by Coulter (2017), does not question why these tenants may have looked for an end to their lease, however. In qualitative research, poor management practices, high rents, low-quality properties, and an impending end to a tenancy have all been recorded as reasons for tenants moving to new accommodation (De Santos, 2012; Mahony, 2020). The arguments that highlight tenants' agency in the market focus on how the PRS enables flexibility, especially for young people, allowing them to adjust for the demands of work and education (Livingston et al, 2018; McKee et al, 2019). However, it could be argued that research that conceives the entirety of the PRS in this way ignores the variations between the PRS' submarkets. The implication of this argument is that all of those in the PRS are in it through active choice, rather than insecurity being an important influence (Bone & O'Reilly, 2010). This is highlighted in how some authors believe that the ability of people to choose to live in inner-urban neighbourhoods, with access to retail and leisure opportunities and free from the constraints of a mortgage, is responsible for a substantial part of the growth of the PRS in recent decades (Rhodes & Rugg, 2008; Rhodes & Rugg, 2018). Coulter (2017) argues that this may be true for some elements of society, but generally not for poorer tenants. Bone (2014) goes further, however. He argues that there is little evidence, beyond research on students and young single people in post-education transition, of people enjoying the mobility and lifestyle purportedly found in the PRS. This is an argument supported by other research on the sector (Shelter, 2013; Scanlon, 2015; Mahony, 2020). It is argued that a more likely explanation is that there has been too much focus on wealthy, highly educated tenants, or in the now outdated view of the PRS as a small, flexible sector (Bone, 2014; Marsh & Gibb, 2019).

As an effect of tenancy insecurity and housing costs in the PRS, a substantial emotional burden is thought to be placed on tenants. According to the literature, this undermines their ability to 'put down roots' and manifests in anxiety (JRF, 2020; Atkinson, 2015; Coulter, 2017). Both Atkinson (2015) and Bone (2014) note that the fear of eviction or involuntary relocation is a major part of this anxiety and may have as much impact on tenants as actually experiencing it. Bone (2014), in his introduction of neurosociology to the subject of the PRS, argues that the increased neurological sensitivity to stress that

is a result of urban living may be exacerbated by insecurity of tenure. He asserts that, as stresses such as high traffic and noise are compounded by housing insecurity, a person's 'cognitive load' is increased beyond healthy limits, potentially resulting in anxiety and poor mental health. This argument is made more convincing given that much research has found that increased housing insecurity or instability results in a higher risk of smoking, drinking, and other unhealthy behaviours (Mahony, 2020). The fear of eviction is well founded, argue Madden and Marcuse (2019), as evictions can be destructive for both individuals and communities, threatening as they do social, professional and even familial relationships. These concerns regarding eviction may be becoming increasingly important, given that the number of illegal evictions by PRS landlords reached a record high of almost 9,000 in 2022, while the number of convictions stood at 0.3% of cases that year (Spencer & Rugg, 2023).

Ontological security is a prominent concept in the discussion of the impact of the current housing system, which Giddens (1990) defines as a person's confidence in the coherence and constancy in their social and material world. Saunders (1986) argues that the home is the primary environment in which ontological security is built and that home-ownership is more strongly associated with ontological security through the facilitation of pride, warmth, autonomy, relaxation and identity (Saunders, 1990, cited in Gurney, 1999). In economics also, write Botsch and Morris (2020), theory suggests that home-owners are more likely to be 'better citizens' and to invest in their community. Home is also seen to be important in terms of a person's identity, particularly in its symbolism of status, while the home itself becomes a reflection of the self through the attribution of identity (Hoolachan et al, 2016). Garnham et al (2022), in their research with three age cohorts of SH tenants in Glasgow, found that the importance of home was emphasised as a place that identity and a positive sense of self could be built and maintained, as well as defended from outside stressors. This highlights how the conceptualisation of the home in wider society can have an impact, in particular the idea of personal success and value.

While there is discussion regarding the direction of causality in the association between home-ownership and ontological security, if it indeed exists, the concept has been criticised as essentialist (Acolin, 2020) and reliant on a positivistic methodology (Gurney, 1999). Barlow and Duncan (1988) instead argue that tenure simply has a 'taxonomic value' and the focus of research should therefore be on features expected to affect outcomes more directly, such as tenure security and housing quality. Instead of those in owner-occupied housing being more satisfied and less anxious by virtue of owning itself, or tenure representing a taxonomic value only, it may instead be the case that the policies and regulations surrounding the UK housing system produce or catalyse these outcomes. As Clair et al (2023) argue, the negative effects of living in the PRS are policy contingent and therefore ameliorable by policy also. For example, home-ownership is thought to be associated with greater residential stability and feelings of control (Acolin, 2020). As Acolin (2020) highlights, those purchasing a property are not likely to be those who are planning on moving again quickly, however high turnover in the PRS is purported to often be involuntary, resulting from forced moves and short-term tenancy contracts. Feeling in control is thought to contribute positively to mental health and wellbeing (Hoolachan et al, 2016) and the facilitation of this through owning, rather than renting, a home is in some ways more straightforward. Housing costs, for example, are more predictable, while forced moves are less likely to be experienced (Acolin, 2020).

Madden and Marcuse (2019), exploring the impact of the GFC on home-owners and tenants in the USA and UK, argue that housing has become a hyper-commodified product in the current system. Alongside the casualisation of work and increasingly hostile social security environment, this has produced psychosocial alienation through stress, fear, anxiety and disempowerment (Madden & Marcuse, 2019). Part of this state of alienation is not feeling at home, the authors argue, stating that 'many people experience their housing as just another precarious place in an insecure world' (Madden & Marcuse, 2019, p.54). Combating precarity in the PRS through longer- or open-term tenancy agreements would potentially result in individual and social welfare benefits, states Acolin (2020) in his investigation of residential stability across European housing regimes. This would act as what Gibb et al (2019) term a 'pull factor', whereby individuals choose the PRS actively as opposed to being 'pushed' into it. In recent years the UK Government has, to a certain degree, recognised the problem of insecurity in the PRS and the growing dissatisfaction with it. The 2022 White Paper, *A Fairer Private Rented Sector,* includes provisions that will repeal Section 21 of the Housing Act 1988 (that allows for 'no-fault' evictions) and replace fixed-term tenancies with periodic tenancies (DLUHC, 2022). However, it will also introduce new grounds that allow landlords to evict tenants if they wish to sell or move themselves or close family members into it (DLUHC, 2022). The UK Parliament's Levelling Up, Housing and Communities Committee concluded that the proposed period at the beginning of a tenancy in which these grounds cannot be used (six months) should be increased to a year, while the period following the use of either ground during which the landlord cannot market or re-let the property (three months) should be increased to six months (LUHCC, 2023). The current proposals, the Committee states, could be exploited by bad landlords and become a backdoor to 'no-fault evictions' (LUHCC, 2023).

2.3.4 Housing conditions

Literature surrounding the PRS consistently points to poor conditions in the sector, particularly in comparison to owner-occupation, despite the built form of the housing stock being similar (Soaita et al, 2020; Shelter, 2005; Rhodes & Rugg 2018). Lister (2005, p.5) expands upon this:

> In comparison to social renting and owner occupation, the PRS has some of the worst housing conditions in terms of facilities and services, and levels of disrepair and unfitness ... Damp, condensation, overcrowding, and inadequate cooking and heating facilities are widespread in the sector and not only simply cause inconvenience but also have an effect upon the health and well-being of tenants.

At present, PRS housing must meet the Homes (Fitness for Human Habitation) Act 2018, which also allows tenants to take legal action against their landlord (Cromarty & Barton, 2022). Landlords are not required, however, to ensure that their properties meet the Decent Homes Standard (Cromarty & Barton, 2018). The English Housing Survey shows that the PRS dominates the proportion of non-decent standard (i.e., those dwellings considered not to meet the Decent Homes Standard) homes in every

region of England (Figure 2.5). At the time of writing, government statistics state that almost a quarter of PRS homes fail to meet the Decent Homes Standard (UK Government, 2024). However, applying the Standard to the PRS was proposed during the most recent Conservative government (DLUHC, 2022), while higher standards energy efficiency standards were also advocated by the Levelling Up, Housing and Communities Committee (LUHCC, 2023). Hulse and Goodall (2023) note that minimum standards would not only improve energy efficiency but could also protect tenants from the effects of climate change, particularly in countering excessive heat. As noted earlier however, there is a political reluctance to impose anything other than minimal regulation on the PRS, with policy primarily being designed around landlords' interests. The consequently poor conditions contrast to those in countries such as Germany, where the PRS provides good quality accommodation as a result of policy that is neither geared towards or against landlords (Kemp & Kofner, 2010).

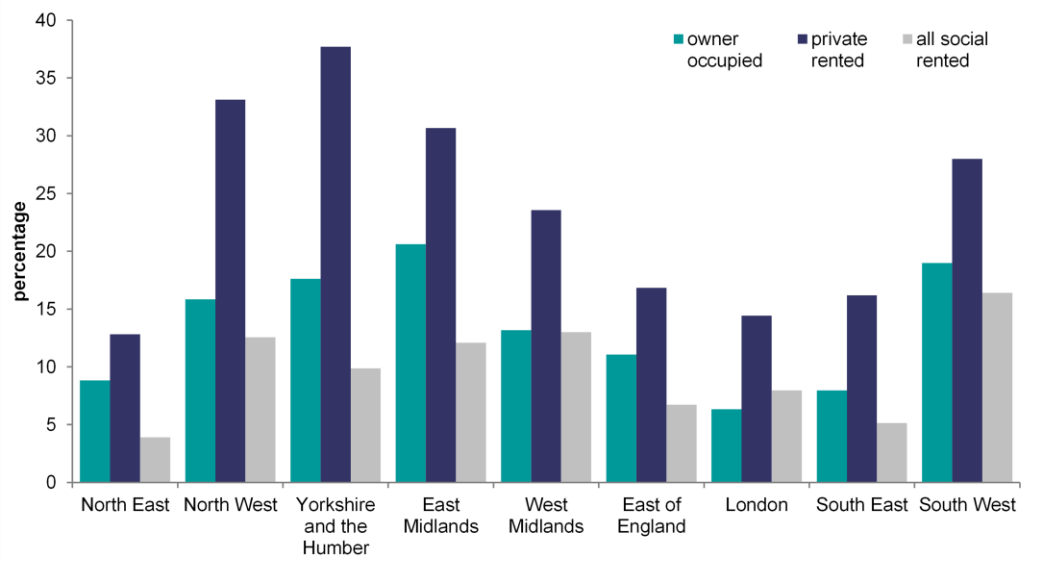

Figure 2.5 Non-decent homes by region, all tenures, 2021 (Source: DLUHC, 2023)

Poor housing conditions and the associated negative health consequences were also found by Soaita et al (2020) and Shelter (2005), who additionally highlight the detrimental impact that poor conditions can have on children's development, and the emotional strain it can place on familial relationships. PRS households with dependent children are also more likely to live in homes with damp compared to other tenures (15 per cent, compared to 2 per cent and 7 per cent in owner-occupation and SH, respectively) (DLUHC, 2023). Overcrowding, too, is associated with increased risk of illness and accidents (Shelter, 2005; Soaita et al, 2020), with the English Housing Survey showing that 13 per cent of households with dependent children in the PRS were living in overcrowded housing in 2021 (DLUHC,2023). There is also an acute need for more accessible housing the PRS for those with disabilities, the Equalities and Human

Rights Commission (2018) has found, which is complicated by issues around security of tenure and the right to have an adaptation.

Research points to the lower-end of the PRS being especially poor in terms of housing conditions (Marsh & Gibb, 2019; Soaita et al, 2020), which Daly and Gulliver (2014) attribute to a decline in affordable PRS stock. Rhodes and Rugg (2018) suggest that the poor management standards that result in these conditions are often associated with landlords not knowing the regulations that govern the area. Other arguments afford landlords more agency, stating that it is often difficult to get them to comply with legislation given that the burden of negotiating is placed on tenants, who often do not want to harm the tenant-landlord relationship as they may have few other housing options (Walsh, 2019; Chrisholm, 2020).

The threat of retaliatory eviction is enough to dissuade many PRS tenants from reporting disrepair or poor standards, according to the literature (De Santos, 2012; Clarke et al, 2017; Cromarty & Barton, 2022). 'Revenge eviction', as this phenomenon is known (Clarke et al, 2017), is indicative of the imbalance of power found in the PRS. One result of this is argued to be that poor housing conditions or illegal practices by landlords may go unreported, as deregulation has eroded tenants' belief that they have the right or ability to take action (Lister, 2002). As Marsh and Gibb (2019) explain, even where landlords are not intentionally breaching rules, the fact that the regulation of the relationship between landlords and tenants is negotiated at the individual tenancy agreement level is problematic. This is because full legal rights and responsibilities are rarely known to both parties (Marsh & Gibb, 2019). Even so, Lister (2002) contends that inequality and power imbalances mean that the rights of the tenant are often superseded by the landlord's desire for control. Indeed, the threat of retaliation by landlords has been found to cause many tenants to end their tenancy and move on their own terms rather than complain (De Santos, 2012). This is particularly important given that survey work, mentioned earlier, has found that most tenancies end at the request of the tenants (Rhodes & Rugg, 2018). Taking these findings together, it is reasonable to assume that at least some of these tenants will be moving because of poor conditions or fear of being forced to move at short notice.

Not all tenants will have the ability to move, however. Bramley et al (2004, p.8) write that 'some individuals have less power than others, because of the urgency of their need and their lack of bargaining power'. This will include those with fewer financial or familial resources, but also families who are embedded in their neighbourhood through social networks and their children's schooling. High-pressure areas are also more likely to see this power disparity, as tenants hold a weaker market position (De Santos, 2012). It is argued that situations such as these, in which low-income tenants or those with dependents have decidedly less power in the market, call into question the lack of regulation in the sector (Bramley et al, 2004). One area in which regulation has been brought in surrounds the use of Section 21 notices for those on ASTs in England, often known as 'no-fault' evictions (Walsh, 2019). These notices can no longer be served to tenants if certain complaints procedures have occurred and eviction is now not possible in the first four months of a tenancy (Clarke et al, 2017). However, the complaints procedures are protracted, and the process relies on tenants having a substantial degree of agency and knowledge of their rights (Clarke et al, 2017). It therefore seems likely that the effect of this legislation on tenants who are in more difficult circumstances, as discussed above, may be minimal.

2.3.5 Wellbeing in the PRS

Housing has an established link with health, however the nature and direction of this relationship is less well understood (Clair et al, 2023). Clair et al (2023) note that in early research on housing and health in general, there has a concern with the physical conditions of housing. The less tangible aspects of the housing experience, such as affordability and security, have come to be more frequently considered over time however, with more recent research investigating how housing issues are interdependent and how they may affect a person's health (Clair et al, 2023). While these authors focussed on physical health in the PRS, wellbeing is an aspect of health that has come to be considered more frequently in research on the sector. As Bentley et al (2016) note, housing plays an important role in the social and economic determinants of health that influence individuals' wellbeing. Also referred to as mental wellbeing, and often interchangeably with 'mental health', wellbeing is used in research to refer to feelings of stress and anxiety (or lack thereof) in a more general way than to diagnose conditions. Tested survey instruments included in large-scale surveys and thus often used in quantitative research to investigate wellbeing include the Kessler score, Malaise score and Warwick-Edinburgh Mental Wellbeing score. Apart from the latter, these scores measure psychological distress, which Gondek et al (2021a) explains is 'not designed to diagnose any specific mental health condition, but rather capture general psychopathology (psychological distress) of common mental disorders, such as depression and anxiety' (p.1472).

As seen in the preceding sections of this chapter, wellbeing has been found to be influenced by having little certainty over the security of housing, having a sense of powerlessness in making housing decisions, and from living in housing in a state of disrepair. However, there is no consensus regarding whether poorer wellbeing is a direct effect of living within the PRS, or if it is instead the result of contingent factors such as a lack of proper maintenance or the propensity of the better-off and highly educated to own their home. As Garnham et al (2022) note, there is reliable evidence that investigates the impact of physical housing conditions, but more is needed to explore causal links between housing and wellbeing. Their research uses a longitudinal qualitative study design to explore wellbeing and is thus an example of the kind of research that Sharpe et al (2022) state is needed to test this association. Zumbro (2014) highlights how personal characteristics correlated with home-ownership must be controlled for in any analysis of large-scale data to evidence this association. This is pertinent given that wellbeing has become recognised as a key measure of policy impact, with the wellbeing effects of housing policy increasingly being assessed alongside economics outcomes (Ong ViforJ et al, 2022).

A criticism of linking tenure and health is that the characteristics of the home that may drive any relationship found are not confined to any particular tenure (Clapham et al, 2018). These housing factors could therefore reflect compositional characteristics, such as those in home-ownership earning higher incomes or having more secure jobs, or because the housing market creates a situation in which housing quality is highly correlated with owner-occupied housing (Angel & Gregory, 2021). This hypothesis has resulted in tenure being used as a proxy for wealth or income in research on wellbeing. Ellaway and Macintyre (1998) recognise this and state that, if tenure acts only as marker of these factors, there

would be little or no relationship with health once other measures of them were accounted for. They argue that, rather than acting as a marker of other factors in such a way, tenure may be predictive of housing and neighbourhood conditions that influence and affect health in themselves (Ellaway & Macintyre, 1998). Critically, this assertion places tenure in a position of influence by highlighting how it, as a product of regulation, creates an environment that results in health promoting or damaging conditions. This means that, while being defined as a private tenant may not directly affect your health, conditions unique to the PRS or made more common within it as an effect of policy (or lack thereof), may do. This view is supported by Bentley et al (2016), who state that the relationship between housing affordability and health is dependent on context; no feature of any particular tenure makes it intrinsically more risky than another. 'Instead, the combination of social, legal, economic and cultural dynamics surrounding individual tenures in particular places exposes individual households to stress, and consequent declines in mental health' (Bentley et al, 2016: 218). This can be seen in McKee et al's (2021) finding that health and wellbeing benefits were found where landlords responded positively to tenants' requests for repairs and carried out those repairs quickly, as tenants felt more comfortable and in control. The reverse is also true, as landlords responding negatively to such requests creates stress for tenants and may lead to additional fears of retaliatory actions (McKee et al, 2021). This is of particular import given that factors detracting from the psychosocial benefits of home are argued to be more consequential than those that contribute to them (Garnham et al, 2022).

Examples of quantitative studies on housing and wellbeing are also represented in the international research literature. In particular, these studies focus on the effects of factors such as affordability and quality on mental wellbeing. Acolin (2020), for example, uses EU-SILC data covering 25 European countries to compare outcomes for owners and renters. Owners are generally found to have more desirable outcomes (including mental health) than renters, however these differences diminish in countries that have smaller gaps in average tenure length between tenure types (Acolin, 2020). Due to the differences in terms of tenure characteristics between countries, however, this study did not distinguish between renters who received subsidies and those who did not. Angel and Gregory (2021) instead compare the UK and Austria, finding that private renters have lower levels of life satisfaction than owner-occupiers in both countries. The authors state that by virtue of necessity, the data are cross-sectional rather than longitudinal. However, quantitative studies using longitudinal data exist and form an important part of the evidence base. Zumbro (2014), for example, uses longitudinal data to investigate wellbeing differences between the rented and owner-occupied sectors in Germany, finding that the large and significant differences between them amongst low-income households diminished as income rose. Some studies using panel data from the British Household Panel Survey also exist, such as that of Foye (2017). The author uses fixed-effects regression to analyse the size of living space on wellbeing, finding that poor quality accommodation negatively impacts wellbeing.

A more nuanced analysis of wellbeing in the PRS using longitudinal data is lacking in the UK evidence base, however. An example for the UK to follow is given by research from Australia, such as Mason et al (2013), Li et al (2022) and Bentley et al (2016), which has a similar housing market to the UK in the dominance of owner-occupation and a poorly regulated PRS (Li et al, 2022). The former uses fixed effects regression on longitudinal data to show that private renters are more vulnerable to the negative

effects of unaffordable housing on mental health than owners, showing that tenure is an important factor in determining how households can respond to affordability problems (Mason et al, 2014). Also focussing on affordability, Bentley et al (2016) use panel survey data to compare housing systems in the UK and Australia, finding that tenants in unaffordable housing have better protections in the UK than Australia. Research by Clair et al (2023) using UK panel survey data found that living in the PRS results in a negative effect on health as measured by epigenetic ageing, even after controlling for 23 housing-related variables. While mental wellbeing as an aspect of health is clearly different to epigenetic ageing, the authors state that the psychosocial aspects of health (such as stress and insecurity) are linked to housing (Clair et al, 2023). Li et al (2022) find that, amongst those on lower incomes, the poorer mental wellbeing exhibited by private renters reduces and becomes statistically insignificant by five or six years of occupancy in a home. Importantly, the authors find that residential stability is particularly important for those aged 35-44 in the PRS, where each additional year of occupancy is associated with a large wellbeing benefit.

The influence of housing precarity is also discussed in relation to wellbeing outcomes. This is more likely to be experienced by households who are financially vulnerable, acting as additional risk that can lead to temporary outcomes such as eviction, but also long-term outcomes such as impacts on health (Bentley et al, 2016). For example, Ong ViforJ et al (2022) find that when private renters are in a precarious housing situation their wellbeing is negatively affected to a greater extent than other tenures. This is related to but independent of forced moves, which is also found to greatly depress wellbeing (Ong ViforJ et al, 2022). This is echoed by Madden and Marcuse (2019), who argue that it results in fear, stigma and anxiety. The relationship between housing precarity and poor health is argued to be bi-directional, however, with poor health influencing precarity outcomes as well as housing precariousness leading to poor health (Bentley et al, 2011; Bentley et al, 2016; Mallet et al, 2011). In the UK in particular, Clair et al (2023) find that, in terms of affordability, security and quality (three of the four elements they argue constitute housing precariousness), the PRS is significantly worse than other tenures. The PRS is therefore linked to what is argued to be an increased precariousness in work and life and the emergence of the 'precariat' as a social class, which is explored more fully in section 2.4.1.

Garnham et al (2022) conclude that their findings raise questions regarding the extent to which the PRS and SH sector can meet the needs of vulnerable tenants, suggesting that housing provision that does more than provide a basic dwelling is needed to successfully intervene in the cycle of poverty, poor housing and poor health. However, Clair et al (2023) state that, as the conditions within the PRS that can lead to poor health outcomes are in many ways the result of policy, they are also policy amenable. They argue that efforts to reduce the insecurity associated with private renting would alleviate the negative health consequences of it, such as ending 'no-fault' evictions and limiting rent increases (Clair et al, 2023). Similarly, Angel and Gregory (2021) state that there is robust evidence of the negative impact that housing costs have on wellbeing. This means that, even when taking the argument that housing factors that influence health simply reflect compositional characteristics or contingent factors (Angel & Gregory, 2021) to be true, the PRS' higher housing costs mean that it is less affordable than other tenures. This is in effect a direct result of living in the sector, making policy interventions aiming to make

it more affordable likely to protect tenants from arrears and subsequent health consequences (Clair et al, 2023).

2.4 Outcomes for those living in the PRS

2.4.1 Moving beyond narratives of 'Generation Rent'

As mentioned earlier, government policies such as 'Help to Buy' have aimed to get more people into home-ownership, particularly young people, who are feared to missing out on the housing wealth secured by older generations (Coulter, 2017). Interest in inter-generational differences such as this has been widespread, as seen in the focus on 'Generation Rent' discussed previously. It has come to be argued that there has been too little focus on intra-generational differences, however. House price inflation, labour market changes, and changes to the availability of mortgage credit have exacerbated disparities between young people in their access to owner-occupied housing and more attention now needs to be given to socio-economic stratification (Coulter, 2017; Bone & O'Reilly, 2010). Personal and familial resources have become even more important in recent decades, it is argued, as those without the ability to rely on support for a mortgage deposit or help with rental costs, for example, are 'priced out' of owner-occupation (McKee et al, 2017). In addition to a growing divide between young people, there remains a gap in the literature on older renters and families. There are many similarities across groups in the experience of the PRS, including poor management practices, fear of having to relocate, or not wanting to be in the sector at all (McKee et al, 2019; Soaita et al, 2020). However, there are some experiences which are unique to certain groups, which may be missed in research focussing on young, single renters.

A key demographic of change within the PRS is children, with 22 per cent of children living in this tenure in 2017/18 compared with six per cent in 1994/5 (Bailey, 2020). Single-parent households with children have also increased substantially while the proportion of such households in SH has declined, as shown in figure 2.6. As figures 2.7 and 2.8 show, the rise in families with children as a proportion in the PRS has been most notable in England, rising from 10 per cent in 1999 to 19 per cent in 2019. In Scotland the increase between these same years is only one per cent, however change has been irregular. For example, families with children constituted 27 per cent of the Scottish PRS in 2012 (figure 2.8).

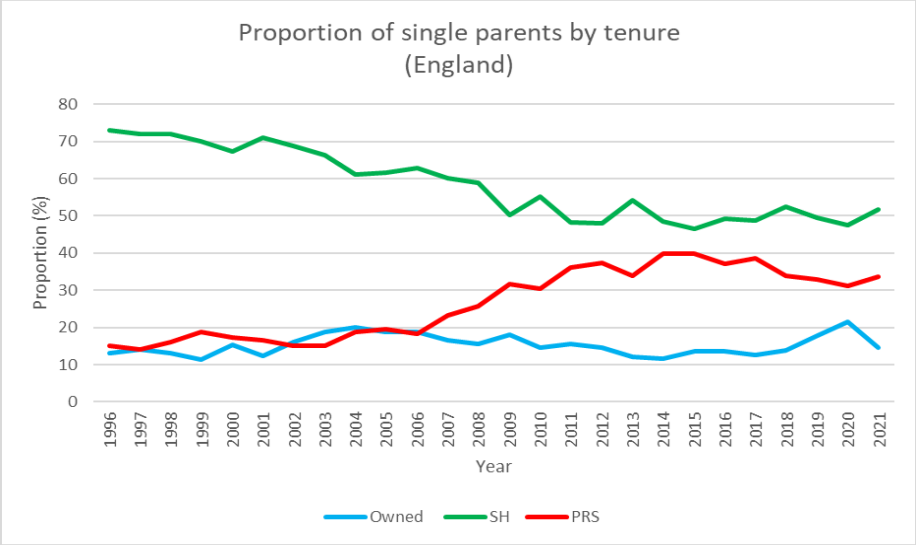

Figure 2.6 Proportion of single parents by tenure (England). (Source: DLUHC, 2023)

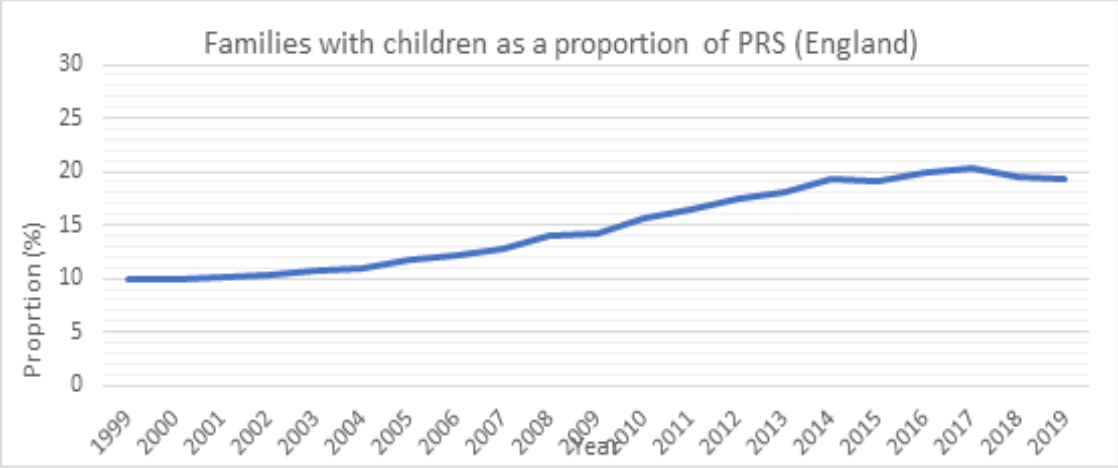

Figure 2.7 Families with children as percentage of English PRS (Source: MCLG, 2020)

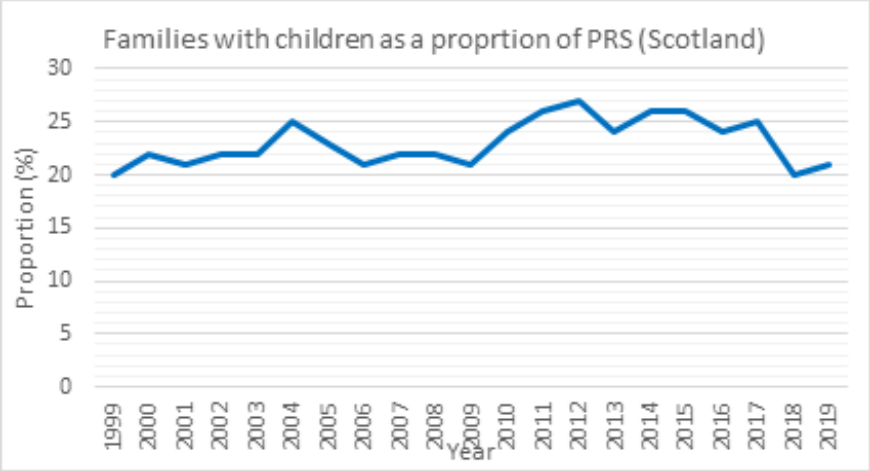

Figure 2.8 Families with children as percentage of Scottish PRS (estimate) (Source: Scottish Household Survey, 2021)

Figure 2.9 shows how the predominant age group in the English PRS is 25-34, with the proportion having changed little between 2008/09 and 2021/22. All older age groups apart from those aged 75+ saw an increased share of the PRS overall. This effect was particularly marked in the 45-54 age group, rising from around 12 per cent of PRS households to over 15 per cent. This shows that older renters have come to form an increased share of the PRS in recent years, while many in the 25-34 group are likely to stay in the sector later in life than was the case in the past. There was also a substantial drop in the 16-24 age group as a proportion of the tenure overall, from 16 per cent in 2008/09 to 10 per cent in 2021/22.

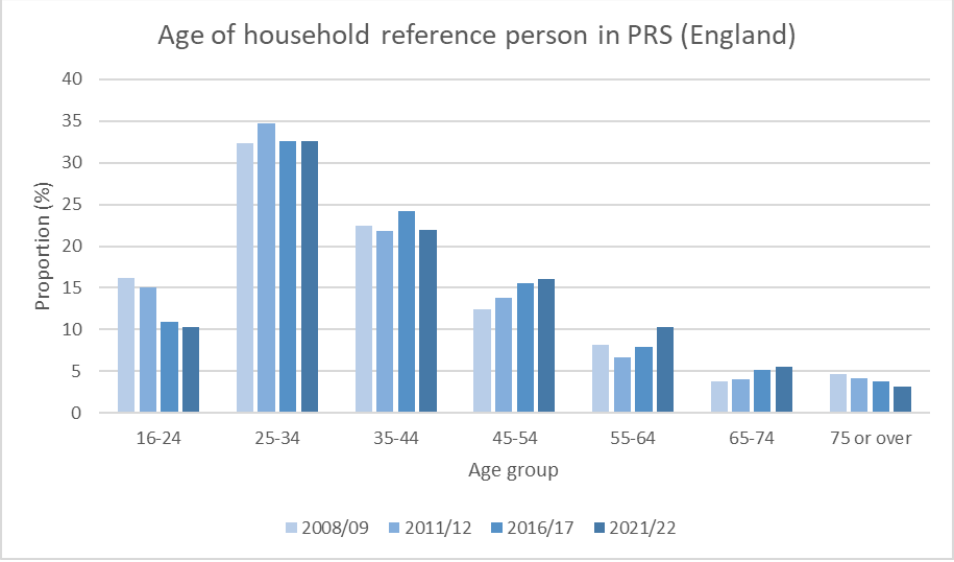

Figure 2.9 Age groups in the English PRS, 2008/09-2021/22 (Source: DLUHC, 2023)

2.4.2 Families and children in the PRS

While the demographic composition of the PRS has altered greatly in the recent past, there has not been a significant change in the structure of the tenure to accommodate those who require long-term contracts (Walsh, 2019; Coulter, 2017). This is an important consideration for families, as it diminishes their ability to create a 'home' and a place of refuge (Walsh, 2019). The ability to personalise and customise a dwelling is a significant element in feeling 'at home', according to the literature. Restrictions surrounding personalisation in the PRS are argued to substantially undermine families' sense of security (Scanlon, 2015; McKee et al, 2017; Walsh, 2019), as well as making it more difficult to attribute their identity to their homes. A Shelter-commissioned, nationally representative survey found that 77 per cent of families with children in the PRS would like to be able to decorate their home, but that many were worried that the cost of undoing decorations would be reclaimed from their deposit (De Santos, 2012). Fear of reprisals from landlords for accidental damage is already found to be a significant concern for those with children, with many such tenants avoiding additional stress by not decorating at all (De Santos, 2012). Almost half of families with children reported that the property that they rented did not seem like 'home' to them, which the author attributes at least partially to tenants' inability to personalise their home (De Santos, 2012). As Gurney (1999) notes, an industry has formed around home improvement and decoration, denoting a lifestyle that is seen to be a part of home-ownership and thus excluding most families in the PRS. This exclusion adds to the stigma that already exists against them, both perceived and experienced, that they are not good citizens or good parents as they do not own their home (Gurney, 1999).

The potential for families to feel secure in the PRS is arguably also being undermined by discrimination from landlords, who do not want families with children or pets letting their properties (Soaita et al, 2020; McKee et al, 2019), discrimination that Walsh (2019) suggests is enabled by a shortage of housing supply. Discrimination also exists against benefit claimants and those with fewer financial resources, as will be discussed further on. This in turn means the difficulties families who claim benefits face in securing housing, and the emotional impact of insecurity, are potentially compounded (Meers, 2019; McKee et al, 2019).

The effects of being uprooted are also felt acutely by families, who are already more likely to have a stronger attachment to the area in which they live (Bailey et al, 2012) and whose social networks can thus be disrupted if forced to move (JRF, 2020; Soaita et al, 2020). Disruption to familial and social networks may be particularly damaging to migrant families, who rely on them to help navigate an otherwise largely unknown system (Soaita et al, 2020). For all families, however, social networks can provide vital practical and emotional support (Bailey, 2020). Wanting to maintain this support is therefore understandable, but this can come at a cost. Research highlights how families in high-pressure areas, who find themselves having to move home, may be forced into the bottom end of the PRS if they want to maintain their networks in the community (De Santos, 2012). Alongside social networks, families may show strong place attachment to an area, defined as 'a positive affective bond or association between individuals and their residential environment' (Shumaker & Taylor, 1983, p. 233 in

Bailey et al, 2012). Attachment is seen as good for both people's health and well-being and for their security and identity (Bailey et al, 2012). Being forced to move from an area for any reason therefore disrupts not only the social connections a parent or child may have there, but also identities and ontological security build around the place in which they live.

It is argued that the negative consequences of moving can also have a specific and detrimental impact on children, putting their socialisation, health and educational outcomes at risk, especially if this occurs often (Shelter, 2012; Coulter, 2017). Bailey (2020) supports this view, stating that the PRS is ill-suited to families who are forced to move frequently, as children's social and educational development is put at risk. For example, research reviewed by Mahoney (2020) shows that moving three or more times in childhood is associated with more negative outcomes, such as delinquency and physical health, while Gambaro and Joshi (2016) found that children who had experienced housing insecurity had lower vocabulary scores and were more likely to exhibit behavioural problems. Phibbs and Young (2005) found that, in Australia, increased housing security is correlated with improved educational attainment and behaviour in children. Bradshaw et al (2012) also found that children who had moved once in the last year were 50 per cent more likely to have lower wellbeing that those who hadn't moved home, and those that had moved more than once were twice as likely to have low well-being.

As mentioned previously, poor housing conditions can have a damaging impact on tenants' physical health, however children are particularly at risk from this (Soaita et al, 2020). It is perhaps these issues that led the UK government to acknowledge how poorly served families in the PRS were by the current system, stating that longer tenancies would give tenants greater stability and enable them to plan for the future (DCLG, 2016), although reform did not occur following this. Arguably, the rhetoric and subsequent lack of action supports Bone and O'Reilly's (2010) contention that, while government policy has purported to support the idea that family life is a key part of healthy communities, it has in effect undermined it.

2.4.2 Effects on life transitions

In addition to the negative experiences of renting for families in the PRS outlined above, some evidence exists of tenants choosing not to have children at all (Bone & O'Reilly, 2010; McKee et al, 2017). Whether this be having further children or a first child, qualitative evidence points to rising rents, debt, and childcare costs being responsible (Bone & O'Reilly, 2010; Soaita et al, 2020), while the prospect of home-ownership moving further out of reach is cited as a major factor in couples delaying family formation (McKee et al, 2017; Bone & O'Reilly, 2010). Couples delaying having a child may therefore be indicative of the impact of housing market changes on life transitions. Scanlon (2015), for example, notes that a typical young person's housing career has often been seen as progressing from the PRS into home-ownership on the birth of their first child or when the child enters formal schooling. This idea of young people's housing pathways is perhaps most clearly demonstrated in housing policy. The 1995 White Paper *Our Future Homes* posited that 'a healthy private rented sector can provide an essential

first stage for young people leaving home, including students and those saving for a deposit to buy their own home' (DEWO, 1995, p.20 *in* Gurney, 1999). In his analysis of the normalisation of home ownership, Gurney (1999) notes that this policy emphasises the role of the PRS as a temporary 'stopgap' for tenants and as an investment vehicle for others, while owner-occupation is where people will truly find a 'home'. Coulter (2017) echoes this view of the respective tenures, arguing that the flexibility of the PRS makes it attractive to young people as they 'defer the transition to settled adulthood - for example by spending longer in education, "job-shopping" or by postponing family formation' (p.298). He also notes that there has been much less of a growth in young adults renting privately elsewhere in Europe, arguing that this highlights the influence that institutions and structural conditions have on housing pathways (Coulter, 2017).

The reality of the view that young people in the UK will continue to use the PRS in the way described above is called into question by changes to financial and housing markets, however. Steep rises in house prices relative to income, stagnating wages, and rising rents all make it considerably more difficult to balance household budgets, or to put money aside for a mortgage deposit (De Santos, 2012). Mortgages themselves have also become more restricted since the GFC (Scanlon, 2015). As noted earlier, intra-generational socio-economic disparities should be an important part of the discussion, argues Coulter (2019). The PRS has now overtaken SH as the home of the majority of poor young adults, housing 42 per cent, more than owner-occupied housing and SH combined and almost twice the figure of 20 years ago (Bailey, 2020). Poor adults can now expect to live in the PRS into middle age, in comparison to non-poor young people whose career in the PRS does not tend to extend past their 20s or early 30s (Bailey, 2020). McKee et al (2017) note that the literature around youth transitions has highlighted how leaving the family home is a key marker of moving into adulthood. Evidence shows that young people are now delaying this move, especially those who are poor, while all are now more likely to move into the PRS (Bailey, 2020). Both facts are important given the societal expectations around buying a home. Home-ownership is seen to be indicative of reaching a certain stage in life (Scanlon, 2015), as well as of being responsible citizens and good parents (Gurney, 1999). In this way, buying a property is the acceptable form of consumption, while anything else is 'wrong', and is internalized as such (Scanlon, 2015). Qualitative evidence shows that people who rent their home feel as if they have failed in life if they cannot buy their home, and that they feel stigmatised by others in society for renting beyond what is deemed an acceptable age (Scanlon, 2015; McKee et al, 2017). This stigma is not imagined, as shown by Gurney's (1999) research with home-owners. Some of those interviewed display pejorative assumptions about non-owners, while ownership is seen as 'natural' and a marker of both success and pride in oneself.

2.5 Experience of those in poverty

2.5.1 Welfare reforms

As in other areas of the economy, neoclassical economic thinking brought a shift away from subsidising supply to subsidising demand through means-tested benefits and mortgage interest relief (Madden & Marcuse, 2016; Daly & Gulliver, 2014). This is in line with other countries such as Ireland, where moves away from SH building and into subsidising tenants in the PRS have fuelled growth in the sector (Byrne, 2019). However, following the 2010 UK election, reforms to welfare saw it become far less generous, with many in the PRS facing the loss of Local Housing Allowance (LHA) (Coulter, 2017; JRF, 2020; Marsh & Gibb, 2019). LHA was introduced in 2008 as a significantly different means of calculating the amount of housing benefit or housing element of Universal Credit that a claimant in the PRS receives, initially based on the 30th percentile of local rents (Scottish Government, 2024a). In 2013, LHA was changed from being based on average rents and rising in line with local rent level increases, to increasing in line with CPI, before then being set at rising no more than one per cent for two years in most areas (Mahony, 2020). Research by the Joseph Rowntree Foundation (2020) outlines how this has not only meant tenants spending more of their income on high housing costs, but that older tenants may now also be forced to work longer past retirement age. Evidence also shows that some pensioners in the PRS, although a small proportion of the sector, are using pensions or disability benefit to make up the shortfall, likely pushing more into poverty (Arthur et al, 2018).

Somewhat ironically, welfare changes are likely to have been driven in part due to pressure from the 'moral panic' in the UK press over what was seen as an unreasonably high welfare expenditure (Bone, 2014). Bone (2014) points out that this spending is in part due to subsiding rents through LHA in an increasingly expensive PRS. Indeed, the PRS has come to house a substantial proportion of the UK's low-income households since the decline of the SH sector, as the latter now takes only those most in need (Bailey, 2020). One danger of this development is the increased risk of eviction from PRS properties as tenants move into arrears following benefit cuts and rising rental costs, with evictions in the UK rising by almost 50 per cent between 2015 and 2019 (Madden & Marcuse, 2019). Tenants are forced to pay the difference between there benefits and their rents where they cannot find accommodation at a low enough rent. The Institute for Fiscal Studies reported that 90 per cent of claimants in the PRS could not pay their rent with the housing benefit they receive (IFS, 2017).

A large part of the welfare expenditure in the PRS pertains to its use to house homeless households. According to Marsh and Gibb (2019), cuts to LA funding, reduced SH stock, and the Homelessness Reduction Act (UK) 2017, have meant that many more homeless people are now being housed in the PRS. Around two-thirds of Temporary Accommodation (TA) placements are in the PRS, while in 2019 there were almost 62,000 households with dependent children living in TA overall (Rhodes & Rugg, 2018; Mahoney, 2020). Rhodes and Rugg (2018, p.7) note that TA is 'a highly problematic submarket' of the PRS, in which high levels of tenure insecurity, mental health problems, and poor conditions are found, echoing research carried out by Mahoney (2020) and Mitchell et al (2014). While TA includes the

controversial and well-publicised use of Bed and Breakfasts hotels and hostels (Butler, 2016; Smyth, 2019), there are also now elements of the PRS in certain areas that have been configured for TA specifically, showing how established this practice has become (Rhodes & Rugg, 2018).

As noted above, welfare reforms have meant there is less support available for struggling households. In particular, young single people, large families, and those in high housing cost areas are negatively affected (Marsh & Gibb, 2019). Coulter (2017) argues this will compound negative consequences for those already in disadvantaged groups and exacerbate marginalisation, pushing renters into low-quality or shared accommodation. He states that 'these trends appear to be a part of a broader European pattern, whereby austerity policies and the commodification and financialization of housing systems deepen social divisions by displacing the responsibility for welfare provision onto citizens while making housing less secure and affordable for the poor' (Coulter, 2017: 298). However, whilst these reforms are important for the wider context of the contemporary PRS and its changing role since the 1980s, changing welfare provision and its impact is a complex subject that cannot be covered adequately here. For further discussion in relation to housing, see Powell (2015).

2.5.2 Poverty and the PRS

With the rapid expansion of the PRS since 2000, the proportion of tenants that are living in poverty has increased greatly and the sector now houses a disproportionate number of households in poverty in comparison to other tenures (Kemp, 2011; JRF, 2020). In 2022/23, for example, 35 per cent of those in the UK PRS lived in relative poverty after housing costs, compared to 24 per cent of those in owner-occupation and 44 per cent of hose in SH (DWP, 2023). The number of people in poverty living in the PRS has increased as the sector has grown and the SH sector has contracted; 45 per cent of those in poverty lived in SH in 2000 and 15 per cent in the PRS, compared to 33 per cent and 31 per cent in 2023 respectively (JRF, 2024). While SH houses the majority of those with a net income below £20,000 per annum, a higher concentration of those in the lowest income group live in the PRS (Marsh & Gibb, 2019). More than four times the number of couple-parent families in poverty rent privately than in 2000 (JRF, 2020) and one in three children in poverty now also live in the PRS, a three-fold increase over the same period (Bailey, 2020; Gibb et al, 2019). Figure 2.9 shows that, of children living in the PRS, 25 per cent are in relative poverty, rising to 46 per cent after housing costs. Marsh and Gibb (2019) note that this increase of children living in poor households in the PRS is mirrored by a decline in those living in SH, denoting a wider trend in which those who cannot afford to buy their own home or access SH reluctantly live in the PRS. Research undertaken by the Joseph Rowntree Foundation (2020) supports this view, showing that this increase includes record numbers of poor families with children and pensioners. While the proportion of pensioner households in the PRS has not changed substantially in the past decade (around seven per cent), the percentage of those in poverty in the PRS has risen from 30 to 35 per cent, likely due to rising housing costs and less generous benefit payments (JRF, 2020).

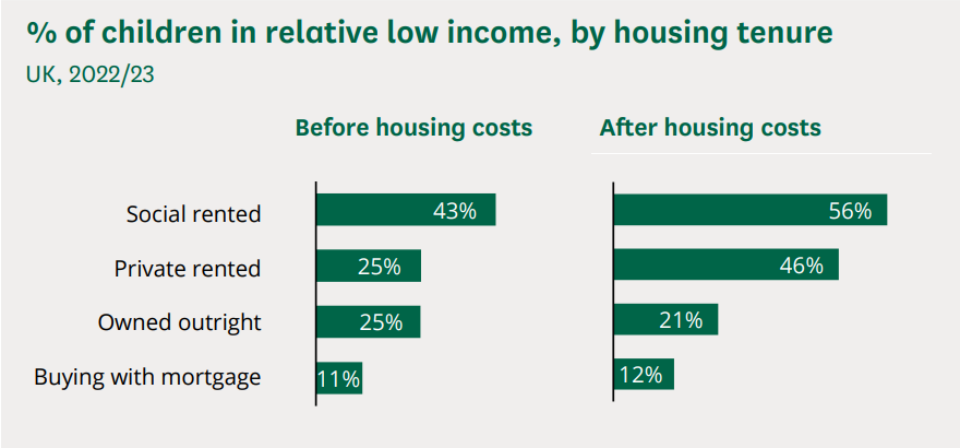

Figure 2.9 Percentage of children in relative poverty, by housing tenure (Source: Francis-Devine, 2024)

Bailey (2020) notes that the increase of those in poverty living in the PRS has slowed in recent years, but that the long-term effects of this change has not yet been fully understood. He states that there 'has not been systematic analysis of the changing role of the sector in relation to poverty - possibly because such a change was never envisaged in UK policy efforts to revitalise the PRS' (Bailey, 2020: 2). The situation is also unlikely to be reversed, the JRF (2020) argues, given the shrinkage of SH and what they see as a lack of political will to build to meet the demand for genuinely affordable housing. This is a view supported by Kemp (2011). Writing before many of the Coalition and subsequent Conservative governments' policies had come into effect, he predicted that their 'ideological distaste for social housing and the welfare state more generally' would place more pressure on the PRS to house low-income households (Kemp, 2011: 1021). It is argued that if the size of the SH sector had been maintained, the depth of poverty faced by those in poverty in the PRS would be less and a lower overall rate of poverty would be seen, due to the burden of housing costs in the private sector (JRF, 2024).

