Transitions to Adulthood by Housing Status: A Cross Cohort Comparison

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Introduction

The transition to adulthood in developed countries has attracted a good deal of academic attention in recent years. Some researchers have sought to model the relatively large number of transitions that take place at this point in the life course (e.g. Aassve, Billari and Raffaella 2007; Amato et al, 2008; Rindfuss 1991; Schoen, Landale and Daniels 2007). This work has highlighted the complexity and the diversity of experiences, both within and across countries. A large body of research has noted that the timing and order of these transitions are of particular interest because they can set in place trajectories that are difficult to reverse, and thus, can have long-term consequences for individual well-being (see, for example, White and Lacy 1997; Aassve, Davie, Iacovou, and Mazzuco 2007; Hango and Bourdais 2007; Hobcraft and Kiernan 2001; Robson and Pevalin 2007). These latter studies have sought to identify the correlates and consequences of important transitions such as leaving home, forming a partnership and entering parenthood. Findings suggest that, on average, more disadvantaged children and those living with single mothers tend to make key transitions earlier (e.g. Aquilino 1991; Avery, Goldscheider, and Speare 1992; Bernhardt Gähler and Goldcheider 2005; Holdsworth 2000; Kiernan 1992; Kiernan and Hobcraft 1997; Musick, Meirer and Bumpass 2006; Reneflot 2009; Wolfinger 2003). To the extent that early transitions interfere with investments in education or hasten the assumption of family roles, these patterns can contribute to the intergenerational transmission of poverty and disadvantage.

Although the extant literature has paid a good deal of attention to the relationship between the timing of transitions and family-level variables such as parental education and family structure, fewer studies have paid much attention to the role of parental housing (at least over and above including it as a control variable). This is an important gap in the literature not least because housing status – whether the parental home is owner-occupied,

privately rented, or publicly owned and subsidized - is strongly linked to children's later well-being (Hobcraft 1998; Sigle-Rushton 2004; Feinstein et al 2008; Lupton et al 2009). This is because, in many countries, parental housing status is a good marker of the family's socioeconomic position. In addition, parental housing status can reflect differential access to resources amongst otherwise similar families. For example, rents in publicly owned or publicly subsidized housing tend to be lower than rents in the private sector, and as a consequence parents may have more disposable income to invest in their children (perhaps subsidizing the cost of leaving the parental home or of making other transitions) than otherwise similar parents who rent their housing in the private sector (Berger, Heintze, Meyers, and Naidich 2008; Newman, 2008). Public tenants may also be allocated better quality units than they could otherwise afford in the open market (Currie and Yelowitz 2000). This is important because overcrowded and poor quality housing might act a push factor hastening transitions from the parental home. Finally, public housing and owner-occupied units tend to be spatially clustered – and in the British case, they have become more spatially clustered over time (Lupton et al, 2009) - so that the type of housing may reflect aspects of the neighbourhood and local economy that shape the opportunities and constraints children experience as they move towards adulthood (South and Crowder 2010).

In this study we make use of data from two British cohorts, born in 1958 and 1970 and followed up from birth into adulthood, to analyse differences in the timing and order of important life transitions of children who lived in different types of housing at age 16. These longitudinal data sets provide us with a snapshot of adolescents' living arrangements at age 16 – around the time that compulsory schooling ends and prior to most early adult transitions – and allow us to examine the relationship between parental housing status and transitions out of education, to independent living, employment, first partnership and parenthood.

Differentials in the timing and order of transitions are likely to depend on the social and economic context. Although born only twelve years apart, there is good evidence that the meaning and the role that public housing has played in the British housing sector differed across the two cohorts. Around 38% of the NCDS cohort lived in social housing at age 16. Amongst those born in 1970, the proportion fell to just over one in five. Since the early 1980s, the number public housing units fell. A 'Right to Buy' policy meant that the better properties were sold off without investment in new units. Excess demand has meant that the remaining units were allocated to families with the greatest disadvantage and the most need, and as more advantaged families moved into owner occupation, the social mix in the public housing sector declined. For the younger cohort, the relative quality of public housing declined and it became increasingly associated with both family- and area-level disadvantage (Smith and Ferri 2003; Feinstein et al. 2008; Lupton et al. 2009).