The risk of living in poverty in the PRS is found to be higher for families with children (single- or couple-parents), women and ethnic minorities (Kemp, 2011; Mahony, 2020). This may then compound other problems that these groups face. For example, while landlords and letting agents have been found to routinely exclude those on low or unstable incomes (Hoolachan et al, 2016), families can be put at a double disadvantage due to landlord discrimination (Crook & Kemp, 1996; McKee et al, 2019). Frequent moving is also much more likely for those in poverty, which, as mentioned earlier, may result in poorer outcomes for children (Gambaro & Joshi, 2016). Livingston et al (2008) note that a person's social networks can be crucial in navigating poverty. This is likely to have an increased significance for families, given the importance of social networks for them, as discussed earlier. Migrant families may be at a particular disadvantage, evidence suggests (Soaita et al, 2020). In addition to the burden of high housing costs, they may lack the established social networks that can be needed to access higher-quality accommodation, or sufficient English language proficiency to navigate the system (Soaita et al, 2020). Additionally, some migrants have seen their benefits taken away in recent years, despite long-term residence in the UK (Wright et al, 2018).

As mentioned earlier in this chapter, housing is argued to have become increasingly precarious in the UK, particularly for PRS tenants. Housing can thus be seen as an element of precarious living for those in the emergent class of the 'precariat', alongside unstable employment and possible reliance on an increasingly diminished social safety net (Savage et al, 2015). The term precariat was introduced by Standing (2011) who argues that neo-liberal policies and institutional changes have resulted in individual experiences common enough to be called an emergent social class (Savage et al, 2015). While this is argued to be a global phenomenon, Britain is argued to have the lowest basic unemployment benefit of the major economies, with OECD figures now showing that over 40 per cent of those in Britain are now in poverty or are financially insecure (Clark & Wenham, 2022). Hoolachan et al (2016) notes that the intersection of precarious work, possible reliance on benefits and lack of other resources to rely on makes individuals more susceptible to exploitation and the need to turn to foodbanks or payday loans. This in turn can lead to their being labelled as 'bad tenants' (Hoolachan et al, 2016), potentially creating a cycle of housing precariousness.

2.5.3 Living in the bottom-end of the PRS

The reality of living in poverty in the PRS is that tenants will experience worse housing conditions and affordability (Rugg & Rhodes, 2008; Kemp, 2011) with a reduced ability to negotiate, as discussed earlier. Poorer tenants are more likely to live in properties of poor standard and to have landlords that own the property for investment purposes (Crook, 2002a). This is important, Crook (2002a) notes, because properties owned with an 'investment motive' are owned in order to benefit from a higher rate of return. In practice this means that repairs are unlikely to be kept up with as this will not add to rental income, given that it is geographical area and neighbourhood that primarily dictate rents rather than the standard of the property (Crook, 2002b). In turn this means that the negative physical and emotional health outcomes associated with the poor condition of housing are primarily felt by the poorest tenants (Shelter, 2005; Soaita et al, 2020). Many properties falling under the designation of houses in multiple occupation (HMOs) (i.e., those in which three or more tenants live, forming more than one household) are owned in such a way, while 'rogue' or incompetent landlords abound (Soaita et al, 2020). Tenants in the HMO sector of the PRS are not necessarily more likely to be poor, Kemp (2011) explains, however there are substantial differences across it relating to tenants' alternative housing options and their lived experience. While some may be living with friends while at university, many HMO tenants are more vulnerable, including many who are on SH waiting lists (Soaita et al, 2020). It is also worth noting that only larger HMOs (five or more tenants) are required to have licenses in England and Wales (although LAs can extend this to all HMOs), while all HMOs must be licensed in Scotland (Soaita et al, 2020).

At the same time as less-scrupulous landlords may be profiting from inadequate PRS housing, evidence suggests than there is reluctance amongst other landlords to let their property to those on lower incomes. 'No DSS' policies, a requirement to provide guarantors of rent, or to provide proof of savings, are all examples of this reluctance and are currently widely seen in the sector (McKee et al, 2019; Bailey,

2020). This acts to compound the problems many tenants face due to the gap between benefits payments and rent, making it difficult to access and keep accommodation (Kemp, 2011). It is claimed that this practice of not letting to 'DSS' tenants (an outdated reference to the Department for Social Security, in practice now Local Housing Allowance or Universal Credit recipients) has led to poorer tenants being unable to access housing in whole neighbourhoods (Meers, 2019; Richardson, 2018). Although compensation has been won from letting agents on the grounds that the policy of 'no DSS' discriminates against women, a legal precedent has not been set and this practice still continues (Richardson, 2018). Private landlords operating without an agent have also expressed reluctance in letting to HB/Universal Credit claimants, with some citing the post-2011 reduction in benefit payments as a reason (Bailey, 2020).

Housing costs are shown to be a major problem for low-income households, with these costs being significantly higher in the PRS than in other tenures (JRF, 2020). De Santos (2012) illustrates the impact of this problem, finding that 43 per cent of PRS households reported having to cut back on food to cover housing costs, with many having to resort to pay-day loans. Moving costs and deposits are also a substantial burden to those who choose or are forced to move, which can also include non-refundable administration fees and deposits in England and Wales (De Santos, 2012). Private rent increases in England and Wales remain unregulated, leading to greater insecurity and hardship for tenants (Bone, 2014; JRF, 2020). As Clarke et al (2017) and Bone (2014) point out, it is important to see rent increases in the wider context of high house prices, welfare cuts and increased insecurity of employment. Rent increases themselves, according to Shelter's (2012) survey of landlords, are primarily done to reflect other local PRS stock, rather than inflation or increased mortgage costs. Landlords who had increased their rent in the past year did so by over five per cent on average, and Shelter (2012) note that rents had already risen twice as fast as wages in the decade preceding their research. After cuts to benefits following 2010, increased housing costs have the potential to be even more detrimental to those in poverty in the PRS (Marsh & Gibb, 2019; Mahoney, 2020). Coulter (2017, p.315) argues that 'the commodification and financialisation of housing systems generates unequal exposure to housing risk, but also qualitatively changes the types of risks facing poorer households as they respond to economic constraints by adapting their tenure and living arrangements', meaning that they are likely to stretch budgets or move into smaller or lower-quality accommodation. Possible displacement may also result in poorer households facing longer journeys to work or school, with resultant impacts on health and income, or free time at the very least (Atkinson 2015).

2.5.4 Neighbourhood deprivation

Housing affordability for low-income tenants of the PRS varies across regions of the UK, with it being most affordable in Northern Ireland, and least affordable in London, the east and south-east of England (JRF, 2020). The highest poverty rates among PRS tenants, however, are found in Wales and the north-east of England, with the high rates of poverty across the UK PRS being caused by a mix of low income and high housing costs (JRF, 2020). However, at a more micro level, increased rents cause low-income

tenants to be displaced from more central locations into deprived neighbourhoods and suburbs (Marsh & Gibb, 2019; Soaita et al, 2020). This process leads to the 'suburbanization of poverty' (Marsh & Gibb, 2019) or 'geographies of poverty' (Soaita et al, 2020), in which poorer populations stand divided from other communities. McKee et al (2017), in their work on 'Generation Rent', note that younger populations have received less attention in research in this regard. Some young people are being displaced from their home areas, the authors found, either by an increased need to be mobile for work, or by high housing costs (McKee et al, 2017). Particular housing pressures are also often found in rural locations and in areas of high economic growth, meaning that the move of lower-skilled jobs away from urban areas does not necessarily benefit displaced populations (Crisp et al, 2018; McKee et al, 2019). Part of the reason that local populations do not benefit, especially younger people and those with low incomes, is that many of these areas of economic growth are not particularly accessible (Crisp et al, 2018).

The spatial polarisation discussed above may also have implications for place attachment, given Bailey et al's (2012) findings that attachment for PRS tenants increases as an area becomes more mixed. Importantly, qualitative evidence from their research also points to how the circumstances in which a person comes to live in a place is pivotal; if they are forced to move from an area, their attachment to their new neighbourhood is likely to be reduced (Livingston et al, 2008). Atkinson (2015) names this displacement 'un-homing', drawing attention to the importance of elected fixity that is required for somewhere to seem like a 'home'. He points out how people felt a sense of mourning and resentment if they are forced to move, but that remaining in an area where their networks have broken down can also feel displaced through alienation (Atkinson, 2015). The influence of deprivation is also a critical factor according to the literature. More deprived neighbourhoods face greater fragmentation, not only because social networks become disrupted, but also because in-comers are often not seen as a part of the community for a number of years (De Santos, 2012; Bone, 2014). Longevity of residence in a neighbourhood is thus important in social cohesion, evidence suggests, resulting in higher rates of community participation (de Santos, 2012). Livingston et al' (2008) analysis supports this view. Their research found that high turnover in an area leads to lower attachment, through lower perceptions of social cohesion and neighbourhood safety (Livingston et al, 2008). Increased student population concentrations may also exacerbate social fragmentation, it is suggested, due to the separation between students and other populations (particularly families) and their respective lifestyles (Kemp, 2011; Soaita et al, 2020). As well as a potential impact on local amenities and environmental upkeep (Soaita et al, 2020), the area can be exposed to the risks of fluctuating demand and disinvestment from landlords if the concentration of students in the PRS is particularly concentrated (Munro & Livingston, 2012). This is important as low-income PRS tenants are particularly at risk, as landlords may choose to let their property to groups of students to maximise profits (Kemp, 2011).

2.6 Conclusion

The UK PRS has gone through substantial change since deregulation in the 1980s, with it becoming dominated by small landlords and growing substantially in size. A significant factor in this change was clearly the deregulation of financial markets and the more accessible mortgage credit that followed it. However, government policy is shown to have influenced the tenure balance in other ways since, with a dramatic decline in SH stock building, welfare changes, and subsidisation of home-ownership all contributing to reshape the housing market. The financialisation of the sector is argued to have come at a significant cost, however. With housing now used as an investment vehicle and a source of individual welfare in later life, home-ownership has become less accessible for many. At the bottom end of the market, welfare changes and a reduction in LHA mean that inequalities are being entrenched. However, market volatility, due to a reliance on monetary policy and financial markets, mean that even those who have the resources to secure a mortgage are not free of risk.

The stratification of the PRS since its expansion draws attention of the lack of research focussing on subgroups in the sector, such as older renters, parents and those who grew up in the PRS. In particular, and despite good evidence of negative physical health outcomes from issues common to the PRS, a lack of evidence of the scale of poor mental wellbeing from exposure to the PRS is found. This is despite qualitative evidence finding such a phenomenon is many instances. The literature points to how poor conditions and insecurity in the PRS affect all of those within it to some degree. These effects can largely be attributed to the light regulation of the sector and how it is dominated by small landlords, which make enforcement difficult.

However, for particular groups, such as parents, children and older renters, aspects of the renting experience have been found to be particularly influential. Not being able to decorate or personalise home has been reported by parents in the PRS as negatively affecting their wellbeing, while the skewing of power in a tenancy towards landlords has been shown to lead to anxiety for their and their children's futures. Housing instability has also been found to lead to poor outcomes for children, however the impact of this in later life for those who were exposed to the PRS as children is lacking.

As well as the scarcity of quantitative evidence on private renting's impact on the wellbeing of UK tenants, there is a need for greater use of longitudinal data in the analysis of the PRS. Not only would such analysis add substantively to the evidence base through the use of robust and reliable data, and through potentially generalisable estimates, but rigorous inferences can be made across the life course. In particular, such findings would address problems related to cross-sectional analysis of outcomes for PRS tenants, in which the direction of causality is unclear between poorer outcomes and tenure. International evidence using such data has provided important new insights into outcomes for PRS tenants and provides a good basis for further investigation of this subject in a UK context.

To address the evidence needs identified in this chapter, the research questions (RQs) ask:

(1) Do wellbeing outcomes differ between tenure groups across the life course?;
(2) Does exposure to the UK PRS in childhood impact mental wellbeing in later life?; and
(3) Do PRS tenants with children exhibit different mental wellbeing outcomes than those without?

3. Methodology and Data

3.1 Introduction

The previous chapter outlined the research questions after examining the literature on housing and tenure. This chapter explains the choice of longitudinal data analysis techniques used in this research to answer those questions, beginning with a description of its advantages over cross-sectional data analysis and the benefits of its use in the topics under investigation in this research. The choice of the 1970 British Cohort Study for the main analysis is then explained, as well as the choice of the Millennium Cohort Study for additional analysis. Both surveys are introduced and an illustrative overview of the cohorts in given. The chapter then introduces the wellbeing measures used as dependent variables in the models and their backgrounds, as well as how their use will answer the research questions. The choice of models and importance of the structure of the dependant variables in making this decision are discussed in section 3.5. The relevance of both types of models used in each part of the analysis (Generalised Linear Mixed Models and Linear Models) is delineated, before explaining how each is used in the research.

3.2 Longitudinal data analysis

The research questions (RQs) ask:

> RQ1: Do wellbeing outcomes differ between tenure groups across the life course?
>
> RQ2: Does exposure to the UK PRS in childhood impact mental wellbeing in later life?
>
> RQ3: Do PRS tenants with children exhibit different mental wellbeing outcomes than those without?

RQs (1) and (2) are concerned with change over time, while all three are interested in differences between groups. The research therefore needs to utilise methods that reflect those requirements. Qualitative research is the most represented in the literature and provides in-depth evidence of the lived experience within different tenures. For example, the effects of living in the PRS on tenants' health through things such as short-term leases or disrepair are well documented (Ellaway & Macintyre, 1998; Lister, 2005; Rhodes & Rugg, 2018), as discussed in previous sections. Quantitative methods of analysis would clearly build on the existing literature in the area and add to evidence surrounding housing and tenure at the macro-level. This meets the needs of the research questions in allowing for large sample sizes, therefore allowing for analysis of group differences, and for the analysis of change over time.

There is existing quantitative research in the UK housing literature focussing explicitly on aspects of housing and the relationship with mental wellbeing (for example: Ellaway & Macintyre, 1998; Macintyre et al, 2003), however evidence focussing on long-term effects is lacking.

Aarland et al (2021) explain that, while there are persuasive theoretical reasons why tenure might influence children's wellbeing, educational attainment or physical health, producing statistical evidence to show it is challenging: challenges that are reflected in evidencing influences on adults' wellbeing. They argue that there are four reasons for this: selection, omitted variable bias (OVB), endogeneity and heterogeneity by income and ethnicity (Aarland et al, 2021). These difficulties are recognised elsewhere in the literature also, being said to provide a challenge in examining direct tenure effects and producing causal results (Dietz & Haurin, 2003; Acolin, 2020). Zumbro (2014) states that selection issues refer to the unmeasured motivations and skills that lead people to tend to choose a certain kind of tenure and bias any observed relationship. However, this definition's focus on agency in housing choice serves to restrict the understanding of selection issues; people will filter into tenures based on a variety of factors that themselves limit choice, such as mortgage availability and family circumstances (Colter, 2017; Walsh, 2019). Bias through omitted variables arises because the dependent variable in question may be affected by characteristics of those being studied or their parents', or by their neighbourhoods or schools, which go unmeasured (Aarland et al, 2021). Gayle and Lambert (2018) argue that this is a failure in capturing the complexity of social life at the data collection stage. It is also possible that including endogenous characteristics may 'over-control' and therefore understate the full influence of tenure choice on other housing career decisions that it affects (Aarland et al, 2021). Newman and Holupka (2013) recognise this and recommend avoiding over-control of endogenous variables while modelling a range of housing covariates and including socio-economic and ethnic strata. This is supported elsewhere in the literature, with the recommendation that any attribution of difference in outcome to housing tenure would need proxy measures for permanent income, which influences homeownership access (Acolin, 2020). The above highlight the need for a method that can include a broad set of individual characteristics and housing factors, thus capturing the detail of social life in such a way as to minimise the risk of residual heterogeneity. Analysis of large-scale social survey data is an effective means of doing this, capitalising on large sample sizes and tested survey instruments. Utilising secondary survey data clearly also has the advantage of being at a scale unavailable to the individual researcher within time and budget constraints. While cross-sectional research relating to tenure effects has been undertaken, and evidence of the scale of issues such as insecurity and poor housing conditions has been found (Coulter, 2017; De Santos, 2012), the literature is limited and there remain important limitations to the method. It does not reliably allow for the investigation of differences in the long-term and is open to substantial OVB as the social phenomena in question are complex. The pooled cross-sectional model is one method of including data across a longer time period in analysis, as used by Coulter (2017) in his analysis of census data. As he explains, this method enables large sample sizes and avoid problems of non-response that can affect repeat-measures designs (Coulter, 2017). This model can be improved upon by estimation with robust standard errors, correcting for the violation of the non-independence of observations (Gayle & Lambert, 2018). However, as Gayle and Lambert (2018, p.2) write:

> 'Many social science research questions can be adequately answered using cross-sectional data. Most social science research projects can be improved by incorporating suitable longitudinal data. Some social science research questions can only be sensibly answered using longitudinal data.'

Quantitative research concerning change in mental wellbeing over time, or the long-term impact of early-life experiences, can reasonably only be answered using longitudinal data and is thus described by the latter of these categories. Longitudinal data may take the form of panel data or cohort data. Cohort studies are a particular type of panel survey that follow a group of people who share a common event or experience, in practice usually a group born in the same time period (a birth cohort) (Glenn, 2005). This gives analysis of cohort data a particular advantage as period and age effects will not vary for the sample (Hox, 2010).

In contrast to cross-sectional analysis, in effect a 'snapshot' of individuals' lives, longitudinal data enables the analysis of data over extensive periods of time and can include a variety of factors. Questions or measures are repeated at each measurement occasion over a respondent's life course, allowing for change in the responses to be analysed, while early life characteristics can be included in analysis of later-life outcomes. This can include an individual's health and living circumstances, for example, as well as that of their parents. By following respondents over multiple measurement occasions, longitudinal data enables those participants' characteristics to be accounted for in the analysis and is therefore considerably more reliable than models in which independence of observations is incorrectly assumed (Hox, 2010). This makes controlling for the effects of factors such as income, as mentioned earlier, far easier. Coulter and Van Ham (2013) state that longitudinal data is often overlooked in the housing literature, with the study of individuals' life course thus rarely available. In other cases, cross-sectional data is used by virtue of necessity due to data availability limitations (Angel & Gregory, 2021). While cross-sectional survey data is valuable and can provide evidence of macro-level change over time, it does not offer the temporal ordering of information as longitudinal data does (Gayle & Lambert, 2018). This makes longitudinal data invaluable in the study of individual development (Bergman & Magnusson, 1990) and can inform narratives about the direction of influence (Gayle & Lambert, 2018). While longitudinal data is commonly used in health and education research to capitalise on these advantages, it can be particularly useful in research on tenure effects to help mitigate issues around selection and endogeneity, as discussed above. As explained in the previous chapter, studies using longitudinal data exist in the international literature. For example, work by Bentley et al (2016) compares Australia and the UK in terms of housing affordability, tenure and mental health, while Mason et al (2013) investigated how individuals in different tenures responded to affordability problems. Li et al (2022) also utilise cohort data to investigate housing instability's impact on mental health and psychological distress. Studies using similar methods in the UK context are lacking, however, meaning such work would make a substantial contribution to the field. Furthermore, using secondary longitudinal survey data allows this research to access far richer information, from far larger samples, than would be achievable through primary research conducted within the same time constraints.

Modelling tenure effects using longitudinal data presents methodological questions, however. As discussed above, housing tenures are not fixed. Regulations in which tenures are bounded vary temporally and geographically. The way in which tenure is modelled therefore makes assumptions about its effects; if it is treated categorically, models assume that it does not change greatly between measurement occasions. As discussed in the previous chapter, the PRS has changed substantively in the past century and contains distinct submarkets. Rhodes and Rugg (2018), for example, note the large growth of those housed in the PRS through TA, while the shift towards demand-side welfare provision has meant a large number of private tenants receive housing benefit (Daly & Gulliver, 2014). In the types of models chosen for this research (discussed in section 3.5), model specifications dictate that tenure is

incorporated as a categorical variable with a number of levels, or as a larger set of binary variables denoting tenure at each measurement occasion, in a saturated model (Hox, 2010). The latter allows for tenure to vary by year, but is computationally demanding and does not allow for the estimation of trajectories (discussed further in section 3.5). A method in which tenure is treated as a categorical variable, however, provides more parsimonious models when compared to incorporating multiple variables that may represent more nuanced housing career trajectories. Data limitations also necessitate some compromise in how factors such as tenure are treated, as is discussed in section 4.3.

3.3 Cohort survey data

3.3.1 Choice of surveys

For the purposes of this research, longitudinal survey data was sought that would enable analysis of long-term mental health outcomes across different tenure types in the UK. Table 3.1 summarises the longitudinal UK studies with accessible data and the deciding criteria.

Table 3.1 Selection criteria for suitable survey data. Marked as 'n/a' if survey does not meet preceding criterion

Survey name	Selection criteria			
	UK coverage	Cohort survey	Regular measurement occasions	Adequate length of survey life
1970 British Cohort Study	Yes	Yes	Yes	Yes
Avon Longitudinal Study of Parents and Children	No	n/a	n/a	n/a
Born in Bradford	No	n/a	n/a	n/a
British Household Panel Survey/Understanding Society	Yes	No	Yes	Yes
English Longitudinal Study of Ageing	No	n/a	n/a	n/a
Growing Up in Scotland	No	n/a	n/a	n/a
Hertfordshire Cohort Study	No	n/a	n/a	n/a
Longitudinal Study of Young People in England	No	n/a	n/a	n/a
MRC National Survey of Health and Development	Yes	Yes	No	Yes
Millennium Cohort Study	Yes	Yes	Yes	No
National Child Development Study	No	Yes	No	Yes
Southampton Women's Survey	No	n/a	n/a	n/a

A focus beyond the UK was not pursued given that housing regimes in different countries vary widely and the understanding of tenure is culturally contingent, making comparisons on a more granular level difficult (Acolin, 2020; Angel & Gregory, 2021). UK-wide coverage of the survey data was also sought for this research. This is because substantial divergence in the housing policy of different UK nations has occurred in the last few decades and particularly since 2010 (McKee et al, 2017a). The PRS, in particular, has grown to different extents in different regions of the UK, with much of this dependent on imbalanced economic geography and migration patterns (Sissons & Houston, 2018). Changes in the provision of social housing (SH) has also occurred within the UK; devolved administrations have continued to fund SH to a much greater extent than the UK government has in England, with the latter focussing on subsidising homeownership (McKee et al, 2017b). As discussed in the second chapter of this research, the reduction of available SH and move towards subsidising welfare recipients' rents in the PRS has greatly changed the sectors (Bailey, 2020; Bone, 2014). The withdrawal of the Right to Buy in Scotland and Wales, also, creates an important distinction between housing policies and housing landscapes within the UK that impacts upon the PRS (McKee et al, 2017b). This makes any possible differences between UK countries substantively interesting, while Sissons and Houston (2010) note that it will also be important for research to address the impacts of these differences in the future. While differences between countries or regions was not necessarily intended to constitute a major focus of the analysis, an interest in maximising data granularity for the reasons outlined above meant that longitudinal studies than have only a regional focus, as well as those focussing only on England or Scotland, were eliminated.

The British Household Panel Survey began in 1991 and was incorporated into Understanding Society in 2009, therefore a considerable core sample is available over several decades. However, as discussed previously, birth cohort data has advantages over other types of longitudinal designs that makes it more attractive for use in this research. In addition, surveys that have had irregular measurement occasions, for example with long breaks between sweeps, were deemed less suitable as many life changes (particularly relating to housing) can occur within these periods making the investigation of relationships more complex. This includes the MRC National Survey of Health and Development and the National Child Development Survey. The 1970 British Cohort Study was thus chosen for the main analysis of this research, having been in the field over the period of SH residualisation and PRS renewal and having regular measurement occasions across this time. It is described in more detail below. The Millennium Cohort Study has a broad focus and large sample size but is limited in terms of how long it has been in the field, having started in 2000, and was therefore selected for supplementary analysis. Details of this survey and how it is used in the research are explained further on in this chapter.

As discussed above, UK housing policy has changed notably in recent decades, but important changes in the tenure make-up of the UK have occurred across the 20th century, as discussed in the literature review. In particular, the residualisation of the SH sector, re-growth of the PRS and vast expansion of the mortgaged owner-occupied sector mean that the housing experiences of different generations growing up in the post-WW2 period remain distinct. This bears relevance for this research as the cohorts in the two surveys used will have experienced different housing, welfare and economic landscapes. At the time of writing, for example, those who own their home outright represent the largest share of the UK housing market at around 35 per cent, while the SH sector accounts for the smallest at around 16 per cent (ONS, 2019). However, the PRS accounted for the smallest share of the housing market in 2000, at five per cent of households in Scotland (SNS, 2021) and 10 per cent in England (ONS, 2020). At the time

of the BCS70 cohort's birth, the PRS stood at around double this proportion in England, while approximately 30 per cent of households were in SH (MHCLG, 2020b). House prices relative to income have also grown substantially (ONS, 2023); a change that will have affected the parents of the MCS cohort and their likelihood of buying a home. Housing wealth has also become concentrated in the hands of older generations, while access to this wealth through inheritance has come to constitute an ever-more important role in the ability of younger generations to enter homeownership (McKee et al, 2017). The PRS in England in particular is now also home to many more welfare recipients as a result of the UK government's shift to demand-side benefits since the latter half of the 20th century (Bailey, 2020). Higher rents in the PRS, alongside smaller disposable incomes, have meant that poverty levels for households of working-age are far higher than before the global financial crisis (Clarke et al, 2016). Together, these changes have led to an increasingly diverse PRS, and a housing landscape that differs substantially from that of 1970. These differences in the make-up of the UK's housing and welfare systems may be reflected in different outcomes for the two cohorts being investigated. The two surveys, the BCS70 and MCS, having been chosen for analysis in this research, are described more fully below.

3.3.2 British Cohort Study 1970

The British Cohort Study 1970 includes approximately 98 per cent of all births in Great Britain in one week in April 1970 (CLS, 2021). Other children born in this week were also added to subsequent sweeps of the survey, including those who were missed in the original sample or who had subsequently migrated to the UK (CLS, 2021). The survey began primarily as a health survey, focussing on mothers' behaviour during and after pregnancy and their babies' health and development. However, later sweeps have come to include a variety of other questions surrounding education, housing, employment and more. While the first sweep of the survey also included 628 cases from Northern Ireland, these Cohort Members (CMs) were not included in later sweeps of the survey and so it encompasses England, Wales and Scotland only (CLS, 2021). The sample at each wave is the original sample excluding those who had died, emigrated or withdrawn from the study (UCL, 2012). Sample sizes in each sweep of the survey are shown in Table 3.3. The considerable decrease in respondents achieved at sweep five is attributed to the survey being conducted via post with limited resources, as well as it occurring after a period of 10 years (Mostafa & Wiggins, 2015). A telephone survey was also conducted at sweep eight, to which the lower successful response rate in comparison to previous and subsequent sweeps is ascribed (Mostafa & Wiggins, 2015). The implications of survey drop-out (CM non-response) and for dealing with it in analysis are discussed further on in the chapter. The increase in respondents between 1996 and 2000 is said to show the success seen in re-contacting CMs thought to be lost to follow-up, as well as the use of a computerised schedule rather than telephone survey (Sacker & Wiggins, 2002). As of sweep 10, 60 per cent of CMs have participated in six or more sweep of the survey (CLS, 2021).

Table 3.2 BCS70 sample by sweep. Source: British Cohort Study 1970

Sweep	Age	Year	Achieved response
1	Birth	1970	17,196
2	5	1975	13,135
3	10	1980	14,875
4	16	1986	11,622
5	26	1996	9,003
6	30	2000	11,261
7	34	2004	9,665
8	38	2008	8,874
9	42	2012	9,841
10	46	2016	8,581

An illustrative breakdown of the cohort at age 26 (the first sweep in which CMs are adults) is shown in Table 3.3. We see that the cohort is predominantly White, with other ethnicity categories constituting no more than one per cent of the cohort (as explained in appendix II, more nuanced ethnicity categories were not possible for the BCS70 data). Just over half of the cohort are female. Sweep five has the lowest proportion of married CMs of the sweeps included in the model (62 per cent of CMs are married in sweeps nine and 10) but the majority of those included in the sweep are either married or cohabiting with a partner. Only 16 per cent of the cohort have a degree at age 26, while we see that the vast majority are living in owner-occupied housing (67 per cent).

Table 3.3 BCS70 key demographic information (sweep five) (Source: own compilation of BCS70 data)

Variable		Proportion within sweep (excluding NAs)
Sex	Female	54%
	Male	46%
UK Region	North East	6%
	North West	12%
	Yorkshire and the Humber	10%
	East Midlands	7%
	West Midlands	10%
	East of England	5%
	London	11%
	South East	15%
	South West	9%
	Wales	5%
	Scotland	10%
	Northern Ireland	<1%
Ethnicity	White	97%
	Black	1%
	Asian	1%
	Other	<1%
Disability status	Disabled	3%
	Not disabled	97%
Marital status	Married/Cohabiting	57%
	Single	41%
	Legally separated	1%
	Divorced	1%
	Widowed	0%
Degree-level qualification	Has degree	16%
	Doesn't have degree	84%
Employment status	Full-time	74%
	Part-time	8%
	Not employed	18%
Housing tenure	Owner-occupied	67%
	Privately rented	12%
	Socially rented	9%
	Rent free	3%
	Other	8%

3.3.3 Millennium Cohort Study

The Millennium Cohort Study (MCS) began in 2000 with a broad focus, investigating how social, economic and health differences amongst children born at the beginning of the 21st century change. The first sweep of the survey achieved a sample of 18,818 CMs, with 18,552 family members of the CMs providing information about them. At the time of writing, the most recent sweep with data available is the seventh. This sweep was in the field in 2018 at which time the cohort members were predominantly aged 17. The achieved sample of sweep seven was 10,757 CMs and 10,625 family members.

Table 3.4 MCS sample by sweep. (Source: Millennium Cohort Study)

Sweep	Age (average)	Year	Achieved response
1	Birth	2001	18,818
2	3	2004	15,808
3	4	2006	15,460
4	7	2008	14,043
5	11	2012	13,469
6	14	2015	11,872
7	17	2018	10,757

Rather than the survey sample being all children born within a particular week, as in the BCS70, the MCS sampled all of those children born between 1 September 2000 and 31 August 2001 (for England and Wales), and between 24 November 2000 and 11 January 2002 (for Scotland and Northern Ireland), who were living in the UK and whose families were eligible to receive Child Benefit. Child Benefit was universal for those with permanent residency status at the time, thus the Department for Work and Pensions contacted all families eligible to participate in the survey offering an opportunity to opt out (Plewis, 2007). Oversampling was undertaken of those children from deprived backgrounds or from areas of relatively high ethnic minority concentration in order to achieve a sample that adequately represented these groups (Plewis, 2007). As MCS Technical Report on Sampling explains (Plewis, 2007: 5), this resulted in a stratified sample, which included three strata in England:

> "The first, an 'ethnic minority' stratum where the proportion of ethnic minorities in that ward in the 1991 Census was at least 30 per cent. The second, a 'disadvantaged' stratum is comprised of children living in wards, other than those falling into the 'ethnic minority' stratum, which fell into the poorest 25 per cent of wards using the Child Poverty Index for England and Wales. And finally, an 'advantaged' stratum which captured children living in wards other than those above."

Lower percentages of ethnic minority groups in Scotland, Wales and Northern Ireland meant that only two strata were made, a 'disadvantaged' and an 'advantaged' stratum.

Plewis (2007) states that the random sampling within each stratum in each country resulted in a disproportionately stratified sample, so weighting is needed in analysis for representativeness. For this

research, UK-wide weights were taken from sweep seven's data. Mostafa and Ploubidis (2017) explain that these analysis weights were computed by multiplying MCS7's non-response weights by the sampling weights in MCS1. Non-response weights in MCS7 were based on a number of variables including CMs' gender, mother's age at birth, CMs' ethnicity, cognitive ability and number of previous productive sweeps, which are considered to be predictors of non-response (Mostafa & Ploubidis, 2017; Fitzsimons et al, 2020).

Full frequencies for each of the variables included in the models for the MCS data are provided in the appendices, but an illustrative breakdown of key demographics for the cohort in MCS7 (age 17) is provided below. Far more of the MCS sample are from ethnicities other that White, with 10 per cent categorised as South Asian and five per cent as mixed ethnicity. At age 17, 76 per cent of the MCS cohort were in owner-occupied housing, while only eight per cent were in the PRS. 13 per cent of the MCS sample had no parent in the household who was in employment. Of the CMs main parents in sweep seven, 72 per cent were married, wile 16 per cent were divorced or separated and 11 per cent were single. England is home to the majority of the sample, with the highest proportion of English CMs living in London (13 per cent). 14, 11 and 10 per cent of the sample live in Wales, Scotland and Northern Ireland, respectively. Overall, 10 per cent of the sample have a disability that limits day-to-day activity, with three per cent being limited a lot and seven per cent limited a little.

Table 3. 5 MCS cohort key demographics (unweighted) sweep seven. (Source: own compilation of MCS data)

Variable	Category	Proportion within sweep (excluding NAs)
Ethnicity	White	80%
	South Asian	10%
	Black	3%
	Mixed	5%
	Other	2%
Sex	Male	49%
	Female	51%
UK region	North East	3%
	North West	8%
	Yorkshire and the Humber	7%
	East Midlands	5%
	West Midlands	7%
	East of England	7%
	London	13%
	South East	10%
	South West	5%
	Wales	14%
	Scotland	11%
	Northern Ireland	10%
Long-term health condition that limits day-to-day activity	Yes – a lot	3%
	Yes – a little	7%
	No	90%
Tenure	Owner	76%
	Socially rented	14%
	Privately rented	8%
	Other	2%
Parent's marital status	Married	72%
	Divorced/Separated	16%
	Single	11%
	Widowed	1%
Whether no parent in employment	Yes	13%
	No	87%

3.3.4 Summary

Both of the surveys used in this research fulfil the needs posed by the RQs, as stated earlier in the chapter. Namely, they have large sample sizes and well-tested measurement instruments and make

accessible data from a long period of time, measured at regular intervals. This enables both the investigation of group differences and individual change over time. The BCS70, used for the majority of the analysis in this research, includes almost all of those born in a particular week in 1970, with no sampling procedure necessitating weighting of the data for use in analysis (however, missingness strategies are discussed in section 3.5.3.3). The MCS has a complex sampling procedure and therefore requires weighting to produce a representative sample for analysis. This survey has fewer measurement occasions than the BCS70 and is therefore used in supplementary analysis, as explained further on. The BCS70 cohort is substantially different to the MCS cohort in terms of demographics, with a far greater proportion of the cohort being of white ethnicity. The SH sector constitutes a larger proportion of MCS7's sample than the BCS70 at age 32, at 14 per cent and nine per cent respectively. Conversely, the PRS is home to eight per cent of the MCS cohort in the same sweep, while it accounts for 12 per cent of the BCS70 cohort. Differences between the constituent nations of UK means that the ability to differentiate between countries would be of interest, which is possible using these surveys for analysis. In particular, policies relating to the SH sector, as well as the size of the sector itself, are notably different across the UK. This in turn has knock-on effects on the PRS. There has also been substantial change in the tenure make-up in the UK more widely, with the notable re-growth of the PRS, decline of SH stock and the rise of the mortgaged owner-occupied sector. This means that older generations will have experienced substantially different housing landscape to those of younger ages, which is also impacted by changes in the economy and welfare regimes.

3.4 Choice of dependent variables

3.4.1 Introduction

As identified in the second chapter, housing has been shown in numerous studies to affect the mental wellbeing of those within it. Residence in the PRS in particular commonly exposes tenants to factors shown in qualitative evidence to cause stress and poor mental health in both adults and children, ranging from damp and mould to insecure tenancies. The RQs for this research reflect those findings and, as explained earlier in this chapter, the longitudinal quantitative method has been identified as the best suited to investigating relationships between tenure and mental wellbeing across the life course.

3.4.2 Wellbeing in quantitative research

Throughout this research, ‘wellbeing’ refers to mental wellbeing. As Ong et al (2022) explain, wellbeing has become a widely recognised measure of societal progress. Policymakers at all levels have sought its use alongside more traditional economic measures in evaluating the impact of policy, including in

housing (Ong et al, 2022). There is some quantitative evidence in the research literature that investigates life satisfaction and the effect of housing tenure, but as Zumbro (2014) states, selection bias is a particular concern. For example, homeowners could be a group of relatively successful people who are more generally satisfied with life, in comparison to renters (Zumbro, 2014). However, as Munro et al (2004) note, the owner-occupied sector is also home so a significant proportion of those not considered particularly wealthy; the sector is seen as offering good investment potential despite the high overall cost and gives the opportunity to 'trade-up' in the future. This may mean that those in a position to make a short-term sacrifice for future wealth gains live in the sector, and may have a more positive future outlook, making the direction of causality more difficult to distinguish. A measure that focusses more specifically on mental wellbeing therefore offers greater precision, with such measures being well tested in research, as explained further in the following sections.

Such measures are included in many of the surveys described in section 3.3. This includes indexes and scales such as Kessler score, Malaise score, Warwick-Edinburgh Mental Wellbeing score (WEMWBS), and General Health Questionnaire (GHQ). Such scores are widely used and have been found reliable, with good psychometric properties (McGee et al, 1986). For example, Hirst and Bradshaw (1983) compared Malaise to scales capturing symptoms of a psychosomatic nature reported to a doctor and the use of medication. They found that Malaise was correlated with the other scales, in particular near-equivalents relating to specific symptoms (for example, 'feeling worried about things' and taking medication for nerves). Gondek et al (2022) compare GHQ-28 and Malaise to self-reported diagnosed psychiatric morbidity, again finding reasonable correlations. There remains the question, however, of the element of mental wellbeing being measured. The Kessler and Malaise scores, for example, are measures of psychological distress, and could thus be argued to denote poor wellbeing, rather than wellbeing itself. WEMWBS, in contrast, is comprised of scores that denote positive feelings rather than the presence, or absence, of mental ill health (Stewart-Brown et al, 2016).

All such scores are based on respondents' subjective evaluation of their lives, however, and are thus influenced by assessments of components of their circumstances, such as income, education and employment (Western & Tomaszewski, 2016). However, the study of wellbeing and tenure in this research concerns objective circumstances, and whether controlling for these mitigates any effect that renting has on subjective wellbeing. In this case, the subjective approach to wellbeing is therefore appropriate. It should be noted that life satisfaction (as a simple subjective assessment of a person's circumstances) and those instruments described above are distinctly different, however. Life satisfaction is likely more susceptible to influence by expectations of success and life stages, such as home-ownership, which would complicate the direction of causality. Using a well-tested measure, such as those described above, rather than life satisfaction, also better accounts for the possible effects of adaptive preference formation, i.e., making do in the presence of a bad situation (Nussbaum, 2000).

Whilst there is some exploration of wellbeing and age in the UK and other high-income countries, this has predominantly taken the form of repeated cross-sectional studies or longitudinal studies following individuals over a short period of time (Gondek et al, 2021a). These studies, as well as those including a longer period of measurement, do not focus on tenure differences, however. This research therefore required well-tested wellbeing measures that would enable to investigation of group differences over time. Malaise score (for the BCS70 analysis) and Warwick-Edinburgh Mental Wellbeing Score (for the MCS analysis) were chosen for this purpose and are detailed below.

3.4.2 Malaise Score

Another requirement for the analysis of individual change over time is the consistency of the measurement scale used on each occasion (Hox, 2010). The BCS70 includes Malaise score, a variable derived as a sum of the short-form Malaise inventory. This inventory is a set of nine questions used to measure psychological distress (Rutter et al, 1970). While the Malaise inventory originally consisted of 24 questions, later sweeps of the BCS70 included a nine-item version that includes the items with the strongest associations with psychological distress from the previous sweeps (Blodgett, 2023). A score of four or higher considered to be indicative of anxiety or depression on the nine-item scale (Gondek et al, 2021). This research used the nine-item version in all waves of the survey for consistency, as is required for the analysis of change over time (Hox, 2010). CMs' Malaise score is available for ages 16, 26, 30, 34, 42 and 46. Malaise score if also available for CMs' parents in sweeps two, three and four, regarding their own mental health. Malaise is used to measure general mental health such as anxiety, rather than diagnose specific disorders (Rogers et al, 1999), and is therefore deemed an effective measure of mental wellbeing for use in this research. While it is self-reported, it has been found to be robust; according to Rogers et al (1999), the internal consistency of the measure and its validity across groups has been shown to be adequate for use in large scale studies and generalisations to the wider population. The inventory has thus been used in various studies of the general population and smaller groups (Ploubidis, McElroy & Moreira, 2019; Rodgers et al, 1999). This satisfies the requirements of instruments used in longitudinal research, in that the inventory is well-established and its metric, validity and precision are preserved across time (Singer & Willet, 2003). The questions that constitute the Malaise inventory are listed in Table 3.6. Each question has a possible value of zero (no) or one (yes), if answered and valid. When deriving Malaise score, any individual with missing information to four or more items of the inventory (the score needed to be classed as having 'high malaise') were removed (Peters, 2019).

Table 3.6 Items of the short-form Malaise inventory. Source: British Cohort Study 1970

Variable code	Question
B10Q28A	Whether CM feels tired most of the time
B10Q28B	Whether CM often feels miserable or depressed
B10Q28C	Whether CM often gets worried about things
B10Q28D	Whether CM often gets in a violent rage
B10Q28E	Whether CM often suddenly becomes scared for no good reason
B10Q28F	Whether CM is easily upset or irritated
B10Q28G	Whether CM is constantly keyed up and jittery
B10Q28H	Whether every little thing get on CM's nerves and wears them out
B10Q28I	Whether CM"s heart often races like mad

To investigate the effect of the independent variables on CMs' Malaise score, BCS70 sweeps at age 26 and above that included the Malaise inventory (all excluding the age 38 sweep) were included. This enabled the models to include variables derived from the early-life sweeps, such as experience of the PRS as a child or their parents' occupational class, but restricted their housing tenure to that which they

were in as an adult. The frequencies for grouped Malaise score by sweep of the BCS70 are shown in Figure 3.1.

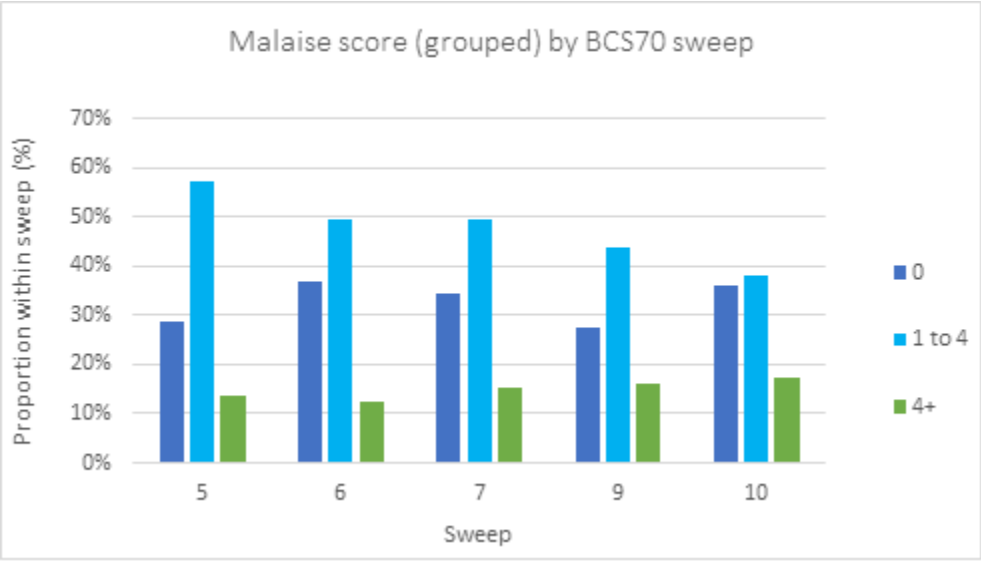

Figure 301 Malaise score (grouped) by sweep. Source: own compilation of BCS70 data

3.4.3 Short Warwick-Edinburgh Mental Wellbeing Scale (SWEMWBS)

Malaise score is not included in the MCS, but a means of measuring wellbeing is provided by use of the Warwick-Edinburgh Mental Wellbeing Score (WEMWBS). The WEMWBS was originally developed by the University of Warwick and the University of Edinburgh in 2006 and commissioned by NHS Health Scotland (Stewart-Brown et al, 2016). The scale was designed for use with adults (aged 16 and over) and is stated to be derived from 'a model of mental wellbeing that is more than the absence of mental illness, and involves both feeling good and functioning well', with questions expressed positively rather than negatively (see Table 3.7) (Stewart-Brown et al, 2016: ii). This means than, in contrast to Malaise score, a lower WEMWBS is indicative of poorer mental wellbeing. The original scale consists of 14 items covering subjective wellbeing and psychological wellbeing, addressing positive aspects of mental health. A short version of the score is included in sweeps six (MCS6) and seven (MCS7) of the MCS, referred to as SWEMWEBS. This is derived by summing a set of seven questions and replacing with a metric score. Each question was originally on a Likert scale of 1-5, with a score of 1 being 'none of the time' and 5 being 'all of the time'. The SWEMWBS in the MCS has a possible score of 7-35. Both the 14- and 7-item versions of the scale have been used in local and national surveys, both in the UK and internationally, and have been found to be psychometrically robust (Mendes-Torres et al, 2019; Anthony et al, 2022). The questions that form the SWEMWBS in the MCS are listed in Table 3.7.

Table 3. 7 Items of the SWEMWBS. Source: Millennium Cohort Study

Variable code	Question
GCWWOP00	I've been feeling optimistic about the future.
GCWWUS00	I've been feeling useful.
GCWWRE00	I've been feeling relaxed.
GCWWDE00	I've been dealing with problems well.
GCWWTH00	I've been thinking clearly.
GCWWCL00	I've been feeling close to other people.
GCWWMN00	I've been able to make up my own mind about things.

As is explained later in the chapter (section 3.5.3), SWEMWBS could not be used to measure wellbeing over time in the same way as Malaise, but models using it contribute substantively to the research. The MCS follows a different generation of CMs who live, and have grown up in, different configurations of housing tenures. Additionally, social and economic circumstances in these CM's lives have been considerably different to the 1970 cohort. Analysing wellbeing at age 17 allows for the inclusion of a range of CM-level and parent-level variables that are not present in the BCS70 data and for their influence on wellbeing to be investigated.

The distribution of SWEMWBS in MCS7 is shown in Figure 3.3. the mean SWEMWBS score in MCS7 is 23.5 with a standard deviation (SD) of 4.1, while the mean in the UK population is 23.5 and SD 3.9 (Ng Fat et al, 2017). The University of Warwick (2023) states that one approach to using SWEMWBS is a categorical approach in which the score is banded, with a score of 19-20 indicative of possible mild depression and 18 or less indicative of probable clinical depression. However, they state that all cut points for the score are arbitrary and there is no 'gold standard' for measuring high mental wellbeing (University of Warwick, 2023). As in the analysis of Malaise for the BCS70, this research is concerned with overall trajectories in wellbeing rather than likely mental illness and so the score is not treated as a categorical variable.

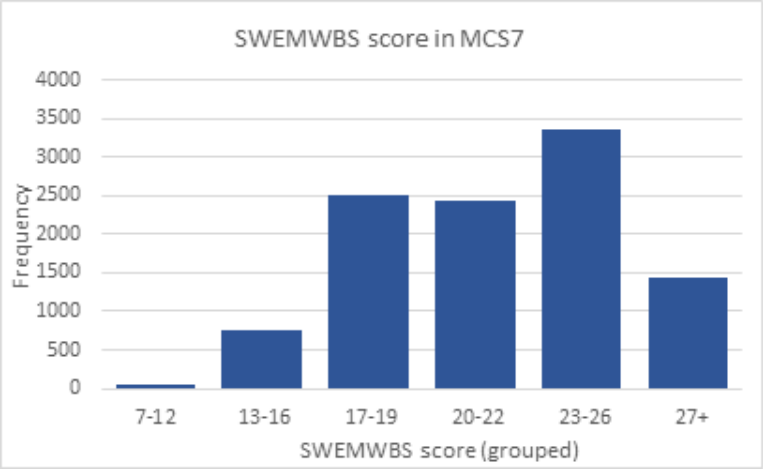

Figure 3.2 SWEMWBS score (grouped) in MCS sweep 7. (Source: own compilation of MCS data)

SWEMWBS is also available in sweeps nine and ten of the BCS70. However, this is not adequate information with which to measure trajectories in a multilevel model (which requires three, and preferably more, measurement occasions) (Singer & Willet, 2003), therefore Malaise score was deemed to be a more favourable use of the longitudinal data from this survey.

3.4.4 Summary

The dependent variables used in this research are measures that are widely used and have been shown to be psychometrically robust. They offer greater nuance than alternatives such as life satisfaction, that are more general and therefore less precise. Malaise score, used for the majority of the analysis, offers a consistent measure of mental wellbeing across measurement occasions and thus fulfils a key criterion of reliable longitudinal data analysis. As data are available on CMs' parents' Malaise score in the early-life sweeps of the BCS70, it is also able to be used as a control variable in the models. SWEMWBS is also used in this research in the analysis of the MCS data. While also a count variable, SWEMWBS has a different structure and addresses the positive aspects of mental wellbeing. The different types of models used in this research, reflecting the varying structure of the dependent variables as well as the availability of data, are explained in the next section.

3.5 Choice of model

3.5.1 Introduction

The measures used in this research to investigate wellbeing differ substantially in their design and in the quantity of data available for use in analysis. As such, different methods of statistical modelling the data are required, which are described in this section. Beyond the dependent variables, the models must also be also to utilise the large-scale data that is available in the cohort surveys, incorporating a rich set of controls in order to produce reliable estimates. This section begins with a brief comparison of model types and their suitability in answering the RQs. The use of generalised linear mixed models, used to analyse Malaise score in the BCS70, is explored initially, and its use in answering the RQs is justified. The use of linear models for analysing SWEMWBS is then explained, including how their use adds to the research overall.

3.5.2 Modelling the BCS70 data

3.5.3.1 Random effects models

A number of methods exists that could be undertaken to analyse housing tenure and wellbeing with repeat-measures data. As mentioned earlier, the simplest of these is the pooled cross-sectional model, estimated using Ordinary Least Squares (OLS). While this is attractive in terms of parsimony, Gayle and Lambert (2018) argue that this is a naïve approach to the analysis of longitudinal data as the impact of clustering is ignored. A more sophisticated model uses the 'between effects' approach, utilising a respondent's mean score on the variable of interest, making the data a set of individual-specific averages (Gayle & Lambert, 2018)**.** Singer and Willet (2003) note that, while the former method ignores the non-independence of observations, the latter does not reveal anything about patterns of change over time.

A popular method of including time in a model in medical research is the use of survival analysis, where the time to an event is analysed (Bland, 2015). Cox regression, a particular type of survival analysis, allows for the examination of several predictor variables at once and is most suited to large sample analysis (Bland, 2015). However, the nature of the RQs make this a less suitable method than other types of regression analysis as they are concerned not with what influences the time to a particular outcome (poor mental health, for example), but with the pattern of change over time.

The fixed effects model (FEM) is a method often used in economics research for the analysis of panel data, which can incorporate measurement occasion in the model explicitly and does not average-over scores on the dependent variable (Peterson, 2004). This model measures change within subjects (for example, individuals) rather than between them, incorporating only time-variant variables (Gayle & Lambert, 2018). FEM may be preferred over the random effects (REM) approach when there is reason to doubt the assumption that there is no correlation between the observed variables and the unobserved effects (Gayle & Lambert, 2018), however Clark and Linzer (2015) argue that this is not sufficient reason to use FEM over REM when theoretically justified. REMs offer the advantage of allowing for the incorporation of time-invariant variables, such as early-life characteristics or those of a respondent's parents (Peterson, 2004). Random effects models also enable time to be explicitly incorporated into the model as a continuous variable as well as the clustering of measurement occasions within individual subjects. As Schunck and Perales (2017) highlight, the omission of level-two variables in FEMs can be a major problem in multilevel analysis where the interest lies in how these characteristics influence individuals' outcomes. It is this disregarding of contextual factors that lead some to argue that the FEM approach is less preferable for multilevel analysis (Bell & Jones, 2015), while Clarke et al (2010) state that FEMs limit the RQs that can be posed by the research. For these reasons, random-effects models were deemed the most appropriate in their ability to answer the RQs, which are, at least in part, concerned with the influence of early-life characteristics.

3.5.3.2 Generalised Linear Mixed Models

Malaise score is a count variable, derived as the sum of nine questions indicating poor mental health. To preserve more granular detail, the sum variable was chosen for analysis over a grouped high/low score variable or similar that would be used in logistic regression. Fogarty (2019) explains that 'high' ordinal variables (those with seven or more categories) are often used as continuous variables in linear regression. However, given the distribution of the Malaise variable (right-skewed, containing many zero values) its transformation to a normal distribution for linear regression is not possible (Bolker et al, 2009; Hox, 2010) and Poisson regression is required.

As the data are longitudinal in nature, with measurement occasions (level one) nested within individuals (level two), the usual assumption of independent observations is violated (Roback & Legler, 2021). Generalised linear mixed models (GLMMs), which 'link' the poisson distribution to a normal distribution via a log-link function, were thus used to allow for the specification of random effects that account for the hierarchical nature of the data (Bolker et al, 2009). A common problem for longitudinal analysis is unbalanced data, in which samples are affected by attrition or dropout (Peterson, 2004). However, one advantage of the multilevel models (including GLMMs) is that it does not require balanced data (Hox, 2010), meaning that individuals are not required to have been observed at every measurement occasion.

GLMMs are a type of 'conditional' model, meaning that parameter coefficients are estimated conditional on the random effects (in this research, the CMs) (Aiken et al, 2015). This allows for the estimation of the intercept and regression coefficient for each cluster (Aiken et al, 2015). Conditional models are recommended where the cluster is theoretically relevant and the variability of the effect across clusters is of interest (Hubbard et al, 2010), as in this research.

3.5.3.3 Missingness strategies

As seen in Table 3.2, dropout from BCS70 has occurred over time. While some of this disparity between the early and subsequent waves is due to participants from Northern Ireland not being followed after the birth sweep, or from deaths (CLS, 2021), attrition is clearly also present. Attrition refers to CMs dropping out from the study and never returning, or when their response pattern is interrupted (Mostafa & Wiggins, 2014). This has implications for accurate inference, reduces sample size and can introduce bias into the analysis (Mostafa & Wiggins, 2014). When analysing data, research should utilise missingness strategies, such as multiple imputation or maximum likelihood, to deal with this possibility (Silverwood et al, 2021).

GLMMs, as used in this research, use maximum likelihood estimation to account for bias. Maximum likelihood is more flexible and thus simpler for research investigating change over time (Silverwood et al, 2021), assuming missingness in the data is deemed missing at random (MAR) (Allison, 2012). The assumption of MAR means that the probability of drop-out from a particular sweep is related to some observable characteristics of the CMs such as sex or education level, which is deemed likely in the BCS70 (Gondek et al, 2021). This is in contrast to 'missing completely at random' (MCAR), which implies that

the probability of non-response for any sweep is uncorrelated with the characteristics of the CM, which Mostafa and Wiggins (2014) deem unlikely. They conclude that men from lower social class backgrounds whose parents were single in 1970 are more likely to drop out and that the probability of response is higher for those whose mothers spent longer in education (Mostafa & Wiggins, 2014).

Additionally, whilst attrition has clearly occurred since the BCS70 birth sweep, the GLMMs undertaken on BCS70 data in this research are estimated only on those sweeps in which CMs were adults, i.e., sweep five onwards. The sample size of these sweeps is generally consistent, as seen in Table 3.2. Simulations on longitudinal data have also shown that regression estimates are affected little by even substantial attrition in many cases, although missingness strategies are still advised (Gustavson et al, 2012).

Despite these missingness strategies and the robustness of GLMMs in modelling data such as that used in this research, this research does not imply causality in the relationships found. As Foye (2017) explains, utilising a rich set of controls in more advanced regression models provides the best insight for examining relationships between housing and wellbeing, but reverse-causality is still a risk. Outside of experimental design that incorporates control groups, it is possible that effects seen are biased by OVB or associations between variables other that those under investigation (Judge et al, 2006). These types of designs are not realistic in research focusing on social phenomena such as those covered in this research, however, as it extremely unlikely that the incorporation of control groups would be feasible. As explained earlier, it is instead intended that this research adds substantively to the research literature, using under-utilised methods to evidence the relationships seen.

3.5.3.4 Data structure for the GLMMs

Deposits of BCS70 data are available from the UK Data Service, where each sweep's file contains multiple datasets relating to the CMs and their families. Individuals are ascribed a unique identification number, through which their data can be linked across sweeps. As is expanded upon in the findings chapters, extensive data wrangling was then undertaken to form the analytical dataset for use in the GLMMs. After recoding variables in each sweep for consistent values and meaning (where questions were repeated across sweeps) and linking intra-sweep datasets, each sweep of survey data was joined to form a long-format analytical data set. A long-format dataset has multiple rows per individual, whereas the wide-format dataset (in which the majority of the datasets are found) has one row per individual (Singer & Willet, 2003). The long-format dataset, also known as person-period dataset, has several advantages over the wide-format (or person-level dataset) that make it more suitable for longitudinal research; it allows for an explicit 'time' variable, easily incorporates time-varying predictors and is more efficient when individuals have missing data in different waves (Singer & Willet, 2003). After deriving variables relating to CMs' early lives, or information that their parents provided, sweeps 1-4 (where CMs were under the age of 18) were removed from the analytical dataset. Models using BCS70 data were therefore estimated upon CMs' adult data only. Only one, randomly selected CM was

retained per household. Clustering at the household level would result in very small cluster sizes and was therefore not undertaken, meaning the retention of multiple CMs in a household would violate the assumption of independent observations. This led to the removal of 192 CMs.

3.5.3 Modelling the MCS data

For the MCS data, linear models were deemed most appropriate for the analysis of the SWEMWBS. As outlined above, SWEMWBS is a metric score rather than a count variable, thus non-linear models would not be expected to be appropriate, although transformations of the SWEMWBS variable may have been necessary. However, distributions of the data show an approximately normal distribution and Andersson-Darling tests on random selections of 100 data points were normally distributed over 80 per cent of the time, therefore transformations were deemed unnecessary.

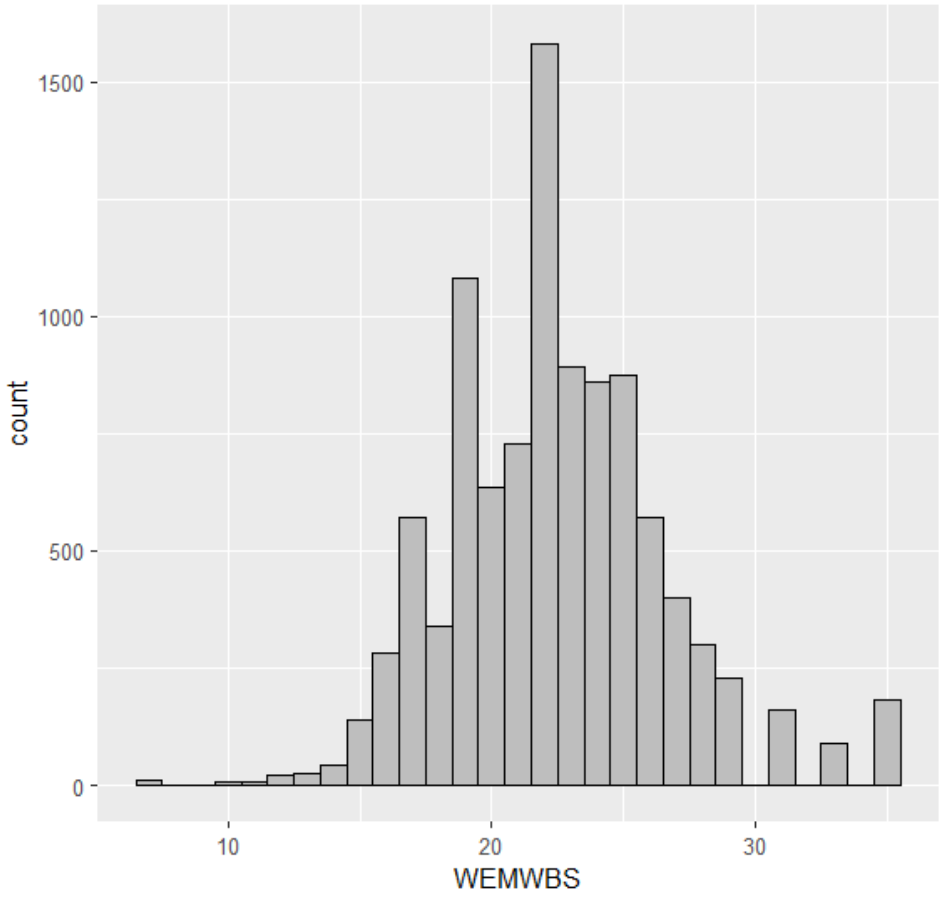

Figure 3.3 Distribution of SWEMWBS in MCS7. Source: own compilation of MCS data

Multilevel models such as those used to model the BCS70 data (with measurement occasions nested within individuals) were not possible for the analysis of the SWEMWBS in the MCS due to insufficient measurement occasions. Multilevel models require at least three measurement occasions when nesting within individuals (Hox, 2010). Linear models were undertaken on the sweep seven data instead, using a variety of variables relating to CMs' lifestyle and health, as well as that of their parent or guardians. Longitudinal measures were also derived from earlier sweeps to utilise the wealth of data to a greater extent. This meant deriving variables from the answers of the parents or guardians of the CMs in previous sweeps and analysing their effect on the dependent variable in the models. Each variable included in the models were tested for linearity with SWEMWBS before modelling took place and only included where this was the case.

The data in MCS deposits are organised by the CMs' unique identification number, a parent's ID and household ID. These data were combined so that each CM was represented by a single row in the analytical data set, containing their own answers and that of the main parent. Information from the CMs' parents was taken from those data sets in the MCS7 deposit with answers from the parents, as well as parents' previous answers in earlier sweeps of the survey. The main parent is predominantly the mother and, even when two parents are present in the data sets, many questions are answered only by the main parent. Additionally, duplicated answers by the secondary parent, and children going on to live only with the main parent in later sweeps, meant that complications would arise from the inclusion of the second parents' answers (when available) in the analytical data set. This excludes variables capturing information such as whether there is no one in the household in employment, which was derived from all household members answers before being linked to the CM. In households in which more than one CM was present (i.e., twins and triplets), only the first was retained in the analytical data set, as is done in other studies using the data in order to avoid bias in results for small groups (for example: Gambaro & Joshi, 2016; Rees, 2007). This led to 107 CMs being removed from the data set.

3.5.3 Summary

Models used in this research required to allow for analysis of change over time and for comparison of groups. The models must reflect the dependent variables chosen to measure wellbeing. GLMMs chosen for the main body of the analysis as they allow for the nesting of measurement occasions within individuals, in a multilevel model. These models do not require transformation of the dependent variable (Malaise score) which may lead to a loss of nuance in the data or limitations in the interpretations of the results. These models enable both time-varying and time-invariant variables to be included, which is of importance for this research as it regards early-life characteristics as well as those in adulthood. The nature of repeat-measures data and the rich set of controls allowed by the use of the BCS70 mean that these models provide a robust contribution to the research literature. Linear models were also undertaken for the MCS data as supplementary analysis to compliment that of the BCS70 data. While multilevel models were not possible for use with this study's data due to too few measurement occasions, use of these data allows for the investigation of the relationships found in the

main analysis with a different cohort. Taken together, the analysis of these cohorts provides a powerful means of answering the RQs posed by this research.

3.6 Conclusion

Chapter three sets out the way in which this research endeavours to answer the RQs delineated at the conclusion of the literature review (chapter two). The methods used must enable the investigation of change over time and differences between groups; comparing those with experience of the PRS in early life to those without, investigating tenure's relationship with mental wellbeing at different ages, and ascertaining whether PRS tenants with children exhibit different mental health outcomes in later life than those without. The chapter explains that longitudinal data was chosen for this research as it gives the best opportunity to answer the RQs in a statistically robust way, enabling the research to utilise powerful models that can incorporate a wide array of time-varying and time-invariant controls. Using longitudinal data also utilises existing data to the greatest extent, meaning the research can analyse large sample sizes over many decades, investigating different temporal contexts in a way that would not be possible by other means. In section 3.2, these data are explained in to be under-utilised in the housing literature thus far, giving this research the opportunity to contribute meaningfully to the evidence base surrounding tenure and health.

Qualitative studies investigating the lived experience of PRS tenants (as well as those in other tenures) form the bulk of the research literature and primarily provide the basis for this research. These studies have found that a variety of factors impact on PRS tenants' mental wellbeing, such as poor housing conditions, a lack of agency in decisions relating to housing, and high housing costs in the sector. Quantitative methods have also been used to analyse the UK's housing system, finding that many of these issues are widespread and generalisable across tenures. Important work has been carried out in Australia using longitudinal data in recent years, but this has been lacking in the UK literature. The analysis of longitudinal data is explained to add to the evidence base surrounding the PRS' impact on wellbeing by allowing for the analysis of change over time within individuals, something not possible using cross-sectional data, which in effect offers a 'snapshot' at the time of measurement. Several factors make the analysis of tenure's effect on wellbeing difficult to evidence, including selection, omitted variable bias and endogeneity. This chapter has explains that longitudinal data offers the most effective way to deal with these issues, by allowing for the inclusion of a rich set of controls for both the CMs' and their parents' characteristics.

Cohort data is highlighted as being particularly effective for answering the RQs posed by this research and was therefore chosen for the analysis. Following a group of people who share a common event or experience (usually birth period), use of these data mean that time period and age will not vary for the sample. The cohort studies chosen for this research are the British Cohort Study 1970 (BCS70) and the Millennium Cohort Study (MCS), with the former comprising the majority of the analysis and the MCS used for supplementary analysis of a younger age cohort. Section 3.3 explains that the BCS70 was chosen because of its length of time in the field and initial UK-wide coverage. The survey makes available almost 50 years' worth of data from its CMs, enabling a wide variety of characteristics from CMs' adult life, as well as those from their childhood. The use of the MCS means that a younger cohort

can also be analysed; investigating whether similar wellbeing outcomes are seen for this age group as for the BCS70 cohort.

Section 3.5 outlines why Generalised Linear Mixed Models (GLMMs) were chosen for analysis of the BCS70 data and how Malaise score will be utilised as the dependent variable in these models. This section explains that Malaise score is derived from the short version of the Malaise inventory, a widely used inventory for the measurement of psychological distress. GLMMs allow for the modelling of non-linear dependent variables and the multilevel structure of the data to be accounted for. This means that the models explicitly incorporate measurement occasion at level one, within individuals at level two. Linear models are used to model the MCS data, using SWEMWBS as the dependent variable. SWEMWBS is a robust measure of mental wellbeing used in many contemporary studies in the UK and internationally. Multilevel models similar to those used for the BCS70 data are not yet possible for the MCS, having been in the field for far less time. However, analysing the most recent sweep of the MCS with data available (MCS7) adds substantively to the research by analysing a younger cohort and investigating whether similar wellbeing outcomes are seen for this age group as for the BCS70 cohort.

4. Wellbeing differences between tenure groups: outcomes across the age range

4.1 Introduction

This chapter addresses the first research question as stated in chapter two:

RQ1: Do wellbeing outcomes differ between tenure groups across the life course?

A summary of the existing research relating to demographic changes, housing conditions and insecurity in the PRS explored in chapter two is first presented, as well as how these issues affect the wellbeing of tenants. It is argued that analysis of longitudinal data is necessary in order to explore outcomes for different tenure groups over time in a robust way, making use of the rich data that is available from the 1970 British Cohort Survey (BCS70). In section 4.3, the way by which wellbeing is modelled over time by use of Generalised Linear Mixed Models is outlined, with the results of the models then presented. Generalised Linear Models (GLMs), conducted on BCS70 sweep 10 (age 46), are presented in section 4.4. The results of these models are then discussed with reference to the wider literature in section 4.5.

4.2 Background

This section provides a summary of the evidence relating to the PRS and mental wellbeing, first presented in chapter two. This includes changes to the demographic make-up of the PRS and how tenure insecurity can affect different groups within the sector. The health consequences of renting in the private sector, both physical and mental, are explained to be wide-ranging. This includes the impact from poor physical health as a result of poor housing conditions, but also the stress and anxiety resulting from insecurity. The regulatory environment relating to the PRS, in which tenants have little agency or power in comparison to landlords, is explained to result in increased anxiety for tenants and low standards in the sector. Lastly, it is noted that there has been little quantitative research on tenure and mental wellbeing in the UK from which to assess the scale of these issues, and that analysis of longitudinal data in particular would fill these evidence gaps.

The composition of the PRS has changed notably in recent decades. This includes the increasing proportion of those living in the PRS reluctantly, who would rather own their own home, which has been widely discussed in recent years (Coulter, 2017; De Santos, 2012; McKee et al, 2017; Scanlon, 2015). It has also been established that the PRS has become increasingly diverse. Importantly, many who would have in previous years moved into owner-occupation before starting families now do so in the PRS. The

tenure also houses a substantial proportion of the UK's low-income households since the decline of the social housing (SH) sector in the latter half of the 20th century, as the latter now takes only those most in need (Bailey, 2020). Children in particular have come to constitute a larger proportion of the PRS, with 22 per cent of children living in the PRS in 2017/18 compared with six per cent in 1994/5 (Bailey, 2020). As a share of the PRS overall, households with children have also increased substantially. This has been most notable in England, rising from 10 per cent in 1999 to 19 per cent in 2019 (MCLG, 2020).

Marsh and Gibb (2019) noted that cuts to local authority funding, reduced SH stock, and the Homelessness Reduction Act (UK) 2017 have meant that many homeless people are now being housed in the PRS by local authorities through Temporary Accommodation (TA) placements. Around two-thirds of TA placements are in the PRS, while in 2019 there were almost 62,000 households with dependent children living in TA overall (Rhodes & Rugg, 2018; Mahoney, 2020). Rhodes and Rugg (2018: 7) explain that TA is 'a highly problematic submarket' of the PRS, in which high levels of tenure insecurity, mental health problems, and poor conditions are found, echoing research carried out by Mahoney (2020) and Mitchell et al (2014). However, it is evident from the wider evidence pertaining to the PRS explored in chapter two that tenure insecurity is found across the sector, rather than in TA alone. For example, there is general consensus over the insecurity and resultant negative psychological impact arising from Assured Shorthold Tenancies in England and Northern Ireland, which usually begin with a short-term agreement and can be ended after this by landlords without reason in what is known as 'no-fault' evictions (Walsh, 2019).

The evidence outlined in chapter two also shows that the health consequences of renting in the PRS can be wide-ranging. Housing instability has been found to be associated with reduced wellbeing in longitudinal analyses (Li et al, 2022), as has falling into precarious housing (Ong ViforJ et al, 2022). Increased housing insecurity is also argued to result in a higher risk of unhealthy behaviours such as smoking and drinking (Mahoney, 2020). Poor housing conditions in the PRS compared to SH and owner-occupied housing were also cited, both in terms of disrepair and in the lack of proper facilities and services (Lister, 2005). While the health impacts of poor repair can be harmful for all living in a dwelling, they can particularly impact the development of children, while the anxiety surrounding this has been found to be common amongst parents in the lower end of the PRS in particular (Shelter, 2005; Soaita et al, 2020).

As explained above, the PRS is often thought of as a tenure for young, mobile people, rather than families and those in middle-age or older (Scanlon, 2015; McKee et al, 2017). Qualitative research has found that older renters feel shame and stigma for living in the tenure beyond the life stages usually associated with it (Scanlon, 2015), with the owner-occupied sector the aspirational tenure of choice (McKee et al, 2017). It is also evident that policy pertaining to the PRS is designed around younger, mobile sections of those living in the PRS (Gurney, 1999; Daly & Gulliver, 2014; Coulter, 2017), meaning that the sector is less likely to be well-suited to those tenants in middle-age or beyond. However, for those of all ages, the ability of tenants to make a 'home' in the PRS is undermined by their position within the tenancy agreement, having as it does restrictions on the levels of personalisation that can be undertaken. The evidence highlights how tenants' sense of security is greatly undermined by these restrictions (Scanlon, 2015; McKee et al, 2017; Walsh, 2019), while even the level of decoration permitted by tenants has been found to often be avoided due to fear of reprisals from landlords (De Santos, 2012).

The power disparity between landlords and tenants emerges prominently from the evidence surrounding insecurity in the PRS, appearing to be in part a result of difficulties in regulatory enforcement. It was noted that the UK PRS is dominated by small-portfolio landlords, the sheer number of which mean that 'even the light regulatory frameworks intended to give tenants some protection from eviction or in relation to minimum quality standards are not well enforced' (Soaita et al, 2020: 6). Many landlords are also not fully aware of legislation and their responsibilities (Rhodes & Rugg, 2018). However, research shows that it is often difficult to get landlords to comply with legislation given that the burden of negotiating is placed on tenants, who often do not want to harm the tenant-landlord relationship as they may have few other housing options (Walsh, 2019; Chrisholm, 2020). The system thus leaves tenants open to discrimination from landlords, with benefit claimants and families with children having been found to be often affected (Meers, 2019; McKee et al, 2019).

Research on the sector shows that the regulatory environment summarised above often results in poor standards. According to Marsh and Gibb (2019), the fact that the PRS relies on tenants exercising choice or asserting rights (through complaints or legal proceedings) means that its ability to secure and sustain quality in the sector has long been questioned. Other authors have argued that incentives have been created for less scrupulous landlords to ignore regulations, particularly where housing is in short supply (Soaita et al, 2020; Bone, 2014). In general, poorer tenants are more likely to live in properties of poor standard and have landlords that own the property with an 'investment motive' (Crook, 2002a). These landlords seek to benefit from a higher rate of return and are thus unlikely to keep up with repairs, highlighting how rents in the PRS are largely driven by area rather than standards (Crook, 2002a). Unfortunately, not all tenants will have the ability to move. Bramley, Munro and Pawson (2004) write that those with an urgent need will have less bargaining power and thus less power in the market. While this includes those with fewer personal or familial resources to draw upon, families who are embedded in the local area and tenants in high-pressure areas are also likely to have a reduced bargaining power (De Santos, 2012) calling into question the lack of regulation in the PRS (Bramley, Munro & Pawson, 2004).

Emerging from the literature concerned with the UK PRS, research on outcomes for tenants has tended to be qualitative or cross-sectional (see, for example: Coulter, 2019; Shelter, 2013; McKee et al, 2019; Walsh, 2019). Despite the features of the PRS that have been found to often negatively impact tenants as outlined above, there has been little quantitative research on mental health within the tenure. Tenure is sometimes used as a control in health research, but usually only at one point in time or as a binary indicator of homeownership (for example: Gondek et al, 2021a; Rees, 2019). However, as Ellaway and Macintyre (1998) state, if tenure acted only as a proxy for income and economic position, it would have no effect once these factors were accounted for. Research on health in different tenures using longitudinal data exists in an international context (for example: Mason et al, 2014; Zumbro, 2014, Li et al, 2022). These studies benefit from the scale and reliability of longitudinal data and enable inferences to the wider population to be made. However, wellbeing as a facet of health, or simply the PRS at all, has not been the focus of research using longitudinal data in the UK.

The research summarised above highlights a clear need for quantitative evidence surrounding the extent of the psychological impact of private renting in the UK. In particular, there is a need for research that investigates this relationship across the age range, owing to the lack of evidence surrounding the experience of older renters. Also evident is the need for any such analysis to account for contingent factors that may influence tenants' wellbeing in order to control for their influence. As well as demographic variables, individuals' employment status, income, education level and relationship status

emerge as important factors to account for in statistical modelling. This research therefore analyses mental wellbeing outcomes across UK tenures while controlling for a range of personal and familial variables, addressing the lack of studies using cohort data to investigate mental wellbeing in the UK context. The following section explains how the data chosen for the research (as explored in chapter three) are used to model wellbeing over time for those in different UK housing tenures.

4.3 Modelling wellbeing over time

4.3.1 Modelling procedure: Generalised Linear Mixed Models (BCS70)

Section 2.5.2 explained how the distribution of the malaise score requires non-linear regression for analysis, while a multi-level (or 'mixed') model allows for the nesting of each measurement occasion (at level one) within each individual CM (at level two). This means that a 'random' term is included in the model for each CM, while other parameters are included as 'fixed effects'. The methodological literature for multi-level models recommends a 'bottom-up' approach (Goldstein, 2011), first fitting the 'unconditional model' (with only measurement occasion as a fixed effect and the second-level random effect) before the addition of further parameters. This approach has the advantage of allowing for comparison of the models and any significant difference between them, using likelihood ratio tests if the models are fitted using Maximum Likelihood estimation (Snijders & Bosker, 2012). While the models used information derived from early-life sweeps of the survey, such as information about parents' characteristics or housing tenure during childhood, CMs' malaise scores were taken only from sweeps in which they were adults. The control variables included in the models and listed in table 4.1 are those shown to have an effect on wellbeing and thus commonly used in health research.

The simple random intercept model for multilevel data is:

$$y_{ij} = \beta_{0j} + \beta_1 t_{ij} + e_{ij} \qquad (4.1)$$
$$\beta_{0j} = \beta_0 + u_{0j}$$

Where y_{ij} is the response at occasion i (i = 1, ..., T) for individual j (j = 1, ..., n). t_{ij} is the measurment occasion for individual j, which is constant for all individuals. β_0 is the overall intercept, while β_{0j} is the intercept for individual j. u_{0j} and e_{ij} represent the individual-specific random effect and the occasion-specific residual, respectively. The former captures the effects of unmeasured individual characteristics on y, while the latter captures those of unmeasured time-varying characteristics.

However, malaise follows a Poisson distribution, necessitating GLMMs. The Poisson distribution is linked to the normal distribution by its natural logarithm ln(μ). The 'empty' model, i.e., without covariates, can thus be written:

$$y_{ij}|\mu_{ij} \sim \text{Poisson}(\mu_{ij}) \qquad (4.2)$$
$$\ln(\mu_{ij}) = \beta_0 + u_j$$

Where y_{ij} is the count at the measurement *i* for the individual j, as in equation 4.1. μ_{ij} denotes the expected count and u_j is the cluster random intercept effect.

In the multilevel Poisson model, β_0 is replaced with x'_{ij} where x_{ij} denotes the vector of unit- and cluster-level covariates (including the intercept and any cross-level interactions) and β is the associated vector of regression coefficients.

Equation 4.3 gives a simplified version of the model with variable labels, with *Age* as in model 1 (table 4.2)

$$\ln(Malaise_{ij}) = \beta 0 + \beta 1 Age_{ij} + u_j \qquad (4.3)$$

For the GLMMs, measurement occasion is labelled as *Age* in the model results in this chapter and throughout the succeeding findings chapters. In the models, however, measurement occasion is coded as beginning at *i=0* (age 26) and ending at *i=4* (age 46). This method enables direct interpretation of the intercept at the first measurement occasion and more straightforward interpretation in general when compared to coding as year or age, for example (Hox, 2010). This is because zero is included in the range of values, in contrast to, for example, year of measurement. These re-parameterisations were undertaken and did not yield different results, however they were less interpretable. Interactions terms then took the form of *measurement occasion* multiplied by the independent variable, rather than a saturated model with each measurement occasion and its interaction term included as a categorical variable, which would greatly increase model complexity (Hox, 2010).

Models with random terms for measurement occasion returned non-positive definite matrices and therefore the models were restricted to random intercept only. As Gondek (2021a) notes, this may be due to a lack of variation around the age slope. Bolker (2022) states that small numbers of random-effect levels (less than five) can result in errors, while Wright (2017) argues including random effects for a 'time' slope where there are less than six occasions may lead to spurious results. Diagnostic tests also showed that mild under-dispersion was present in the models. Bolker (2022) states that this is sometimes ignored, as it leads to more conservative standard errors (SEs). Another method of dealing with under-dispersion is estimation via quasi-Poisson models, which were also carried out for this research but are not reported, as significant relationships (outlined in the results in section 4.4) were not different. The coefficients from these models remain the same. Lastly, polynomial terms for time (squared and cubic transformations) were included in the models and retained if they improved model fit, thus allowing for non-linearity in the subjects' trajectories. Likelihood-ratio tests, comparing the difference in deviance scores between models, were used to ascertain whether each successive model was significantly better at explaining the effects seen (Hox, 2010). This can be seen as a measure of model fit, as statistics such as R^2, used in linear regression, are not available for GLMs or GLMMs. Post-

hoc tests were performed on the models to ensure reliability. The variables in the final models are listed in table 4.1.

Table 4. 0.1 Variables included in the GLMMs of BCS70 data. Source: 1970 British Cohort Study

	Variable Description	Measurement type	Detail
Dependent variable	Malaise score	Longitudinal	Score from the Malaise scale.
ID	Cohort member ID	Fixed	Individual CM ID, used for random intercept term.
Age	Measurement occasion	Longitudinal	Successive sweep of the BCS70.
Controls	Disability status (1 = Disabled)	Longitudinal	Whether CM is classed as disabled.
	Sex (1 = Female)	Fixed	Sex of CM.
	Ethnicity (ref.: White)	Fixed	Ethnicity of CM, from sweep two.
	Country of residence (ref.: England)	Longitudinal	Country in which CM lives.
	Relationship breakdown (1 = Yes)	Longitudinal	Whether CM has experienced a relationship breakdown since last sweep.
	Degree-level qualification (1 = Yes)	Longitudinal	Whether CM has a degree.
	Net weekly income	Longitudinal	Log of CMs' net weekly income.
	Employment status (ref.: full-time employment)	Longitudinal	CMs' employment status.
	High number of home moves in childhood (1 = Yes)	Fixed	Reported to have moved four or more times in childhood sweeps.
	Poor parental mental health in CMs' childhood (1 = Yes)	Fixed	High malaise score during CM's childhood.
Explanatory variables	Housing tenure (ref.: Homeowner)	Longitudinal	Which housing tenure CM lives in.
	Interaction terms	Longitudinal	Interaction terms for the explanatory variables with measurement occasion.

4.3.2 Variables not included in the BCS70 GLMMs

This research did not include many health-related, early-life variables, such as birth weight or mothers' smoking status. Other research reviewed found only a modest explanatory effect for mediators such as these (Ploubidis et al, 2017) and in the interest of parsimony (as well as not fitting over-complex models) these were therefore left out of the modelling process. As other research has noted, there is debate about the use of other controls, such as marital status, in the investigation of mental health over time (Blanchflower & Oswald, 2009; Glenn, 2009). This is due to the direction of causality being unclear, although it is usually concluded that inclusion of such variables as controls is justified (Bell, 2014). Other time-varying factors of interest identified in qualitative research, such as CMs' assessment of their neighbourhood, insecurity of their housing and information regarding their social networks, were not available in the BCS70 or were included in too few sweeps to be included in the GLMMs.

Other variables were derived from the data but not included in the final models. For example, the BCS70 included Socio-Economic Group (SEG) classification in sweep five and NS-SEC thereafter. In this research, an 8-item NS-SEC was derived from SEG for consistency with later sweeps and a variable was made to capture CMs' parents' occupational class from sweeps 1-4, taking the value from the most recent sweep with valid information available for each household. This variable was not statistically significant, did not improve model fit (as measured by likelihood-ratio tests), did not mediate the effect of other covariates and showed only a negligible effect on wellbeing. The removal of such variables is to avoid overly complex models, in line with the multilevel modelling literature (Hox, 2010; Goldstein, 2011). As outlined in section 4.2, some of the worst housing conditions in the UK are found within the PRS, which has been found in qualitative research to negatively impact tenants' wellbeing (Marsh & Gibb, 2019; Soaita et al, 2020). No information on the physical condition of housing was included in the survey beyond the presence of damp in early sweeps, however. This was included as a time-invariant variable alongside a derived variable that captured the person-per-room ratio, as an indicator of overcrowding. These variables were not retained for the same reasons as explained above and due to their imprecision as indicators of poor housing conditions.

4.3.3 GLMM results: wellbeing across the life course

The results of the GLMMs modelling wellbeing from the BCS70 data are presented below. In GLMMs using a Poisson-distributed dependent variable, the distribution is 'linked' to the normal distribution via the logarithm function. This model is multiplicative (as opposed to additive, as in a linear regression model), therefore the coefficients estimated by the models are not easily interpreted. However, by exponentiating the coefficient, the multiplicative factor by which the dependent variable is changed is obtained as a Rate Ratio (RR) (Roeback & Legler, 2021). For example, model one (M1), the 'unconditional model' (Hox, 2010), shows age as a fixed effect with an RR of 1.02, or a 2% increase in malaise at each measurement occasion.

Table 4. 0.2 Summary of results from modelling CMs' malaise score with control variables (M1 & M2). Source: 1970 British Cohort Study

Variable		M1		M2	
			RR	Coeff. (SE)	RR
(Intercept)		0.266 (0.009) ***		0.426 (0.049) ***	
Age		0.019 (0.003) ***	1.019	0.027 (0.004) ***	1.027
Female (1 = Yes)				0.226 (0.018) ***	1.254
Ethnicity (ref.: White)	Black			0.026 (0.067)	1.026
	Asian			-0.016 (0.052)	0.984
	Other			0.332 (0.110) **	1.394
Relationship breakdown (1 = Yes)				0.046 (0.013) ***	1.047
Has Degree (1 = Yes)				-0.088 (0.016) ***	0.916
Employed (ref.: full-time)	Part-time			0.033 (0.017) *	1.034
	Not employed			0.454 (0.027) ***	1.575
Net income per week				-0.163 (0.020) ***	0.850
Disabled (1 = Yes)				0.530 (0.076) ***	1.699
Country (ref.: England)	Scotland			-0.009 (0.031)	0.991
	Wales			0.016 (0.039)	1.016
High Parental Malaise (1 = Yes)				0.001 (0.014)	1.001
High no. moves in childhood (1 = Yes)				-0.002 (0.004)	0.998

*Note: coefficients represent log estimates; RR represents the Rate Ratio as the exponentiated coefficient; Standard errors are shown in brackets; *** p<0.001; ** p<0.01; * p<0.05.*

M2 incorporates the control variables. These coefficients show the effect of the variables at baseline (age 26). Female CMs are estimated to have a malaise score 25% higher than male CMs. The effect of a relationship breakdown is estimated to result in a wellbeing score 5% higher than those who did not experience this, while having a degree incurs an 8% lower malaise score. In comparison to those employed full-time, CMs with part-time employment have a 3% higher score. Unemployment is shown to have a very strong effect on wellbeing, with those CMs who are not in employment estimated to have a malaise score 58% higher than the reference group. Income (included as the log of weekly income) is shown to have a protective effect meanwhile, with an RR of 0.85 (or 15% lower malaise score). The strongest effect seen amongst the controls in M2 is for disability, which is estimated to confer a 70% higher malaise score. The estimated effects for high parental malaise score and high number of home

moves in childhood were negligible and insignificant, as were the those for the parameters relating to country of residence. Black and Asian CMs are also not estimated to have a malaise score significantly different to White CMs. While the *Other* ethnicity group exhibit a significant and strong effect, the group is too small to be considered reliable for generalisability.

M3 sees the addition of the independent variables, shown in table 4.3. This includes coefficients for the CMs' housing tenure. A moderate effect is seen at baseline level for those in SH, who are predicted to have a malaise score 16% higher than those in owner-occupation when controlling for the other variables in the model. Those in the PRS show a slightly smaller difference to the owner-occupied sector, at +14%. There is no substantial change in the coefficients for the control variables in the model from M2 and they remain significant.

Interactions terms for tenure and age are incorporated into M4. These allow for predicted wellbeing trajectories across the life course for each of the housing tenures, so that change in wellbeing over time can be predicted for each group. Significant and substantial interaction effects are seen for SH and the PRS in comparison with the owner-occupied sector. The null hypothesis, that there is no significant difference between average wellbeing trajectories for those in different housing tenures, is therefore rejected. These trajectories are visualised in figure 4.1, but can be calculated as the sum of the exponentiated coefficients for each tenure group. For example, the average wellbeing score for those in PRS at age 30 (or *i=1*) is exp(0.127+0.012), giving an RR of 1.15 and thus a 15% higher malaise score. As this is higher than the RR at baseline (age 26 or *i=0*), the disparity between scores in owner-occupation and the PRS can be seen to be increasing with age. At age 34 (or *i=2*), malaise is calculated as exp(0.127+(0.012*2)), giving an RR of 1.16 or a 16% higher score.

Table 4. 0.3 Summary of results from modelling CMs' malaise score over time as a function of tenure (M3 & M4). Source: 1970 British Cohort Study

Variable		M3		M4	
			RR	Coeff. (SE)	RR
(Intercept)		0.337 (0.050) ***		0.353 (0.050) ***	
Age		0.034 (0.004) ***	1.035	0.027 (0.005) ***	1.027
Female (1 = Yes)		0.231 (0.018) ***	1.260	0.229 (0.018) ***	1.257
Ethnicity (ref.: White)	Black	0.028 (0.067)	1.028	0.028 (0.067)	1.028
	Asian	-0.016 (0.052)	0.984	-0.018 (0.052)	0.982
	Other	0.332 (0.110) **	1.394	0.335 (0.110) **	1.398
Relationship breakdown (1 = Yes)		0.040 (0.013) ***	1.041	0.038 (0.013) ***	1.039
Has Degree (1 = Yes)		-0.076 (0.016) ***	0.927	-0.073 (0.016) ***	0.930
Employed (ref.: full-time)	Part-time	0.035 (0.017) *	1.036	0.037 (0.017) *	1.038
	Not employed	0.441 (0.027) ***	1.554	0.440 (0.027) ***	1.553
Net income per week (log)		-0.149 (0.020) ***	0.862	-0.149 (0.020) ***	0.862
Disabled (1 = Yes)		0.525 (0.076) ***	1.690	0.527 (0.076) ***	1.694
Country (ref.: England)	Scotland	-0.010 (0.031)	0.990	-0.012 (0.031)	0.988
	Wales	0.018 (0.039)	1.018	0.018 (0.039)	1.018
High Parental Malaise (1 = Yes)		0.001 (0.014)	1.001	0.001 (0.014)	1.001
High no. moves in childhood (1 = Yes)		-0.002 (0.004)	0.998	-0.002 (0.004)	0.998
Tenure (ref.: Home-owner)	SH	0.144 (0.022) ***	1.155	0.053 (0.034) ***	1.054
	PRS	0.127 (0.019) ***	1.135	0.107 (0.028) ***	1.113
	Rent free	0.085 (0.036)*	1.089	0.002 (0.072)	1.002
	Other[1]	0.009 (0.025)	1.009	0.095 (0.025)***	1.100
Tenure x Age	Age x SH			0.050 (0.014) ***	1.051
	Age x PRS			0.012 (0.006) *	1.012
	Age x Rent free			0.008 (0.032)	1.008
	Age x Other[1]			0.023 (0.016)	1.023

*Note: coefficients represent log estimates; RR represents the Rate Ratio as the exponentiated coefficient; Standard errors are shown in brackets; *** p<0.001; ** p<0.01; * p<0.05. [1]See appendix I for discussion.*

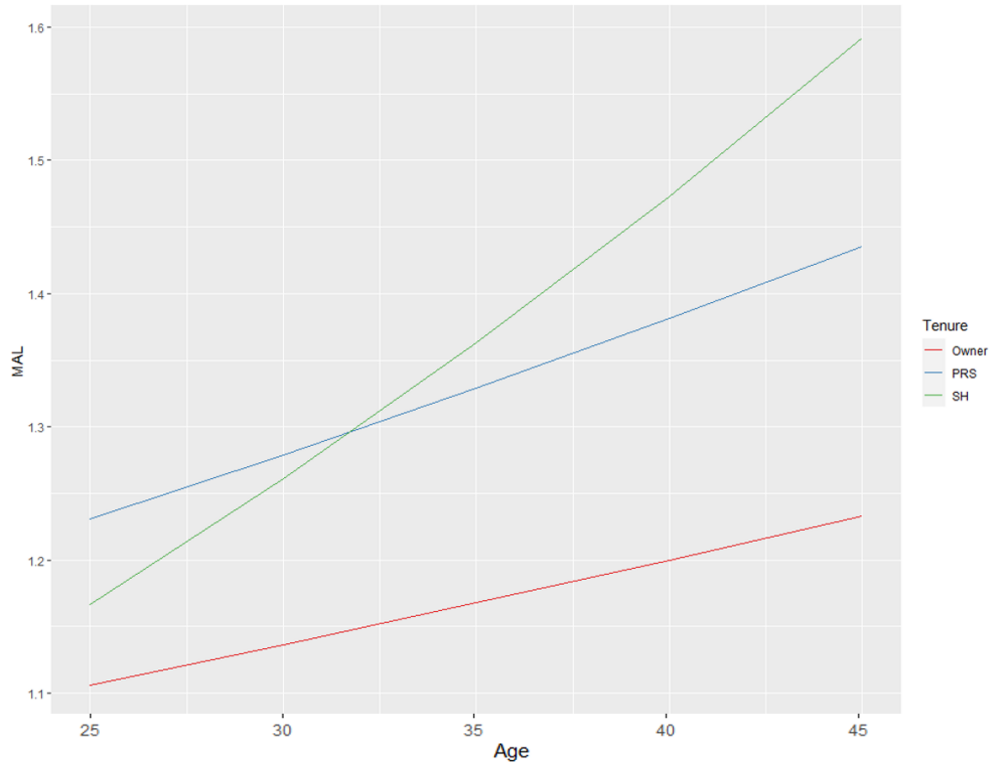

Figure 4.1 Predicted Malaise trajectories by tenure (Source: own compilation of BCS70 data)

Figure 4.1 shows that, as CMs age, their malaise scores are predicted to increase, thus their wellbeing deteriorates. This increase is not equal for those in different housing tenures however, with those in the PRS and in SH showing a higher malaise score at age 26 and one that increases at a faster rate than those in owner-occupation. By age 46, those in SH are predicted to have the poorest wellbeing, having overtaken that of the PRS after age 30.

M4 can be expanded by the addition of polynomial terms for the Age variable. This incorporates non-linearity in the relationship between age and wellbeing in recognition of the fact that this has been found in other research on wellbeing and age with multiple cohorts (Gondek et al, 2021a). M5 (table 4.4) shows the results of the GLMM incorporating squared and cubic transformations of the age variable for this purpose. Figure 4.2 shows the interaction terms for tenure and age in M5, showing average trajectories for the tenure groups. Those in the PRS are predicted to have a slightly higher malaise score at baseline than those in owner-occupation or SH, with wellbeing improving (malaise score decreases) into the early 30s. SH then overtakes the other tenures as having the highest malaise score, and while all three tenures see an increase to age 42, the disparity between the owner-occupied sector and the other tenures grows. Malaise then decreases gradually to age 46 for the PRS and owner-occupiers, but continues to increase for SH, albeit much more gradually. As these polynomial functions of age are significant, there is indeed a non-linear relationship between age and wellbeing.