Other aspects of the social and economic setting make the experiences of men and women in our two cohorts particularly interesting to compare. The rise and spread of second wave feminism began while the older cohort were children and was well entrenched by the time the second cohort was born. As a consequence, experiences of the gender order were likely to have been very different for the two cohorts. Although average levels of educational attainment increased, the changes were most pronounced among women. These changes suggest that for women in particular but for men as well (Kneale and Joshi 2008), transitions into family roles may have occurred later in younger cohort who invested more time in education and perhaps in work experience. Economic changes might be important as well. Relative to the 1958 cohort, material conditions for the 1970 cohort were better on average, but income inequality was high (Dearden, Goodman, and Saunders 2003). Members of the 1958 cohort came of age at a time when the housing market was particularly favourable which may have facilitated home leaving and family formation (Kleinman 1996; Smith and Ferri 2003). In contrast, the 1970 cohort reached adulthood when housing costs were prohibitively high. To make matters worse, the earlier sale of

publicly funded housing under 'Right to Buy' meant that there was a limited stock of public housing units. These economic factors most likely made the transition from the parental home to independent living more difficult for later cohorts, particularly those from more disadvantaged backgrounds. To the extent that individuals feel it is important to establish an independent home before or at the time a partnership is formed, these economic changes may have worked to delay transitions for the younger cohort.

Data and Methods

We use data from two prospective national British birth cohort studies – the National Child Development Study (NCDS) and the British Birth Cohort Survey (BCS). Both studies are similar in design; the NCDS study collects information on a cohort of children born in one week of March in 1958, and the BCS study follows the lives of a cohort born in one week of April in 1970. The baseline data provide information on over 17,000 births, and both studies have tracked the cohorts prospectively. Subsequent waves were collected at ages 7, 11, 16, 23, 33, 42 and 46 for the NCDS; for the BCS70 at ages 5, 10, 16, 26, 30 and 34 years. Although the studies do not use exactly the same instruments, there is a good deal of overlap, facilitating cross cohort comparisons. For both cohorts, we have information on the parental housing status at age 16 - a life stage close to, but for most of our cohort members, prior to (see the top panel of Table 1 below) the transitions we consider. Moreover, the data contain information on the timing of key life events. We primarily use data collected at age 33 for the NCDS cohort members and age 30 for BCS cohort members – the fifth follow-up wave in both surveys -- to construct measures of the timing of five key transitions. At wave 5, 11,469 NCDS cohort members and 11,261 BCS cohort members were successfully interviewed. We restrict the sample to those cohort members who have information on the timing of each of the five life transitions which reduces the sample to 10,347 (90% of achieved interviews at wave 5) and 9,507 (84% of achieved interviews at wave 5) for the NCDS and BCS respectively. Additionally, we drop observations with missing information on

parental housing status at age 16, a loss of 2641 observations for the NCDS and 3452 observations for the BCS). To avoid losing any further observations, we construct and include a missing category for all other control variables.

Dependent Variables. In our analyses, we consider the age at which the cohort member left full-time education, entered full-time employment, established an independent household, began her or his first partnership (cohabitation or marriage), and experienced the birth of her or his first child. For the NCDS, most of the information on the timing of these events is collected from a self-completed section of the survey which collects housing, partnership and fertility histories. [1]In the NCDS data, no direct question on date of leaving school is included in the wave 5 questionnaire. For the majority of cases, where qualifications have not changed, we impute this variable using information from the earlier age 23 sweep. However, for the remainder of cases, we impute this directly using highest academic qualifications at age 33, assuming that qualifications were obtained at the normative age, with no interruptions. In the BCS data, histories relevant to all five transitions were all collected in the 2000 sweep of data through Computer Assisted Personal Interview questionnaires.

The median age at of each of the five transitions for both the NCDS and the BCS sample (derived from Kaplan-Meier estimates) are presented in the top panel of Table 1. We also provide information on the percentage of cases that made each transition prior to age 16 as well as the percentage of cohort members who failed to make the transition Here we see that, with the exception of the transition out of full-time education, the median age of all transitions is substantially delayed for members of the BCS cohort. Although a higher proportion of the BCS cohort obtained post-compulsory qualifications (Makepeace et al., 2003), median differences in the age of leaving full-time education are largely driven by the

[1] Fertility histories were collected in both the cohort member interview and the self-completed section. In this application, we used a reconciled dataset available from the Centre for Longitudinal Studies (www.cls.ioe.ac.uk).