Table 4. 0.4 Summary of results from modelling CMs' malaise score over time as a function of tenure (M5). Source: 1970 British Cohort Study

Variable		M5	
		Coeff. (SE)	RR
(Intercept)		0.365 (0.054) ***	
Age		-0.309 (0.031) ***	0.734
Age^2		0.198 (0.019) ***	1.219
Age^3		-0.031 (0.003) ***	0.969
Female (1 = Yes)		0.224 (0.018) ***	1.251
Ethnicity (ref.: White)	Black	0.030 (0.067)	1.030
	Asian	-0.019 (0.052)	0.981
	Other	0.337 (0.110) **	1.400
Relationship breakdown (1 = Yes)		0.030 (0.013) *	1.030
Has Degree (1 = Yes)		-0.072 (0.016) ***	0.931
Employed (ref.: full-time)	Part-time	0.053 (0.017) **	1.054
	Not employed	0.353 (0.028) ***	1.423
Net income per week		-0.109 (0.021) ***	0.897
Disabled (1 = Yes)		0.527 (0.076) ***	1.694
Country (ref.: England)	Scotland	-0.012 (0.031)	0.988
	Wales	0.020 (0.039)	1.020
High Parental Malaise (1 = Yes)		0.001 (0.014)	1.001
High no. moves in childhood (1 = Yes)		-0.002 (0.004)	0.998
Tenure (ref.: Home-owner)	SH	0.049 (0.034)	1.050
	PRS	0.068 (0.028) *	1.070
	Rent free	0.013 (0.073)	1.013
	Other[1]	0.041 (0.025)	1.042
Tenure x Age	Age x SH	0.053 (0.014) ***	1.054
	Age x PRS	0.025 (0.013) *	1.025
	Age x Rent free	0.008 (0.032)	1.008
	Age x Other[1]	0.023 (0.016)	1.023

*Note: coefficients represent log estimates; RR represents the Rate Ratio as the exponentiated coefficient; Standard errors are shown in brackets; *** p<0.001; ** p<0.01; * p<0.05. [1]See appendix I for discussion.*

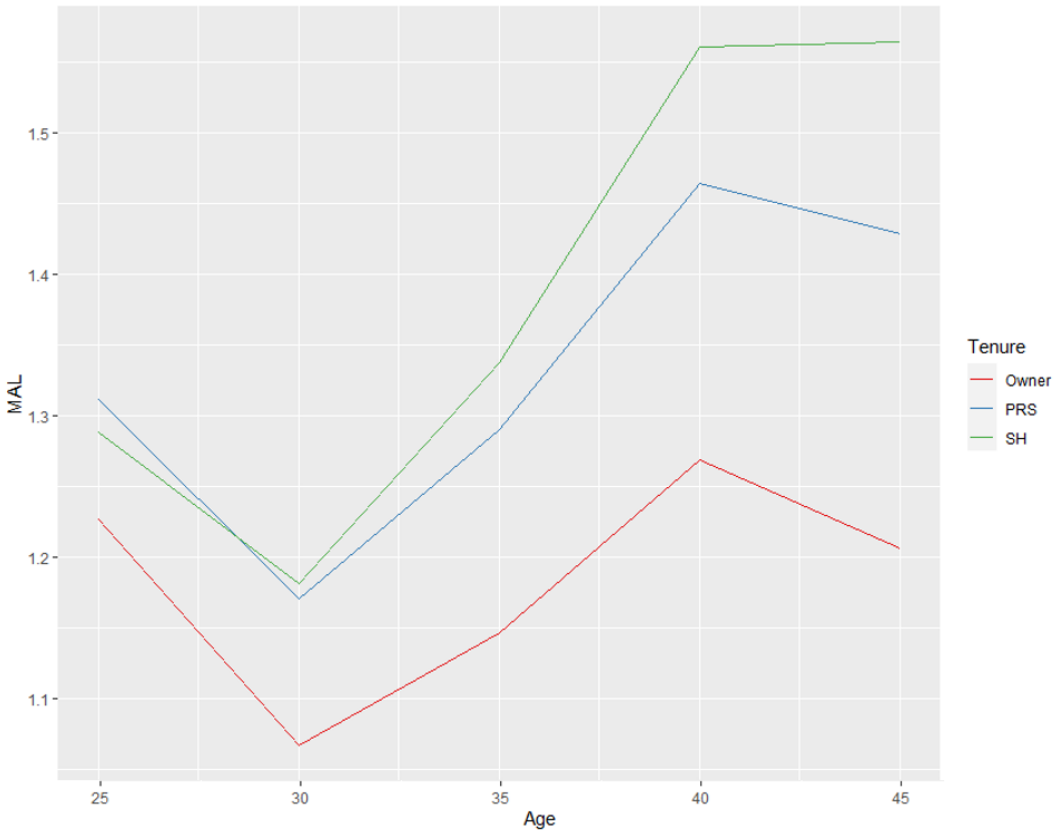

Figure 4.2 Predicted Malaise score trajectories by tenure (with polynomial terms) (source: own compilation of BCS70 data)

As in the wider happiness research literature, the effects seen for being female or being unemployed are large and significant. Of the control variables, the largest effect on malaise is seen for those who are disabled. Tenure's effect on wellbeing, when controlling for all other variables in the models, is shown to be non-linear, with a moderate effect found for SH and the PRS in comparison to owner-occupation at baseline. This difference is shown to grow over time and is found to be widest at age 46. To explore the relationship between tenure and malaise at age 46 more fully, the following section presents regression models estimated using only sweep 10. These models are not longitudinal but incorporate longitudinal variables (such as exposure to the PRS and relationship breakdown) in addition to those that were not available previously and could thus not be modelled in the GLMMs (such as indicators of social networks and precarious work).

4.4 Inter-tenure differences in wellbeing in middle-age

4.4.1 Modelling procedure: Generalised Linear Models

Generalised linear models (GLMs) were conducted using data from sweep 10 (age 46) of the BCS70 in order to further investigate the differences in wellbeing outcomes seen between tenures in the GLMMs, as presented in the previous section. The GLMMs estimate that the disparity seen between the PRS and owner-occupation, and that between SH and owner-occupation, grows over time. As will be discussed in section 4.5, all CMs are estimated to have the worst wellbeing at age 46, with the wellbeing gap between the tenures most pronounced at this age. Conducted in 2016, sweep 10 of the BCS70 includes variables of interest that were unavailable at other measurement occasions and therefore not able to be included in the GLMMs. Controlling for these variables at age 46, as well as other fixed or longitudinal measurements from other sweeps of the survey, this analysis allows for further investigation and triangulation of the results seen in the previous models.

The variables included in the GLMs using the BCS70 sweep 10 data are detailed in table 4.5. Some variables, such as the CMs' ethnic category and their parents' wellbeing, are taken from early sweeps of the survey. GLMs do not include nesting of measurement occasions within each CM as in mixed models (such as GLMMs) and do not include random terms. The models are therefore as described in section 4.3.1 without the level one term *i* (measurement occasion). This means that GLMs are less complex and therefore the inclusion of a larger number of parameters (both main effects and interaction terms) is far more parsimonious. To capitalise on the data from previous sweeps of the survey and variables derived from them, the GLMs utilise the aforementioned early-life variables as well as tenure-exposure variables. The latter indicate the number of sweeps the CMs have spent in the PRS or SH as a proportion of their valid sweeps, i.e., those they have provided tenure information for. The purpose of these variables is to explore outcomes in terms of CMs' exposure to these tenures as opposed to their residence at age 46 only, in order to gain a more nuanced analysis of individual housing careers and differences in wellbeing between them. It is worth noting that the survey includes questions regarding whether or not CMs have moved since the previous sweep but not the tenure of their new home, if they have moved. This means that it is not possible to show the exact amount of time spent in each tenure, only exposure as measured at each sweep.

The variable indicating whether a CM has a long-term health condition represents a re-parameterisation of disability as modelled in the GLMMs. The variable in the GLMs also indicates whether, if a long-term health condition is present, it limits the day-to-day activity of the individual and to what extent. Other variables available at sweep 10 of the BCS70 that were not present in earlier sweeps include having a zero-hours contract and information on CMs' social networks. The latter consists of two categorical variables indicating the frequency by which a CM meets friends and family.

Table 4. 0.5 Variables included in GLMs for wellbeing at age 46

Level	Name	Description
Dependent variable	Malaise score	Sum of questions replaced with metric score.
Controls	Sex (1 = Female)	Biological sex.
	Ethnicity (ref.: White)	Ethnicity category.
	Country (ref.: England)	Country of residence.
	Whether has degree-level qualification (1 = Yes)	Whether CM has a degree or higher-level qualification at age 46.
	Net income per week	Log of CMs' net income per week.
	Employment status (ref.: employed full-time)	Employment status at age 46.
	Long-term health condition (ref.: no long-term health condition).	Whether CM has long-term health condition and whether this limits day-to-day activity.
	Relationship breakdown (1 = Yes)	Whether CM has experienced a relationship breakdown since last sweep.
	Zero-hours contract (1 = Yes)	Whether CM is employed on a zero-hours contract.
	Parent had low wellbeing in CM's childhood (1 = Yes)	Main parent had high psychological distress in any of sweeps 1-4, as measured by malaise score.
	Meets friends (ref.: regularly)	How regularly CM meets friends at age 46.
	Meets family (ref.: regularly)	How regularly CM meets family members at age 46.
Explanatory variables	Housing tenure (ref.: Owner-occupation)	CM's housing tenure.
	Exposure to PRS (ref.: 0%)	Proportion of valid sweeps spent in PRS.
	Exposure to SH (ref.: 0%)	Proportion of valid sweeps spent in SH.

4.4.2 Model results: wellbeing at age 46

GLMs can be interpreted in a similar way to GLMMs at baseline, i.e., coefficients can be exponentiated to give risk ratios (RR) in order to ascertain the multiplicative effect a unit change of the independent variable has on the dependent variable. For example, the coefficient for *Female* (a binary variable) in M1 is 0.28, the exponential of which (1.33) shows that malaise is 33% higher for women than for men at age 46. Table 4.6 shows that, in comparison to white CMs, those of black ethnicity exhibit a malaise score 40% higher, while Asian CMs have a 21% lower score. Both of these effects are statistically significant at the 0.05 level. Differences between England, Scotland and Wales are small and insignificant. M2 includes a further set of controls relating to CMs' education, employment status, health condition, relationship status and parents' malaise score in childhood. M2 estimates that those with a degree have a 16% lower

malaise score, while a statistically significant RR of 1.31 is estimated for those who are not employed. CMs who have a long-term health condition are also estimated to have a significantly higher malaise score in M2, with very large effects seen in all categories. Those who have such a condition but are not limited day-to-day have a 40% higher score, while those who are limited a little or a lot have a 109% and 171% higher score, respectively. It is estimated that those who report a relationship breakdown have a 16% higher malaise score, while those whose parents had poor mental wellbeing when the CMs were children have a 6% higher score.

Table 4. 0.6 GLM results (M1-M4) for modelling malaise at age 46 (Source: 1970 British Cohort Study)

Variable		M1	M2	M3	M4
		RR (SE)	RR (SE)	RR (SE)	RR (SE)
Female (ref.: Male)		1.33 (0.03) ***	1.19 (0.03) ***	1.22 (0.03) ***	1.22 (0.03) ***
Ethnicity (ref.: White)	Black	1.40 (0.13) ***	1.33 (0.12) **	1.37 (0.13) ***	1.35 (0.13) **
	Asian	0.79 (0.08) *	0.77 (0.09) *	0.78 (0.09) *	0.78 (0.09) *
	Other	0.85 (0.16)	0.91 (0.17)	0.90 (0.17)	0.92 (0.17)
Country (ref.: England)	Wales	1.08 (0.04)	1.00 (0.04)	1.01 (0.04)	1.01 (0.04)
	Scotland	0.99 (0.04)	1.06 (0.04)	1.07 (0.04)	1.08 (0.04) *
Net weekly income (log)		0.98 (0.01) *	0.98 (0.01) *	0.97 (0.01) **	0.97 (0.01) **
Has degree (ref.: no)			0.84 (0.02) ***	0.86 (0.02) ***	0.86 (0.02) ***
Employed (ref.: full-time)	Part-time		1.05 (0.03)	1.06 (0.03) *	1.03 (0.03)
	Not employed		1.31 (0.04) ***	1.27 (0.04) ***	1.24 (0.04) ***
Long-term health condition (ref.: no)	Yes, not limited		1.40 (0.04) ***	1.39 (0.04) ***	1.39 (0.04) ***
	Yes, limited a bit		2.09 (0.06) ***	2.04 (0.05) ***	2.03 (0.05) ***
	Yes, limited a lot		2.71 (0.09) ***	2.58 (0.09) ***	2.53 (0.08) ***
Relationship breakdown (ref.: no)			1.16 (0.03) ***	1.17 (0.03) ***	1.17 (0.03) ***
High Parental Malaise (ref.: no)			1.06 (0.02) **	1.06 (0.02) *	1.06 (0.02) *
Meets with friends (ref.: yes, regularly)	Yes, irregularly			1.32 (0.03) ***	1.32 (0.03) ***
	No			1.56 (0.07) ***	1.55 (0.07) ***
Meets with family (ref.: yes, regularly)	Yes, irregularly			1.05 (0.03) *	1.06 (0.03) *
	Rarely			1.08 (0.06)	1.08 (0.06)
Zero-hours contract (ref.: no)					1.12 (0.07)
Some income from benefit(s) (ref.: no)					1.10 (0.02) ***

*Note: the exponentiated coefficient is given as the Rate Ratio (RR); Standard errors are shown in brackets; *** p<0.001; ** p<0.01; * p<0.05*

Coefficients remain mostly similar in M3 with the addition of variables relating to the frequency at which CMs meet friends and family, which are included in the model in line with other research that has found a confounding effect with wellbeing (Rees, 2019). Part-time workers are estimated to have a score significantly higher than those employed full-time in M3, at +6%. How often CMs see friends is seen to have a statistically significant effect, with those reporting seeing them irregularly having a 32% higher malaise score than those who see them regularly, while those who never meet friends are estimated to have 56% worse wellbeing. A small but significant effect is also estimated for those who meet family irregularly, at +5%. M4 includes additional variables indicating whether CMs are employed on a zero-hour contract and whether they receive some income from benefits. The effect of the latter is significant, at 10% higher than those who do not receive benefits, when the other variables in the model are held constant at their reference level. The effect on wellbeing from living in Scotland becomes significant in M4, with these CMs being estimated to have an 8% higher malaise score.

Model five introduces tenure into the GLMs, as seen in table 4.7. Other coefficients and their RRs remain very similar in this and the successive models and thus only explanatory variables and those control variables included in interaction terms are presented. M5 estimates moderate and significant effects for tenure, with those in the PRS estimated to exhibit a 12% higher malaise score than those in owner-occupation, while those in SH have a 21% higher score on average. The null hypothesis, that there is no significant difference in wellbeing between the PRS and owner-occupation at age 46, is therefore rejected. Table 4.7 also presents the results for M6, which includes parameters indicating the level of exposure to the PRS, as a proportion of a CM's valid sweeps of the BCS70. Significant effects are seen for those who were in PRS for up to a third of valid sweeps and those in the PRS for up to and including half of valid sweeps, at +6% and +5% respectively.

M7 shows that a small and significant effect was found for only those exposed to the PRS for up to a third of valid sweeps and for those exposed for up to and including a half of valid sweeps, with an RR of 1.06 and 1.05, respectively. Those CMs with such exposure for up to a third of valid sweeps and who had a health condition that didn't limit their day-to-day activity, limited it a little or limited it a lot had a 38%, 25% and 14% higher malaise score, respectively. The latter of these interaction effects was not significant at the 0.05 level. Other parameters for interactions between PRS exposure and long-term health conditions were based on groups too small to be considered for generalisability.

While not presented here, interaction terms for CMs' exposure to SH and employment status were undertaken in order to investigate the SH effect in more depth. The results show that those who work part-time and were in SH for a third to half of answered sweeps have a significantly higher malaise score, at 32%. A significant interaction effect for those working part-time and in SH for more than half, but not all, of answered sweeps is seen, at +46%. Those CMs who are not employed and have been present in SH at every sweep also show a significant difference to the reference group and have a 19% higher malaise score. With the inclusion of these interactions terms the main effects for exposure to SH become insignificant at the 0.05 level.

Table 4. 0.7 GLM results (M5-M7) for modelling malaise at age 46 (Source: 1970 British Cohort Study)

Variable		M5	M6	M7
		RR (SE)	RR (SE)	RR (SE)
Long-term health condition (ref.: no)	Yes, not limited	1.40 (0.04) ***	1.39 (0.04) ***	1.39 (0.04) ***
	Yes, limited a bit	2.09 (0.06) ***	2.04 (0.05) ***	2.03 (0.05) ***
	Yes, limited a lot	2.71 (0.09) ***	2.58 (0.09) ***	2.53 (0.08) ***
Tenure (ref.: owner-occupier)	SH	1.21 (0.04) ***		
	PRS	1.12 (0.04) ***		
	RF	1.08 (0.07)		
	Other	1.13 (0.06) *		
Exposure to PRS (ref.: 0%)	<33%		1.06 (0.03) *	0.93 (0.04)
	<=50%		1.05 (0.02) *	1.06 (0.06)
	>50%		0.97 (0.06)	1.05 (0.09)
	100%		0.98 (0.08)	1.02 (0.14)
Long-term health condition X Exposure to PRS	Yes, not limited × <33%			1.38 (0.11) ***
	Yes, limited a bit × <33%			1.25 (0.10) **
	Yes, limited a lot × <33%			1.14 (0.10)
	Yes, not limited × <=50%			1.16 (0.12)
	Yes, limited a bit × <=50%			0.93 (0.09)

*Note: the exponentiated coefficient is given as the Rate Ratio (RR); Standard errors are shown in brackets; *** p<0.001; ** p<0.01; * p<0.05*

4.5 Discussion

This section discusses the results of both types of model presented in this chapter in the context of the wider evidence as summarised at the beginning of the chapter. This includes issues related to insecurity, agency and poor housing conditions. It also discusses specific stressors that may become detrimental to wellbeing for renters as they age, as well as for those with long-term health conditions in mid-life.

A higher malaise score, and thus lower mental wellbeing, has been found by the models estimated by both methods of regression analysis reported in this chapter for those in the PRS or SH in adulthood, in comparison to those in owner-occupied housing. In the GLMMs, the baseline wellbeing score for those in the PRS and SH is 14% and 16% higher than those in owner-occupation, respectively. This disparity in malaise score between the tenure groups grows as CMs age. The GLMs at age 46 also estimate CMs in SH to have the highest malaise scores, 21% higher than owner-occupation, while those in the PRS have a 12% higher score than owner-occupation when all other variables in the models are controlled for. The significant wellbeing differences between the tenures mirrors other research focussing on tenure that has found physical or mental health disparities. The fact that phenomena known to negatively influence mental wellbeing, such as long-term health conditions and unemployment, were controlled for in this research and the PRS effect remains significant shows that the effect cannot be seen as simply a reflection of poorer economic circumstances. This research was able to control for a wide range of variables across the two types of analysis relating to income, employment, demographics and relationships. The GLMMs show that tenure differences in wellbeing are present across the life course, while this is mirrored in the GLM analysis at age 46, which together add weight to the evidence that tenure represents more than a proxy for other factors.

Poorer wellbeing in the PRS is likely to be in large part due to those factors identified in qualitative research as resulting from insecurity and a lack of agency, namely that tenants have a lack of certainty over their long-term housing situation, that they are unable to make a ‘home’ within the sector, and that power disparities between tenants and landlords burden tenants with stress and anxiety (JRF, 2020; Atkinson, 2015; Coulter, 2017). These factors, while unable to be included in this analysis, have been found frequently amongst tenants in the UK. Angel and Gregory (2021), in finding home-owners to be generally happier than renters, posit that this is either due to compositional characteristics such as higher levels of education, income or job security, or because of ‘contingent housing market factors that create strong correlations between owner-occupied housing and housing quality—in other words, that owners simply have access to better housing, and therefore (all things considered) exhibit higher levels of wellbeing’ (p.3). As highlighted above, the number of controls included in the models presented in this chapter and similar results being found in other research make the former situation presented by Angel and Gregory unlikely. While their latter argument may also be too simplistic, it has been repeatedly found that owner-occupied housing is predominately in far better condition than privately-rented accommodation (Lister, 2005).

A major source of anxiety and poor health outcomes with regard to housing conditions has been found to not only include issues surrounding damp and mould, again more commonly found in the PRS (Lister, 2005), but also how a landlord approaches their responsibility to carry out repairs. When the landlord is resistant or uncooperative, tenants have been found to experience stress and anxiety (McKee et al, 2021), which is compounded by fears of retaliatory rent increases or even eviction (Walsh, 2019). As

Atkinson (2015) and Bone (2014) have stated, the fear of eviction or involuntary relocation may be as much a source of anxiety for tenants as actually experiencing it and this is likely to account for part of the higher malaise score seen in the PRS. This is reflected in Ong et al's (2022) finding that falling into precarious housing resulted in a substantial drop in wellbeing scores amongst tenants, which is related to but separate from the impact of forced moves. The state of repair and attitudes towards their housing was not asked of CMs in the BCS70 and therefore was unable to be modelled in this research, beyond the presence of damp in the home during a CM's childhood. However, it is likely that, given the recurrence of this issue in qualitative research on the PRS, and housing conditions being controlled for in other housing research focussing on health (Clair et al, 2023), that disrepair has a significant impact of the wellbeing of tenants. It is possible that the effects of disrepair on both physical and mental health become more pronounced in later life and with more time spent in the PRS, reflecting the likelihood that those renting at older ages have fewer alternative housing options, therefore going some way to explaining the widening wellbeing gap between the PRS and the owner-occupied sector. Fear of eviction and the negative consequences of involuntary relocation are also likely to have a more detrimental impact on older renters for similar reasons, as well as the fact that they are likely to have more established roots within an area (Bailey, Kearns & Livingston, 2012).

The impact of having limited agency in decisions relating to your housing is again likely to affect those who are renting later in life, reflected in the increased malaise scores found in the GLMMs and GLMs in this chapter, but also for those with long-term health conditions. The large effect seen at age 46 between being limited day-to-day by a health condition and exposure to the PRS likely denotes the lack of security that the tenure bestows and the increased difficulty in adapting a home to individual needs (EHRC, 2018; McKee et al, 2019). These interaction effects (20%, 25% and 37% higher malaise scores respectively for those with a health condition that don't feel limited day-to-day, feel limited 'a bit', or 'a lot') again draw attention to how policies relating to the PRS are aimed at and designed around a particular group of tenants, namely the young and mobile (Scanlon, 2015; McKee et al, 2017). There is also likely to be variation in wellbeing scores in different submarkets of the PRS which are hidden by group averages in the results of the models presented in this chapter. Area characteristics were not recorded in the BCS70, but evidence points to neighbourhood being a potentially influential factor.

A lack of agency among tenants is a prominent feature of the PRS, with most decision-making power over homes resting with landlords. While this has been found to affect those across the sector in terms of their ability to feel at home and secure in a property (Scanlon, 2015; McKee et al, 2017; Walsh, 2019), and is therefore likely to influence the difference in malaise scores found in this research, it is likely to be more of a problem in the lower end of the market. This is because PRS properties in poorer areas are more likely to be owned by landlords with an investment motive who are unlikely to keep up with repairs (Crook, 2002a), while high pressure in certain areas mean that landlords have less incentive to improve a property as it is unlikely to remain vacant (Soaita et al, 2020; Bone, 2014). The gap between regulation and reality in the PRS in these situations is a facet of a system which relies on tenants exercising choice and knowing and asserting their rights (Marsh & Gibb, 2019), which is unrealistic given the power imbalance that exists in the sector. This is reflected in Assured Shorthold Tenancies which, as noted earlier, can be seen as having been designed around the landlord as they give landlords the power to access their capital at short notice after the fixed period of the tenancy is over (Gibb, Livingston and Berry, 2019).

The GLMMs estimate that wellbeing declines into the late 40s. This is consistent with other longitudinal research on wellbeing and age (Bell, 2014; Blanchflower & Oswald, 2008; Sackler & Wiggins, 2002). The significant effects found for the polynomial functions of age show that this relationship is non-linear,

however. This was also found by Gondek et al (2021a) in their analysis of BCS70 and NCDS data, who find that psychological distress (as measured by malaise score) is high in the mid-20s, lower in the early-30s and then increases into the 40s. However, Gondek et al (2021b) also found that there is a polarisation in psychological distress in midlife (age 42-50), with an increase in the proportions of those with no symptoms and those with multiple symptoms. In other words, more aspects of psychological distress are reported in midlife, when any are reported, than at earlier ages. The authors posit that this polarisation may emanate from the particularities of midlife as 'the life phase of considerable challenges and opportunities' (Gondek et al, 2021b: 1013). For many there is an increase in concurrent stressors such as caring responsibilities, declining health and peaking careers, while midlife can also be the point in life in which earnings are highest and individuals have the greatest self-confidence and agency (Gondek et al, 2021b). Their suggestion that some are thus better equipped to deal with added pressures and responsibilities and to utilise available resources at this age is convincing, however it is likely that housing constitutes an influential part of this polarisation. While owning a home may reflect greater resources and therefore a person's ability to mitigate the effects of the aforementioned stressors, it also enables individuals to exercise agency over their housing decisions, for example adaptations and repairs. Renting at older ages is likely to be a source and catalyst of these pressures due to insecurity of tenure and tenants' inability to make decisions regarding their living situation.

As mentioned above, in both government policy and in the wider social imagination, the PRS is largely seen as a tenure for young and mobile people, not for those in middle-age or older, or for families (Scanlon, 2015; McKee et al, 2017). Qualitative research has found that renters in these groups can feel shame and stigma for living in the PRS (Scanlon, 2015), while the owner-occupied sector is viewed as the aspirational tenure of choice by young people (McKee et al, 2017). These ingrained views of the PRS may in part explain the higher malaise scores seen for the PRS in middle-age in both the GLMMs and GLMs, as tenants feel that they are not good citizens or parents (Gurney, 1999). The belief that people should own their own home as part of achieving success underlies the fact that people have become increasingly made responsible for their own wellbeing in later life by acquiring housing assets to use as welfare or pension (Hoolachan et al, 2016; McKee et al, 2017). This is likely to only become more of an issue as access to housing wealth continues to polarise, with those to whom familial wealth is available increasingly becoming those that can access home-ownership and therefore welfare in old age. Austerity policies, the commodification of housing and the continuing lack of tenure security in the UK have exacerbated these social divisions (Coulter, 2017), which is likely to be a source of anxiety for renters approaching middle-age.

The fact that BCS70 waves five and onwards (those in which CMs are adults) occur after 1988 means that models using these data investigate wellbeing in a deregulated PRS. Following the 1988 Housing Act, tenancies are often short-term and insecure, with Section 21 notices available to landlords in the whole of the UK until relatively recently (these are no longer legal in Scotland). Deregulation of the financial sector also meant the rapid expansion of the mortgage market, eventually leading to the growth of BTL mortgages. These expanded the PRS significantly and have meant an influx of small-portfolio landlords (Daly & Gulliver, 2014), who often do not know regulations (Soaita et al, 2020) and are less able to plan into the future financially (Bramley et al, 2004). Landlords are also able to set rents almost entirely at their discretion, meaning housing costs have been driven up significantly for private tenants (Kemp & Kofner, 2010). Conditions have improved to a certain extent, partly from homes that were once in owner-occupation, but they remain worse overall than other tenures (Kemp, 2011).

A link between wellbeing and housing has been found outside of the PRS in previous research, such as Ellaway and Macintyre (1998) which compared socially rented housing with owner-occupation using longitudinal qualitative data. Their research found that housing stressors, housing type and individuals' assessment of the area in which they lived were significantly associated with poorer mental health, while the latter two contributed towards anxiety. As seen in the GLMMs and GLMs in this chapter, SH tenants are estimated to have the worst wellbeing of the three major tenures across the life course and one that is far higher at age 46. Higher levels of exposure to SH is also associated with lower wellbeing, with significant effects seen for those who were in SH for more than half but not all of valid sweeps and those who were in SH at every sweep, at +15% and +23% respectively. Additionally, the GLMs shows that there is a significant interaction effect between employment status and exposure to SH. Large effects are seen for those with high levels of exposure who are employed part-time or who are unemployed. To a certain degree, lower wellbeing scores may reflect the complex issues of those resident long-term in SH, being as it is a residualised tenure that houses only the most in need in UK society (Bailey, 2020). In particular, the more complex effects of the cycle of poverty may not be being addressed in the models, as poor mental health, insecure housing and insecure employment can catalyse one-another (Arundel et al, 2024). However, this analysis adds to previous evidence, such as Ellaway and Macintyre (1998), that has controlled for a range of social and economic variables and still finds a significant negative effect between social renting and wellbeing. Neighbourhood effects are again likely to negatively influence wellbeing for SH tenants, as areas with higher concentrations of SH are likely to have poorer access to services and amenities and to face exposure to crime and drug abuse problems that are associated with concentrated deprivation (Bramley, Munro & Pawson, 2004). As Bailey, Kearns and Livingston (2012) find, individuals' attachment to place declines with higher levels of neighbourhood deprivation, largely due to its influence on social cohesion and feelings of safety. Reflecting this, Ellaway and Macintyre (1998) found that those in SH were more likely than owner-occupiers to report a negative assessment of their area, exhibiting the impact that this has on individual wellbeing.

4.6 Conclusion

This chapter addresses RQ1:

RQ1: Do wellbeing outcomes differ between tenure groups across the life course?

Both GLMMs and GLMs were used with BCS70 data to estimate wellbeing scores for those in each of the main UK tenures, finding that SH and PRS tenants exhibit higher malaise scores (and thus lower wellbeing), with the gap between these tenures and owner-occupation widening over time. A wide range of theoretically important individual characteristics are controlled for in both types of regression, with the inclusion of the GLMs (at age 46) allowing for additional variables and triangulating the relationships found in the GLMMs. Importantly, both time-invariant and time-varying predictors were able to be used in the GLMMs, producing robust estimates and utilising the extensive longitudinal data that the BCS70 makes available. Variables derived from the longitudinal data were also used in the GLMs for sweep 10 of the survey, alongside variables from this and the preceding sweep that could not be modelled in the GLMMs. This research shows that there is a non-linear relationship between wellbeing

and age, as has been concluded in other research using UK cohort surveys (Sacker & Wiggins, 2002; Gondek et al, 2021a); malaise decreases into the 30s, before increasing steeply into the mid-40s. However, the GLMMs show that there is a considerable difference in wellbeing between the tenures that grows with age. It is suggested that lower wellbeing in the PRS is in large part due to the added pressures and insecurity that is inherent to the sector in the UK, having been widely found in qualitative research. While this includes poorer physical housing conditions, it is argued that the difficulties tenants face in achieving repairs, and anxieties surrounding the tenant-landlord relationship, are a key driver of the higher malaise scores found. This reflects the greater agency that owner-occupiers have in housing decisions, which may become particularly important as individuals age. Those in the PRS will likely face additional difficulties in making adaptations in older age, highlighting how policies relating the PRS do not reflect its increasingly diverse demographic make-up. This may also apply to those with long-term health conditions that limit their day-to-day activity, which may explain the higher interaction effects found for this group in the PRS. Higher malaise scores towards middle-age are also likely to reflect the additional pressures that individuals face at this age, as they navigate emergent health concerns, peaking careers and familial responsibilities. Those renting at this stage of life are argued to have fewer alternative housing options and therefore feel the impact of tenancy insecurity and limited agency to a greater extent, while possibly also feeling stigma and shame as a result of being excluded from owner-occupation. Wider research has also found a significant association between individuals' assessment of their neighbourhood and wellbeing, and while this could not be modelled in this research, it is likely that areas with more concentrated levels of deprivation see higher levels of poor wellbeing. This may drive the higher malaise scores seen in the social rented sector in particular, as areas dominated by SH often face problems of anti-social behaviour and crime to a greater extent.

5. Exposure to the private rented sector in childhood

5.1 Introduction

This chapter addresses RQ2, which asks:

> Does exposure to the UK PRS in childhood impact mental wellbeing in later life?

The chapter first provides a background as to what is currently known about children's experience in the PRS, including the impact of possible stressors known to be common in the tenure such as poor housing conditions and housing precarity. The concepts of a child's experience of the PRS and mental wellbeing are operationalised in this research first by use of 1970 British Cohort Study (BCS70) data. Section 5.3 explains how Generalised Linear Mixed Models (GLMMs) are used to model wellbeing by age, and experience of the PRS as a child, using the BCS70 data. Section 5.4 then details the modelling procedure for linear models using Millenium Cohort Study (MCS) data and the results for modelling wellbeing at age 17. The results of the models are then discussed with reference to the literature and their possible implications in section 5.5.

5.2 Background

The preceding chapter showed the results of modelling wellbeing over time by tenure, showing that those in the PRS and SH exhibited significantly different Malaise scores to those in owner-occupation over time. The results showed that Malaise increased to age 42 for those in the PRS before declining slightly to age 46. For those in SH, the increase in Malaise was steeper and continued to rise slightly to age 46. The disparity in scores grows as cohort members (CMs) age, showing that the stage of life of an individual is important when looking at tenure effects and wellbeing. However, previous research has highlighted the fact that the environment in which a child grows up can have an impact in later life (Soaita et al, 2020). As discussed in chapter two of this research, growing up in poor housing conditions can cause health problems such as respiratory illnesses and impact child development. Children will also be subject to the negative psychosocial consequences of living in the PRS, however. This section highlights how children can be affected by common features of the PRS, focussing on the impact of insecurity on parental mental health, forced moves, families' lack of agency in making a 'home', and discrimination from landlords.

While children themselves may not be aware of the impact that insecurity may have, their parents' behaviours will impact them; increased housing insecurity and instability results in a higher risk of

unhealthy behaviours such as smoking and drinking (Mahony, 2020). Additionally, having a parent who has poor mental health is an established predictor of low mental wellbeing for children (Rees, 2019). It is therefore likely that lower mental wellbeing amongst parents resulting from or exacerbated by poor housing conditions, housing insecurity or housing instability, will have an impact on the wellbeing of their children. These issues are of course not confined to the PRS, but they are frequently found within it; of the three major tenures, problems around disrepair and damp are most commonly found in the PRS (Kemp, 2011). While very poor housing conditions can also be found in the owner-occupied sector, these households are usually older, rather than families with children (Bramley, Munro & Pawson, 2004).

The consequence of housing insecurity and instability is often needing to move home. This may be because a landlord has forced a tenant to move, or because a tenant feels they have to move because of disrepair, a bad relationship with their landlord, or high rents (JRF, 2020). Being forced to move from an area is argued to often be disruptive for families, as they are more likely to have a strong attachment to where they live (Bailey, Kearns & Livingston, 2012). This attachment is often important for health and wellbeing, as well as identity and security (Bailey, Kearns & Livingston, 2012). Social networks are also of great importance for families for the provision of both practical and emotional support (Bailey, 2020), which can be significantly disrupted by moving (JRF, 2020; Soaita et al, 2020). Bramley, Munro and Pawson (2004) highlight how some of the most vulnerable have a much-reduced bargaining power due to the urgency of their need and are therefore forced to stay in accommodation that is not suitable for them. De Santos (2012) also points to the high financial price paid by tenants who choose to stay in expensive areas in order to preserve existing, embedded networks.

As well as the immediate anxiety and stress of needing to move home, children's future outcomes can be put at risk, which can include socialisation, physical and mental health and educational outcomes. (Bailey, 2020; Coulter, 2017; Shelter, 2012). Gambaro and Joshi (2016) note that research has found that frequent moving can have a detrimental impact on young children, owing to severed ties with other adults and local networks that parents rely on for accessing services or support. The authors also state that mobility can undermine policy efforts that target deprived areas for children's services, such as Sure Start and the Neighbourhood Nursery Initiative, 'especially if it is the most vulnerable families who move out' (Gambaro & Joshi, 2016: p. 266). Research has found that moving three or more times in childhood is associated with negative outcomes such as delinquency and poor physical health (Mahoney, 2020), however, it is argued that other factors may explain this relationship. In research using the first five sweeps of the Millennium Cohort Study to investigate residential moves, Gambaro and Joshi (2016) find that negative impacts on children's development are explained by controlling for family stressors such as changes in employment status, family structure and insecure housing tenure.

Beyond the consequences outlined above, being unable to create a 'home' in the PRS is argued by Walsh (2019) to have a negative impact on a person's wellbeing and sense of security. As discussed earlier, being prevented from decorating and personalising a residence undermines families' ability to attribute their identity to it and to feel secure within it (Scanlon, 2015; McKee et al, 2017; Walsh, 2019). Many of those in the PRS with children have been found to be avoiding decorating even within the narrow limits that the tenure currently provides for, due to fear of accidental damage and the reprisals from landlords that would follow it (De Santos, 2012). Due to the uncertainty surrounding tenancy length (particularly in England), it may also not be deemed worth decorating a home given the expense.

Children may also be indirectly affected by discrimination from landlords, whom research has often found are reluctant to rent to families with children (McKee et al, 2019; Soaita et al, 2020), meaning they are forced to stay in or accept poorly suited accommodation. Welfare claimants have also been found to face discrimination from landlords in the PRS (McKee et al, 2019; Meers, 2019), therefore compounding the problems faced by these families. This can potentially exclude families receiving welfare from whole neighbourhoods (Meers, 2019; Richardson, 2018). In general, additional housing stressors are commonly experienced by those in the bottom end of the PRS; poorer tenants are more likely to live in accommodation that is of a poor standard (Crook, 2002a). This is argued to often be because landlords in these cases own properties with an 'investment motive' and do not keep them to a high standard of repair, as this will affect income potential (Crook, 2002a). Kemp (2011) states that poorer PRS tenants are significantly more likely to be couples with children or lone parents than to have no children, with particularly high levels of poverty amongst single parents. Children living in single-parent households have been found to have lower wellbeing than those in two-parent household, although this link weakens or becomes statistically insignificant once factors such as household income or parental mental health are accounted for (Patalay & Fitzsimons, 2016; Rees & Bradshaw, 2018; Rees, 2019).

The evidence discussed above shows that there may be stratification in children's mental wellbeing between housing tenures, owing to issues commonly found in the PRS, but also arising from the insecurity inherent to it. This research builds on the evidence by investigating the relationship between living in the PRS in childhood and mental wellbeing, providing a large-scale quantitative analysis using longitudinal data. Controlling for the effect of income, sex, education and other factors identified as important in the literature, over several decades, allows the research to establish whether the there is a disparity in outcomes between tenures in later life. This addresses the second research question, which asks:

RQ2: Does growing up in the UK PRS impact mental wellbeing in later life?

The next section of the chapter details how mental wellbeing is modelled in this research using BCS70 and MCS data and what variables the models include.

5.3 Modelling experience of the PRS as a child

5.3.1 Modelling Malaise score (1970 British Cohort Study)

As explained previously, Malaise score follows a Poisson distribution and therefore necessities non-linear regression. Generalised Linear Mixed Models (GLMMs) provide the means of modelling the longitudinal data, incorporating a non-linear dependent variable and multiple measurement occasions (see section 4.3.1 for further explanation). Table 5.1 details the variables included in the GLMMs for modelling Malaise as a function of experience of the PRS as a child over time. This expands upon the preceding chapter that investigated differences between tenures over time. The table shows whether each variable is 'fixed' or 'longitudinal', i.e., whether it is time-invariant or time-variant. An explanation

of what information the variable captures is also given. As explained in chapter three, the ability to include both of these types of variables is an advantage of the random effects model, of which GLMMs are an example.

Tenure information was provided by parents of CMs in sweep 2-4, from which a dichotomous variable indicating whether a CM was present in the PRS for at least one sweep during childhood was derived, as seen in chapter three. A variable was then derived for the models described in this chapter that captures the present tenure (at each sweep) for those who were in the PRS as a child. The proportion of the sample in each group remains mostly stable at each sweep of the survey. 90% of CMs did not live in the PRS in sweeps two, three or four. Of those that did, 6% were owner-occupiers in each sweep from five onwards, 1% were in SH, 1% were in the PRS, and around 1% and 0.5 % were in 'other' and rent-free accommodation, respectively.

Table 5. 0.1 Variables included in the GLMMs (modelling Malaise score from BCS70)

	Variable Description	Measurement type	Detail
Dependent variable	Malaise score	Longitudinal	Score on the Malaise scale.
ID	Cohort member ID	Fixed	Individual CM ID, used for random intercept term.
Age	Measurement occasion	Longitudinal	Successive sweep of the BCS70.
Controls	Disability status (1 = Disabled)	Longitudinal	Whether CM is classed as disabled.
	Sex (1 = Female)	Fixed	Sex of CM.
	Ethnicity (ref.: White)	Fixed	Ethnicity of CM, from sweep two.
	Country of residence (ref.: England)	Longitudinal	Country in which CM lives.
	Relationship breakdown (1 = Yes)	Longitudinal	CM's relationship status
	Degree-level qualification (1 = Yes)	Longitudinal	Whether CM has a degree or not.
	Net weekly income (log)	Longitudinal	CMs' net weekly income.
	Employment status (ref.: full-time employment)	Longitudinal	CMs' employment status.
	High number of home moves in childhood (1 = Yes)	Fixed	Reported to have moved four or more times in childhood sweeps.
	Poor parental mental health in CMs' childhood (1 = Yes)	Fixed	High malaise score during CM's childhood.
Explanatory variables	Housing tenure (ref.: Home-owner)	Longitudinal	Which housing tenure CM lives in.
	Experience of the PRS as a child (1 = Yes)	Longitudinal	Whether CM was in PRS in sweeps 2, 3 or 4.
	Current tenure for those with experience of PRS as a child (ref.: no exposure to PRS as child)	Longitudinal	Whether CM was in PRS in sweeps 2, 3 or 4 and which tenure they are currently in, if so.
	Interaction terms	Longitudinal	Interaction terms for the explanatory variables with measurement occasion.

The control variables outlined above account for those factors usually included in the study of wellbeing, such as education level, disability and employment status, which are known to have a confounding effect on wellbeing (Rees, 2019). As explained in section 5.2 of this chapter, housing conditions are particularly poor in the PRS and this has been found to cause anxiety amongst tenants, as well as physical health problems (Marsh & Gibb, 2019; Soaita et al, 2020). However, of the possible indicators to show poor physical housing conditions during childhood, only the presence of damp in the home could be derived. A variable capturing the person-per-room-ratio, as an indicator of overcrowding, was also derived from the information provided at each sweep. Neither of these variables were deemed precise enough to be reliable measures and were thus not included in the final models after finding that they did not improve model fit. In line with the multilevel modelling literature, these variables were removed in order to avoid needlessly complex models (Hox, 2010). Other variables identified as important were unable to be derived reliably due to measurement differences between sweeps of the BCS70, or having been included in the survey in too few sweeps. Namely, these are indicators of CMs' social networks as adults, or of their savings.

5.3.2 Generalised Linear Mixed Model results (BCS70)

GLMM models 1-6, presented throughout this section, show the results of modelling Malaise as a function of tenure and of experience of the PRS as a child, as shown in tables 5.3, 5.4 and 5.5. As seen in section 3.4.2, malaise score ranges from zero to nine, with a score of four or more considered to be indicative of anxiety or depression (Gondek et al, 2021). However, as explained in chapter four section 4.4, the coefficient is the logarithm of the Malaise score, due to the Poisson distribution being 'linked' to the normal distribution via the log-link function in GLMMs (see section 4.3.1 for explanation of the models). The coefficient is therefore not easily interpreted, but by exponentiating the coefficient, the multiplicative factor by which the score is changed is obtained as a Rate Ratio (RR) (Roeback & Legler, 2021). This is because Poisson models are multiplicative, rather than additive as in linear regression (Atkins, 2012). For example, taking the RR for *Female* in model one (M1) (as shown in table 5.3), we see that female respondents have an RR of 1.254 and thus exhibit a 25% higher Malaise score than men, holding other factors constant.

Table 5.2 shows models one and two, which incorporate the control variables as seen in the previous chapter. Those with a degree are also shown to have a Malaise score 8% lower than those without, which is statistically significant. While those CMs who employed part-time have a 3% higher Malaise score than those employed full-time, unemployed CMs exhibit a score 58% higher score. A large, significant effect on Malaise score is also seen for those who are disabled, at 70% higher than those who are not. Additionally, each increase in net weekly income (included as the logarithm in the model) decreases Malaise score significantly by 15%. Black and Asian CMs have malaise scores of +3% and -2% in comparison to White CMs, respectively, neither of which is significant. Those classed as *Other* ethnicity are too small a group to be considered for statistical significance. The variable *Relationship breakdown* captures those who were married and/or cohabiting with a partner in the preceding sweep who then report being single (and not cohabiting), separated, divorced or widowed in the successive

sweep. Appendix VI shows model M3 with a reparameterisation of relationship status, however *relationship breakdown* is deemed more relevant to this research and increases model fit (as measured by drop-in-deviance score), and is thus reported here. Those CMs reporting a relationship breakdown exhibit significantly different scores than those who did not, at +5%. The effects of both a high number of house moves in childhood and high parental malaise in childhood (both taken from early-life sweeps) are negligible and statistically insignificant. Scottish CMs are shown to have a slightly lower malaise score than English CMs, while the opposite is true of those CMs from Wales. Neither effect is significant, however.

Table 5. 0.2 Summary of results of modelling malaise score as a function of tenure (M1 & M2). Source: British Cohort Study 1970

Variable		M1		M2	
			RR	Coeff. (SE)	RR
(Intercept)		0.426 (0.049) ***		0.337 (0.050) ***	
Age		0.027 (0.004) ***	1.027	0.034 (0.004) ***	1.035
Female (1 = Yes)		0.226 (0.018) ***	1.254	0.231 (0.018) ***	1.260
Ethnicity (ref.: White)	Black	0.026 (0.067)	1.026	0.028 (0.067)	1.028
	Asian	-0.016 (0.052)	0.984	-0.016 (0.052)	0.984
	Other	0.332 (0.110) **	1.394	0.332 (0.110) **	1.394
Relationship breakdown (1 = Yes)		0.046 (0.013) ***	1.047	0.040 (0.013) ***	1.041
Has Degree (1 = Yes)		-0.088 (0.016) ***	0.916	-0.076 (0.016) ***	0.927
Employed (ref.: full-time)	Part-time	0.033 (0.017) *	1.034	0.035 (0.017) *	1.036
	Not employed	0.454 (0.027) ***	1.575	0.441 (0.027) ***	1.554
Net income per week (log)		-0.163 (0.020) ***	0.850	-0.149 (0.020) ***	0.862
Disabled (1 = Yes)		0.530 (0.076) ***	1.699	0.525 (0.076) ***	1.690
Country (ref.: England)	Scotland	-0.009 (0.031)	0.991	-0.010 (0.031)	0.990
	Wales	0.016 (0.039)	1.016	0.018 (0.039)	1.018
High Parental Malaise (1 = Yes)		0.001 (0.014)	1.001	0.001 (0.014)	1.001
High no. moves in childhood (1 = Yes)		-0.002 (0.004)	0.998	-0.002 (0.004)	0.998
Tenure (ref.: Home-owner)	SH			0.144 (0.022) ***	1.155
	PRS			0.127 (0.019) ***	1.135
	Rent free			0.085 (0.036)*	1.089
	Other[1]			0.009 (0.025)	1.009

*Note: coefficients represent log estimates; RR represents the Rate Ratio as the exponentiated coefficient; Standard errors are shown in brackets; *** p<0.001; ** p<0.01; * p<0.05.* [1]*See appendix I for discussion.*

Without the interaction terms with *Age,* M1 and M2 show estimates at baseline, or *i=0* (age 26). As explained in section 4.3.1, successive sweeps of the survey are parameterised as *Time,* ranging from zero to four, rather than as year of measurement or CM age. This parameterisation enables direct interpretation of the intercept at the first measurement occasion and aids interpretation in general

(Hox, 2010). However, for ease of interpretation *Time* is reported as *Age* in the model results. The effect of an additional unit of *Age* is shown to give a wellbeing scores 4% higher than baseline for the reference group in M2 and 3% in M1.

M3 (table 5.3) shows the results of including the variable capturing whether CMs were in the PRS in childhood for each tenure. Significant results are seen for those living in owner-occupation, SH or the PRS and who lived in the PRS in at least one of sweeps 2-4 (information on tenure was not collected in the birth sweep). Controlling for having exposure to the PRS as a child does not alter the main tenure effects drastically. Those in SH exhibit a 16% higher score than homeowners in M2 and 15% higher in M3, while private renters have a 14% higher score than homeowners in both M2 and M3. Those living rent free have a 9% higher score in M2 but a 10% higher score once exposure to the PRS as a child is controlled for. Those in the 'other' tenure group do not exhibit scores significantly different to homeowners in M2 or M3 and the coefficient estimated is small.

Table 5. 0.3 Summary of results of modelling malaise score as a function of experience of the PRS as a child (M3 and M4). Source: British Cohort Study 1970

Variable		M3		M4	
		Coeff. (SE)	RR	Coeff. (SE)	RR
Intercept		0.326 (0.050) ***		0.326 (0.050) ***	
Age		0.034 (0.004) ***	1.034	0.034 (0.004) ***	1.034
Female (1 = Yes)		0.231 (0.018) ***	1.259	0.231 (0.018) ***	1.259
Ethnicity (ref.: White)	Black	0.027 (0.067)	1.027	0.028 (0.067)	1.028
	Asian	-0.016 (0.052)	0.984	-0.016 (0.052)	0.984
	Other	0.331 (0.110) **	1.392	0.335 (0.110) **	1.398
Relationship breakdown (1 = Yes)		0.041 (0.013) **	1.042	0.041 (0.013) **	1.042
Has Degree (1 = Yes)		-0.078 (0.016) ***	0.925	-0.076 (0.016) ***	0.927
Employed (ref.: full-time)	Part-time	0.035 (0.017) *	1.036	0.035 (0.017) *	1.036
	Not employed	0.440 (0.027) ***	1.553	0.440 (0.027) ***	1.553
Net income per week (log)		-0.148 (0.020) ***	0.864	-0.146 (0.020) ***	0.864
Disabled (1 = Yes)		0.527 (0.075) ***	1.680	0.530 (0.076) ***	1.699
Country (ref.: England)	Scotland	-0.010 (0.031)	0.990	-0.012 (0.031)	0.988
	Wales	0.016 (0.039)	1.016	0.016 (0.039)	1.016
High Parental Malaise (1 = Yes)		0.001 (0.014)	1.001	0.003 (0.014)	1.003
High no. moves in childhood (1 = Yes)		-0.002 (0.004)	0.998	-0.004 (0.004)	0.996
Tenure (ref.: Home-owner)	SH	0.145 (0.022) ***	1.145	0.137 (0.023) ***	1.147
	PRS	0.127 (0.019) ***	1.135	0.122 (0.020) ***	1.127
	Rent free	0.085 (0.036) *	1.097	0.093 (0.037) *	1.097
	Other[1]	0.018 (0.020)	1.018	0.012 (0.021)	1.012
Exposure to PRS as child (binary) (1 = Yes)	Yes	0.065 (0.029) *	1.067		
Exposure to PRS as child (ref.: no)	Yes: now Owner			0.071 (0.031) *	1.074
	Yes: now PRS			0.118 (0.058) *	1.125
	Yes: now SH			0.149 (0.067) *	1.161
	Yes: now RF			-0.146 (0.117)	0.864
	Yes: now Other[1]			-0.068 (0.067)	0.934

*Note: coefficients represent log estimates; RR represents the Rate Ratio as the exponentiated coefficient; Standard errors are shown in brackets; *** p<0.001; ** p<0.01; * p<0.05. [1]See appendix I for discussion.*

In M4, exposure to the PRS is re-parameterised to show which tenure those who were exposed to the PRS as children were in at each adult sweep. Significant results are estimated for those in owner-occupation, PRS and SH, who have scores 7%, 13% and 16% higher than those who did not live in the PRS in childhood, respectively. The above results (M1 to M4) give the baseline effects of the covariates,

i.e., the effects at age 26. To see the effect of living in the PRS in childhood on outcomes over time, interaction terms for tenure groups with experience of the PRS and *Age* were included in M5, as seen table 5.4. Significant interactions terms in M5 mean that the null hypothesis, that those with exposure to the PRS in childhood do not have significantly different wellbeing trajectories, is rejected. The coefficients and RRs for M5 are similar to M6, which incorporates polynomial functions of *Age.* As in the model with tenure only (section 4.3.3), cubic functions of *Age* are significant and are shown in M6 (table 5.4). Significant polynomial functions of *Age* mean that the relationship seen between wellbeing and age is non-linear. Amongst those who were exposed to the PRS in at least one of sweeps 2-4, significant interaction effects were estimated for owner-occupiers, PRS tenants and SH tenants.

Table 5.4 Summary of results from modelling malaise score as a function of age and experience of the PRS as a child (M5 & M6). Source: British Cohort Study 1970

Variable		M5		M6	
		Coeff. (SE)	RR	Coeff. (SE)	RR
Intercept		0.325 (0.050) ***		0.332 (0.054) ***	
Age		0.037 (0.004) ***	0.749	0.033 (0.004) ***	1.034
Age^2				0.194 (0.018) ***	1.214
Age^3				-0.030 (0.003) ***	0.970
Female (1 = Yes)		0.231 (0.018) ***	1.260	0.231*** (0.018)	1.260
Ethnicity (ref.: White)	Black	0.028 (0.067)	1.028	0.028 (0.067)	1.028
	Asian	-0.016 (0.052)	0.984	-0.018 (0.052)	0.982
	Other	0.332 (0.110) **	1.394	0.331 (0.109) **	1.392
Relationship breakdown (1 = Yes)		0.040 (0.013) **	1.041	0.041 (0.013) **	1.042
Has Degree (1 = Yes)		-0.075 (0.016) ***	0.928	-0.078 (0.016) ***	0.925
Employed (ref.: full-time)	Part-time	0.035 (0.017) *	1.036	0.036 (0.017) *	1.037
	Not employed	0.370 (0.027) ***	1.553	0.440 (0.027) ***	1.553
Net income per week (log)		-0.149 (0.020) ***	0.862	-0.146 (0.020) ***	0.864
Disabled (1 = Yes)		0.532 (0.076) ***	1.702	0.519 (0.075) ***	1.680
Country (ref.: England)	Scotland	-0.010 (0.031)	0.990	-0.010 (0.031)	0.989
	Wales	0.018 (0.039)	1.018	0.018 (0.039)	1.018
High Parental Malaise (1 = Yes)		0.001 (0.014)	1.001	0.001 (0.014)	1.001
High no. moves in childhood (1 = Yes)		-0.002 (0.004)	0.998	-0.004 (0.004)	0.996
Tenure (ref.: owner-occupier)	SH	0.139 (0.024) ***	1.149	0.136 (0.023) ***	1.146
	PRS	0.124 (0.020) ***	1.132	0.20 (0.020) ***	1.221
	Rent free	0.093 (0.037) *	1.097	0.093 (0.037) *	1.097
	Other[1]	0.011 (0.023)	1.011	0.011 (0.023)	1.011
Experience of PRS as child (ref.: no)	Yes: now Owner	0.148 (0.045) **	1.160	0.143 (0.045) **	1.154
	Yes: now PRS	0.275 (0.084) **	0.923	0.277 (0.084) ***	1.319
	Yes: now SH	0.057 (0.040)	1.099	-0.027 (0.105)	0.973
	Yes: now RF	0.054 (0.123)	0.868	0.107 (0.240)	1.113
	Yes: now Other[1]	-0.016 (0.048)	0.984	-0.079 (0.078)	0.924
Interactions	Age* Yes: Owner	-0.038 (0.015) *	0.963	-0.037 (0.015) *	0.964
	Age* Yes: PRS	-0.096 (0.035) **	0.908	-0.096 (0.035) **	0.908
	Age* Yes: SH	0.091 (0.040) *	1.095	0.089 (0.040) *	1.093
	Age* Yes: RF	-0.138 (0.121)	0.871	-0.137 (0.120)	0.872
	Age* Yes: Other[1]	-0.041 (0.049)	0.960	-0.031 (0.048)	0.969

*Note: coefficients represent log estimates; RR represents the Rate Ratio as the exponentiated coefficient; Standard errors are shown in brackets; *** p<0.001; ** p<0.01; * p<0.05. [1]See appendix I for discussion.*

Taking the estimates from M6 (as shown in table 5.5), the percentage difference at successive measurement occasions can be calculated as the sum of the exponentiated tenure coefficient and the exponentiated interaction coefficient multiplied by the number successive measurement occasions. At age 26, the malaise scores for owner-occupiers, private renters and social renters with experience of the PRS as a child are estimated to be 15%, 32% and –2.6% compared to those without such experience, respectively. Of these groups, Malaise score decreases for those in the PRS and owner-occupation over time, while it increases for SH. At age 46, those in SH have a score 39% higher than those without experience of the PRS as child, while those in the PRS and owner-occupiers have scores 10% and 1% lower, respectively.

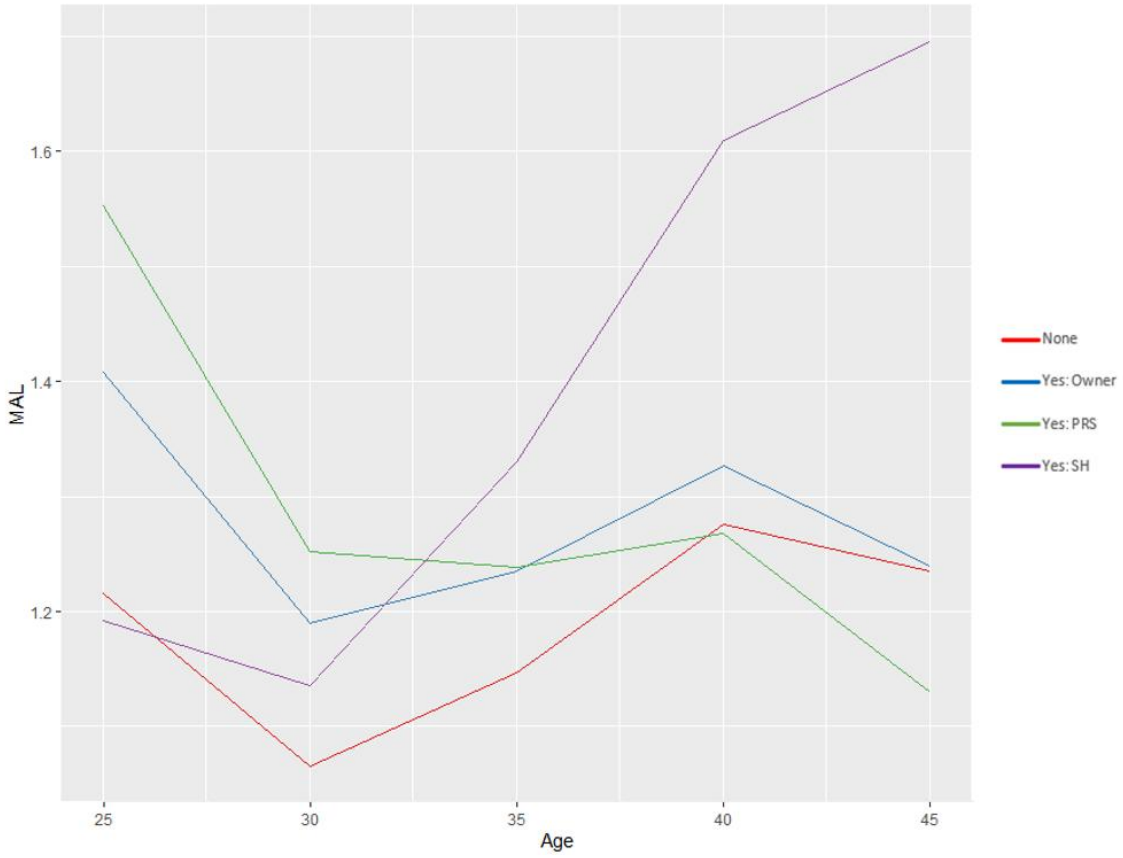

Figure 5.1 Predicted Malaise score trajectories for those with exposure to the PRS as a child (by adult tenure group) (Source: own compilation of BCS70 data)

The interaction effects are best understood visually and are shown in figure 5.1. Figure 5.1 shows the significant differences in the predicted malaise scores between tenures; while owners, those with no time in the PRS as children and PRS tenants show a moderate to steep decrease in malaise from *i=0* (age 26) to *i=1* (age 30), those in SH exhibit only a shallow decline. Malaise then increases for all tenure groups, with the increase being particularly steep for those living in SH. Scores amongst those in SH continue to increase after 42, albeit less steeply, while all others decrease.

5.4 Wellbeing at age 17: modelling SWEMWBS (Millenium Cohort Study)

5.4.1 Modelling procedure for MCS data

By modelling Warwick-Edinburgh Mental Wellbeing Score (WEMWBS) from the Millennium Cohort Study, this research is able to analyse a different measure of mental wellbeing for a younger cohort than the BCS70. As discussed in chapter three, there are substantial differences in the economic, social and housing landscapes that these cohorts have grown in. For example, when those in the MCS cohort were born, house prices relative to income were drastically higher than in 1970, while the mortgaged owner-occupied sector accounted for the largest proportion of households. In 1970, before the deregulation of the mortgage market, house prices were closer to wages and those who owned their home predominantly did so outright (see figure 2.2 in chapter two). This makes any differences (or indeed, similarities) in outcomes substantively interesting. In contrast to the GLMMs using BCS70 data, modelling Malaise over time, the linear models analyse WEMWBS at age 17. This allows for a rich set of controls to be included in the models that have been found to impact mental wellbeing for young people, such as a young person's relationship with their mother, whether they are bullied, and the frequency with which they use social media. As explained in chapter three, WEMWBS follows a normal distribution, therefore linear models were estimated and no link function is needed (as in GLMMs and GLMs). Equation 5.1 shows the notation for model one (see table 5.6) using the variable labels:

$$SWEMWBS_j = \beta 0 + \beta_1 Age_{1j} + \beta_2 NotWhite_{2j} + \beta_3 Female_{3j} + \beta_4 Country_{4j} + \beta_5 HealthConds_{5j} + e_j \quad (5.1)$$

Where $\beta 0$ is the intercept, β_1 is the coefficient of x_1, which is interpreted as the change in y for a 1-unit change in x_1 (*Age*) controlling for the effect of x_2 (*Not White*), and e is the error term. Later models incorporate interaction terms, such as that for *Poor Parental Wellbeing* and *Sweeps in PRS,* incorporated as $\beta_{18} ParentWellbeing_j * SweepsPRS_j$.

Each sweep of the MCS contains a number of rich data sets relating to the CM and their family, enabling a wide range of variables to be included in the models. As well as basic demographic information, this includes answers CMs gave relating to factors such as having been bullied or their level of exercise. Parents' answers on things such as employment and housing were also included, as well as a number of variables derived from previous sweeps of the survey. The full list of variables included in the models is detailed in Table 5.2.

The first group of variables included in the models captures demographic information for the CM. This includes age as, unlike the BCS70, CMs were sampled across a year in MCS1. In MCS7, CMs range from 16 to 18, with the majority being 17. Other information was not asked at every sweep and was thus taken from a previous sweep of the survey. This includes ethnicity and biological sex. Parent-level controls were then added to the model, including the main parents' age in sweep seven and their income. Variables were derived to indicate whether the households were single- or two-parent, as well as whether the household contained any parent in employment. A variable capturing parents' historical mental wellbeing score from sweeps 2-6, was also included in this level of controls. The last level of control variables pertain to CMs' lifestyle and relationships. These capture a CM's level of exercise, whether they are bullied, whether they argue with their mother, and how close the CM is to their mother. Explanatory variables are then incorporated into the models. These are tenure, housing

precarity, and exposure to the PRS in previous sweeps. Housing precarity is indicated by a variable showing whether CMs' parents states that they were forced to leave their previous home because they could no longer afford to live there, because they were evicted or repossessed, or because their tenancy was insecure.

Table 5.0.4 Variables included in linear models of MCS data for modelling SWEMWBS

Variable type		Variable name	Description
Dependent variable		Warwick-Edinburgh Mental Wellbeing Score	Sum of questions replaced with metric score.
Controls	CM-level demographic information	Age	Age in MCS7.
		Non-white ethnicity (1 = Yes)	Ethnicity, from MCS6,
		Sex (1 = Female).	Biological sex, from MCS6.
		Long-term health condition (1 = Yes).	Whether any long-term health conditions or disabilities in MCS7
		Country (ref.: England)	Country of residence in MCS7.
	Parent-level variables	Age (ref.: 17)	Age in MCS7.
		One-parent household (1 = Yes)	Family structure in MCS7; whether one- or two-parent family.
		Income (ref.: Quintile 1)	Income as banded quintiles.
		Whether no parent in household employment (1 = Yes)	If one parent (in one-parent households) or both parents (in two-parent households) are unemployed in MCS7.
		Parent historical mental wellbeing	Average mental health score (from Kessler inventory) across sweeps two to six.
	CM-level variables	Exercise level (ref.: None)	Level of CMs' exercise.
		Whether bullied (ref.: No)	Whether CM is bullied.
		Whether argues with mother (ref.: Hardly ever)	Frequency of arguing with mother, taken from MCS6.
		How close CM is to mother (ref.: Extremely)	How close CM considers themselves to be, taken from MCS6.
Explanatory variables		Housing tenure (ref.: Owner-occupied)	Housing tenure in MCS7.
		Housing precarity	CM's parent reported having to leave previous home because of financial reasons, because they were evicted/repossessed, or because the tenancy was insecure.
		PRS exposure in early years	How many sweeps was CM living in PRS prior to MCS7.

The variables included in models using the MCS data are taken from across the seven sweeps of the survey, thus utilising the longitudinal data despite the analysis technique being cross-sectional. Sweep seven is the first to collect information of the CMs' mental wellbeing and in general focusses more on the CM than the parent. This is reflected in the fact that some variables taken from the parent-only datasets of previous sweeps are not available in sweep seven, therefore must be taken from the preceding sweep. Variables that match this description include information on a CM's ethnicity and

biological sex, as well as those regarding a CM's relationship to their mother, and are highlighted in table 5.5. Other variables are derived from a range of sweeps prior to MCS7, including those capturing PRS exposure in a CM's early years, or parents' historical mental health score. The latter is based on the Kessler inventory which, like Malaise score, is a measure of non-specific psychological distress. The inventory is widely used in health research (Fitzsimons et al, 2020) and is included in this research in such a way as to indicate whether a person has severe, moderate or low mental distress (Prochaska et al, 2012). The other control variables outlined in table 5.5 are those often used in mental health research on young people and have been shown to have an impact on wellbeing. These include family-level variables such as whether it is a one-parent family, or CM-level variables such as how regularly they exercise. As well as assessing correlations between variables and graphical checks before regression analysis, diagnostic tests were performed on the fitted models to ensure the assumptions of the models were not violated.

The method by which exposure to the PRS is captured in the models using the MCS clearly differs from that used for the BCS70 analysis. As the most recent sweep of the survey is the only sweep to collect information on CMs' wellbeing, the data must be analysed cross-sectionally. As CMs are mostly aged 17 in MCS7, the focus of this section of the analysis is whether those young people in the PRS show different wellbeing scores to those in other tenures, and the impact of being in the PRS as a child on scores later in life. Tenure information is available in this sweep and so differences in wellbeing between the tenures can be investigated, while historical information from previous sweeps on the MCS shows whether CMs were present in the PRS or other tenures in their early life.

5.4.2 Millenium Cohort Study data: linear model results (MCS)

Tables 5.6 and 5.7 show the results of the linear regression models estimated using the MCS data. Models one to five include different groups of control variables; only CM-level demographic control variables are initially included, before adding parent- or household-level variables, and finally variables relating the CMs' lifestyle and relationships. As Short Warwick-Edinburgh Mental Wellbeing Score (sWEMWBS) is normally distributed, these models were estimated using linear regression, making interpretation of the coefficients straightforward as linear models are additive. In contrast to Malaise score, a lower SWEMWBS score is of indicative poorer mental health. As explained in section 2.4.3 of chapter two, the UK population mean for SWEMWBS is 23 (Ng Fat et al, 2017), as is the estimated intercept in M1. To give context to the scores, the University of Warwick (2023) states that, if using a categorical approach in the analysis of SWEMWBS in which the score is banded, a score of 19-20 is indicative of possible mild depression and 18 or less is indicative of probable clinical depression. For example, the (statistically insignificant) coefficient of -0.3 for Welsh CMs in M1 is therefore not large, whereas the significant difference seen between those CMs with a long-term health condition and those without (-1.7) is substantial. While this research does not use the categorical approach outlined above, this is useful in understanding the differences in group means estimated by the models.

M1 estimates that female CMs have a wellbeing score 1.2 lower than male CMs, controlling for other the factors in the model. M2 sees the addition of parent-level controls and shows those in the fifth income quintile have scores 0.6 higher than the lowest quintile. The coefficients estimated for the other income quintiles do not differ significantly from the first. CMs who have parents with poor mental wellbeing (as measured by average Kessler score from sweeps 1-6) have significantly lower wellbeing scores. In M3, those with parents with moderately high psychological distress have a score 0.4 lower than those whose parents do not have high Kessler scores. Those whose parents are classed as having severely poor wellbeing scores have a statistically significant coefficient of -2.3. the coefficient for the variable indicating that no-one in the household is employed is significant, with an effect of -0.84. Variables capturing the CMs' main parents' age and whether they were in a single-parent household do not show significantly different scores to the reference group and have a negligible effect, however they remain substantively interesting as controls and their removal does not improve model fit, thus they remain in the model. In M4, categorical variables relating to CMs' exercise level and whether they are bullied are added. The more exercise done by the CM results in a higher wellbeing score, with those in the 'high' frequency group being estimated to have a score 1.2 higher than those in the group who report doing no exercise. Significantly higher scores are also seen for those who do 'some' or 'moderate' exercise, at +0.4 and +0.8, respectively. Being 'somewhat' bullied is also estimated to significantly lower a CM's wellbeing by 1.9 points, while being 'definitely' bullied lowers it by 2.5 points.

Table 5.0.5 Summary of results from modelling SWEMWBS (M1-M4). Source: Millennium Cohort Study

Variable		Model			
		(1)	(2)	(3)	(4)
(Intercept)		23.42 (0.08)***	23.28 (0.16)***	23.52 (0.57)***	23.12 (0.57)***
CM age	16	-0.14 (0.09)	-0.06 (0.11)	0.02 (0.12)	-0.03 (0.12)
	18	-0.55 (0.87)	-0.35 (1.13)	-0.81 (1.22)	-1.11 (1.20)
Not White (1 = Yes)		-0.01 (0.12)	0.11 (0.17)	0.19 (0.20)	0.14 (0.19)
Female (1 = Yes)		-1.24 (0.08)***	-1.29 (0.11)***	-1.23 (0.12)***	-1.07 (0.11)***
Country (ref.: England)	Wales	-0.34 (0.20)	-0.37 (0.24)	-0.23 (0.27)	-0.16 (0.26)
	Scotland	0.01 (0.16)	-0.06 (0.19)	-0.16 (0.20)	-0.14 (0.20)
	NI	0.60 (0.25)*	0.65 (0.29)*	0.43 (0.33)	0.47 (0.32)
Health conds. (1 = Yes)		-1.69 (0.11)***	-1.47 (0.14)***	-1.47 (0.16)***	-1.24 (0.16)***
Parent Age			0.01 (0.01)	0.00 (0.01)	0.00 (0.01)
Lone parent family (1 = Yes)			-1.05 (0.25)***	-1.02 (0.25)***	-0.94 (0.25)***
Income Quintile (ref.: 1)	2		0.04 (0.18)	-0.33 (0.21)	-0.33 (0.21)
	3		0.09 (0.18)	-0.36 (0.21)	-0.40 (0.21)
	4		0.12 (0.18)	-0.19 (0.21)	-0.28 (0.21)
	5		0.61 (0.17)***	0.17 (0.21)	-0.01 (0.21)
Poor parental mental wellbeing (ref.: no)	Moderate			-0.41 (0.16)**	-0.36 (0.15)*
	Severe			-2.33 (0.75)**	-1.88 (0.74)*
No-one working (1 = Yes)				-0.84 (0.31)**	-0.72 (0.30)*
Exercise level (ref.: none)	Some				0.36 (0.16)*
	Moderate				0.83 (0.17)***
	High				1.20 (0.18)***
Bullied (ref.: no)	Yes, somewhat				-1.94 (0.19)***
	Yes, definitely				-2.54 (0.50)***
R^2 (adj.)		0.051	0.093	0.122	0.137

*Note: Standard errors are shown in brackets; *** p<0.001; ** p<0.01; * p<0.05. [1]See appendix I for discussion.*

Model five includes two additional variables relating to the CMs' relationship with their mother, finding that those who report being closest to their mother and arguing with them less frequently have the highest wellbeing scores. For example, those who are 'not very' close to their mother have a significant coefficient of -2.1 against the reference group, while those who report arguing with their mother 'most days' have a score 1.2 lower than those who 'hardly ever' do so.

Tenure categories are included as independent variables in M6. Table 5.6 shows that CMs in social housing (SH) are estimated to exhibit wellbeing scores 0.5 lower than those in owner-occupied housing, which is significant at the 0.05 level. For those in the PRS, a significant coefficient of -0.8 is estimated, controlling for the other variables in the model. The effect for those in PRS is statistically significant. Once tenure is incorporated in the model, the coefficient for *No-one working* becomes insignificant. All other parent-level controls become insignificant with the addition of variables capturing tenure and PRS exposure, apart from that which indicates whether the CM lives in a single-parent household. This effect is moderated very slightly from -0.9 to -0.8 between M5 and M7.

With the addition of the independent variables, significant differences between the wellbeing of those in the PRS and those in owner-occupation are again found. The null hypothesis, that those in the PRS at age 17 do not have significantly different wellbeing scores to those in owner-occupation, is rejected. The effect of exposure to the PRS as a child is statistically significant in its effect on wellbeing for those who were in the PRS in one sweep of MCS1-MCS6. The effect is moderately strong, at –0.8, while no significant effect is seen for those with two or more sweeps in the PRS prior to MCS7. CMs whose housing situation is classed as precarious (see table 5.2) are estimated to have a wellbeing score of -1.7 in comparison to the reference group. The effect of living in SH becomes insignificant with the addition of these variables (in M7). Models incorporating interactions terms with tenure (such as income) do not show statistically significant results and do not moderate the tenure effect.

Table 5. 0.6 Summary of results from modelling SWEMWBS (M5-7). Source: Millennium Cohort Study

Variable		Model		
		(5)	(6)	(7)
(Intercept)		23.43 (0.57)***	24.02 (0.59)***	24.11 (0.60)***
CM age (ref.: 17)	16	0.00 (0.12)	0.00 (0.12)	0.01 (0.12)
	18	-0.72 (1.18)	0.69 (1.30)	0.65 (1.30)
Not White (1 = Yes)		0.15 (0.19)	0.14 (0.19)	0.13 (0.19)
Female (1 = Yes)		-0.93 (0.11)***	-0.94 (0.12)***	-0.93 (0.12)***
Country (ref.: England)	Wales	-0.21 (0.26)	-0.22 (0.26)	-0.24 (0.26)
	Scotland	-0.16 (0.20)	-0.18 (0.20)	-0.20 (0.20)
	NI	0.59 (0.32)	0.58 (0.32)	0.60 (0.32)
Health conds. (1 = Yes)		-1.21 (0.16)***	-1.22 (0.16)***	-1.21 (0.16)***
Parent Age		0.01 (0.01)	0.00 (0.01)	0.00 (0.01)
Lone parent family (1 = Yes)		-0.87 (0.25)***	-0.78 (0.25)**	-0.75 (0.25)**
Income Quintile (ref.: 1)	2	-0.20 (0.21)	-0.30 (0.21)	-0.28 (0.21)
	3	-0.23 (0.21)	-0.36 (0.21)	-0.35 (0.21)
	4	-0.17 (0.21)	-0.32 (0.21)	-0.30 (0.21)
	5	0.07 (0.21)	-0.08 (0.21)	-0.06 (0.21)
Poor parental mental wellbeing (ref.: no)	Moderate	-0.34 (0.15)*	-0.30 (0.15)	-0.53 (0.31)
	Severe	-1.27 (0.76)	-1.20 (0.76)	0.41 (0.22)
No-one working (1=Yes)		-0.70 (0.30)*	-0.54 (0.31)	-0.28 (0.15)
Exercise level (ref.: none)	Some	0.38 (0.16)*	0.38 (0.16)*	0.39 (0.16)*
	Moderate	0.88 (0.17)***	0.89 (0.17)***	0.90 (0.17)***
	High	1.28 (0.18)***	1.28 (0.18)***	1.27 (0.18)***
Bullied (ref.: no)	Somewhat	-1.77 (0.19)***	-1.76 (0.19)***	-1.78 (0.19)***
	Yes	-2.62 (0.50)***	-2.59 (0.50)***	-2.61 (0.50)***
How Close to mother (ref.: extremely)	Not very	-2.10 (0.46)***	-2.02 (0.46)***	-2.06 (0.46)***
	Fairly	-0.98 (0.19)***	-0.96 (0.19)***	-0.97 (0.19)***
	Very	-0.55 (0.12)***	-0.54 (0.12)***	-0.55 (0.12)***
Argues with mother (ref. hardly ever)	Most days	-1.20 (0.25)***	-1.22 (0.25)***	-1.18 (0.25)***
	>once a week	-1.03 (0.16)***	-1.06 (0.16)***	-1.06 (0.16)***
	<once a week	-0.76 (0.14)***	-0.79 (0.14)***	-0.79 (0.14)***
	Never	0.03 (0.29)	-0.07 (0.29)	-0.08 (0.29)
Tenure (ref.: owner-occupation)	SH		-0.50 (0.20)*	-0.46 (0.25)
	PRS		-0.75 (0.28)**	-0.89 (0.30)**
	Other[1]		-0.04 (0.57)	0.10 (0.58)
Sweeps in PRS (MCS1-MCS6)	1			-0.82 (0.27)**
	2+			0.36 (0.34)
Precarity (1 = Yes)				-1.65 (0.76)*
R^2 (adj.)		0.139	0.142	0.156

*Note: Standard errors are shown in brackets; *** p<0.001; ** p<0.01; * p<0.05; [1]See appendix I for discussion.*

Table 5.8 includes interaction terms between poor parental mental wellbeing, long-term health condition and number of sweeps in the PRS prior to MCS7. The main effects for the variables included in the interactions are displayed above the interaction terms, while all other coefficients remain very similar to the previous models and are thus included in appendix VII. M8 shows that CMs who have a parent with moderately poor mental wellbeing and were in the PRS in one sweep prior to MCS7 have significantly poorer wellbeing themselves, in addition to the main effects, with an interaction effect of -1.4. CMs who were in the PRS for two or more sweeps prior to MCS7 and whose main parent has a moderately poor mental wellbeing score exhibit an interaction effect of -1.0, however this is not significant at the 0.05 level. Interaction terms for those with a parent who has 'severely' poor mental wellbeing are based on groups too small for statistical inference. A large and significant interaction is also seen between having a long-term health condition and living in the PRS for two or more sweeps before MCS7, with an effect estimated at -1.8.

Table 5.8 Partial summary of results from modelling SWEMWBS (M8-9). Source: Millennium Cohort Study

Variable		Model	
		(8)	(9)
Poor parental mental wellbeing (ref.: no)	Moderate	-0.12 (0.17)	-0.28 (0.15)
	Severe	-1.20 (0.83)	-1.17 (0.76)
Health conds. (1 = Yes)		-1.21 (0.16)***	-1.16 (0.17)***
Sweeps in PRS (MCS1-MCS6)	1	-0.46 (0.31)	-0.94 (0.30)**
	2+	0.82 (0.32)*	0.79 (0.30)**
Poor parental mental wellbeing × Sweeps in PRS (MCS1-MCS6)	Moderate × One	-1.41 (0.61)*	
	Severe × One	-1.06 (3.91)	
	Moderate × 2	-1.03 (0.59)	
	Severe × 2	-0.31 (2.23)	
Health conditions × Sweeps in PRS (MCS1-MCS6)	Yes × One		0.66 (0.70)
	Yes × 2		-1.75 (0.73)*
R^2 (adj.)	0.158	0.159	0.158

*Note: Standard errors are shown in brackets; *** p<0.001; ** p<0.01; * p<0.05;*

5.5 Discussion

This section brings together the results from the two types of modelling in this chapter and discusses their implications in light of the evidence presented in chapter two and summarised in the second section of this chapter. The effects estimated for the explanatory variables from the GLMMs are first outlined, with reference to the likely routes of influence on adult wellbeing from exposure to the PRS as children. The effects estimated in the linear models are then discussed together with the ways in which

children's wellbeing may be impacted by living in the PRS. The effects found for the control variables in all models and their implications are also outlined and compared to other research in the area.

As seen in chapter four, mental wellbeing trajectories differ between tenure groups. Those CMs in SH or the PRS exhibit higher malaise scores than those in owner-occupation. The models in this chapter show an additional effect; higher malaise scores are seen for those in all three major tenures who were exposed to the PRS as children. This is particularly the case for those living in the PRS at age 26, who show a 32% higher malaise score than those who did not live in the PRS as children. As seen in figure 5.1, those without experience of the PRS as a child have lower malaise scores throughout the majority of their lives than those in any tenure with such experience. By the time the cohort reaches age 46, those with exposure to the PRS as children who go on to live in the PRS or in owner-occupation are estimated to have a malaise score similar to those who did not live in the PRS as children. However, for those who have this exposure who go on to live in SH as adults, malaise increases after age 30 to become higher than all other groups, and continues to increase after age 42, albeit less steeply. Following deregulation of SH and its subsequent residualisation in the latter half of the 20th century (Bailey, 2020), problems of building quality and the lack of funds available to housing providers for maintenance (Williams, 2007) could impact the mental health of tenants in ways they did not in young adulthood. The fact that those in SH in middle age are likely to have very few resources (Kemp & Kofner, 2010; Mahony, 2020) may also explain part of the effect seen over time. Again, it is possible that the types of neighbourhoods in which SH is concentrated also have a role in the deterioration in tenants' mental health over time, which may be particularly felt amongst those who lived in the PRS in childhood given the likely insecurity of their families' situation.

The models therefore show that living in the PRS as a child has a generalisable and long-lasting negative effect on wellbeing. It is likely that factors previously identified in qualitative research drive these effects. These include the impact of insecurity on parents' mental health (Soaita et al, 2020), the lack of agency over housing decisions for PRS tenants (Atkinson, 2015; Coulter, 2017), and feelings of stigmatisation for not owning a home (Scanlon, 2015; McKee et al, 2017). Young people could also feel stigmatised due to social norms surrounding tenure that privilege owner-occupation. The culture around home improvement and décor highlighted by Gurney (1999), and specifically tenants' inability to enter into that culture, may impact young people in similar ways to adults. The lack of agency arising from the restrictions placed on households by private rental tenancy agreements is also likely to affect children living in those households as decoration and the keeping of pets is predominantly restricted (Soaita et al, 2020; McKee et al, 2019), which has been found to undermine families' sense of security (Scanlon, 2015; McKee et al, 2017; Walsh, 2019).

The linear models estimated on MCS data also find that young people living in the PRS have significantly lower wellbeing scores than those in owner-occupation. These models also find a substantial negative interaction effect for those CMs who have a long-term health condition and who have lived in the PRS in at least two sweeps before MCS7. As mentioned above, tenants have less agency over decision-making in regard to their home, which may include adaptations for those with long-term illnesses. This also includes improvements that may help control issues such as damp and mould, which can be a cause of health conditions and are known to have a higher rate of incidence in the PRS (Marsh & Gibb, 2019; Soaita et al, 2020). While neighbourhood characteristics were not able to be included in this analysis, it is possible that those with long-term health conditions face additional barriers to those in other tenures as the availability of services and facilities is poorer (Lister, 2005). In

conjunction with the fact that PRS housing has high levels of disrepair and unfitness (Lister, 2005), the wellbeing of children with health conditions could thus be adversely affected.

Many elements of the regression results delineated in this chapter support the findings of other research in the area. In particular, the above results show that wellbeing is found to be lower for women, for those without a degree, for those not employed or employed part-time, for the disabled, and for those earning less. Malaise scores also increase for those CMs who have experienced a relationship breakdown. As in other research analysing wellbeing and age (Gondek et al, 2021), models reporting interactions with age show that the relationship between age and wellbeing is non-linear. This is exhibited by significant polynomial terms in GLMM model six. Malaise decreases into the early 30s before increasing into the 40s, where for most it then slightly decreases again. This overall trajectory mirrors Gondek et al's (2021) findings from their analysis of three British cohort studies. Unlike other research in this area that does not have a Britain-wide focus (Rees & Bradshaw, 2018; Rees, 2019), the negative impact on wellbeing experienced by those living in single-parent households is significant after factors such as income, parental mental health and other household contextual variables are accounted for in the MCS linear models. Those CMs in the highest household income quintile are estimated to have higher wellbeing, but other quintiles do not show wellbeing scores significantly different from the lowest. However, after including variables capturing whether anyone in the household is in employment, parental income's effect becomes insignificant in the linear models. In the GLMMs, both employment and income remain significant for the adult CMs once the explanatory variables have been included in the model. This implies that each variable has a distinct effect on wellbeing throughout their lives, while parental income and employment concurrently do not have for young people.

Early-life variables such as high parental malaise score in childhood, damp, and number of moves in childhood are not significant and do not improve model fit in the BCS70 GLMMs. As early-life variables, rather than longitudinal measures, this may be due to attrition, meaning that these indicators are less precise. It may instead be that the effect of factors such as multiple moves are accounted for by other variables, as has been found in other research (Gambaro & Joshi, 2016). The linear models using MCS data, however, find a moderate (negative) effect for those CMs whose parents have moderately poor wellbeing scores, and a substantial effect for those whose parents had severely poor wellbeing scores. The latter becomes insignificant when tenure is incorporated into the model. Tenure effects are significant for those in the PRS in the MCS linear models also, with a moderately large effect estimated. Additionally, those CMs who have been in the PRS in one of the previous six sweeps of the survey have a moderately strong coefficient of -0.8. A substantial and significant negative effect is seen for those CMs who have been exposed to the PRS in younger years and whose main parent has moderately poor mental wellbeing. The direction of causality cannot be ascertained from a single study, but it is likely that characteristics inherent to the PRS in its current form may exacerbate the negative impact of having a parent with poor mental health on the child's wellbeing. As the negative effect of living in the PRS on adults' wellbeing has been shown in the models using BCS70 data in this chapter, it is reasonable to conclude that this has a negative impact on children. The most vulnerable in society, such as those in poverty, experience the negative effects of tenure insecurity most acutely, in part because the threat of eviction will have the most detrimental impact on those with the least resources (Bone, 2014; Atkinson, 2015).

Housing insecurity or instability has also been found to result in a higher risk of unhealthy behaviours such as smoking and drinking (Mahoney, 2020), which may have knock-on effects for tenants' children. Housing precarity, as measured by having experienced a forced move in the previous sweep of the survey, is also shown to have a significantly negative impact on wellbeing. This definition of a forced

move includes those who have had to leave their previous home because they could no longer afford to live there, because they were evicted or repossessed, because of changes in benefit rules, or because of a lack of tenure security or permanence. Arguably, all of these circumstances constitute a 'forced move', as the tenant feels they have no choice but to move. This is not how forced moves are typically conceived in the literature, however. Rhodes and Rugg (2018) state that most tenancies end because the tenant chooses to move, therefore only conceiving a forced move as one instigated by a landlord. While the effect of this measure is both moderately strong and significant, it does not moderate the tenure effect for those living in the PRS at age 17, which remains significant. The effect of a high frequency of residential moves in general on children's development was found by Gambaro and Joshi (2016) to be insignificant after controlling for changes in employment status, family structure and insecure housing tenure. A high number of moves in childhood was also found to be insignificant in the GLMMs presented in this research. It is also possible that these indicators of housing precarity may not have effects picked up on in the chosen wellbeing measures; the impact of severed social ties or loss of support for parents may not be felt at age 17, but may impact future outcomes (Bailey, 2020; Coulter, 2017; Shelter, 2012). This could be a factor in the disparity in wellbeing scores seen in the GLMMs.

Other indicators relating to the landlord/tenant power disparity, beyond the indicator of precarity highlighted above, could not be controlled for. For example, it is not possible to know to what extent the effect of tenure on wellbeing may reflect tenants struggling to find a home in the PRS due to landlords' reluctance to let housing to them, as found by McKee et al (2019) and Soaita et al (2020). As mentioned earlier in this section, tenants and their children may be forced to stay in housing that doesn't meet their needs as a result of a reduced bargaining power (Bramley, Munro & Pawson, 2004). It is possible that this explains the significant effect found in the MCS models between CMs who have a long-term health condition and who have been present in the PRS for multiple sweeps of the survey. Another element of landlord discrimination found in qualitative research is an unwillingness to let homes to benefit recipients. This research found those who receiving some income from benefits have significantly worse wellbeing. However, the effect is not strong and interactions with tenure are insignificant, therefore the results do not show that benefit recipients in different tenures show significantly different wellbeing outcomes from each other.

5.6 Conclusion

The results presented in this chapter answer RQ2:

Does exposure to the UK PRS in childhood impact mental wellbeing in later life?

This represents the first time that the impact of growing up in the UK PRS has been investigated using longitudinal data. The regression models using BCS70 and MCS data show that there is a significant negative effect on wellbeing from living in the PRS at various ages, particularly for those who were exposed to the PRS in younger years. The GLMMs, using BCS70 data, are a type of model that predict individual trajectories by nesting measurement occasions within cohort members. This means both time-varying and time-invariant predictors can be included in the models, thus utilising the available data in an extensive and robust way. The results of modelling this data show that malaise increases into middle-age, after decreasing between 26 and the early 30s. As shown in the previous chapter, there is a disparity between tenure groups as individuals age, with those in the PRS and SH exhibiting worse

wellbeing than across the life-course than those in owner-occupation. For those who grow up in the PRS, however, wellbeing remains worse throughout most of life. This is true for those with exposure to the PRS as children who then live in owner-occupation or the PRS as adults, but particularly for those who then live in SH; the latter exhibit wellbeing far poorer by middle age than other tenure groups and those who did not live in the PRS as children, with wellbeing outcomes continuing to decline to age 46. Linear regression models estimating wellbeing outcomes at age 17 using longitudinal and cross-sectional information from the MCS show that those in the PRS again exhibit poorer scores. After controlling for a wide range of CM- and parent-level factors that may influence an individual's wellbeing, the models show that those who have experienced housing precarity or who have lived in the PRS in younger years also have worse outcomes. There is an additional negative effect for those who have lived in the PRS in younger years and whose parents have experienced moderately poor mental wellbeing, as well as for those young people who have long-term health conditions and have lived in the PRS for more extensive periods of time. It is suggested that factors identified in qualitative research as impacting tenants, such as a lack of agency over their housing decisions and an imbalance of power in their relationship with their landlord, as well as less suitable housing and tenure insecurity, may drive the effects seen. This research contributes to the evidence by using reliable data and robust modelling techniques, as well as by showing, for the first time, that the relationship found between growing up in the PRS and having poor wellbeing is widespread and statistically significant across the life-course.

6. Wellbeing outcomes for parents in the PRS

6.1 Introduction

This chapter addresses the third and final research question, as stated in chapter two:

RQ3: Do PRS tenants with children exhibit different mental wellbeing outcomes than those without?

The following section provides a background to the area, explaining some of the changes that have been seen in the PRS and other tenures since the mid-20th century and issues affecting families specifically. Based on the literature reviewed in chapter two and summarised here, it is hypothesised that wellbeing for parents in the PRS will be poorer than for those in owner-occupation. To investigate these outcomes longitudinally, Generalised Linear Mixed Models (GLMMs) are estimated using BCS70 data. These models are introduced in Section 6.3 before the results are presented. Generalised Linear Models are also estimated on the age 46 (sweep 10) data of the BCS70 in order to further investigate wellbeing outcomes in mid-life. These models and their results are presented in section 6.4. Discussion of the results of these two types of models and how they answer the research question takes place in section 6.5.

6.2 Background

This section summarises the evidence detailed in chapter two pertaining to the experience of families in the PRS. This includes the socio-economic stratification that has grown in the sector and how this has resulted in disparities in the experience of renting for different types of households with children. As well as the implications of living in the bottom-end of the PRS market, such as poor housing conditions and unscrupulous landlords, issues found across the sector are explained to affect those tenants with dependent children. This includes the ability to make a home in the PRS, tenure insecurity, and the impact of societal expectations surrounding home-ownership.

Beneath the overall changes in the proportion of households living in the UK PRS lies a marked increase in the heterogeneity of the sector. In particular, families with children have increased as a proportion of the PRS substantially, for example from 10% of the English PRS in 1999 to almost 20% in 2019 (MCLG, 2020). The reduction in SH stock through the RTB and through reduced local authority budgets has meant that many households who would have previously been housed in this tenure now live in the PRS and receive Local Housing Allowance (LHA) (Marsh & Gibb, 2019), while high house prices, stagnant wages and difficulties in accessing mortgage credit have kept many more affluent families in the sector (Gibb et al, 2019). Additionally, the Homelessness Prevention Act 2017 means that local authorities are using the PRS to meet homelessness-related duties (Marsh & Gibb, 2019).

Bailey (2020) writes that the focus on younger, wealthier households in the PRS who have been priced out of owner-occupation (the so-called ‘Generation Rent’) obscures the stratification amongst renters: 42% of poor young adults lived in the PRS in 2018, double the proportion of 20 years before this. However, families' experiences remain under-researched. At a national level also, families are often not

the focus of policy concerning the PRS; while the demographic composition of the PRS has altered greatly in the recent past, there has not been a significant change in the structure of the tenure to accommodate those who require long-term contracts (Walsh, 2019; Coulter, 2017). Specifically, the sector has been framed in economic policy as a means by which to increase labour mobility and economic performance, due to its perceived flexibility and low costs (De Santos, 2012; Daly & Gulliver, 2014; Coulter, 2017). This denotes the stance of successive governments in the UK that have painted owner-occupation as the tenure to which citizens should aspire, with the continued expansion of the owner-occupied sector being a major policy goal (McKee et al, 2017). Much of the rhetoric surrounding this moralisation of home-ownership has involved extolling the benefits of owning a home for families and the upbringing of children in safety and security. The experience of families in the PRS thus stands in contrast to government messaging surrounding owner-occupation, as they are unlikely to aspire to 'flexibility' in their housing (De Santos, 2012). Increasingly, households have come to live in the PRS long-term, which marks a change from the tenure's previous role as an intermediate housing option during young adulthood (Bailey, 2020). As is explored in more detail below, this change bears particular significance given the way in which Assured Shorthold Tenancies (ASTs) have undermined the long-term security of tenants in the UK PRS.