relatively large share of people in both cohorts who leave education at the end of compulsory schooling. Differences in the distribution of academic qualifications are more pronounced (Lupton et al, 2009). In contrast to education, the median age of entering full-time employment was delayed by over a year and a half relative to the NCDS cohort, which may reflect the more difficult economic conditions that BCS school leavers faced. The median age of nest leaving was about seven months delayed relative to the NCDS cohort, and gaps in median age at partnership differ by approximately 1½ years. Not even half of the BCS cohort made the transition to parenthood by age 30, and drawing from subsequent waves of data (not included in this analysis) we calculate a gap of about three years between the older and younger cohort in the median age of parenthood.[2]

Independent Variables. Because public housing is a mark of disadvantage but also an important resource for low income families, we are particularly interested in assessing whether the children living in publicly subsidized housing differ from other children in the timing of their transitions to adulthood. Parental housing is measured using a question that directly asks parents about their housing status. Based on the responses to this question we create indicator variables for owner-occupiers (which includes families who are buying their home but have not paid off their mortgages) and public tenants. A residual "other" group, which consists mostly of private renters, but is somewhat more heterogeneous than the other two categories, is also included. The distribution of parental housing status at age 16 is presented in the lower half of Table 1. As outlined in the introduction, there was a notable decline across the two cohorts in the proportion of cohort members living in publicly subsidised housing (38% versus 21%) due in large part to the growth in owner occupation.

[2] Data from age 34 years suggests that the median age at first parenthood is 30 years 11 months for the BCS cohort (Kneale, 2009), suggesting a delay of three years, similar to that found for home leaving and partnership.

Because family background characteristics are likely to be associated both with housing status and with the transition to adulthood, we also include controls for the socio-economic background of the cohort members' parents, family structure at age 16, and the number of siblings living in the household. Descriptive statistics for these variables are also presented in the lower panel of Table 1. To control socio-economic status, we combine information on mothers' and fathers' educational levels and fathers' social class (measured using the Registrar General's five category classification) at the time of cohort members' birth into an index where higher values reflect higher levels of socio-economic advantage. We attempted to divide this composite variable into quintiles for our analysis, but for the NCDS, nearly 40% of parents had the same values of education and social class. As a consequence we have four categories for the NCDS, because the second and third quintiles comprise a single category. Family structure is measured with indicators for whether the cohort member lives with a single mother or in a step-parent family (two biological parent families form the reference category). And finally the number of siblings is measured at age 16 using information collected from parents. For the NCDS, this variable counts all full, half and step-siblings regardless of whether they were present in the household; for the BCS the variable refers explicitly to biological brothers and sisters living in the household.

Other individual-level measures such as academic tests and educational aspirations are likely to be important predictors of the timing of the five transitions, but we were concerned that these might be, at least in part, a consequence of neighbourhood and housing experiences. Including them in our models might cause us to underestimate the relationship between housing and the timing of transitions.

Table 1: Descriptive information for the dependent and control variables used in our analysis, by cohort and sex

		NCDS		BCS70	
		men	women	men	women
Median time to event					
Leaving Full-time Education		16y 2m	16y 2m	16y 5m	17y 0m
	Transition by16 (%)	3.4%	3.5%	3.4%	3.6%
	No transition by 30 (%)	0%	0%	0.%	0%
Entering Full-time Employment		16y 3m	16y 7m	17y 5m	18y 1m
	Transition by 16 (%)	5.3%	4.7%	2.3%	2.1%
	No transition by 30 (%)	1.8%	4.4%	2.1%	6.1%
Leaving the Parental Home		22y 0m	20y 1m	22y 3m	20y 9m
	Transition by 16 (%)	3.5%	3.4%	1.9%	1.6%
	No transition by 30 (%)	9.5%	5.0%	6.2%	2.6%
First Partnership		23y 9m	21y 4m	25y 0m	22y 11m
	Transition by 16 (%)	0.2%	0.8%	0.2%	0.3%
	No transition by 30 (%)	16.5%	9.4%	20.4%	12.4%
First Parenthood		29y 4m	26y 5m	-	29y 0m
	Transition by 16 (%)	0.1%	0.4%	0.1%	0.3%
	No transition by 30 (%)	45.8%	32.2%	59.7%	45.5%
Control Variables					
Parental Housing Status (Age 16)	Owner Occupation	53.6%	52.3%	77.6%	76.7%
	Publicly Subsidised	37.5%	38.7%	20.3%	20.8%
	Other	8.9%	9.0%	2.1%	2.5%
Index of Advantage (Birth)	Quintile 1	13.3%	13.7%	13.1%	12.2%
	Quintile 2	25.4%	24.1%	13.3%	11.9%
	Quintile 3			12.6%	13.7%
	Quintile 4	14.6%	13.1%	14.6%	15.2%
	Quintile 5	17.3%	17.9%	15.8%	14.7%
	Missing	29.4%	31.3%	30.7%	32.3%
Family Structure (Age 16)	Two Natural Parents	86.3%	84.8%	80.8%	79.5%
	Reconstituted Family	3.5%	4.1%	7.9%	8.4%
	Single Parent Family	9.0%	10.3%	8.1%	8.9%
	Missing	1.1%	0.9%	3.2%	3.3%
Siblings (Age 16)	None	6.8%	6.8%	19.5%	20.3%
	1-2 siblings	55.7%	55.6%	67.8%	66.5%
	3+ siblings	35.2%	35.7%	12.6%	13.1%
	Missing	2.1%	1.9%	0.1%	0.1%
Sample Size		3,713	3,993	2,772	3,283