As seen in chapter two, housing has established link with health and issues commonly found in the PRS specifically have been repeatedly shown to negatively affect tenants. Most notably this includes tenure insecurity, a lack of agency in housing decisions and poor housing conditions. In the past, a greater focus has been focussed on links between the physical conditions of the home and tenants' health, however more recent work come to consider the less tangible aspects of renting, such as affordability and insecurity (Clair et al, 2023). For example, Ong ViforJ et al (2022) investigated the impact of precarious housing on wellbeing, finding that tenants whose housing situation becomes precarious face poorer wellbeing outcomes that those in other tenures. Wellbeing can also be impacted by stigmatisation. Reflecting government policy as outlined above, societal expectations also valourise home-ownership, leading to negative effects on PRS tenants' wellbeing. Scanlon (2015) and Gurney (1999) find that owning a home is seen as a marker of success, responsibility and of being a good parent. Consequently, anything other than home-ownership is seen as 'wrong' even by younger generations (McKee et al, 2015), while those who are renting in later life feel stigmatised by society for doing so (Scanlon, 2015; McKee et al, 2017). The effect of high housing costs for has also been found to be a particular concern in the PRS, with Angel and Gregory (2021) stating that there is robust evidence of its negative impact on wellbeing, while Clair et al (2023) argue that poor health consequences can be avoided by policy making the tenure more affordable.

Policy to make the PRS more secure is also argued by several authors to be needed in order to meet a growing need for long-term residence in the sector (Acolin, 2020; Madden & Marcuse, 2019; Clair et al, 2023). While regulatory change in other parts of the UK has meant that tenants do not face possible eviction upon the end of a fixed-term contract, this is still the case in England, where promised reform (see the 2022 White Paper, *A Fairer Private Rented Sector)* has stalled. However, even where new tenant protections have been introduced, tenure insecurity is still present. For example, Scotland introduced private residential tenancies in 2016, in which landlords may still apply for eviction of tenants based on grounds including moving a family member into the property (Scottish Government, 2016). It is argued that families are affected particularly negatively by this lack of security, being unable to plan into the future and ensure stability in children's lives (Bailey, 2020). In lauding the mobility enabled by the PRS, the UK government highlights a dissonance between its view of the sector and the aspirations of many of those within it. In particular, families would prefer to have more long-term security and the protection of local networks (De Santos, 2012).

Being evicted from a home can have detrimental effects for both parents and children, while price rises can also result in families being forced out of an area (De Santos, 2012). ASTs introduced new powers that enabled landlords to increase rents within and between tenancies without limits, in contrast to regulated tenancies where rent officers decide on a below-market 'fair rent' (UK Government, 2009). Such moves can disrupt social networks (JRF, 2020; Soaita et al, 2020), with the cost of staying in a high-pressure area often meaning being forced into the bottom-end of the PRS (De Santos, 2012). As well as the connections families have forged, they are also likely to show strong attachment to their area, which is seen as positive for health, security and identity (Bailey et al, 2012). The above is also true for children, who may face negative effects on their socialisation, health and educational outcomes, especially if they are forced to move frequently (Coulter, 2017; Gambaro & Joshi, 2016; Shelter, 2012). Mobility can have effects beyond the individual household level, however. For example, Livingston et al (2008) found that high levels of turnover in area can lead to lower place attachment. High concentrations of student households can also exacerbate social fragmentation due to the separation between their and other populations' lifestyles, especially that of families (Kemp, 2011; Soaita et al, 2020). These factors perhaps constitute a part of the motivation for the UK government to state that families are poorly served by the PRS and that longer tenancies would enable greater stability (DCLG, 2016), and to produce the 2022 White Paper *A Fairer Private Rented Sector* that would grant tenants in England increased tenancy security, if enacted (DLUHC, 2022).

Of particular importance for families is the ability to plan into the future and to create a 'home' (Walsh, 2019). This can be acutely impacted by the insecurity inherent in tenancies, as discussed above, but also by restrictions surrounding the personalisation of tenants' homes (Scanlon, 2015; McKee et al, 2017; Walsh, 2019). Decorating and personalising the place in which a person lives is a key element in feeling 'at home', with several authors arguing that families' inability to do this has negative consequences for their sense of wellbeing and their capacity for attributing their identity to their home (Scanlon, 2015; McKee et al, 2017; Walsh, 2019). The vast majority of families in the PRS would like to be able to decorate, research has found, but many avoid even a basic level due to fear of losing their deposit (De Santos, 2012). De Santos (2012) found that families with children were in many cases already concerned about accidental damage and reprisals from their landlord, with many avoiding decorating in order to avoid additional stress. Proposed legislation in Scotland seeks to enable tenants to make minor decorations to their home and a right to request decoration such as the painting of walls (Scottish Government, 2024b). The Scottish Government states that many landlords consulted regarding the legislation acknowledge the wellbeing benefits that such agency can have for tenants (Scottish Government, 2024b).

As mentioned previously, poor housing conditions (such as damp, mould and disrepair) are often cited as a common feature of the UK PRS, which can have a detrimental impact on tenants' health (Lister, 2005; Rhodes & Rugg 2018). Anxiety surrounding the impact of poor housing conditions on the health of children is found particularly in the lower end of the PRS (Shelter, 2005; Soaita et al, 2020). However, in addition to concerns surrounding decoration, damage and deposits, the relationship between tenant and landlord is found to be a cause of particular anxiety with regard to disrepair (McKee et al, 2021). Negative responses to requests from tenants concerning repairs is found to create stress and possibly additional fear of rent increases or eviction, while positive responses can elicit health and wellbeing benefits for tenants (McKee et al, 2021). The threat of 'revenge eviction' has been found to dissuade many tenants from reporting disrepair (De Santos, 2012; Clarke et al, 2017), denoting the erosion of tenants' sense of agency that means poor standards are thought to often go unreported (Lister, 2002).

The above speaks particularly to the imbalance of power between the parties in the tenant-landlord relationship, with many tenants feeling that they do not have the ability or right to seek improved conditions (Lister, 2002). This situation is enabled particularly by ASTs. Section 21 of the Housing Act 1988 allows landlords to evict tenants outside of the fixed-term part of the tenancy agreement, in what has become known as 'no-fault' evictions (Walsh, 2019). This further disincentivises tenants from requesting repairs. This relationship is also negotiated at the individual tenancy-level, Marsh and Gibb (2019) explain, which is problematic in itself; even where landlords are not intentionally contravening regulations, the full extent of responsibilities and legal rights are often not known to either themselves or to tenants. It is argued that the lack of enforcement of regulations concerning the PRS places the burden of responsibility on tenants as they must instigate legal proceedings (Crook, 2002a), which also relies on tenants being aware of their rights.

It is suggested that poorer tenants are less likely to be renting as a lifestyle choice (Coulter, 2017) than is purported to be the case in explanations of the post-2000 expansion of the PRS (for example: Rhodes & Rugg, 2018). In fact, an increase in the proportion of children living in poor households in the PRS and simultaneous decline in those living in SH speaks to a wider trend of those who cannot afford to own a home or access SH reluctantly living in the PRS (Marsh & Gibb, 2019). There are significant differences between the characteristics of poor and non-poor households in the PRS, Kemp (2011) finds, including a higher likelihood that poor households will have dependent children. Their concentration in the bottom-end of the PRS is of significance, owing to the discrimination that is often reported in the sector. While those on lower or unstable incomes and benefit recipients already face being excluded from many rental properties (Hoolachan et al, 2016), landlords have been found to routinely discriminate against families with children (Crook & Kemp, 1996; McKee et al, 2019; Soaita et al, 2020). Families and those who receive LHA also routinely find that the conditions that are applied to deposits for tenancies, such as meeting an income threshold or having a guarantor, effectively exclude them from many properties (McKee et al, 2019). Soaita et al (2020) state that such discrimination places migrant families at a distinct disadvantage as they may lack the social networks or language proficiency needed to navigate the system and secure alternative housing. Discrimination against the above groups is of particular relevance since welfare recipients have increasingly come to be housed in the PRS and because the Homelessness Reduction Act 2017 has seen local authorities using the sector to provide accommodation for those experiencing homelessness (Marsh & Gibb, 2019).

The evidence outlined above demonstrates that living in the PRS can have additional stresses for families. Tenure insecurity, the burden of housing costs and negative consequences from forced moves have all been found to acutely impact families in the sector. Additionally, families have been shown to be particularly impacted by their lack of agency in making housing decisions, with discrimination from landlords compounding difficulties in accessing suitable housing that they may already face. The findings of the previous chapters also show that the wellbeing differences between those in each of the main housing tenures is significant across adulthood, as well as for those that have been exposed to the PRS in childhood. This chapter thus investigates these effects in greater detail, ascertaining whether those with children in the PRS have significantly different wellbeing outcomes to those in the other tenures. This addresses the third and final research question:

RQ3: Do PRS tenants with children exhibit different mental wellbeing outcomes than those without?

As in the previous chapters, this RQ is addressed using generalised linear mixed models (GLMMs) of BCS70 data to estimate wellbeing trajectories for individuals in each housing tenure. Generalised linear

models (GLMs) of BCS70 sweep 10 (age 46) data are also undertaken to triangulate the effects seen in the GLMMs at a single measurement occasion. The following section explains how these models were estimated and their results.

6.3 Modelling wellbeing for parents in the PRS over time

6.3.1 Modelling procedure: Generalised Linear Mixed Models

As in the previous chapters, a 'bottom-up' approach (Goldstein, 2011) to estimating the random-effects regression models was undertaken with the BCS70 data. This entails first fitting the unconditional model, including only measurement occasion (sweep number) and the random effects term (i.e., the second-level term, in this case cohort member ID). Subsequently, control variables are incorporated individually into the model with likelihood-ratio testing undertaken with each addition to test for significant differences between the models. Independent variables are then added before further diagnostic tests.

Malaise score remains the dependent variable as a measure of wellbeing, with GLMMs undertaken to model the data longitudinally and to account for the non-linear distribution of the score. The control and independent variables are listed in table 6.1. The control variables are those commonly used in wellbeing and health research, having been found to have a confounding effect with wellbeing. An explanation of the coding and/or derivation process for each of the variables is detailed in the appendices. The models also include the explanatory variables of relevance to this research that have been found in the previous chapters to have a significant effect on wellbeing, namely housing tenure itself and having experience of the PRS as a child. In controlling for these effects, the models presented in this chapter therefore investigate any additional effect of having a child in the household in each of the major tenures.

A full explanation of the advantages of GLMMs in the modelling of longitudinal data is found in chapter three. However, table 6.1 details whether variables used in the GLMMs are 'longitudinal' or 'fixed', i.e., whether they are measured at every measurement occasion included in the model (and therefore can vary) or not. The ability to incorporate both time-variant and invariant variables is one particular advantage of using random effects models, of which GLMMs are an example. In order to do this, measurement occasion is placed at level one in a hierarchical structure, with individual (the cohort member) at level two (see section 4.3.1 for further explanation). Table 6.1 also shows that measurement occasion is labelled as *Age*. It is presented in this way in the model results in section 6.3.2 in order to aid interpretation but, as explained in section 4.3.1, the models incorporate measurement occasion as *Time,* ranging from *i=0* (age 26) to *i=4* (age 46). Having measurement occasion parameterised in this way results in a clearly interpretable coefficient. The GLMMs also incorporate variables indicating whether CMs have a child in the household, differentiated by tenure. These variables are used to estimate trajectories (with *Age*) rather than using three-way interaction terms to make interpretation and visualisation more straightforward as well as to make models more parsimonious.

Table 6. 0.1 Variables included in the GLMMs of BCS70 data. Source: 1970 British Cohort Study

	Variable Description	Measurement type	Detail
Dependent variable	Malaise score	Longitudinal	Score on the Malaise scale.
ID	Cohort member ID	Fixed	Individual CM ID, used for random intercept term.
Age	Measurement occasion	Longitudinal	Successive sweep of the BCS70.
Controls	Disability status (1 = Disabled)	Longitudinal	Whether CM is classed as disabled.
	Sex (1 = Female)	Fixed	Sex of CM.
	Ethnicity (ref.: White)	Fixed	Ethnicity of CM, from sweep two.
	Relationship breakdown (1 = Yes)	Longitudinal	Whether CMs had relationship breakdown since previous sweep.
	Degree-level qualification (1 = Yes)	Longitudinal	Whether CM has a degree or not.
	Net weekly income	Longitudinal	CMs' net weekly income.
	Employment status (ref.: full-time employment)	Longitudinal	CMs' employment status.
Explanatory variables	High number of home moves in childhood (1 = Yes)	Fixed	Reported to have moved four or more times in childhood sweeps.
	Poor parental mental health in CMs' childhood (1 = Yes)	Fixed	High malaise score during CM's childhood.
	Housing tenure (ref.: Home-owner)	Longitudinal	Which housing tenure CM lives in.
	Experience of the PRS as a child (1 = Yes)	Longitudinal	Whether CM was in PRS in sweeps 2, 3 or 4.
	Whether CM has a child in the household, by tenure (ref.: no)	Longitudinal	Whether or not there is a child in the household and, if so, the CM's current tenure.
	Interaction terms	Longitudinal	Interaction terms for the explanatory variables with measurement occasion.

6.3.2 Model results

The results of estimating models one and two are presented in table 6.2. M1 models malaise score as a function of the control variables, while M2 incorporates housing tenure. These models are the same as those shown in the previous chapters, showing that there is a significantly higher malaise score seen for those in the PRS or in SH in comparison with those in owner-occupation. Without interactions with *Age* these models show baseline effects, however section 4.3.3 shows that these interaction effects are significant, meaning that these significant disparities remain so across the life-course. As these models have shown, there is a significant difference in malaise score for those in the PRS and SH in comparison to owner-occupation, with the disparity between the tenures growing over time and being widest at age

46. Most effects seen for the control variables are significant, with the strongest effects being estimated for being female (+25%), unemployed (+58%) or disabled (+70%).

Table 6. 0.2 Summary of results from modelling CMs' malaise score with control variables (M1 & M2). Source: 1970 British Cohort Study

Variable		M1		M2	
		Coeff. (SE)	RR	Coeff. (SE)	RR
(Intercept)		0.426 (0.049) ***		0.337 (0.050) ***	
Age		0.027 (0.004) ***	1.027	0.034 (0.004) ***	1.035
Female (1 = Yes)		0.226 (0.018) ***	1.254	0.231 (0.018) ***	1.260
Ethnicity (ref.: White)	Black	0.026 (0.067)	1.026	0.028 (0.067)	1.028
	Asian	-0.016 (0.052)	0.984	-0.016 (0.052)	0.984
	Other	0.332 (0.110) **	1.394	0.332 (0.110) **	1.394
Relationship breakdown (1 = Yes)		0.046 (0.013) ***	1.047	0.040 (0.013) ***	1.041
Has Degree (1 = Yes)		-0.088 (0.016) ***	0.916	-0.076 (0.016) ***	0.927
Employed (ref.: full-time)	Part-time	0.033 (0.017) *	1.034	0.035 (0.017) *	1.036
	Not employed	0.454 (0.027) ***	1.575	0.441 (0.027) ***	1.554
Net income per week		-0.163 (0.020) ***	0.850	-0.149 (0.020) ***	0.862
Disabled (1 = Yes)		0.530 (0.076) ***	1.699	0.525 (0.076) ***	1.690
Country (ref.: England)	Scotland	-0.009 (0.031)	0.991	-0.010 (0.031)	0.990
	Wales	0.016 (0.039)	1.016	0.018 (0.039)	1.018
High Parental Malaise (1 = Yes)		0.001 (0.014)	1.001	0.001 (0.014)	1.001
High no. moves in childhood (1 = Yes)		-0.002 (0.004)	0.998	-0.002 (0.004)	0.998
Tenure (ref.: Home-owner)	SH			0.144 (0.022) ***	1.155
	PRS			0.127 (0.019) ***	1.135
	Rent free			0.085 (0.036)*	1.089
	Other[1]			0.009 (0.025)	1.009

*Note: coefficients represent log estimates; RR represents the Rate Ratio as the exponentiated coefficient; Standard errors are shown in brackets; *** p<0.001; ** p<0.01; * p<0.05.*

As seen in the previous chapter, M4 estimates the effect of living in the PRS as a child, parameterised as a binary variable, which is significant. Those who have such experience have a malaise score 7% higher than those who do not. Further analysis incorporating interaction effects with age showed that, until age 30, this effect was most pronounced for those in the PRS. Beyond age 30, those in SH showed the most negative effect, with a large disparity seen between malaise scores for those in this tenure and those in others (see section 5.3.2 for the full results of this model).

Table 6. 0.3 Summary of results from modelling CMs' malaise score with control variables (M3 & M4). Source: 1970 British Cohort Study

Variable		M3		M4	
		Coeff. (SE)	RR	Coeff. (SE)	RR
(Intercept)		0.426 (0.049) ***		0.337 (0.050) ***	
Age		0.027 (0.004) ***	1.027	0.034 (0.004) ***	1.035
Female (1 = Yes)		0.226 (0.018) ***	1.254	0.231 (0.018) ***	1.260
Ethnicity (ref.: White)	Black	0.026 (0.067)	1.026	0.028 (0.067)	1.028
	Asian	-0.016 (0.052)	0.984	-0.016 (0.052)	0.984
	Other	0.332 (0.110) **	1.394	0.332 (0.110) **	1.394
Relationship breakdown (1 = Yes)		0.046 (0.013) ***	1.047	0.040 (0.013) ***	1.041
Has Degree (1 = Yes)		-0.088 (0.016) ***	0.916	-0.076 (0.016) ***	0.927
Employed (ref.: full-time)	Part-time	0.033 (0.017) *	1.034	0.035 (0.017) *	1.036
	Not employed	0.454 (0.027) ***	1.575	0.441 (0.027) ***	1.554
Net income per week		-0.163 (0.020) ***	0.850	-0.149 (0.020) ***	0.862
Disabled (1 = Yes)		0.530 (0.076) ***	1.699	0.525 (0.076) ***	1.690
Country (ref.: England)	Scotland	-0.009 (0.031)	0.991	-0.010 (0.031)	0.990
	Wales	0.016 (0.039)	1.016	0.018 (0.039)	1.018
High Parental Malaise (1 = Yes)		0.001 (0.014)	1.001	0.001 (0.014)	1.001
High no. moves in childhood (1 = Yes)		-0.002 (0.004)	0.998	-0.002 (0.004)	0.998
Tenure (ref.: Home-owner)	SH	0.144 (0.022) ***	1.155	0.144 (0.022) ***	1.155
	PRS	0.127 (0.019) ***	1.135	0.127 (0.019) ***	1.135
	Rent free	0.085 (0.036)*	1.089	0.085 (0.036)*	1.089
	Other[1]	0.009 (0.025)	1.009	0.009 (0.025)	1.009
Exposure to PRS as child (binary) (1 = Yes)				0.065 (0.029) *	1.067

*Note: coefficients represent log estimates; RR represents the Rate Ratio as the exponentiated coefficient; Standard errors are shown in brackets; *** p<0.001; ** p<0.01; * p<0.05.*

M5 includes variables relating to whether CMs have a child in their household and, if so, which tenure they reside in. In comparison to the reference group (those CMs who do not have a child in their household), only those with a child who are in owner-occupied housing exhibit a significant coefficient at baseline. This group is estimated to have a 4% lower malaise score than the reference group when all other variables are controlled for. A 1% lower score is estimated for those in the PRS or SH with a child, however this effect is insignificant. No substantial changes amongst the coefficients estimated for the control variables occur in comparison to the previous model and there are no changes in the significance (or lack thereof) from that estimated in M4. The coefficients for the main tenure effects also remain 14% and 13% higher than that of owner-occupation, respectively.

Table 6. 0.4 Summary of results from modelling CMs' malaise score over time as a function of tenure (M5 & M6). Source: 1970 British Cohort Study

Variable		M5		M6	
		Coeff. (SE)	RR	Coeff. (SE)	RR
(Intercept)		0.342 (0.060) ***		0.388 (0.055) ***	1.474
Age		0.037 (0.005) ***	1.038	0.027 (0.007) ***	1.027
Female (1 = Yes)		0.226 (0.019) ***	1.254	0.223 (0.019) ***	1.250
Ethnicity (ref.: White)	Black	0.026 (0.067)	1.026	0.026 (0.067)	1.026
	Asian	-0.020 (0.052)	0.980	-0.018 (0.052)	0.982
	Other	0.350 (0.110) **	1.419	0.350 (0.108) **	1.419
Relationship breakdown (1 = Yes)		0.031 (0.013) *	1.031	0.031 (0.013) *	1.031
Has Degree (1 = Yes)		-0.081 (0.017) ***	0.922	-0.077 (0.017) ***	0.926
Employed (ref.: full-time)	Part-time	0.053 (0.018) **	1.054	0.053 (0.018) **	1.054
	Not employed	0.433 (0.030) ***	1.542	0.427 (0.030) ***	1.533
Net income per week		-0.152 (0.023) ***	0.859	-0.167 (0.021) ***	0.846
Disabled (1 = Yes)		0.534 (0.076) ***	1.706	0.538 (0.083) ***	1.713
Country (ref.: England)	Scotland	-0.015 (0.030)	0.985	-0.014 (0.030)	0.986
	Wales	0.003 (0.037)	1.003	0.004 (0.037)	1.004
High Parental Malaise (1 = Yes)		0.011 (0.013)	1.011	0.011 (0.013)	1.011
High no. moves in childhood (1 = Yes)		-0.001 (0.003)	0.999	-0.001 (0.003)	0.999
Tenure (ref.: Home-owner)	SH	0.130 (0.039) ***	1.139	0.131 (0.039) ***	1.140
	PRS	0.121 (0.024) ***	1.129	0.116 (0.024) ***	1.123
	Rent free	0.078 (0.042)	1.081	0.079 (0.042)	1.082
	Other1	0.008 (0.028)	1.008	0.009 (0.028)	1.009
Exposure to PRS as child (binary) (1 = Yes)		0.061 (0.031) *	1.063	0.060 (0.030) *	1.062
Whether has child in household, by tenure (ref.: no)	Yes: Owner	-0.039 (0.164) *	0.962	-0.077 (0.026) **	0.926
	Yes: PRS	-0.009 (0.042)	0.991	-0.144 (0.08)	0.866
	Yes: SH	-0.012 (0.044)	0.990	-0.101 (0.057)	0.904
	Yes: RF	-0.034 (0.084)	0.967	0.136 (0.179)	1.146
	Yes: Other[1]	-0.025 (0.054)	0.975	0.140 (0.094)	1.150
Has child in household (by tenure) x Age	Age x Yes: Owner			0.020 (0.10) *	1.020
	Age x Yes: SH			0.059 (0.028) *	1.061
	Age x Yes: PRS			0.048 (0.018) *	1.049
	Age x Yes: RF			-0.079 (0.075)	0.924
	Age x Yes: Other[1]			-0.028 (0.055)	0.972

*Note: coefficients represent log estimates; RR represents the Rate Ratio as the exponentiated coefficient; Standard errors are shown in brackets; *** p<0.001; ** p<0.01; * p<0.05.*

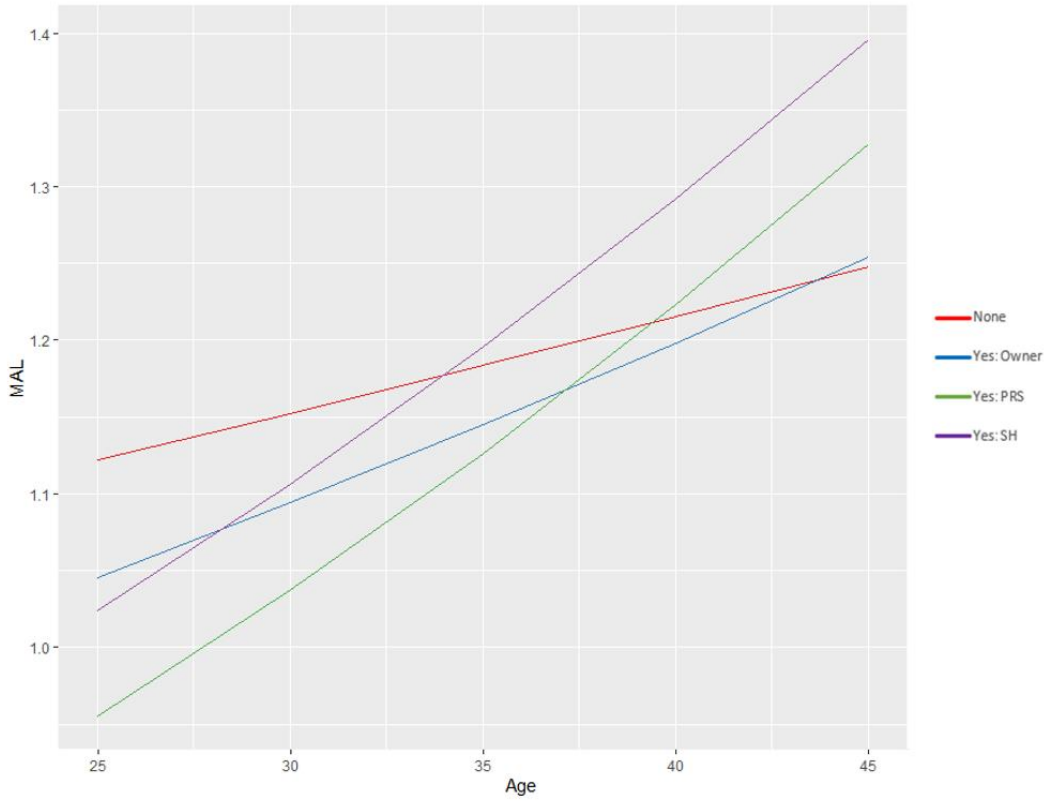

Figure 6.1 Predicted Malaise trajectories for households with children (by tenure group) (Source: own compilation of BCS70 data)

Interactions terms for age and having a child in the household are included in M6. While there is still no significant main effect for having a child in the household at baseline, there are significant interaction effects for the main three tenures. The null hypothesis, that those in the PRS with children in the household do not exhibit significantly different wellbeing trajectories, is therefore rejected. Figure 6.1 shows that, after age 34, malaise for those in both the PRS and SH who have a child in the household becomes higher than those who do not have a child, with the disparity between the estimated scores widening over time. Those in owner-occupation with a child exhibit a lower malaise score until age 46, where it becomes level with those who do not have a child. Models incorporating polynomial functions of age, as shown in previous chapters, were significant but resulted in convergence errors. Singer and Willet (2003) write that convergence errors may result from an over-specified model and therefore simplification of the model, particularly removing polynomial functions, should be undertaken. The simplified models (not incorporating polynomial age functions) did not result in errors and are therefore presented here.

6.4 Parents' wellbeing at age 46

6.4.1 Modelling procedure: Generalised Linear Models

Generalised linear models (GLMs) were estimated using data from sweep 10 of the BCS70 (at age 46) to analyse wellbeing outcomes for those in each of the UK's housing tenures in greater detail. The GLMMs discussed in the previous section estimate that the (significant) wellbeing gap between those with children in the three main tenures (owner-occupation, PRS and SH) grows over time. These findings, as well as the fact that additional variables of interest are present in the sweep 10 data that could not be modelled in the GLMMs, makes the analysis of data at this measurement occasion worthwhile. In contrast to the GLMMs presented in the previous section, these models do not model the data within a hierarchical structure (i.e., with multiple measurement occasions for each cohort member). While this means that the method of analysis is not longitudinal, longitudinal information is used to derive some variables that are included in the model. As mentioned above, analysis of sweep 10 data allows for the modelling of particular variables that were not able to be modelled in the GLMMs as they were not included in any/enough of the preceding sweeps of the BCS70. These variables act as indicators of concepts found to be substantively interesting in the research literature that can affect individuals' wellbeing and are thus modelled in the GLMs. Table 6.5 details the variables that are included in these models.

Table 6.0.5 Variables included in GLMs for wellbeing at age 46

Level	Name	Description
Dependent variable	Malaise score	Sum of questions replaced with metric score.
Controls	Sex (1 = Female)	Biological sex.
	Ethnicity (ref.: White)	Ethnicity category.
	Country (ref.: England)	Country of residence.
	Whether has degree-level qualification (1 = Yes)	Whether CM has a degree or higher-level qualification at age 46.
	Net income per week	Log of CMs' net income per week.
	Employment status (ref.: employed full-time)	Employment status at age 46.
	Long-term health condition (ref.: no long-term health condition).	Whether CM has long-term health condition and whether this limits day-to-day activity.
	Relationship breakdown (1 = Yes)	Whether CM has experienced a relationship breakdown since last sweep.
	Zero-hours contract (1 = Yes)	Whether CM is employed on a zero-hours contract.
	Parent had low wellbeing in CM's childhood (1 = Yes)	Main parent had high psychological distress in any of sweeps 1-4, as measured by malaise score.
	Meets friends (ref.: regularly)	How regularly CM meets friends at age 46.
	Meets family (ref.: regularly)	How regularly CM meets family members at age 46.
	Receives income from benefit(s) (1 = Yes)	Whether CM receives income from at least one benefit.
Explanatory variables	Housing tenure (ref.: Owner-occupation)	CM's current housing tenure.
	Whether has child in the household (1 = Yes)	Whether CM has a child living in the household at age 46.
	Whether has child in the household, by tenure (ref.: no)	Whether CM has child living in the household and if so, the CM's current tenure.

6.4.2 Model results

The results of estimating Generalised Linear Models using BCS70 age 46 (sweep 10) data are presented below. The tables give the Rate Ratio (RR) for each variable included in the model, which represents the exponentiated coefficient. The multiplicative effect that a unit change in each independent variable has on the dependent variable can then be ascertained from the RR. The coefficient must be interpreted in this way as the distribution of malaise score is non-normal and is thus 'linked' to the normal distribution through the log function in GLMs. For example, an RR of 1.22, as seen for *Female* in M1*,* means that female CMs are estimated to have a malaise score 22% higher than the reference group (in this case, male CMs) when all other variables in the model are controlled for.

M1 models CMs' estimated malaise score as a function of the control variables. This replicates models presented in chapter three, with the addition of *Exposure to PRS in childhood* as a control variable. The previous chapter showed the effect of having been exposed to the PRS in childhood on malaise score across the adult age-range to be significant and it is thus controlled for in the models presented in this section. Controlling for all other variables in the model, models 1-3 do not show a significant effect for *Exposure to PRS in childhood* on malaise at age 46, however. Significant effects are seen for being female and being Black, with scores estimated to be 22% and 33% higher in M1, respectively. A large positive effect is also found for having a long-term health condition. Those who report having such a condition but not being limited in day-to-day activity are estimated to have a 38% higher malaise score, while those who report being limited 'a bit' or 'a lot' are estimated to have scores 102% and 152% higher, respectively. Having a degree is estimated to result in malaise 13% lower than the reference group, when controlling for the other variables in the model. A moderate positive effect is also found for being employed on a zero-hours contract and for receiving income from at least one benefit. RRs for these variables are estimated to represent 15% and 8% higher malaise scores, respectively. While only a small effect is estimated for having a parent who exhibited high malaise in the CM's childhood (+6%) large effects are seen for sociability. In comparison to those who report meeting friends regularly, those meeting friends irregularly are estimated to have a 31% higher malaise score, while those never meeting friends have a score 51% higher. Significant effects continue to be estimated for tenure groups. CMs in the PRS have scores 11% higher than the reference group (owner-occupiers), while those in SH are estimated to exhibit a 19% higher malaise score.

Table 6.0.6 Summary of results from modelling CMs' malaise score at age 46 (GLMs) (M1-3). Source: 1970 British Cohort Study

Variable		M1	M2	M3
(Intercept)		1.13 (0.08)	1.16 (0.08) *	1.14 (0.08)
Female (ref.: Male)		1.22 (0.03) ***	1.23 (0.03) ***	1.23 (0.03) ***
Ethnicity (ref.: White)	Black	1.33 (0.13) **	1.33 (0.13) **	1.33 (0.13) **
	Asian	0.82 (0.10)	0.82 (0.10)	0.83 (0.10)
	Other	0.92 (0.17)	0.92 (0.17)	0.91 (0.17)
Country (ref.: England)	Wales	1.01 (0.04)	1.01 (0.04)	1.01 (0.04)
	Scotland	1.08 (0.04)	1.08 (0.04)	1.08 (0.04)
Has Degree (ref.: no)		0.87 (0.02) ***	0.87 (0.02) ***	0.87 (0.02) ***
Net weekly income (log)		0.98 (0.01)	0.98 (0.01)	0.98 (0.01)
Employed (ref.: full-time)	Part-time	1.04 (0.03)	1.04 (0.03)	1.04 (0.03)
	Not employed	1.17 (0.04) ***	1.16 (0.04) ***	1.16 (0.04) ***
Long-term health condition (ref.: no)	Yes, not limited	1.38 (0.04) ***	1.38 (0.04) ***	1.38 (0.04) ***
	Yes, limited a bit	2.02 (0.06) ***	2.01 (0.06) ***	2.01 (0.06) ***
	Yes, limited a lot	2.52 (0.09) ***	2.50 (0.09) ***	2.50 (0.09) ***
Relationship breakdown (ref.: no)		1.11 (0.03) ***	1.10 (0.03) ***	1.09 (0.03) **
High Parental Malaise (ref.: no)		1.06 (0.02) **	1.06 (0.02) **	1.06 (0.02) **
Meets with friends (ref.: yes, regularly)	Yes, irregularly	1.31 (0.04) ***	1.31 (0.04) ***	1.31 (0.04) ***
	Never	1.51 (0.07) ***	1.51 (0.07) ***	1.50 (0.07) ***
Meets with family (ref.: yes, regularly)	Yes, irregularly	1.07 (0.03) *	1.07 (0.03) *	1.07 (0.03) **
	Rarely	1.05 (0.06)	1.05 (0.06)	1.05 (0.06)
Zero-hours contract (ref.: no)		1.15 (0.07) *	1.14 (0.07) *	1.14 (0.07) *
Some income from benefit(s) (ref.: no)		1.08 (0.02) **	1.10 (0.03) ***	1.09 (0.03) ***
Tenure (ref.: owner-occupation)	SH	1.19 (0.04) ***	1.19 (0.04) ***	1.25 (0.06) ***
	PRS	1.11 (0.04) **	1.10 (0.04) **	1.18 (0.06) **
	RF	1.06 (0.07)	1.04 (0.07)	1.12 (0.09)
	Other	1.11 (0.07)	1.10 (0.07)	1.11 (0.09)
PRS in childhood (1 = Yes)		1.03 (0.03)	1.03 (0.03)	1.03 (0.03)
Has child in household (1 = Yes)			0.94 (0.02) *	0.97 (0.03)
Tenure x Has child in household	SH x Has child			0.93 (0.06)
	PRS x Has child			0.89 (0.06)
	RF x Has child			0.77 (0.12)
	Other x Has child			1.00 (0.12)

*Note: RR represents the Rate Ratio as the exponentiated coefficient; Standard errors are shown in brackets; *** p<0.001; ** p<0.01; * p<0.05.*

To begin modelling wellbeing for those with children, M2 incorporates a binary variable indicating having a child in the household. This is found to have a significant effect with an RR of 0.94, or a 6% lower malaise score than the reference group. The effects of the other variables in the model do not change substantially with this addition, in either their coefficients or statistical significance. M3 incorporates interaction terms for each tenure and having a child in the household. Wellbeing as measured by malaise score is not found to be significantly different for those in different tenures who have a child in the household at age 46. The main tenure effects (now indicating those in each tenure who do not have a child in the household) increase significantly with the addition of parameters indicating having a child in the household for each tenure, however. These increase from 19% to 25% for those in SH and 10% to 18% for the PRS.

Table 6.0.7 Summary of results from modelling CMs' malaise score at age 46 (GLMs) (M4 & M5). Source: 1970 British Cohort Study

Variable		M4	M5
Has degree (ref.: no)		0.87 (0.02) ***	0.94 (0.04)
Employment (ref.: full-time)	Part-time	1.01 (0.06)	1.04 (0.03)
	Not employed	1.09 (0.06)	1.16 (0.04) ***
Tenure	SH	1.28 (0.07) ***	1.27 (0.07) ***
	PRS	1.18 (0.06) **	1.19 (0.06) ***
	RF	1.14 (0.09)	1.14 (0.09)
	Other	1.12 (0.09)	1.12 (0.09)
Has child in household, by tenure (ref.: no)	Yes, owner	0.96 (0.03)	1.00 (0.03)
	Yes, PRS	0.84 (0.07) *	0.91 (0.06)
	Yes, SH	0.80 (0.06) **	0.93 (0.05)
Employment x Child in household, by tenure	Part-time × Yes, Owner	1.01 (0.07)	
	Not employed × Yes, Owner	1.14 (0.08) *	
	Part-time × Yes, PRS	1.30 (0.16) *	
	Not employed × Yes, PRS	0.91 (0.12)	
	Part-time × Yes, SH	1.16 (0.13)	
	Not employed × Yes, SH	1.19 (0.10)	
Has degree × Child in household, by tenure	Has degree × Yes, Owner		0.91 (0.05)
	Has degree × Yes, PRS		0.63 (0.12) *
	Has degree x Yes, SH		0.29 (0.11) ***

*Note: RR represents the Rate Ratio as the exponentiated coefficient; Standard errors are shown in brackets; *** p<0.001; ** p<0.01; * p<0.05.*

Table 6.7 shows interaction effects for having a child in the household (by tenure) and employment status or having a degree, alongside the main effects for these variables. Interactions between having a child in the household (by tenure) and these variables are chosen as an indication of precariousness, while other interaction terms (including for those on zero-hours contracts) were based on groups too small to be considered for statistical significance. While not shown here, those CMs with a child in the household in the PRS who had a long-term health condition that limited their day-to-day activity 'a little' were estimated to have scores 44% higher than the reference group. Other groups in this model did not have significant effects or were too small. Additionally, no significant interaction was found between

those with a child in the household (by tenure) and those receiving some income from benefits, when controlling for the other variables in the model. M5 estimates significant interaction effects for being unemployed and living in owner-occupied housing with a child in the household and for working part-time and renting privately with a child in the household. These effects are +14% and +30%, respectively. The main effect for having a child in the household and living in the PRS or SH becomes significant with the inclusion of these interaction terms, with scores 16% and 20% lower than those without a child in the household, respectively. The main tenure effect also remains significant for the PRS and SH, at +18% and +28%. M5 shows that those with a degree and living in the PRS with a child in the household are estimated to have significantly lower malaise scores, with an RR of 0.63 (or a 37% lower score). This effect is similar (RR = 0.67) when modelling this interaction effect using a sample of only those who have a child in the household (this model is not presented in the table). While the interaction effect for *Has degree* and *Child in household* for those in SH is significant, the group is too small to be considered for statistical significance. With the addition of the interaction effects in M5, the main effects for having a child in the household (by tenure) become insignificant. This means that those in each tenure who have a child in the household and do not have a degree do not have significantly different malaise scores to the reference group (those without a child in the household and without a degree).

6.5 Discussion

This section outlines the results of the models discussed above in the context of wider research, identifying the likely drivers of the effects found. In particular, parents' lack of agency over housing decisions, the impact of social stigma and reduced housing options are argued to be routes of influence that result in poorer wellbeing in the PRS.

The two preceding chapters showed the results of models investigating the wellbeing trajectories for CMs in each of the UK's major tenures and for those in each tenure who had lived in the PRS as children. Additional analysis was also presented that investigated inter-tenure differences in wellbeing at age 46 (using BCS70 data) and age 17 (using MCS data). As seen in previous chapters, the estimates for the control variables in both types of models show expected results: wellbeing is lower for women, those with long-term health conditions, those not employed full-time and those earning less. This supports other quantitative work on wellbeing that has found these results. The results of the modelling presented in these chapters also showed that there are significant differences between those in different tenures' wellbeing over the life course. This gap is found to grow over time, becoming widest at age 46. Chapter five also found that those with experience of the PRS in childhood had significantly worse wellbeing scores and, when breaking this group down into different tenure groups in adulthood, those in the PRS and particularly those in SH had poorer wellbeing throughout their lives.

The first models presented in this chapter investigate the wellbeing outcomes for those who live in each of the main UK housing tenures and who have a child in the household, using BCS70 data from ages 26 to 46. The baseline results of these models show that those CMs who have a child in the household and live in owner-occupied housing have significantly higher wellbeing to those who do not have a child. However, when using interactions with age to estimate wellbeing trajectories (and thus model the data longitudinally), those who have a child in the household and live in any of the three main tenures have a malaise score significantly different to those without a child that increases with age. While this increase is again higher for those in SH, parents in the PRS are estimated to exhibit substantially poorer

wellbeing. This represents the first time that wellbeing for these groups has been studied longitudinally and adds important evidence to the research area. While it cannot be said that these results are causal due to the complicated nature of causality surrounding wellbeing and the lack of experimental design in studies, longitudinal analysis remains the most reliable form of analysis of observational data. This design, along with the scale of the BCS70 data, means that the evidence of the effects seen here is robust. Poorer wellbeing for PRS tenants, repeatedly found in qualitative or cross-sectional studies, is found to be generalisable from the results of this research.

In addition to the GLMMs, Generalised Linear Models (GLMs) were estimated using the sweep 10 (age 46) data. These models enable this research to include a greater range of control variables than was possible in the GLMMs, such as how often CMs met with friends and family (as indicators of social networks) and whether CMs were employed on insecure contracts. Other variables were derived from the longitudinal data, such as whether tenants had experienced a relationship breakdown since the previous valid sweep (i.e., the previous sweep to which they responded) and their exposure to the PRS across all valid sweeps. While it does not allow for longitudinal analysis, this means that further triangulation of the results of the GLMMs can be undertaken. Significant effects were found for interactions between tenure and employment or education level. These interaction terms show that those in the PRS who have a child in the household and who are employed part-time or who do not have a degree are estimated to have significantly lower wellbeing. The significance of these effects points to the impact of living in the PRS with a greater level of precarity, as a greater level of security is imparted by full-time employment and a higher level of academic qualification. It is likely that the negative wellbeing effect of insecure housing is felt more strongly by those who have less security in other parts of life, as housing insecurity adds additional difficulty in coping with problems elsewhere in life. The additional pressures and responsibilities that having a child imparts will compound this effect, as well as the reduced housing options as discussed above.

The main tenure effect continues to be statistically significant after controlling for all of the variables at age 46, however variables indicating whether those in each tenure have a child in the household are not significantly different to the reference group. This means that, despite the average effect for having a child and living in the PRS/SH being significant across the life-course (as found in the GLMMs), it is not at age 46. Other factors that could not be modelled in the GLMMs (sociability, zero-hours contract) could be the source of the effect, however no interaction terms including tenure and these variables are significant in the GLMs.

Substantial and significant effects for interactions between having a long-term health condition and having a child in the household are found, meaning that those who have a limiting long-term illness and have a child in PRS have significantly lower wellbeing. At the same time, those who limited a lot by a long-term illness and have a child in SH have lower malaise scores than the reference group. It is possible that these significant effects reflect the greater security of social housing in comparison with the PRS and the likelihood that those needing adaptations to their home can more easily achieve them. This can again be taken as showing that regulation and policy surrounding the PRS, which sees it as a sector for the young and mobile, is unsuitable. There is a recurrent theme that emerges from qualitative research that shows that tenants are often unwilling to approach their landlords even for repairs due to fear about rent increases or forced moves (Lister, 2002). This is to say nothing of improvements to the home, which have been found to be particularly needed for people with disabilities in the PRS. It is even less likely that these improvements would be undertaken in the bottom-end of the PRS as landlords are more likely to own the property with an 'investment motive' and therefore be unwilling to spend money on a property that would detract from their rental earnings. It is reasonable to assume, in this case, that

improvements and adaptations to a home that would make the life of someone who has a long-term illness that limits day-to-day activity easier would be harder to secure and less likely to be carried out in this sector of the PRS. Significantly poorer wellbeing outcomes for those with long-term health conditions living in the PRS were found in the models presented in chapter four. However, even when controlling for tenure, the effect described above remains for those with a child in the household. This means that this group is facing additional anxieties beyond the tenure and long-term illness interaction. It is likely that the effect of additional stressors and responsibilities is catalysed by unsuitability of housing in the PRS, or of the additional costs and anxieties related to interactions and negotiations with landlords that would otherwise not be necessary.

Overall, concerns regarding housing conditions, children's health and a lack of agency in housing decisions may be negatively impacting the wellbeing of PRS tenants with children, resulting in the estimated effects seen in the models. Qualitative research focussing on the PRS has shown that these concerns are common in the sector. In particular, parents in the PRS have been shown to face additional stress and anxiety due to concern for their children's development (Soaita et al, 2020). This is further complicated by the fact that landlords have been found to discriminate against families (Crook & Kemp, 1996; Soaita et al, 2020), meaning that those with children are likely to have reduced housing options and may be forced to stay in unsuitable accommodation. Poorer housing conditions are an additional source of anxiety for parents, as children's health can be severely impacted. Reduced housing options may mean that families are forced to live in the bottom-end of the PRS and thus encounter poorer housing conditions, as landlords letting to this section of tenants have been found to be less responsive in making repairs and are less likely to improve a dwelling (Crook, 2002a). Reduced housing options due to discrimination and fewer suitable homes on the market in high pressure areas may also mean that parents in the PRS are less likely to ask their landlords for repairs and improvements for fear of reprisals (such as rent increases or even evictions). This extends to personalising a home. As those in the lower end of the PRS market are less likely to be in a strong position in housing decisions and thus have less agency, it is probable that they would avoid the additional stresses from trying to decorate. This phenomenon has been found in qualitative research (De Santos, 2012) and would mean that tenants with children may continue to live in housing that is of poor quality or may opt to move instead of facing additional stresses due to a poor relationship with their landlord.

As explained in section 6.2, social pressures have been found to negatively impact parents in the PRS. In general, living in the PRS may mean that parents feel that they are unsuccessful or that they are bad parents. Qualitative research has found that this view is held by home-owners (Gurney, 1999; Scanlon, 2015), as well as by tenants towards themselves (McKee et al, 2017). The social norms surrounding home-ownership are relatively recent, coming with the dominance of the tenure and its valourisation in policy and in public discourse. Owning a home has become to be seen as a marker of success and of achieving adulthood. Decorating the home, as mentioned above, is an important element of this (Gurney, 1999). The effect of these stressors is therefore likely to contribute to the significant and generalisable effect found in the GLMMs presented in this chapter, existing not only as a negative consequence of living in the PRS as a parent, but also as a result of the way in which home-ownership is conceived.

Housing costs are also likely higher for those that opt to stay in areas in which there is greater access to facilities and high-quality services, which are important considerations for those with children, who are often embedded in an area through social and support networks (Bailey et al, 2012). In addition, since the financial deregulation of the mortgage market in the 1980s and the resultant boom in house prices, owning a home has become one of the most aspired-to means of securing future wealth and of passing

this on to children (McKee et al, 2017). The burden of housing costs coupled with the knowledge that parents are not contributing to their own or their children's future wealth (through paying off a mortgage) is likely to be a source of the anxiety parents in the PRS are estimated to exhibit across adulthood by the above models.