Methods. We employ event history methods to model the timing of each of the five transitions, assuming that people enter the risk pool at either fourteen (for the education and employment transitions) or sixteen years (for nest leaving, partnership and parenthood). Because norms surrounding the timing of transitions are likely to be gender differentiated, we estimate separate models for each sex. We censor individuals at age 20 for transitions out of full-time education and into full-time employment for the NCDS sample (25 for the BCS sample) and at age 30 for all other outcomes. Given that we are modelling a range of

different life events, we first considered whether a semi-parametric model such as the Cox's Proportional Hazards model was most suitable. The underlying hazard is unspecified and the Cox model is, for that reason, extremely flexible. However, the model assumes that the control variables simply shift the hazard function proportionately. In other words the hazard functions for children living in social housing and those in other types of housing should not cross. A preliminary analysis of our data suggested that for all of the transitions we consider, this assumption is violated. As a consequence, we opted to use Accelerated Failure Time (AFT) models which specify that covariates act upon, and not just shift, the hazard function. The retrieval of median survival times from these models is an additional advantage of using this family of models.

Initially we considered three parameter specifications for our models – the lognormal, loglogistic and Gamma models. For each transition, we tested all three specifications, and evaluated the goodness of fit by comparing BIC statistic (analysis available on request) as well as comparing predicted values with observed values from Kaplan-Meier distributions. For modelling parenthood and partnership with the BCS data, and parenthood with the NCDS data, we found the lognormal distribution provided the best fit. In all other cases, the log-logistic model performed best. We estimated models with interactions of housing status with the both the socioeconomic advantage and family structure and neither of the interaction terms were significant for any of the outcomes. Results without interaction terms and using the preferred distribution of the random component are presented in the results section below.

Transitions out of full-time education and into full-time employment exhibit a polynomial hazard distribution making it impossible to estimate parametric AFT models using even the most flexible gamma distribution. Our decision to censor the observation period to 20 years for transitions out of full-time education and entry to full time-employment in the NCDS, and 25 years to entry to full-time employment in the BCS allowed

us to specify hazards that generally reflect the patterns observed in our data. Our decision to begin the modelling education and employment transitions at age 14 (as opposed to 16 for other transitions) improved the model fit as well.

We complement our AFT model analyses which focus on average differences in the timing of transitions with additional descriptive analyses of the ordering and disordering of events at the individual-level. To do this we estimate multinomial logistic models of "disorder" which focus on the order of events associated with family formation (home leaving, first partnership and parenthood). For ease of exposition we refer collectively to these three events as the "demographic transitions". We explore the relationship between housing status and disorder and ask whether delayed home leaving has led to more disorder in the lives of the younger cohort.

Results

In order to examine whether the transition to adulthood differs by parental housing status, we first estimated AFT models with only housing tenure as a control.[3] The predicted median age for each transition by sex and housing status is presented in Table 2. As discussed above, the median age of most transitions has increased across the two cohorts. However, when the figures are disaggregated by gender and housing status, there are a few exceptions to this general pattern. Although women made all three demographic transitions earlier than men in both cohorts, the gender gaps in the timing of parenthood narrowed across the two cohorts. Despite increasing educational participation and higher attainment, the estimated median age of school leaving decreased in some cases across the two cohorts, for men especially, but this is in part due to deviations of the AFT hazard from the Kaplan Meier estimates (see footnote 3). It is noteworthy that the delayed transition to full-