While SH tenants are estimated to have the highest malaise scores on average, there is no significant effect on malaise for those with children in the household or significant interaction effects with employment or having a degree. This could be owing to the fact that those in SH have more stability in their housing and so there is not an additional negative wellbeing impact from having a child (as there is for those in more precarious positions who are living in the PRS with a child). The fact that having a child in the household and living in the PRS does not have an additional negative effect on wellbeing at age 46 on average may speak to the stratification in malaise at this age, as found by Gondek et al (2021b). They found that there was a rise in both those with no malaise symptoms and those with a high number of symptoms. The authors posit that the increased responsibilities of age may impart a compounded negative impact on wellbeing for those with fewer resources, while those in a better (e.g., wealthier, more stable, better-resourced) position feel the benefits of age such as career progression or confidence. The interaction terms found in these models reinforce this theory, as those who are in more precarious positions face an additional wellbeing impact. It is likely that the poor wellbeing that is estimated for the PRS, and especially for the groups described above, results from or is exacerbated by the weak position of the tenant within a tenancy agreement and the poor standard of housing that is enabled by legislation pertaining to the sector.

The problem again remains that many of the factors identified as affecting wellbeing (such as a person's sense of agency, relationship with their landlord, or the impact of housing costs) cannot be modelled using the available data. This in effect means that it is only possible to speculate as to what is causing the worse wellbeing outcomes in the PRS based on the issues commonly found to be problematic by qualitative research and the fact that a large number of other factors in both the GLMMs and the GLMs. However, it is unlikely that tenure is again simply acting as a proxy for other factors. Angel and Gregory's (2021) argument, in finding home-owners to be generally happier than renters, is that this is due either to compositional characteristics such as higher levels of education, income or job security, or because of 'contingent housing market factors that create strong correlations between owner-occupied housing and housing quality—in other words, that owners simply have access to better housing, and therefore (all things considered) exhibit higher levels of wellbeing' (p.3). The three things mentioned in the first scenario are controlled for reliably in the models. It could therefore be the case that the second scenario is correct in that owner-occupied housing is of better quality, as has repeatedly been found to be the case. In the bottom-end of the PRS in particular, problems with damp and mould persist and these can prove detrimental to the physical and mental health of tenants (Lister, 2005; Rhodes & Rugg 2018). If this does indeed explain mental health differences between those with children in each of the tenure groups, then it is a result of housing in the PRS being poor quality, thus an effect of the tenure. It could be argued that if landlords were forced to improve properties (or at least not disincentivised from doing so), then this result would not be the case. However, as stated in chapter four, an explanation of the estimated results based solely on physical housing conditions is likely to be too simplistic. It is unlikely that housing conditions are the only source of the wellbeing difference, given that the other stressors and sources of anxiety amongst tenants have been found in qualitative research to be pervasive. This is supported by quantitative research such as that of Clair et al (2023) who controlled for a wide range of housing factors, particularly physical housing conditions, and still found negative health impacts.

6.6 Conclusion

This chapter has addressed the third and final research question:

RQ3: Do PRS tenants with children exhibit different mental wellbeing outcomes than those without?

To investigate outcomes for families, analysis was undertaken on BCS70 data using two modelling strategies. GLMMs investigated trajectories for those in each tenure, modelling data longitudinally. GLMs were also estimated on age 46 (sweep 10) data to further investigate relationships seen and thus triangulate the results of the GLMMs. This represents the first time that families' wellbeing in the UK PRS has been studied and the results add important evidence to the area. The results of the GLMMs show that wellbeing for those with children in the PRS and in SH is significantly poorer than for those in owner-occupation across the majority of the life course studied. The main PRS effect also remains statistically significant, showing that tenants are estimated to have worse wellbeing on average. The results of GLMs at age 46 do not show an additional effect for those in the PRS with children, but interaction effects show that those of this group who are working part-time, who do not have a degree, or who have a long-term illness and are limited in their day-to-day activity show poorer wellbeing scores. It is posited that the weak position that tenants are placed by way of assured shorthold tenancies enables poorer conditions, reduced levels of agency and greater insecurity in the sector. It also leaves tenants vulnerable to exploitation by less scrupulous landlords, particularly in the lower end of the sector. The prevalence of small landlords, attracted to the sector by investment potential or 'reluctantly' acting within it, makes what regulations there are difficult to enforce. In general, however, there is a distinct lack of regulation ensuring tenants' are protected and making the tenure suitable for families' long-term residence. Relatively recent changes in the UK outside of England may change the situation for tenants, but there still remains insecurity of tenure in many ways. Parents may also feel increased anxiety and stress due to concern for their children's welfare in the PRS, which has been found to have the poorest housing conditions of any tenure. However, it is unlikely that poor conditions alone explain the effects found in these models. As well as tenure insecurity and the fear of reprisals by landlords, parents in the PRS are likely to feel stigmatised by others for not owning a home and thus not being 'successful' parents. The GLM results likely reflect the stratification in the PRS in more recent years, as many who would have been able to access SH in previous decades are housed in the private sector. Alongside people experiencing homelessness, they are likely to be in the lowest-quality accommodation and are made vulnerable by the lack of regulation in the sector and the resultant poor standards.

7. Discussion

7.1 Introduction

This chapter discusses the results presented in the previous three empirical chapters, extending the discussion within those chapters with reference to the evidence explored in chapter two. Discussion of tenure-wide differences in mental wellbeing outcomes are first explored, based on results from the GLMMs and GLMs presented in chapter four. The impact of early exposure to the PRS is then discussed in light of the results of the GLMMs and LMs discussed in chapter five. Finally, outcomes for parents in the PRS, as modelled in chapter six, are discussed. The chapter highlights those factors of the lived experience of PRS tenants and of regulation pertaining to the sector that likely influences wellbeing outcomes, explaining the contribution to the evidence base that the modelling in this research provides and highlighting certain limitations.

7.2 Long-term renting in the UK PRS

Modelling wellbeing longitudinally using 1970 British Cohort Study (BCS70) data has showed that PRS tenants are estimated to have higher malaise scores than owner-occupiers throughout their lives. The Generalised Linear Mixed Models (GLMMs) presented in chapter four found that SH tenants are estimated to have the highest malaise scores of the major tenures, however. These results were found to be statistically significant after controlling for a range of variables that have a confounding effect with wellbeing, such as income, employment status, relationship breakdown and education level. Echoing other longitudinal research on wellbeing (see Bell, 2014; Blanchflower & Oswald, 2008; Gondek et al, 2021a), models in chapters four and five also find that there is a non-linear relationship between wellbeing and age, estimating that wellbeing improves into the 30s before declining steeply into middle-age. Importantly, the research finds that the disparity between the wellbeing outcomes of those in owner-occupation and in the PRS grows with age. For example, malaise scores are estimated to be 14% higher for PRS tenants at age 26 than for those who own their home, increasing to 19% higher at age 46.

Poorer wellbeing outcomes for those in the PRS were also found when modelling cohort members' (CMs) data at age 46 only, with PRS tenants exhibiting a 12% higher malaise score than owner-occupiers after controlling for a wide variety of factors. Modelling data at age 46 allows the research to incorporate and control for several variables only recorded in later sweeps, as well as longitudinal information derived from earlier sweeps. In addition to the main tenure effect, previous exposure to the PRS is found to result in a 6% higher malaise score. Large and significant interaction effects were also found for those who were exposed to the PRS and who have long-term health conditions, with 20% higher scores estimated for those who's day-to-day activity is not limited and 37% higher scores for those whose activity is limited a lot.

The explanation for the above results is likely to lie in the lived experience of renting, as found in various qualitative studies, such as renting at older ages becoming a source of shame and stigma (McKee et al, 2017). PRS tenants are more likely to be those facing additional stressors at middle-age, while owner-occupiers are more likely to be those who enjoy the greater resources and stability that can be seen in middle-age. Overall, the current tenure system, in which the PRS is regarded as a temporary tenure for younger renters on their way to household formation and owner-occupation, is poorly suited to meeting the needs of older renters. In its current form, the regulatory framework surrounding the PRS is skewed towards landlords' interests and fails to account for the increasingly diverse demographic of PRS tenants, including the middle-aged and families. In particular, Assured Shorthold Tenancies (ASTs) afford tenants few rights and poor security, inhibiting the PRS from being a tenure in which households can live securely in the long-term.

A lack of agency is also highlighted as a significant stressor for tenants, impeding their ability to influence decisions about their living situations (Walsh, 2019). This situation can be seen to have arisen particularly as a result of ASTs as they place restrictions on tenants while affording little long-term certainty. Such restrictions can exacerbate the impact of long-term health conditions, likely leading to the elevated malaise scores found in section 4.4, estimated to be at least 20% higher than those without such conditions. This systemic lack of agency is a reflection of wider power imbalances, where landlords hold significant control over housing conditions and tenancy terms. The fact that tenants have little agency over their living situation, coupled with the fear of exercising their rights leading to retaliatory action by landlords (Lister, 2002), means that tenants have greatly reduced housing options. It is argued that the lack of security and agency that are direct consequences of living in the PRS result in the poorer wellbeing scores estimated for PRS tenants and particularly for those renting in the long-term and in middle-age.

The negative wellbeing effects estimated for less-secure groups in the above models have implications for the PRS given the growing section of society that can be described as belonging to the ‘precariat’ (Savage et al, 2018). Many of those who would have benefitted from more affordable and secure housing in the SH sector have been forced to live in the PRS since the introduction of RTB in 1980 and the resultant reduction in SH stock (Murie, 2017). Local authorities’ use of the PRS to house those experiencing homelessness since the Homelessness Reduction Act 2017 has also placed some of the most vulnerable in the sector (Marsh & Gibb, 2019). Latterly, less generous LHA since 2020 has meant an increasing disparity between benefit payments and housing costs (Marsh & Gibb, 2019) and left many of the most precarious tenants at risk of exploitation by rogue landlords (Wall, 2023). Taken together, the heterogeneity of the expanded PRS, now housing many in an increasingly vulnerable position, draws attention to the lack of protection tenants receive, particularly in England.

The above speaks to the potential for precarious housing, insecure employment and poor mental health to increase the likelihood of and/or exacerbate one another, as described in other longitudinal analyses relating to housing (Arundel et al, 2024; Baker et al, 2014). Importantly, the results found in this research show that long-term exposure to the PRS has a significant effect on wellbeing, highlighting the importance of a person’s housing career, rather than a ‘snap-shot’ of it. As such, the results may show the cumulative effect housing insecurity, catalysed by insecurity in other parts of life. Research by Ong ViforJ et al (2022) also shows that falling into precarious housing can have a detrimental effect on the mental health of more vulnerable households, while Li et al (2022) show that housing instability is

predictive of poor wellbeing for PRS tenants in Australia. Similarly, Angel and Gregory (2021) find that tenants in countries with longer tenancies show smaller differences in mental wellbeing in comparison to owners. Data limitations mean that such housing instability could not be included in the longitudinal models of this research. This also relates to cycles of poverty, which may not be fully captured in controlling for factors such as income and employment as fixed effects as their impact may be more dynamic. Further research would benefit from a more nuanced inclusion of such measures, as it discussed in section 8.5.

Importantly, the majority of the models estimated in this research find poorer outcomes for those in SH. In the GLMMs reported in chapter four, the disparity between the Malaise scores exhibited by those in SH and owner-occupation grows with age, beginning at 16% higher and ending at 21% higher. Higher exposure to SH is also significantly associated with lower wellbeing, with those present in SH for more than half but not all of valid sweeps and those who were in SH at every sweep estimated to have scores of +15% and +23%, respectively. The models also estimate significant interaction effects at age 46 between employment and exposure to SH, with those employed part-time and exposed to SH for up to half of valid sweeps estimated to have a score 46% higher than the reference group. As has been discussed in chapter two, the residualisation of the SH sector and the roll-back of the welfare state has created particular problems for those who live in SH. Ellaway and Macintyre (1998), for example, found that housing stressors, housing type and individuals' assessment of the area in which they lived were significantly associated with poorer mental health for those in SH, while the latter two contributed towards anxiety. The models in this research may not capture the complexity of influential factors for those in SH, including those mentioned above, in part due to the limitations of the data. Housing costs, also, could not be included in the models. This may be an important element of housing insecurity for those in SH, which, as Arundel et al (2024) note, can catalyse and be catalysed by poor mental health. Further research would benefit from a more detailed investigation of these effects. Research that goes beyond controlling for the effects of factors such as employment, long-term health condition, and investigates their relationship with neighbourhood environment and housing conditions, could investigate these effects more fully.

While the cohort surveys enable the modelling of large-scale data and use reliable measurement instruments, there are limitations to range of factors that can included in the analysis. Variables relating to physical housing conditions in particular would benefit the analysis, as would those relating to the neighbourhoods in which CMs live. However, the wide variety of variables that are controlled for in all models and across two different age cohorts mean that the significant tenure effect is convincing.

7.3 The impact of exposure to the PRS in childhood

Importantly, individuals who were exposed to the PRS in childhood displayed higher malaise scores throughout their adult lives, suggesting a lasting impact of early housing insecurity. Analysing BCS70 data longitudinally in GLMMs shows that those who grew up in the PRS and who go on to live in any of the major housing tenures have significantly worse outcomes than those who were not exposed to the sector in childhood. For example, results presented in section 5.3.2 find that those exposed to the PRS in

childhood who continue to live in the sector exhibit malaise scores 32% higher than those without such experience at age 26, while those in SH or owner-occupation with childhood exposure to the PRS have malaise scores 3% lower and 15% higher respectively. The difference in wellbeing scores between those exposed to the PRS in childhood, and those who were not, remain present until age 46. However, for those living in SH as adults who lived in the PRS as children, malaise scores are estimated to be 39% higher at age 46 than for those who did not have such exposure. The models also estimate malaise scores for this group to continue to increase to age 46, while those of other groups decrease.

The research also investigated whether these effects were seen amongst a younger generation. This adds to the analysis of outcomes for those who grew up in the PRS by analysing wellbeing for those young people currently living in the sector. Using data from the Millenium Cohort Study (MCS) at age 17 and using a different measure of wellbeing, the research shows that the poorer wellbeing outcomes seen amongst the BCS70 CMs are replicated for the younger age cohort. After controlling for a wide range of factors that can influence an individuals' wellbeing, 17-year-olds in the PRS are estimated to have a score 0.75 lower than those in owner-occupied housing. For comparison, the coefficient for being female is –0.94 and that of having a long-term health condition is –1.22. Unlike in the GLMMs, CMs in the PRS have wellbeing scores lower than those in SH, who have a WEMWBS 0.5 lower than the reference group. The models find that additional negative effects on wellbeing are found for young people with more extensive exposure to the PRS whose parents have had poor wellbeing and for those with long-term health conditions. CMs who have a parent with moderately poor mental wellbeing and were in the PRS in one sweep prior to MCS7 have significantly poorer wellbeing themselves, with an interaction effect of -1.4. A large and significant interaction is also seen between having a long-term health condition and living in the PRS for two or more sweeps before MCS7, with an effect estimated at -1.8. Through modelling tenure's effect on wellbeing via several modelling strategies and with two age cohorts this research contributes important evidence to the subject area, representing the first time that analysis of tenure effects on wellbeing for those growing up in the PRS has been undertaken. Importantly, it builds on other evidence in the area by using different modelling strategies to show that the effects are generalisable. This adds to the evidence regarding children's outcomes, but also presents novel research on the long-term impact of exposure to the PRS in childhood.

The significant interaction effect found for 17-year-olds in the PRS who have a parent with poor mental health, in combination with the findings from the GLMMs that find significant negative effects of living in the PRS on adults' wellbeing, implies that issues common to the experience of renting affect children through their parents. This may manifest in unhealthy behaviours such as smoking and drinking amongst parents that have been found to be result from housing insecurity or instability. The effect of having a parent with poor mental health was not found to be significant in later life (in the GLMMs), possibly implying that this is felt only while living with parents.

However, as mentioned in the previous section, cycles of poverty may have an effect that is not wholly captured by controlling for those factors in the models in this research. In particular, insecurity in different parts of life can affect mental wellbeing and beget further precariousness. In relation to those growing up in the PRS, it is likely that disadvantage is transferred to the children of renters to some degree. Growing housing inequality means that property wealth has become concentrated in the hands of a smaller section of society (Coulter, 2017). The growing importance of the role this wealth has in personal welfare later in life (McKee et al, 2017) means that those growing up in the PRS are placed at a

distinct disadvantage. This is of particular relevance for the younger age cohort. Housing unaffordability has a large impact on young renters (Arundel et al, 2024), however higher house prices (and rents) mean that the effects found in the GLMMs may be exacerbated. This is of significant concern given the less generous welfare and more insecure employment that younger people in the UK can now expect (Clark & Wenham, 2022).

As in the GLMs estimated on BCS70 data at age 46 (in chapter four), significant interaction effects are found in the MCS cohort for those who have lived in the PRS for at least two sweeps before age 17 who have long-term health conditions. As explained in chapter four, PRS housing is likely to be less suitable for those with such conditions due to poorer housing conditions and difficulties in acquiring adaptations to the home that may be needed. It is also possible that these effects are due to neighbourhood factors which cannot be included in these models, however. Those 17-year-olds in this group may live in areas with poorer service availability or facilities, which may contribute to this effect.

7.4 Parents with children in the PRS

The model results presented in chapter six show that PRS tenants with children in the household are estimated to have poorer wellbeing than those in owner-occupation as they age. The GLMMs estimate that at age 46, PRS tenants with children have malaise scores 10% higher than those without children. Other research in the area has identified a raft of stressors that families in the PRS face that can compound those encountered across the sector. In particular, Walsh (2019) finds that the lack of security inherent to most PRS contracts serves to inhibit families' ability to plan in the long-term, while remaining a source of significant anxiety. The threat of eviction or being forced to leave a home due to intolerable conditions has been repeatedly found to be a major source of concern in qualitative studies on PRS tenants (De Santos, 2012), while the lack of agency that tenants are afforded results in feelings of shame and stigma for parents. The latter speaks to how security encompasses more than simply a legal right to stay within a property, but also to make a home in it. In the PRS, families are hindered from doing so partly by having no right to keep pets or decorate (Walsh, 2019). This research's finding (figure 7.3) that the disparity between tenants with children and owners is estimated to widen into middle-age, taken together with previous findings that renting at older ages presents additional stresses, is concerning. Younger generations are shown to be staying in the PRS longer, delaying family formation and more frequently starting families in the PRS, meaning that negative wellbeing effects of having children in the PRS may be more widespread and felt more acutely.

The results of the modelling presented in chapter six, in finding that wellbeing is significantly lower for those in precarious situations in the PRS, may reflect the increasing stratification amongst PRS tenants. The PRS is now home to many tenants who would in previous years have been housed in SH accommodation, with welfare recipients effectively forced into the bottom-end of the market by the capping of LHA rates. This is of consequence as some of the poorest housing is found in the PRS, with

almost a quarter of PRS homes in England now failing to meet the Decent Homes Standard (UK Government, 2023). Discrimination from landlords also means that families in the PRS have fewer housing options and a weaker position than other tenants (Soaita et al, 2020). The results from this research therefore highlight the lack of regulation in the private sector and in the English PRS in particular, showing that those tenants with children who are in less secure positions are likely to be experiencing the worst outcomes.

Analysis of age 46 data shows that families in more precarious positions, i.e., those without degrees, those working part-time or with limiting long-term health conditions, face additional negative wellbeing effects. This finding highlights how the growing section of society identified as the 'precariat' faces an acute challenge within the PRS. The residualisation of the SH sector has pushed a demographic, traditionally supported by more stable housing, into the uncertainty of the PRS. As argued by Hoolachan et al (2016) and Coulter (2017), the commodification of housing, and a housing benefit system that fails to cover the rising costs of rent coupled with a lack of tenure security, illustrates the stark reality whereby the most vulnerable are at risk of exploitation and housing instability. Despite greater housing security, however, those in SH with children in the household are found to have the poorest wellbeing scores by the GLMMs. As is discussed in section 8.5, further research is needed to explore the driving factors in this relationship and to account for the limitations of the data and models.

7.5 Summary

Overall, this research significantly contributes to the housing literature by investigating exposure to the PRS in a number of ways and at different age points, while controlling for a variety of important confounding factors. Importantly, housing tenure is modelled not as a proxy for home-ownership or socio-economic position, or at one point in life, but directly and longitudinally. The research finds that wellbeing outcomes are poorer for tenants with children than for owner-occupiers as they age. Additionally, PRS tenants in general exhibit significantly poorer wellbeing. The research also finds important evidence that those exposed to the PRS as children show an additional negative wellbeing effect throughout most of their lives. The latter effect is also seen amongst the MCS cohort at age 17, meaning the negative impact of living in the UK is replicated for younger generations. Additionally, the research finds markedly poor wellbeing outcomes for those in SH as a whole, for those in SH with children in the household, but particularly for those who were exposed to the PRS in childhood and go on to live in SH as adults. Through robust modelling of longitudinal data, triangulated through cross-sectional analysis at specific time points, the research provides reliable evidence of the generalisability of the above effects. In particular, longitudinal analysis of cohort data means that the research is able to investigate change over time and control for a range of time-variant and time-invariant factors, while the cross-sectional analysis incorporates additional controls as well as longitudinal information. This represents the first time that wellbeing in the PRS has been analysed in such a way and thus builds on the findings of other qualitative and quantitative research that has found poor outcomes in the UK PRS.

8. Conclusions

8.1 Introduction

This chapter brings together the conclusions of the three empirical chapters the preceding discussion chapter, presenting the over-arching conclusions drawn from the research. In light of these conclusions, recommendations for policy as well as suggested areas for further research are given in section 8.4 and 8.5, respectively.

8.2 Research aims and objectives

The extensive evidence of poor conditions and insecurity in the PRS, as presented in chapter two, is argued to mask the increasing stratification of tenants' lived experience. The sector's change from a small tenure, primarily providing a short-term home for those leaving the family home or during higher education, to one of long-term residence for various groups including families and welfare recipients, stands in stark contrast to its depiction in popular discourse or government policy. Those renting at later stages in life or receiving benefits, but particularly families with children, are found to face acute challenges to their security and agency that can negatively affect their wellbeing. These phenomena have been consistently found by the research reviewed, however these studies are predominantly qualitative in their approach and therefore do not provide evidence of the scale of these issues. While cross-sectional quantitative research in the broad area exists, as well as a limited number of longitudinal studies of health and housing, there remains a need for quantitative research focusing on families' wellbeing in the UK PRS and of long-term effects. In particular, such evidence is needed in order to assess whether there are generalisable effects on wellbeing for those renting in the UK PRS. This research addresses this need and therefore reinforces the existence of the effects found in previous research.

This research has, after reviewing wider research and evidence surrounding the PRS in the UK and of families' experience of renting, addressed three research questions (RQs). These are:

1. Do wellbeing outcomes differ between tenure groups across the life course?
2. Does exposure to the UK PRS in childhood impact mental wellbeing in later life?
3. Do PRS tenants with children exhibit different mental wellbeing outcomes than those without?

Chapter three explored the methodological implications posed by the research questions and how they could be answered. The methods used by the research were required to enable the investigation of change over time, differences between groups and to ascertain whether effects were generalisable. The analysis of large-scale, longitudinal data was chosen as the most effective means by which to meet these needs. Cohort studies present the opportunity for the large sample sizes that are needed to effectively compare group differences and inferential statistics. Crucially, their multiple measurement occasions on cohort members mean that period and age effects do not vary.

In modelling these data, random effects regression models allow the investigation of wellbeing trajectories and the inclusion of a range of time-variant and time-invariant variables that could affect wellbeing, giving robust and reliable estimates. Longitudinal data from the 1970 British Cohort Study (BCS70) was therefore analysed by means of generalised linear mixed models (GLMMs), a type of multilevel regression model. Additionally, analysis of BCS70 data at age 46 and Millenium Cohort Study (MCS) data at age 17 allowed for the inclusion of a greater variety of variables, analysis of wellbeing for a younger age cohort and the triangulation of the results of the GLMMs.

The research therefore adds important evidence to the research area based on robust modelling and the combination of a variety of modelling techniques, adding to previous qualitative and cross-sectional studies. In particular, generalisable effects are found across time. In answering the three RQs, the research meets the need for research on the long-term effects of renting in the UK PRS and for families in the sector, while also using methods and data so far under-utilised in the area.

8.3 Conclusions from the research

8.3.1 Wellbeing outcomes in the PRS

The first RQ is answered by utilising Generalised Linear Mixed Models (GLMMs) and Generalised Linear Models (GLMs) with data from the 1970 British Cohort Study (BCS70). This analysis revealed that tenants in social housing (SH) and the private rented sector (PRS) exhibit higher malaise scores, indicating lower wellbeing, compared to owner-occupiers. The disparity in wellbeing between these tenures and owner-occupation widens over time, reflecting the long-term impact of tenure on wellbeing.

The findings from this research indicate that those in the PRS exhibit significantly lower wellbeing over the life course than those in owner-occupation. This conclusion is supported by both GLMMs and GLMs, which controlled for a wide range of theoretically important individual characteristics. The inclusion of both time-invariant and time-varying predictors in the GLMMs allowed for robust estimates utilising the extensive longitudinal data available in the BCS70.

The results demonstrated a non-linear relationship between wellbeing and age, with malaise scores decreasing into the 30s before increasing sharply in the mid-40s. This pattern is consistent with other research using UK cohort surveys (Sacker & Wiggins, 2002; Gondek et al., 2021a). However, the GLMMs show that the difference in wellbeing between tenures grows with age. This lower wellbeing in the PRS is largely attributed to the added pressures and insecurity inherent to the sector, difficulties in achieving repairs and/or alterations, and anxieties surrounding the tenant-landlord relationship. These issues are argued to likely be compounded by poor physical housing conditions, which are more prevalent in the PRS than in owner-occupied housing.

8.3.2 The impact of growing up in the PRS

This study is the first to investigate the impact of growing up in the UK PRS using longitudinal data. This answers the second RQ; regression models using BCS70 and Millennium Cohort Study (MCS) data demonstrate a significant negative effect on wellbeing for individuals exposed to the PRS in their younger years. The GLMMS using BCS70 data show that this is particularly the case for those who transition to SH in adulthood, but also those who go on to live in the PRS, who face worse wellbeing outcomes for most of their lives than those who had no such exposure. Linear regression models using MCS data at age 17 also show poorer wellbeing scores for those in the PRS, even after controlling for various individual and parental factors. Factors identified in qualitative research as affecting parents in the PRS, such as tenure insecurity and a lack of agency in housing decisions, likely have indirect effects on children's wellbeing. Other aspects of renting in the PRS may affect children directly, however, such as less suitable housing, particularly for those with long-term health conditions.

8.3.3 Parents in the PRS

The final RQ is answered by analysis using BCS70 data. The results show that those with children in the household in the PRS and SH exhibit significantly poorer wellbeing compared to those in owner-occupation across most of the life course. Interaction effects indicate that PRS tenants who are working part-time, lack a degree, or have a long-term illness experience an additional negative wellbeing effect.

The prevalence of small landlords and the lack of regulation in the sector contribute to the poor conditions and reduced levels of agency experienced by tenants. The weak position of tenants under assured shorthold tenancies leaves them vulnerable to exploitation by unscrupulous landlords, particularly in the lower end of the sector. It is also argued that parents in the PRS may also feel increased anxiety and stress due to concerns for their children's welfare and the stigma associated with not owning a home.

8.4 Policy implications of the research

8.4.1 Introduction

The long-term implications of living in the PRS, particularly for families and those exposed to the sector in childhood, are profound. The negative effects on wellbeing persist and even worsen with age. Addressing these issues requires a comprehensive approach that includes policy reform, improved regulation, and increased support for tenants.

This research highlights the urgent need for a shift in how the PRS is perceived and managed. Rather than being viewed as a temporary or intermediate housing option, the PRS must be recognised for what it already is in many cases: a long-term home. Ensuring that the PRS can provide stable, secure, and high-quality housing is essential for improving the wellbeing of tenants and addressing the growing inequalities in the housing system. Key to achieving this shift is also the addressing of system-wide issues, however. This includes house price inflation and the lack of housing available in the SH sector.

This section outlines the ways these issues may be addressed. Recommendations for fall into four categories:

- Improving security of tenure.
- Improving the lived experience of private renting.
- Better protections for tenants.
- Increasing levels of available housing in other tenures.

8.4.2 Improving security of tenure

The results of this research show that poor wellbeing is a generalisable effect of living in the UK PRS. This effect is found all models presented in the empirical chapters. Regulation enacted to make tenants' position within a tenancy more secure would go a considerable way in mitigating the impact of the stressors that tenants face. In particular, a re-balancing of power within the tenant-landlord relationship can be achieved by repealing Section 21 of the 1988 Housing Act that enables landlords to evict tenants without grounds. There is extensive evidence that the possibility of a 'no-fault' eviction creates acute anxiety for tenants, as recognised in the 2022 White Paper *A fairer private rented sector* that proposes the abolition of this power.

Long-term renting has become common for households within the PRS, with an increase in both those buying a home later in life and those who would have previously been able to access social housing. To reflect this, tenancies in the PRS must be a viable long-term option that do not cause undue stress for tenants. Abolishing ASTs and replacing them with indefinite or open-ended tenancies is necessary to achieve this. As well as Section 21, tenure insecurity is embodied in AST contracts that consist of a fixed-term period followed a new fixed-term or by a rolling contract, which in practice creates uncertainty and

inhibits long-term planning for families. The argument often made against such redressing of the power balance within tenancies is that landlords would leave the sector or that they would not be able to evict anti-social tenants or those with arrears. This, however, has been shown not to be the case in other housing systems. Scotland's Private Residential Tenancies, introduced in 2017, goes some way to providing a model for the rest of the UK in this regard, providing as they do greater security to tenants while ensuring that landlords can evict anti-social tenants. However, international examples again provide the opportunity for policy transfer, with the German PRS tenancies being particularly well-balanced between parties and enabling a diverse range of tenants to build a long-term home in the sector. Improving security is particularly important for those renting in later life who may have reduced alternative housing options, as well as ensuring that those growing up in the PRS are not negatively affected by the insecurity of their housing. The negative wellbeing effects found in this research for both of these groups, and for those who have long-term illnesses or less employment security, highlight the need for change to address insecurity in the sector and bring it in line with other European countries. Such examples also demonstrate how indefinite tenancies would attract long-term investment in the sector, ensuring greater stability in the system and thus providing greater certainty for all parties.

Rents in the PRS impose a burden on tenants' finances beyond that of any other tenure, particularly amongst poorer households. Rent stabilisation measures should be enacted to ensure that rent increases do not continue to worsen this trend, but also so that within-tenure rent increases do not offer a 'back door' means of eviction even after the repeal of Section 21. The argument that such measures would instigate a mass exodus of landlords from the sector is not supported by the international evidence. Rent stabilisation is complex and requires thought-through policies, as has been discussed in Gibb et al (2019). Thus, it is likely that it would be necessary to have other policies in place such as an index of actual rents (if this method were used) to provide clarity and easier long-term planning (Marsh et al, 2023). Research has shown that it is this that large landlords look for in order to plan into the future, rather than the total absence of rent regulations (Scanlon & Whitehead, 2014). Some problems encountered in places like Germany, where rent controls were brought in only in certain areas, meant that higher costs moved out to other areas (Mense et al, 2023), or were not properly enforced. As Diamond et al (2019) note, landlords have often been found to ensure their properties are placed outside of regulations, if possible. This highlights the need for well-planned, well-enforced and extensive rent controls. In order to avoid long-term reduction in PRS supply, as has occurred in some instances (Breidenbach et al, 2022), rent control must be accompanied by increased housing stock in other tenures, and particularly in SH, to reduce demand in the PRS. It is important to avoid these pitfalls in order to meaningfully reduce housing costs in the PRS, which are a known source of stress, and because rent increases are tied to increasing property values and mortgage interest (Hulse & Goodall, 2023).

8.4.3 Improving the lived experience of private renting

Issues like damp, mould, and general disrepair not only directly impact physical health but also contribute to mental stress, especially when landlords are uncooperative in addressing these problems. This is compounded for those with children, as concerns for their wellbeing amplify parental stress.

Housing conditions in the PRS have consistently found to be of a worse standard than SH or owner-occupied housing and there remains no minimum standard for rented housing beyond meeting the Homes (Fitness for Human Habitation) Act 2018. To address the poorer outcomes found in this research both tenants with children and those without, PRS accommodation should be required to meet the Decent Homes Standard as proposed in the 2022 White Paper *A fairer private rented sector*. However, it is important that responsibility for ensuring that housing meets this standard does not effectively rest with tenants. In particular, enforcement should not only commence upon complaints being submitted from tenants, which leaves renters open to retaliatory action from landlords. As Ambrose et al (2016) notes, low-income tenants are in a particularly vulnerale position amidst a competitive rental market, and fear eviction or rent rises for speaking out. However, landlords should also be incentivised to invest in their properties to improve conditions beyond this minimum standard, ensuring that they are warm, air-tight and free of damp. Evidence has found that such improvements can significantly improve tenants' lives, including improved emotional wellbeing, healthier diets, and general comfort (Ambrose et al, 2016). Rising temperatures and more inclement weather resulting from climate change means that improving the standard of PRS housing is of the utmost importance in order to protect the most vulnerable tenants.

However, negative health impacts have been found to persist in the PRS even when controlling for physical housing conditions, underscoring the fact that housing conditions extend beyond physical characteristics to encompass broader pyschosocial factors. The lived experience of families and other tenants should also be improved to reduce the disparity in wellbeing found in this research. Within the UK PRS, tenants often have little choice over the appearance and decoration of their homes and are usually unable to keep pets. This has been found to affect families in particular. Greater agency in both areas would improve tenants' wellbeing and mean that renting a home is not so experientially different from owning.

The results of this research show that living in the PRS with a long-term health condition is consistently and significantly associated with lower wellbeing scores. The models presented in chapter four show significant interaction effects between these groups at age 46, while those in chapter five show it for 17-year-olds. In chapter six, this effect is also found for parents with limiting long-term health conditions in the PRS. Evidence suggests that the short-term, insecure nature of the majority of PRS contracts serves those with health conditions poorly. However, tenants' inability to adapt their homehas been found to be a particular issue in the sector, with many disabled tenants living in unsuitable homes due to difficulties in securing adaptations from landlords (EHRC, 2018). Action should be taken to counter this, while targeted support for tenants with disabilities and long-term health conditions should be provided. However, an important step in achieving this is through more available data on the accessibility of PRS properties, which is rarely provided by letting agents (EHRC, 2018).

8.4.4 Improving protections for tenants

The weak bargaining position in which tenants are placed and their lack of alternative housing options also results in a situation where standards are depressed by tenants' reluctance to report poor housing conditions. This reluctance is understandable given that retaliatory action by landlords has been repeatedly found to take place and 'no-fault' evictions can result in not only increased expenses but

being forced to leave areas in which social ties have been formed. In particular, LHA recipients in the PRS are at acute risk of housing insecurity given the gap between benefits and housing costs and discrimination from landlords and agencies that they face. The resultant reduction in their housing options also effectively means that welfare recipients are concentrated in some of the worst stock in the PRS. Steps to mitigate this should be undertaken in the short-term (in particular, addressing the gap between housing benefit and rents), however increasing the supply of SH accommodation is likely the only effective means of protecting this vulnerable sub-group of PRS tenants. These policies would clearly require resources, but long-term savings would be made by means such as the reduction of the vast proportion of the welfare budget allocated to subsiding rents in the PRS. While wellbeing outcomes for those in the SH were found to be worse than in other tenures in this research, the sector offers greater security of tenure and better housing conditions than the PRS, both of which are highly likely to improve wellbeing. As discussed previously, it is possible that these poorer outcomes in the sector are due to the concentration of SH stock in the most deprived neighbourhoods and the fact that SH is currently only accessible to those with the most complex needs. However, further research is needed regarding this effect, as is discussed in section 8.5.

While a large number of factors were controlled for in the analysis, it is likely that the results found are in part driven by very poor standards at the bottom-end of the PRS market. This includes 'rogue landlords' who knowingly break the law and prey on those in the most vulnerable positions. However, the proliferation of small, amateur landlords means that many who would not fit this description still do not know the full extent of their responsibilities, while what regulations do exist are difficult to enforce. A national register for landlords enacted across all of the UK would be a clear starting point in tackling this issue and to ensure that landlords were supplied with the correct information. Making sure that tenants are supplied with information on their rights and responsibilities at the beginning of a tenancy would mean that both parties in a tenancy were properly informed, which is often not the case at present. A landlord register and clearer information for both parties would make it easier to identify and address discrimination, but resources for the enforcement of legal duties are critical in achieving improved outcomes. As has been shown in Scotland, where a landlord registration has been made compulsory, this is no panacea for ensuring compliance (Livingston et al, 2018). A register for landlords in England could, however, provide an opportunity to collect more extensive information, such as deposit protection certification and actual rents. This may make enforcement more straightforward while providing a more accurate picture of the PRS as it stands.

8.4.5 Implications for the wider housing system

Overall, the disparities found between the wellbeing of PRS tenants and owner-occupiers draws attention to the fact that owning a home and renting privately result in acutely different housing experiences. Tenure is clearly not a neutral choice that reflects the needs of those living in a home, whether that be saving to buy a house, maintaining flexibility to stay mobile or renting in the long-term. Instead of valourising home-ownership to the detriment of other tenures, policy should ensure that renting is safe, secure and of no poorer quality than any other sector.

An important part of this is addressing the widening wealth disparities within society that have seen financial security and future welfare become tied to home-ownership. Addressing housing market pressures, such as ending the RTB in England, is crucial. More housing also needs to be built, crucially the right kind of homes in the right places. Addressing the lack of owner-occupied housing in this way is critical in addressing house price inflation, which has knock-on effects for the PRS. In particular, this will help to mitigate the incentives for short-term investment in the PRS, where small-portfolio landlords look to maximise capital gains when property prices rise. However, SH stock is also desperately needed to replace that lost to the RTB and to meet growing waiting lists. As mentioned above, this is important for giving some of the most vulnerable PRS tenants improved security of tenure, and abolishing ASTs in both the PRS and in SH (where they are given to many housing association tenants as an initial contract) would also help achieve this. While poorer wellbeing scores were found in SH than in the PRS in this research, greater security of tenure is very unlikely to do anything but improve this. Overall, alleviating pressures in other areas of the housing system would mean that the PRS, currently lightly-regulated and unsuitable for many, would be required to have less of a role in meeting demand. In such circumstances, the loss to the sector of landlords unwilling to invest long-term or to improve housing would therefore serve only to improve the sector.

8.5 Implications for further research

In light of the findings of the research and its limitations, as discussed above, the research could be extended in particular ways by further research. This includes:

- further use of the cohort data utilised in this research as new sweeps become available;
- further investigation into the effects that were found through different modelling strategies;
- research focussing on wellbeing in the PRS, accounting for a wider range of housing stressors;
- research into wellbeing outcomes for SH tenants, taking into account issues surrounding personal circumstances and area stratification; and
- research focussing on an alternative model for the PRS.

Data from the next available sweep of the MCS (expected to be released in 2025) would allow for longitudinal models to be estimated for the cohort as undertaken for the BCS70 cohort in this research. As explained in the methodology (chapter three), GLMMs require at least three measurement occasions for estimation. Not only would this show whether the results of the GLMMs were replicated for the younger age cohort, but it would also provide greater insight into the effects of the differing housing and economic landscapes in which CMs have been exposed to in their youth. This further analysis would also show whether those in the PRS continue to exhibit poorer wellbeing scores than those in SH, as found in the models in chapter five. Similarly, inclusion of the latest sweep of the BCS70 (available in autumn 2024) in longitudinal analysis would allow for the investigation of wellbeing differences at an older age. This would show whether Malaise continues to fall for each tenure on average, or whether those who grew up in the PRS and later lived in SH continue to have worsening wellbeing. In addition, inclusion of another wave of the BCS70 in GLMMs may allow for the estimation of random slope models, which allow for within-individual variation between measurement occasions (as explained in chapter four).

While the further modelling of wellbeing outcomes is important for showing whether the widening disparities in wellbeing between those in different tenures continue, further research that studied intra-PRS differences would also be of particular value. It would be substantively interesting to compare groups within the PRS to ascertain differing trajectories in wellbeing into middle-age. While this research controlled for various factors that may influence wellbeing, and analysed those with children in each tenure or who grew up in the PRS, there are many other strata in the PRS. As discussed in chapter three, there are various subgroups of PRS tenants, and the poorest in the tenure face distinctly poorer conditions that others. Key variables that may explain or mediate the results of the models in this research may thus be found. This research's findings of additional negative effects on wellbeing for those in the PRS with long-term health conditions also bears relevance as these conditions become more common in later life, making any changes in interactions important to analyse. Different types of modelling would also be of interest in this regard, for instance structural equation modelling (SEM), which could also account more effectively for issues such as temporal correlation. Sequence analysis could be employed to group cohort members based on their trajectories, for example in moves between tenures or by employment, for use in logistic regression. In particular, such methods may account for housing instability more effectively.

Key to understanding disparities in wellbeing for those in different UK housing tenures is further investigation into the influence of different housing stressors. It was not possible to incorporate factors such as housing costs (and therefore affordability) or conditions in the models in this research in great depth. As highlighted throughout this research however, these have been identified as impactful in qualitative studies focusing on the experience of PRS tenants. Quantitative research, some of which uses UK panel survey data (such as Bentley et al, 2016), has also found these factors to be important. Further UK evidence, and particularly that using cohort data, would therefore add important detail to the findings of this research that shows that negative wellbeing effects are generalisable. As explained in chapter three, cohort data has several advantages over panel data, such as the elimination of period and age effects. However, the collection of this information would require primary quantitative research as this information was not available in the cohort studies used here, giving the opportunity for a nuanced investigation of the psychosocial elements of renting which is greatly needed. Of acute interest in the pursuit of the above is research into the impact of legislative changes outside of England as effects become felt, such as the introduction of Private Residential Tenancies (PRT) in Scotland. Although no panacea, given the expansive grounds for eviction afforded to landlords, the improvements in tenancy security that PRT brings will likely illuminate the impact on tenants' wellbeing.

More research is also needed to explore the outcomes of SH tenants, particularly those who grew up in the PRS. Those in this tenure were found in all models in this research to have poorer wellbeing, except those models estimated on MCS data at age 17 where no significant effect was found. The research found that those in SH have significantly higher Malaise scores than those in other tenures across the life-course on average, as do those in SH with children in the household. The most marked difference, however, was found for those who grew up in the PRS and live in SH as adults. Importantly, these disparities were found to grow with age. As mentioned in previous chapters, SH is predominantly concentrated in more deprived neighbourhoods which may at least in part explain these effects through

the quality of the local environment, access to services, and individuals' assessment of their area. Similarly, those in SH in recent decades (i.e., since the residualisation of the sector) are most likely those with the most complex needs, therefore unmeasured characteristics may explain the poorer wellbeing outcomes. This draws attention to the restrictions of the modelling strategies deployed in this research and the limitations of the data itself, in regard to these factors. Research into the SH sector (as well as the PRS), including neighbourhood, age of dwelling, and housing costs is needed to better understand the routes of influence.

Research into an alternative model for the PRS in the UK could show how elements of the sector that result in stress and anxiety for tenants could be redesigned. Research on the PRS from countries with similar housing systems, such as Australia, provides an excellent starting point. The UK is an outlier in Europe with its PRS dominated by small landlords, which results in problems surrounding consistency of standards and the enforcement of regulations, as outlined above. This system also ties the PRS intrinsically to the owner-occupied sector, mortgage market and speculative cycles of 'boom and bust'. As discussed in chapter two, the post-2000 take-up of buy-to-let mortgages and the proliferation of small landlords was so rapid that the then government attempted to encourage sales into owner-occupation, amidst concerns that the market was being destabilised (Gibb et al, 2019). This involved attempts to encourage institutional landlords into the PRS, while later efforts have sought to incentivise them into build-to-rent (BTR) (Marsh & Gibb, 2019). As has been pointed out, however, BTR is unlikely to form a large part of the PRS, and BTR schemes has sometimes faced accusations of being expensive and exclusionary (Mahoney, 2020). It would be beneficial to investigate the potential of large institutional landlords able to borrow, build and spread risk across their portfolio to provide an effective alternative. While housing associations operate in the PRS, often through arms-length companies, they do so by offering ASTs (Rhodes & Rugg, 2018). These therefore do not address the systemic issues surrounding the insecurity and costs for PRS tenancies. Research could investigate the viability of non-profit institutional landlords, separate to HAs but committed to improved conditions in the sector and free of the 'investment motive' that keeps standards in the PRS low. In particular, their ability to upgrade housing stock by investing in retrofitting and other energy efficiency measures would be of great interest in the UK, which has some of the oldest and least energy efficient housing in Europe. A model in which these landlord organisations were tenant-led simultaneously has the potential to result in greater agency for tenants and thus a more viable long-term tenure, which has been shown to be of particular importance for families. International evidence would be of particular value in furthering understanding here, not only in similar housing systems but also those with alternative tenures in Europe.

8.6 Limitations

The models in this research controlled for a wide variety of individual and household characteristics, incorporating time-invariant factors from CMs' childhoods or specific age points, and time-variant factors measured across the age range. However, it is possible that important variables were not captured, as highlighted above. In particular, elements of deprivation beyond income, employment and disability were not able to be controlled for in the GLMMs, while neighbourhood characteristics could not be incorporated into any of the models. Of particular interest is housing affordability, which has been found by other longitudinal research to have a significant effect on wellbeing. As housing costs could not be modelled due to data limitations, any measure of affordability could not be derived. Similarly, some potentially significant interaction terms could not be incorporated in the analysis due to small group sizes. This was particularly the case when breaking down groups such as those who had been exposed to the PRS in childhood.

As stated in chapter three, causality cannot be inferred from the results of this research alone. This research represents the first time that wellbeing outcomes for families and children in the UK PRS have been analysed longitudinally and further evidence is therefore required to make this inference. It is also possible that the significant effects found in each element of the research represent cohort effects and are therefore generalisable only to the age groups in question and those closely preceding or succeeding them. While negative wellbeing outcomes for those in the PRS were found in the MCS as well as the BCS70, further research is needed to infer causality as stated above.

References

Aaland, K., Santiago, A. M., Galster, G. C. & Nordvik, V. 2021. Childhood Housing Tenure and Young Adult Educational Outcomes: Evidence from Sibling Comparisons in Norway. *Journal of Housing Economics*.

Acolin, A. 2020. Owning vs. Renting: the benefits of residential stability? *Housing Studies*.

Aiken, L. S., Mistler, S. A., Coxe, S. & West, S. G. 2015. Analyzing count variables in individuals and groups: Single level and multilevel models. *Group Processes & Intergroup Relations,* 18**,** 290-314.

Allison, P. D. 2012. Handling Missing Data by Maximum Likelihood. *SAS Global Forum.* Haverford, PA, USA: Statistical Horizons.

Ambrose, A., McCarthy, L. and Pinder, J. 2016. Energy (in)efficiency: what tenants expect and endure in private rented housing: a final report to the eaga charitable trust. [online] Available: https://shura.shu.ac.uk/15615/8/Ambrose-Energy(In)Efficiency(VoR).pdf (accessed 10/01/25)

Angel, S. & Gregory, J. 2021. Does housing tenure matter? Owner-occupation and wellbeing in Britain and Austria. *Housing Studies,* 21.

Arthur, S., Christie, A. & Mitchell, R. 2018. Unsuitable, insecure and substandard homes: The barriers faced by older private renters. London: Independent Age.

Arundel, R., Li, A., Baker, E. & Bentley, R. 2024. Housing unaffordability and mental health: dynamics across age and tenure. *International Journal of Housing Policy*, 24, 44-74.

Atkins, D. 2012. A Tutorial on Count Regression and Zero-Altered Count Models for Longitudinal Substance Use Data. *Psychology of Addictive Behaviours,* 27.

Atkinson, R. 2015. Losing One's Place: Narratives of Neighbourhood Change, Market Injustice and Symbolic Displacement. *Housing, Theory and Society,* 32**,** 373-388.

Baker, E., Mason, K., Bentley, R., & Mallett, S. 2014. Exploring the bi-directional relationship between health and housing in Australia. *Urban Policy and Research*, 32, 71–84

Bailey, N. 2020. Poverty and the regrowth of private renting in the UK, 1994-2018. *PLoS ONE* [Online]. Available: https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0228273 (accessed 13 January 2021).

Bailey, N., Kearns, A. & Livingston, M. 2011. Place Attachment in Deprived Neighbourhoods: The Impacts of Population Turnover and Social Mix. *Housing Studies,* 27**,** 208-231.

Bell, A. 2014. Life-course and cohort trajectories of mental health in the UK, 1991–2008 – A multilevel age–period–cohort analysis. *Social Science & Medicine,* 120**,** 21-30.

Bentiegna, F. & Patalay, P. 2022. The impact of sexual violence in mid-adolescence on mental health: a UK population-based longitudinal study. *The Lancet Psychiatry,* 9**,** 874-883.

Bentley, R., Baker, E., Mason, K., Subramanian, S. V. & And Kavanagh, A. M. 2011. Association between housing affordability and mental health: a longitudinal analysis of a nationally representative household survey in Australia. *American Journal of Epidemiology,* 174**,** 753-760.

Bentley, R., Pevalin, D., Baker, E., Mason, K., Reeves, A. & Beer, A. 2016. Housing affordability, tenure and mental health in Australia and the United Kingdom: a comparative panel analysis. *Housing Studies,* 31**,** 208-222.

Berry, C., Bhakta, T. and Matthews, W. 2024. Putting on the stabilisers: Protecting private renters from unaffordable rent rises. London: Shelter.

Blanchflower, D. G. & Oswald, A. J. 2008. Is well-being U-shaped over the life cycle? *Social Science & Medicine,* 66**,** 173-1749.

Bland, M. 2015. *An Introduction to Medical Statistics,* Oxford, Oxford University Press.

Blodgett, M, J. & Al, E. 2023. Does moderate to vigorous physical activity mediate the association between depression and physical function in midlife: Evidence from two British birth cohort studies. *Journal of Affective Disorders,* 326**,** 206-215.

Bolker, B. 2009. Generalized linear mixed models: a practical guide for ecology and evolution. *Trends in Ecology & Evolution,* 24**,** 127-135.

Bolker, B. 2022. *GLMM FAQ* [Online]. Available: http://bbolker.github.io/mixedmodels-misc/glmmFAQ.html#overdispersion [Accessed 5 October 2022].

Bone, J. & O'Reilly, K. 2010. No place called home: the causes and social consequences of the UK housing 'bubble'. *British Journal of Sociology,* 61**,** 231-255.

Bone, J. 2014. Neoliberal Nomads: Housing Insecurity and the Revival of Private Renting in the UK. *Sociological Research Online* [Online], 19. Available: http://www.socresonline.org.uk/19/4/1.html (accessed 13 December 2020).

Botsch, M. J. & Morris, S. D. 2020. Job Loss Risk, Expected Mobility, and Home Ownership. *Journal of Housing Economics*.

Bramley, G. 2018. Housing Supply across Great Britain: for low-income households and homeless people. London: Crisis & NHF

Bramley, G., Munro, M. & Pawson, H. 2004. *Key issues in housing: policies and markets in 21st century Britain,* Basingstoke, Palgrave Macmillan.

Breidenbach, P., Eilers, L. and Fries, J. (2022) Temporal dynamics of rent regulations - The case of the German rent control, Regional Science and Urban Economics, 92, https://doi.org/10.1016/j.regsciurbeco.2021.103737;

Butler, P. 2016. More than 2,500 children unlawfully housed in B&Bs. *The Guardian* [online]. Available: https://www.theguardian.com/society/2016/dec/15/more-than-2500-children-unlawfully-housed-in-bbs-homelessness (accessed 5 February 2021).

Byrne, M. 2019. The financialization of housing and the growth of the private rental sector in Ireland, the UK and Spain. Dublin: UCD Geary Institute for Public Policy.

Carozzi, F., Hilber, C. A. L. and Yu, X. 2024. On the economic impacts of mortgage credit expansion policies: Evidence from help to buy. Journal of Urban Economics. 139

Centre for Longitudinal Studies (CLS) 2021. *1970 British Cohort Study Responses and Deaths data User guide (Version 5),* London, University College London.

Centre for Longitudinal Studies 2020. Millennium Cohort Study: User Guide (Surveys 1 – 5). 9 ed. London: University College London.

Centre for Longitudinal Studies. 2017. Millennium Cohort Study Sixth Sweep (MCS6): Age 14 Survey Household and Parental Questionnaire.

Chang, H.-J. 2014. *Economics: The User's Guide,* London, Penguin Books.

Cheshire, P. 2014. Turning houses into gold: the failure of British planning. Centrepiece. 19 (1), pp.14-19.

Cheshire, P., Nathan, M. and Overman, H. (2014) Urban Economics and Urban Policy: Challenging Conventional Policy Wisdom, Cheltenham: Edward Elgar.

Chisholm, E., Howden-Chapman, P. & Fougere, G. 2020. Tenants' Responses to Substandard Housing: Hidden and Invisible Power and the Failure of Rental Housing Regulation. *Housing, Theory and Society,* 37**,** 139-161.

Clair, A., Baker, E. & Kumari, M. 2023. Are housing circumstances associated with faster epigenetic ageing? *Journal of Epidemiology & Public Health,* 78**,** 40-46.

Clark, T. & Wenham, A. 2022. Anxiety Nation? economic insecurity and mental distress in 2020s Britain. Joseph Rowntree Foundation. York: Joseph Rowntree Foundation.

Clarke, A., Hamilton, C., Jones, M. & Muir, K. 2017. Poverty, evictions and forced moves. York: Joseph Rowntree Foundation.

Clarke, S., Corlett, A. & Judge, L. 2016. The housing headwind: The impact of rising costs on UK living standards. London: Resolution Foundation.

Collinson, P. 2020. Private rents in England hit record high during coronavirus lockdown. *The Guardian*, 23/11/2020.

Cooper, C. 2005. Places, 'folk devils' and social policy. *In:* Somerville, P. & Sprigings, N. (eds.) *Housing and Social Policy: Contemporary themes and critical perspectives.* Oxon: Routledge.

Coulter, R. & Van Ham, M. 2013. Following People Through Time: An Analysis of Individual Residential Mobility Biographies. *Housing Studies,* 28**,** 1037-1055.

Coulter, R. 2017. Social Disparities in Private Renting Amongst Young Families in England and Wales, 2001-2011. *Housing, Theory and Society,* 34**,** 297-322

Cowan, S. 2024. Independent Review of the UK's Private Rented Sector, London: Private Rented Sector Commission.
Crisp, R, Ferrari, E., Gore, T., Green, S., Mccarthy, L., Rae, A., Reeve, K. & Stevens, M. 2018. Tackling transport-related barriers to employment in low-income neighbourhoods. York.

Cromarty, H. & Barton, C. 2022. Housing conditions in the private rented sector (England), House of Commons Library Research Briefing. London: House of Commons.

Crook, A. D. H. 2002a. Housing conditions in the private rented sector within a market framework. *In:* Hughes, D. & Lowe, S. (eds.) *The Private Rented Sector in a New Century: Revival or False Dawn?* Bristol: The Policy Press.

Crook, A. D. H. 2002b. Private renting in the 21st century: lessons from the last decade. *In:* Hughes, D. & Lowe, S. (eds.) *The private rented sector in a new century: revival or false dawn?* Bristol: Policy Press.

Crook, T. & Kemp, P. A. 1996. The revival of private rented housing in Britain. *Housing Studies,* 11**,** 51-68.

Crook, T. & Kemp, P. A. 2011. *Transforming private landlords: housing, markets and public policy,* Oxford, Wiley-Blackwell.

Daley, G. & Gulliver, K. 2014. Housing Policy. *In:* Bochel, H. & Daly, G. (eds.) *Social Policy.* 3 ed. Abingdon, Oxon: Routledge.

De Santos, R. 2012. Homes fit for families? The case for stable private renting. London.

Department for Levelling up, Housing & Communities. 2022. White Paper: A Fairer Private Rented Sector. London: UK Government.

Department for Levelling Up, Housing & Communities. 2023. Reforming the Private Rented Sector, Fifth Report of Session 2022–23. London: House of Commons.

Department for Levelling up, Housing and Communities. 2022. English Private Landlord Survey 2021: main report [online] Available: https://www.gov.uk/government/statistics/english-private-landlord-survey-2021-main-report (accessed 24 June 2024)

Department for Levelling Up, Housing and Communities .2023. Table 118 Annual net additional dwellings and components, England and the regions, 2000-01 to 2022-23 [online] available: https://assets.publishing.service.gov.uk/media/6565f6c68f1f41000dd5d1ea/LT118.ods (accessed 24 June 2024)

Department of the Environment and Welsh Office. 1995. Our Future Homes White Paper. London: HMSO

Diamond, R., McQuade, T. and Qian, F. (2019) The effects of rent control expansion on tenants, landlords, and inequality, American Economic Review, 109, pp.3365-3394.

Dupius, A. & Thorns, D. C. 1998. Home, home ownership and the search for ontological security. *Sociological Review,* 46**,** 24-47.

Eardley, F. 2022. Right to buy: Past, present and future. London: House of Lords Library.

Ellaway, A. & Macintyre, S. 1998. Does housing tenure predict health in the UK because it exposes people to different levels of housing related hazards in the home or its surroundings? *Health & Place,* 4**,** 141-150.

Elliott, L. 2013. George Osborne denies that Help to Buy scheme risks new housing bubble. *The Guardian*.

Equalities and Human Rights Commission. 2018. Housing and Disabled People: Britain's hidden crisis. London: EHRC

Evans, A. & Al, E. 2020. Rent Better: Research on the impact of changes to the private rented sector tenancy regime in Scotland. London: Nationwide Foundation.

Fitzpatrick, S. & Watts, B. 2017. Competing visions: security of tenure and the welfarisation of English social housing. *Housing Studies,* 32**,** 1021-1038.

Fogarty, B. J. 2019. *Quantitative Social Science Data with R: an introduction,* London, Sage.

Foster, L., Diamond, I. & Jefferies, J. 2015. *Beginning Statistics: an introduction for social scientists.* London: Sage.

Foye, C. 2017. The Relationship Between Size of Living Space and Subjective Well-Being. *Journal of Happiness Studies,* 18**,** 427-461.

Francis-Devine, B. 2024. Poverty in the UK: Statistics. London: House of Commons Library.

Gambaro, L. & Joshi, H. 2016. Moving home in the early years: what happens to children in the UK? *Longitudinal and Life Course Studies,* 7**,** 265-287.

Garnham, L. & Al, E. 2022. Intervening in the cycle of poverty, poor housing and poor health: The role of housing providers in enhancing tenants' mental wellbeing. *Journal of Housing and the Built Environment,* 37**,** 1-21.

Garnham, L. & Rolfe, S. 2019. Housing as a social determinant of health: evidence from the Housing through Social Enterprise study. Glasgow Centre for Population Health.

Gayle, V. & Lambert, P. 2018. *What is Quantitative Longitudinal Data Analysis?,* London, Bloomsbury.

Gibb, K. and Hayton, J. 2017. Overcoming Obstacles to the Funding and Delivery of Affordable Housing Supply in European States. [Online]. Available:

https://ec.europa.eu/futurium/en/system/files/ged/2018.10.22_overcoming_obstacles_to_the_funding_and_delivery_of_affordable_housing_supply_in_european_states_1.pdf. (Accessed 2 April 2024)

Gibb, K., Livingston, M. & Berry, K. 2019. Overview of private rented housing reforms in Scotland. Edinbrugh: Scottish Parliament Information Centre (SPICe).

Giddens, A. 1991. *Modernity and Self-Identity. Self and Society in the Late Modern Age,* Cambridge, Polity.

Goldstein, H, Burgess, S., McConnell, B. 2007. Modelling the effect of pupil mobility on school differences in educational achievement. *Journal of the Royal Statistical Society Series A,* 170**,** 941-954.

Gondek, D. & Al, E. 2021a. How is the distribution of psychological distress changing over time? Who is driving these changes? Analysis of the 1958 and 1970 British birth cohorts. *Social Psychiatry and Psychiatric Epidemiology,* 57**,** 1007-1016.

Gondek, D. & Al, E. 2021b. Psychological distress from early adulthood to early old age: evidence from the 1946, 1958 and 1970 British birth cohorts. *Psychological Medicine,* 52**,** 1471–1480.

Green, R. K. & White, M. J. 1997. Measuring the Benefits of Homeowning: Effects on Children. *Journal of Urban Economics,* 43**,** 441-461.

Gregory, J. 2016. How not to be an egalitarian: the politics of homeownership and property owning democracy. *International Journal of Housing Policy,* 16**,** 337-355.

Gurney, C. 2019. In a Lonely Place: ontological security, mental health and the meaning of home. *European Network for Housing Research Conference.* Athens.

Gurney, C. M. 1999. Pride and Prejudice: Discourses of Normalisation in Public and Private Accounts of Home Ownership. Housing Studies, 14, 163-183.

Gustavson, K., von Soest, T., Karevold, E. & Røysamb, E. 2012. Attrition and generalizability in longitudinal studies: findings from a 15-year population-based study and a Monte Carlo simulation study. *BMC Public Health*, 12. [Online] Available: https://bmcpublichealth.biomedcentral.com/articles/10.1186/1471-2458-12-918 (accessed 2 February 2024).

Halliday, J. 2023. Loophole adds to 'shameful' rental conditions in England, says housing chief. *The Guardian*.

Hastings, A. 2009. Neighbourhood environmental services and neighbourhood `effects': exploring the role of urban services in intensifying neighbourhood problems. *Housing, Theory and Society,* 24**,** 503-524.

Hatherley, O. 2013. *A new kind of bleak: journeys through urban Britain,* London, Verso.

Hirst, M. A. and Bradshaw, J. R. 1983. Evaluating the malaise inventory: a comparison of measures of Stress. *Journal of Psychosomatic Research.* 27(3), pp. 193-199

Hiscock, R. 2013. Ontological security and psychosocial benefits from the home: qualitative evidence on issues of tenure. *Housing, Theory and Society,* 18**,** 1-2.

Hoolachan, J., Mckee, K., Moore, T. & Soaita, A. M. 2016. 'Generation rent' and the ability to 'settle down': economic and geographical variation in young people's housing transitions. *Journal of Youth Studies,* 20**,** 63-78.

Hox, J. 2010. *Multilevel Analysis: Techniques and Applications,* New York, Routledge.

Hulse, K. & Morris, A. 2018. Private Renting in a Home-owning Society: Disaster, Diversity or Deviance? *Housing, Theory and Society,* 36**,** 167-188.

Hulse, K.& Goodall, Z. 2023. Reforming the Private Rental Sector: Challenges in the 2020s and Beyond. *Australian Economic Review*, 56(2), 240-248.

Jaccard, J. 2001. *Interaction Effects in Logistic Regression,* London, Sage.

Jones, P. & Evans, J. 2008. *Urban Regeneration in the UK,* London, SAGE.

Joseph Rowntree Foundation. 2018. Affordable Rents compared to traditional social rents. York: Joseph Rowntree Foundation.

Joseph Rowntree Foundation 2020. UK Poverty 2019/20. York: Joseph Rowntree Foundation.

Joseph Rowntree Foundation. 2024. UK Poverty 2024. York: Joseph Rowntree Foundation.

Judge, T, Scott, B. & Ilies, R. 2006. Hostility, job attitudes and workplace deviance: Test of a multilevel model. *Journal of Applied Psychology,* 91, 126 - 138.

Kemeny, J. 2001. Comparative housing and welfare: theorising the relationship. *Journal of Housing and the Built Environment,* 16**,** 53-70.

Kemp, P. A. & Kofner, S. 2010. Contrasting Varieties of Private Renting: England and Germany. *International Journal of Housing Policy,* 10**,** 379-398.

Kemp, P. A. 2011. Low-income Tenants in the Private Rental Housing Market. *Housing Studies,* 26**,** 1019-1034.

Kessler, R. C., Andrews, G., Colpe , L. J., Hiripi, E., Mroczek, D. K., Normand, L. T., Walkters , E. E. & Zaslavsky, A. 2002. *Short Screening Scales to Monitor Population Prevalences and Trends in Non-Specific Psychological Distress,* Cambridge, Cambridge University Press.

Labour Party. 2024. Labour Party Manifesto 2024. London: Labour Party.

Levelling Up, Housing and Communities Committee (2023) Reforming the Private Rented Sector, Fifth Report of Session 2022–23, 6 February 2023. London: House of Commons.

Li, A., Baker, E. & Bentley, R. 2022. Understanding the mental health effects of instability in the private rental sector: A longitudinal analysis of a national cohort. *Social Science & medicine,* 296**,** 114778.

Lister, D. 2002. The nature of tenancy relationships: landlords and young people. *In:* Lowe, S. & Hughes, D. (eds.) *The Private Rented Sector in a New Century: Revival or False Dawn?* Bristol: Policy Press.

Lister, D. 2006. Unlawful or just awful?: Young people's experiences of living in the private rented sector in England. *Young: Nordic Journal of Youth Research,* 14**,** 141-155.

Livingston, M., Bailey, N. & Kearns, A. 2008a. The influence of neighbourhood deprivation on people's attachment to places. York: Joseph Rowntree Foundation.

Livingston, M., Berry, K., Gibb, K. & Bailey, N. 2018. Private Renting Reforms: how to evidence the impact of legislation. Edinburgh: Scottish Parliament.

Livingston, M., Gibb, K. & Berry, K. 2019. Overview of private rented housing reforms in Scotland. Edinbrugh: Scottish Parliamentary Information Centre.

Maclennan, D. & O'Sullivan, T. 2008. Housing policies for Scotland: changes and challenges. York: Joseph Rowntree Foundation.

Madden, D. & Marcuse, P. 2016. *In Defence of Housing: the politics of crisis,* London, Verso.

Mahoney, S. 2020. Moving, Always Moving: The normalisation of housing insecurity among children in low income households in England. London: The Children's Society.

Mallett, S., Bentley, R., Baker, E., Mason, K., Keys, D., Kolar, V. & Krnjacki , L. 2011. Precarious housing and health inequalities: what are the links?, Hanover Welfare Services. Australia: Hanover Welfare Services.

Malpass, P. 2005. *Housing and the Welfare State: The Development of Housing Policy in Britain,* Basingstoke, Palgrave Macmillan.

Marsh, A. & Gibb, K. 2019. The private rented sector in the UK: An overview of the policy and regulatory landscape. UK Collaborative Centre for Housing Evidence.

Marsh, A., Gibb, K. and Soaita, A. M. 2023. Rent regulation: unpacking the debates, International Journal of Housing Policy. 23(4), pp.734-757

Mason, K. E., Baker, E., Blakely, T. & Bentley, R. J. 2013. Housing affordability and mental health: Does the relationship differ for renters and home purchasers? Social Science & Medicine, 94,pp. 91–97

McKee, K. 2021. Changing Fortunes of the UK PRS & Implications for Housing Research & Education [online]. Available from: http:// Housing Studies Association (housing-studies-association.org) (accessed 12 April 2021).

McKee, K., Moore, T., Soaita, A. & Crawford, J. 2017. 'Generation Rent' and The Fallacy of Choice. *International Journal of Urban and Regional Research,* 41**,** 318-333.

McKee, K., Rolfe, S., Feather, J., Simcock, T. & Hoolachan, J. 2021. Making a home in the private rented sector: an evidence review. UK Collaborative Centre for Housing Evidence.

McKee, K., Soaita, A. M. & Munro, M. 2019. Beyond Generation Rent: Understanding the aspirations of private renters aged 35-54. UK Collaborative Centre for Housing Evidence.

Meers, J. 2019. No children, no DSS, no students: online adverts and “property guardianship”. *Journal of Property, Planning and Environmental Law,* 11**,** 217-229.

Mense, A., Michelsen, C. and Kholodilin, K. A. 2023. Rent control, market segmentation, and misallocation: causal evidence from a large-scale policy intervention. *Journal of Urban Economics,* 132, https://doi.org/10.1016/j.jue.2022.103513

Ministry for Housing, Communities and Local Government. 2020a. Complete ban on evictions and additional protection for renters [online]. Available: https://www.gov.uk/government/news/complete-ban-on-evictions-and-additional-protection-for-renters (accessed 12 March 2021).

Ministry for Housing, Communities and Local Government. 2020a. English Housing Survey data on social and private renters [online]. Available: https://www.gov.uk/government/statistical-data-sets/social-and-private-renters (accessed 2 February 2021).

Ministry for Housing, Communities and Local Government. 2020b. English Housing Survey data on tenure trends and cross tenure analysis, Table FT1101 (S101): trends in tenure [online]. Available: https://www.gov.uk/government/statistical-data-sets/tenure-trends-and-cross-tenure-analysis (accessed 3 February 2021).

Ministry for Housing, Communities and Local Government. 2018. Table 671: Social Housing Sales: Annual Right to Buy Sales for England: 1980-81 to 2017-18 [online]. Available: https://www.gov.uk/government/collections/social-housing-sales-including-right-to-buy-and-transfers (accessed 4 March 2021).

Ministry for Housing, Communities and Local Government. 2019. Table 241 House building: permanent dwellings completed, by tenure: United Kingdom historical calendar year series [online]. Available: https://www.gov.uk/government/statistical-data-sets/live-tables-on-house-building (accessed 19 January 2021).

Mitchell, F., Neuburger, J., Radebe, D. & Rayne, A. 2004. Living in limbo: Survey of homeless households living in temporary accommodation. London: Shelter.

Mostafa, T. & Wiggins, R. 2015. The impact of attrition and non-response in birth cohort studies: a need to incorporate missingness strategies. *Longitudinal and Life Course Studies,* 6**,** 131-146.

Moules, J. (2024) Labour unveils new housing policy with 'Freedom to Buy' scheme offering permanent mortgage guarantees [online] https://labourlist.org/2024/06/labour-party-housing-mortgage-election-2024/ (accessed: 20/06/24)

Moulton, V. & Al, E. 2023. *Social Psychiatry and Psychiatric Epidemiology* [Online]. Available: https://link.springer.com/article/10.1007/s00127-022-02377-w#Sec2.

Munro, M. & Livingston, M. 2012. Student Impacts on Urban Neighbourhoods: Policy Approaches, Discourses and Dilemmas. *Urban Studies,* 49**,** 1679-1694.

Murie, A. 2019. Building on what we know: fault lines for housing research. [Accessed 19 March.

Mustillo, S, Landerman, L. R. & Land, K. C. 2012. Modelling Longitudinal Count Data: testing for group differences in growth trajectories using average marginal effect. *Sociological Methods & Research,* 41**,** 383-487.

Nussbaum, M. C. 2000. *Women and human development: the capabilities approach*. Cambridge: Cambridge University Press.

Office for National Statistics. 2019. *UK private rented sector: 2018* [Online]. Available: https://www.ons.gov.uk/economy/inflationandpriceindices/articles/ukprivaterentedsector/2018#tenants [Accessed 17 January 2021].

Office for National Statistics. 2020. Household Projections for England, Table 401: Household estimates and projections, United Kingdom, mid-2001 to mid-2043. [Online] Available: https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/datasets/householdprojectionsforengland (accessed 12 May 2022).

Office for National Statistics. 2021. Families and households dataset [Online]. Available: https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/families/datasets/familiesandhouseholdsfamiliesandhouseholds (accessed 17 April 2021).

Office for National Statistics. *The National Statistics Socio-economic classification (NS-SEC)* [Online]. Available: https://www.ons.gov.uk/methodology/classificationsandstandards/otherclassifications/thenationalstaticssocioeconomicclassificationnssecrebasedonsoc2010 (accessed 12 April 2022).

Ong Viforj, R., Singh, R., Baker, E., Bentley, R. & Hewton, J. 2022. Precarious housing and wellbeing: a multi-dimensional investigation, AHURI Final Report No. 373. Melbourne: Australian Housing and Urban Research Institute Limited.

Orford, S. & Harris, J. 2020. UK private rented sector data. UK Collaborative Centre for Housing Evidence.

Perry, J. (2020) Dwellings, stock condition and households. In: Stephens, M., Perry, J., Williams, P., Young, G. and Fitzpatrick, S. (eds.) UK Housing Review 2020 [28th ed]. Chartered Institute of Housing: Coventry

Peters, A. 2019. 1970 British Cohort Study: Age 46 Derived Variables User Guide. London: Centre for Longitudinal Studies.

Peterson, T. 2004. Analyzing Panel Data: Fixed- and Random-Effects Models. *In:* Hardy, M. A. & Bryman, A. (eds.) *Handbook of Data analysis.* London: Sage.

Phibbs, A. & Young, P. 2005. Housing assistance and non-shelter outcomes, AHURI Final Report No. 74. [Online]. Available: https://www.ahuri.edu.au/research/final-reports/74. [Accessed 3 March 2024].

Plewis, I. 2007. The Millennium Cohort Study: Technical Report on Sampling. 4 ed. London: University of London.

Ploubidis , G. B., Mcelroy, E. & Moreira, H. C. 2019. Longitudinal examination of the measurement equivalence of mental health assessments in two British birth cohorts. *Longitudinal and life course studies,* 10**,** 471-489.

Ploubidis, G., Sullivan, A., Brown, M. & Goodman, A., 47(2), 2017. Psychological distress in mid-life: Evidence from the 1958 and 1970 British birth cohorts. *Psychological Medicine,* 47**,** 291-303.

Powell, R. 2015. Housing Benefit Reform and the Private Rented Sector in the UK: On the Deleterious Effects of Short-term Ideological 'Knowledge'. Housing, Theory and Society. 32 (3), pp.320–345.

Prochaska, J. J., Sung, H. Y., Max, W., Shi, Y. & Ong, M. 2012. Validity study of the K6 scale as a measure of moderate mental distress based on mental health treatment need and utilization. *International Journal of Methods in Psychiatric Research,* 21**,** 88-97.

Rahilly, S. 2003. Review of Stuart Lowe and David Hughes (eds) (2002), The Private Rented Sector in a New Century, Bristol: The Policy Press. *Journal of Social Policy,* 32**,** 483-484.

Rees, G. 2019. *Top-line Analysis and Feasibility Study on Mental Health and Wellbeing using Millennium Cohort Study Data,* Cardiff, Welsh Government

Rhodes, D. & Kemp, P. 2002. Rents and returns in the residential lettings. *In:* Hughes, D. & Lowe, S. (eds.) *The Private Rented Sector in a New Century: Revival or False Dawn?* Bristol: Policy Press.

Rhodes, D. & Rugg, J. 2018. Vulnerability amongst Low-Income
Households in the Private Rented Sector in England. York: Centre for Housing Policy.

Rhodes, D. 2007. Buy-to-let landlords. *In:* Hughes, D. & Lowe, S. (eds.) *The Private Rented Housing Market: Regulation or Deregulation?* Aldershot: Ashgate.

Richardson, H. 2018. Landlords who say 'no DSS' breaking equality laws. *BBC* [Online]. Available: https://www.bbc.co.uk/news/education-42979242 [Accessed 10 December 2020].

Rodgers , B., Pickles , A., Power , C., Collishaw , S. & Maughan , B. 1999. Validity of the Malaise Inventory in general population samples . . *Social Psychiatry and Psychiatric Epidemiology***,** 333-341.

Roeback, P. & Legler, J. 2021. *Beyond Multiple Linear Regression: Applied Generalized Linear Models,* Boca Renton, CRC Press.

Rugg, J. & Rhodes, D. 2008. The Private Rented Sector: Its Contribution and Potential. York: Centre for Housing Policy.

Rutter , M., Tizard , J. & Whitmore , K. 1970. *Education, health and behaviour,* London, Longmans.

Sacker, A. & Wiggins, R. D. 2002. Age–period–cohort effects on inequalities in psychological distress. *Psychological Medicine,* 32**,** 977–990.

Savage, M. 2015. *Social Class in the 21st Century,* London, Penguin Random House.

Scanlon, E. & Devine, K. 2001. Residential Mobility and Youth Well-Being: Research, Policy, and Practice Issues. *Journal of Sociology and Social Welfare,* 28**,** 119-138.

Scanlon, K. 2015. Playing Happy Families? Private Renting for Middle-Income Households with Children in London, Berlin and New York. *Built Environment,* 41**,** 196-210.

Scanlon, K. And Whitehead, C. (2014) Rent Stabilisation: Principles and international experience. London: LSE.

Scottish Government. 2016. *Private Housing (Tenancies) (Scotland) Act 2016* [Online]. Available: https://www.legislation.gov.uk/asp/2016/19/contents (accessed 28 Marsh 2024).

Scottish Government. 2017. *Private residential tenancy: Information for landlords* [Online]. Available: https://www.gov.scot/publications/private-residential-tenancies-landlords-guide/#grounds-for-eviction (accessed 20 October 2020).

Scottish Government. 2024a. *Local Housing Allowance Rates: 2024-2025* [Online]. Available: https://www.gov.scot/publications/local-housing-allowance-rates-2024-2025/ (accessed 2 February 2024).

Scottish Government. 2024b. Housing (Scotland) Bill: Policy Memorandum. [Online]. Available: https://www.parliament.scot/-/media/files/legislation/bills/s6-bills/housing-scotland-bill/introduction/policy-memorandum-accessible.pdf (accessed 2 February 2024).

Scottish Household Survey. 2021. Table 3.21a: Household composition (percentages of all private rented households) (Scotland) [online]. Available: https://www.gov.scot/publications/scottish-household-survey-2019-annual-report/documents/ (accessed 14 April 2022).

Sharpe, R. A., Wyatt, K. M. & Willaims, A. J. 2022. Do the Determinants of Mental Wellbeing Vary by Housing Tenure Status? Secondary Analysis of a 2017 Cross-Sectional Residents Survey in Cornwall, South West England. *International Journal of Environmental Research and Public Health,* 19**,** 3816.

Shelter 2005. Full house? How overcrowded housing affects families. London: Shelter.

Shelter 2012. Homes Fit for Families? The Case for Stable Private Renting. London: Shelter.

Shelter. 2021. Assured tenancy definition. [Online]. Avaialable: https://england.shelter.org.uk/professional_resources/legal/renting/assured_and_assured_shorthold_tenancies/assured_tenancy_definition#reference-12. [Accessed 28 June 2024].

Silverwood, R, Narayanan, M., Dodgeon, B. & Ploubidis, G. 2021. Handling missing data in the National Child Development Study: User guide. London: UCL Centre for Longitudinal Studies.

Singer, J. D. & Willet, J. B. 2003. *Applied Longitudinal Data Analysis: modelling change and event occurrence,* Oxford, Oxford University Press.

Sissons, P. & Houston, D. 2018. Changes in transitions from private renting to homeownership in the context of rapidly rising house prices. *Urban Studies,* 34**,** 49-65.

Smyth, C. 2019. B&B bill for homeless families soars. *The Times*.

Snijders, T. & Bosker, R. 2012. *Multilevel analysis : an introduction to basic and advanced multilevel modeling,* London, Sage.

Soaita, A. M., Munro, M. & Mckee, K. 2020. Private renters' housing experiences in lightly regulated markets. UK Collaborative Centre for Housing Evidence.

Somerville, P. 2005. Housing, class and social policy. *In:* Somerville, P. & Sprigings, N. (eds.) *Housing and Social Policy: Contemporary themes and critical perspectives.* Oxon: Routledge.

Spencer, R. & Rugg, J. 2023. Offences under the Protection from Eviction Act 1977 in England: 2022 update of the annual count. London: Safer Renting.

Spiers, N. 2011. Age and birth cohort differences in the prevalence of common mental disorder in England: National Psychiatric Morbidity Surveys 1993–2007. *British Journal of Psychiatry,* 198**,** 479-484.

Spratt, V. 2019. The hidden housing crisis: NHS staff, teachers and low-income workers reveal the realities of being a property guardian. *The i*.

Sprigings, N. and Smith, D. H. (2012) Unintended Consequences; Local Housing Allowance meets the Right to Buy, People, Place & Policy, 6(2) pp. 58-75

Scottish Household Survey. 2021. Table 3.1a: Tenure of household by year (Scotland) [onlone]. Available: https://www.gov.scot/publications/scottish-household-survey-2021-telephone-survey-key-findings/documents/ (Accessed 21 October 2021).

Standing, G. 2011. The Precariat: The New Dangerous Class. London : Bloomsbury

Stannard, S, Berrington, A. & Alwan, N. 2019. Associations between birth order with mental wellbeing and psychological distress in midlife: Findings from the 1970 British Cohort Study (BCS70). *PLoS ONE,* 14.

Stephens, M. 2011. Tackling Housing Market Volatility in the UK. York: Joseph Rowntree Foundation.

Sullivan, A, Brown, M., Hamer, M. & Ploubidis, G. B. 2022. Cohort Profile Update: The 1970 British Cohort Study (BCS70). *International Journal of Epidemiology,* 148.

Tallon, A. 2013. *Urban Regeneration in the UK,* Oxon, Routledge.

The Children's Society. 2012. The Good Childhood Report 2012.

UK Government. 2009. Regulated tenancies [online] Available: https://www.gov.uk/government/publications/regulated-tenancies/regulated-tenancies (accessed 08/12/23)

UK Government. 2021. The Rent Officers (Housing Benefit and Universal Credit Functions) (Amendment and Modification) Order 2021 [online] Available: https://www.legislation.gov.uk/uksi/2021/1380/made (accessed 05/01/24)

UK government. 2023. English Housing Survey 2021 to 2022: private rented sector [online] Available:) https://www.gov.uk/government/statistics/english-housing-survey-2021-to-2022-private-rented-sector/english-housing-survey-2021-to-2022-private-rented-sector (accessed 08/01/24)

UK Government. 2024. The Assured Tenancies and Agricultural Occupancies (Forms) Regulations 1997. [Online] Available: https://www.legislation.gov.uk/uksi/1997/194 . [Accessed 24 June 2024].

Wall, T. 2023. 'There's no space': rogue landlords double income by ignoring overcrowding rules', The Guardian

Walsh, E. 2019. "Family-friendly" tenancies in the private rented sector. *Journal of Property, Planning and Environmental Law,* 11**,** 230-243.

Western, M. and Tomaszewski, W. 2016. Subjective Wellbeing, Objective Wellbeing and Inequality in Australia. *PLoS ONE*, 11(10).

Wright, D. B. 2017. Some Limits Using Random Slope Models to Measure Academic Growth. *Frontiers in Education,* 58**,** 1-11.

Wright, S., Stewart, A. B. & Dwyer, P. 2018. Final findings: Social security in Scotland.

Yerkes, M. A., Hopman, M., Stok, F. M. & De Wit, J. 2019. In the best interests of children? The paradox of intensive parenting and children's health. *Critical Public Health,* 31**,** 349-360.

Zumbro, T. 2014. The Relationship Between Homeownership and Life Satisfaction in Germany. *Housing Studies,* 29**,** 319-338.

Appendices

Appendix I. Housing Tenure (BCS70)

'Other' tenure was not consistently coded in each sweep of the BCS70. Sweep five of the survey includes 'parents (rent free)' and 'parents (pays rent)' as tenure categories, however no sweep of the survey succeeding this does so. These categories were recoded as 'Other' for the purposes of this research, alongside other categories such as 'squatting' and 'other arrangement' that appeared in multiple sweeps.

Appendix II. Ethnicity (BCS70)

CMs' ethnicity is taken from sweep two of the survey and was not asked in later sweeps. As seen in table 3.3, the cohort is overwhelmingly white, at 97% in sweep five. In order to preserve group sizes, ethnicity categories 'Pakistani/Indian' and 'Other Asian' are collapsed into 'Asian', while 'West Indies and 'African' become 'Black'. A more granular definition of 'Other' ethnicity is unfortunately unavailable, although this group accounts for a very small proportion of the cohort and at no point is large enough to be considered for statistical significance in the models.

Appendix III. Children in the household, by tenure (BCS70)

CMs were asked whether there were children living permanently in their household at each sweep of the BCS70. A variable was derived from these questions to indicate if there was a child in the household and which tenure the household was in if so. This variable includes children that are not natural children of the CM.

Table III. Whether children are in household, by tenure. Source: BCS70

Sweep	Whether has child[ren] in household	Freq	Proportion (within sweep)
5	Yes (0wner)	1411	16%
	Yes (PRS)	208	2%
	Yes (SH)	257	3%
	Yes (RF)	83	1%
	Yes (other)	188	2%
	No	6772	75%

	NA	84	84%
	total	9003	100%
6	Yes (0wner)	3324	30%
	Yes (PRS)	504	4%
	Yes (SH)	613	5%
	Yes (RF)	186	2%
	Yes (other)	399	4%
	No	6041	54%
	NA	194	2%
	total	11261	100%
7	Yes (0wner)	3936	41%
	Yes (PRS)	548	6%
	Yes (SH)	735	8%
	Yes (RF)	201	2%
	Yes (other)	471	5%
	No	3640	38%
	NA	134	1%
	total	9665	100%
9	Yes (0wner)	4676	48%
	Yes (PRS)	690	7%
	Yes (SH)	845	9%
	Yes (RF)	267	3%
	Yes (other)	603	6%
	No	2668	27%
	NA	92	1%
	total	9841	100%
10	Yes (0wner)	3995	47%
	Yes (PRS)	541	6%
	Yes (SH)	746	9%
	Yes (RF)	196	2%
	Yes (other)	485	6%
	No	2535	30%
	NA	83	1%
	total	8581	100%

Appendix IV. Exposure to the PRS in childhood, by tenure (BCS70)

Tenure information was provided by parents of CMs in sweep 2-4. A dichotomous variable indicating whether a CM was present in the PRS for at least one sweep during childhood was derived from this, which also captures their present tenure (at each sweep) if so.

Table IV. Whether CM was in PRS as child, by tenure. Source: BCS70

Sweep	Whether was in PRS as a child	Freq	Proportion (within sweep)
5	Yes (0wner)	541	6.0%
	Yes (PRS)	77	0.9%
	Yes (SH)	90	1.0%
	Yes (RF)	19	0.2%
	Yes (other)	87	1.0%
	No	8105	90.0%
	NA	84	0.9%
	total	9003	100.0%
6	Yes (0wner)	653	5.8%
	Yes (PRS)	115	1.0%
	Yes (SH)	135	1.2%
	Yes (RF)	36	0.3%
	Yes (other)	90	0.8%
	No	10112	89.8%
	NA	120	1.1%
	total	11261	100.0%
7	Yes (0wner)	584	6.0%
	Yes (PRS)	72	0.7%
	Yes (SH)	118	1.2%
	Yes (RF)	36	0.4%
	Yes (other)	84	0.9%
	No	8672	89.7%
	NA	99	1.0%
	total	9665	100.0%
9	Yes (0wner)	599	6.1%
	Yes (PRS)	74	0.8%
	Yes (SH)	105	1.1%
	Yes (RF)	30	0.3%
	Yes (other)	71	0.7%

	No	8870	90.1%
	NA	92	0.9%
	total	9841	100.0%
10	Yes (0wner)	499	5.8%
	Yes (PRS)	84	1.0%
	Yes (SH)	93	1.1%
	Yes (RF)	36	0.4%
	Yes (other)	73	0.9%
	No	7713	89.9%
	NA	83	1.0%
	total	8581	100.0%

Appendix V. Derived independent variables in the linear models (MCS)

IV.I Whether any parent is in employment

Taking the employment status from either one parent (in lone-parent households) or both parents (in two-parent households), a dichotomous variable were derived to ascertain whether either parent was in employment in MCS7. A value of zero equates to at least one parent being in employment, and a value of one to no parent being in employment.

IV.II Historical parental mental health

CMs' parents responded to items as part of the Kessler scale from MCS2 to MCS6. This is a scale used to measure psychological distress, with the original K10 scale comprising 10 items. Each item is scored from one ('none of the time') to five ('all of the time') and then summed, with a maximum score of 50 (Kessler et al, 2002). A short version, the K6, was developed from the full version of the scale. This has been widely used in health surveys, with a score of 13 or above being defined as severe mental illness (Prochaska et al, 2012). Prochaska et al (2012) find that a score of five to 12 captures those with moderate mental distress and that the use and analysis of the K6 scale is expanded when used in this way. For the purposes of this research, an average score was taken for each main parent between MCS2 and MC6 to maximise data availability. A categorical variable was then derived from this with three levels: a score of 0-4 coded as 'low mental distress', 5-12 as 'moderate mental distress', and 13 and above as 'severe mental distress'.

IV.III In PRS in MCS1

Housing tenure was asked of CMs' parents in MCS1. A dichotomous variable was derived from this variable (for those with valid responses) to indicate residency in the PRS in that sweep, with a value of 1 indicating being in the PRS and 0 being in any other tenure.

Appendix VI. Marital status and cohabitation (re-parameterisation) (BCS70)

Table VI. Summary of results from modelling Malaise as a function of tenure (M1 & M2). Source: BCS70

Variable		M1		M2	
		Coeff. (SE)	RR	Coeff. (SE)	RR
Controls	Intercept	0.332 (0.054) ***		0.326 (0.050) ***	
	Time	0.039 (0.004) ***	1.040	0.034 (0.004) ***	1.034
	Female	0.230 (0.018)***	1.259	0.231 (0.018) ***	1.259
	Ethnicity: Black	0.028 (0.067)	1.028	0.028 (0.067)	1.028
	Ethnicity: Asian	-0.016 (0.052)	0.984	-0.018 (0.052)	0.982
	Ethnicity: Other	0.331 (0.109) **	1.392	0.335 (0.110) **	1.398
	Unmarried Cohabiting	0.003 (0.014)	1.003	0.003 (0.014)	1.003
	Single	0.034 (0.014)*	1.035	0.035 (0.014) *	1.035
	Legally Separated	0.048 (0.037)	1.049	0.047 (0.037)	1.048
	Divorced	0.01 (0.028)	1.010	0.011 (0.028)	1.011
	Widowed	0.137 (0.113)	1.147	0.135 (0.113)	1.145
	Has Degree	-0.079 (0.016)***	0.924	-0.078 (0.016) ***	0.925
	Employed part-time	0.036 (0.017)*	1.037	0.036 (0.017) *	1.036
	Not employed	0.441 (0.027)***	1.554	0.440 (0.027) ***	1.553
	Net income per week	-0.147 (0.020)***	0.863	-0.146 (0.020) ***	0.864
	Disabled	0.515 (0.075)***	1.674	0.519 (0.075) ***	1.680
	Scotland	-0.010 (0.031)	0.990	-0.012 (0.031)	0.988
	Wales	0.018 (0.039)	1.018	0.018 (0.039)	1.018
	High Parental Malaise	0.001 (0.012)	1.001	0.000 (0.012)	1.000
	High no. moves in childhood	-0.002 (0.004)	0.998	-0.002 (0.004)	0.998
Tenure	SH	0.142 (0.022)***	1.153	0.136 (0.023) ***	1.145
	PRS	0.125 (0.019)***	1.133	0.120 (0.020) ***	1.127
	Rent free	0.075 (0.035)*	1.078	0.093 (0.037) *	1.097

	Parents (pays rent)	-0.075 (0.029)*	0.928	-0.076 (0.028) *	0.924
	Other	0.010 (0.020)	1.010	0.113 (0.021) ***	1.119
XP of PRS as child	Yes: Owner			0.070 (0.023) *	1.073
	Yes: PRS			0.121 (0.036) *	1.129
	Yes: SH			0.139 (0.038) *	1.149
	Yes: RF			-0.139 (0.236)	0.870
	Yes: Oth			-0.072 (0.248)	0.931

*Note: coefficients represent log estimates; RR represents the Rate Ratio as the exponentiated coefficient; Standard errors are shown in brackets; *** p<0.001; ** p<0.01; * p<0.05*

Appendix VII. (PRS exposure interactions) (MCS)

Table VII Results from modelling SWEMWBS as a function of PRS exposure (M8&M9). (MCS)

Variable		Model	
		(8)	(9)
(Intercept)	(Intercept)	23.43 (0.57)***	24.02 (0.59)***
CM age	16	0.00 (0.12)	0.00 (0.12)
	18	-0.72 (1.18)	0.69 (1.30)
Not White (1 = Yes)		0.15 (0.19)	0.14 (0.19)
Female (1 = Yes)		-0.93 (0.11)***	-0.94 (0.12)***
Country (ref.: England)	Wales	-0.21 (0.26)	-0.22 (0.26)
	Scotland	-0.16 (0.20)	-0.18 (0.20)
	NI	0.59 (0.32)	0.58 (0.32)
Health conds. (1 = Yes)		-1.21 (0.16)***	-1.16 (0.17)***
Parent Age		0.01 (0.01)	0.00 (0.01)
Lone parent family (1 = Yes)		-0.87 (0.25)***	-0.78 (0.25)**
Income Quintile (ref.: 1)	2	-0.20 (0.21)	-0.30 (0.21)
	3	-0.23 (0.21)	-0.36 (0.21)
	4	-0.17 (0.21)	-0.32 (0.21)
	5	0.07 (0.21)	-0.08 (0.21)

Poor parental mental wellbeing (ref.: no)	Moderate	-0.12 (0.17)	-0.28 (0.15)
	Severe	-1.20 (0.83)	-1.17 (0.76)
No-one working		-0.70 (0.30)*	-0.54 (0.31)
Exercise level (ref.: none)	Some	0.38 (0.16)*	0.38 (0.16)*
	Moderate	0.88 (0.17)***	0.89 (0.17)***
	High	1.28 (0.18)***	1.28 (0.18)***
Bullied (ref.: no)	Somewhat	-1.77 (0.19)***	-1.76 (0.19)***
	Yes	-2.62 (0.50)***	-2.59 (0.50)***
How Close to mother (ref.: extremely)	Not very	-2.10 (0.46)***	-2.02 (0.46)***
	Fairly	-0.98 (0.19)***	-0.96 (0.19)***
	Very	-0.55 (0.12)***	-0.54 (0.12)***
Argues with mother (ref. hardly ever)	Most days	-1.20 (0.25)***	-1.22 (0.25)***
	>once a week	-1.03 (0.16)***	-1.06 (0.16)***
	<once a week	-0.76 (0.14)***	-0.79 (0.14)***
	Never	0.03 (0.29)	-0.07 (0.29)
Tenure:	SH	-0.57 (0.25)*	-0.46 (0.25)
	PRS	-0.82 (0.28)**	-0.75 (0.28)**
	Other	-0.25 (0.45)	-0.24 (0.57)
Sweeps in PRS (MCS1-MCS6)	1	-0.46 (0.31)	-0.94 (0.30)**
	2+	0.82 (0.32)*	0.79 (0.30)**
Precarity (1 = Yes)		-1.62 (0.76)*	-1.60 (0.76)*
Poor parental mental wellbeing × Sweeps in PRS (MCS1-MCS6)	Moderate × One	-1.41 (0.61)*	
	Severe × One	-1.06 (3.91)	
	Moderate × 2	-1.03 (0.59)	
	Severe × 2	-0.31 (2.23)	
Health conditions × Sweeps in PRS (MCS1-MCS6)	Yes × One		0.66 (0.70)
	Yes × 2		-1.75 (0.73)*
R^2 (adj.)		0.159	0.158

*Note: Standard errors are shown in brackets; *** p<0.001; ** p<0.01; * p<0.05;*