[3] The results were compared with Kaplan-Meier estimates and were generally quite similar. The AFT models predict slightly later median times for transitions out of education, into employment and into partnership for those growing up in owner occupied housing in the BCS; for those who grew up in publically subsidised housing, the predicted median times for transitions out of education and transitions into employment are slightly earlier than those from Kaplan-Meier estimates.

time employment was particularly noticeable for sons and daughters living in publicly-subsidised homes – arguably the most socio-economically disadvantaged group. This suggests that the poor economic conditions affected the employment opportunities of the less advantaged groups most appreciably. The three demographic transitions – from the parental home, to first partnership and to first parenthood – occurred at a later median age for the younger cohort, but the smallest delay is for the transition from the parental home. Cross cohort comparisons all show that the delay in the transition to parenthood is most pronounced amongst children of owner-occupiers while the delay over time in the age at first partnership is largest for children of public tenants. The latter may be due to differential rates of unpartnered parenthood across social groups – something that requires individual level analyses of the relative timing of the first partnership and first parenthood, an issue we examine in more detail below.

The figures in Table 2 also suggest that transitions are generally experienced earlier among those who lived in public housing than for those whose parents were owner-occupiers. The only exception is the transition from the parental home. Here there are few differences between children of owner-occupiers and those of public tenants in the NCDS and for daughters in the BCS. However, sons of public tenants in the BCS left home later than sons of owner-occupiers suggesting the poor economic conditions made it more difficult for some men to obtain employment and to afford to set up their own home. Because public tenants tend to be more economically disadvantaged, it is possible that the parents of these men may have been less able to help fund the costs of establishing an independent residence. At the same time, better quality public units relative to what similarly situated families could afford in the private sector may have made it easier for these families to provide in-kind support in the form of housing.

There are housing status differentials in the timing of partnering and parenthood as well. Children of public tenants take on the adult roles of partner and parent earlier. Cross

cohort comparisons of owner-occupiers and tenants suggest that for both sexes, the median age of first partnership becomes more similar while differences in the median age of first parenthood grew substantially. Across the two cohorts, children of owner-occupiers delayed the transition to first parenthood to a far greater extent than children of public tenants. If the early adoption of adult roles is associated with subsequent disadvantage, the transition to parenthood may help explain the link between childhood housing status and adult outcomes.

Table 2: Predicted Median Survival Times by Parental Housing Status: NCDS and BCS70

	NCDS Predicted Median Age			**BCS** Predicted Median Age		
	Owner Occupation	Publicly Subsidised	Other	Owner Occupation	Publicly Subsidised	Other
Men						
Education	17.1	16.4	16.7	17.4	16.4	16.5
Employment	17.5	16.5	16.9	18.0	17.1	17.0
Independent Living	21.2	21.6	21.2	21.5	22.5	21.7
Partnership	24.4	23.3	23.7	25.3	24.6	24.8
Parenthood	30.2	27.9	29.3	32.8	28.9	32.4
Women						
Education	17.1	16.3	16.6	17.6	16.6	17.0
Employment	17.7	16.6	17.0	18.2	17.4	17.8
Independent Living	19.6	19.7	19.3	20.5	20.8	20.7
Partnership	22.0	20.5	21.0	23.3	22.2	22.3
Parenthood	27.8	24.3	26.2	30.1	25.1	27.7

The results presented in Table 2 show differences in the timing of important transitions by sex and housing status at age 16. As we discussed above, housing circumstances can represent a mark of disadvantage (a stronger indicator for the younger than for the older cohort) but for children with similar family backgrounds, it may be an important resource which boosts disposable income and/or provides better housing quality than could perhaps be purchased at market values. To examine whether this is the case, we estimate the models controlling for family background characteristics. We are interested in whether differences by housing type remain once we control for socio-economic

background and family structure which are likely to be linked both to housing status and the timing of the transitions we consider.

Table 3 presents parameter estimates for the housing status variables from two different models estimated for each of the five transitions. The first column presents results from models that only control for parental housing status at age 16 (the same model used to calculate the medians presented in Table 2) and the second column presents results from our fully specified, AFT models. In this table, the coefficients are presented as time ratios. Because all of our control variables are categorical, these reflect the acceleration or deceleration in the average time to an event relative to the reference category. In contrast to hazard ratios which are often used to report results from proportional hazards models, in AFT models, a time ratio below one denotes an accelerative effect. In other words, a time ratio below (greater than) one implies that less (more) time is spent before the transition or event occurs.

These results in Table 3 suggest that in both samples, even after controlling for family background, men and women who lived in publicly subsidized housing at age 16 made most transitions earlier than their counterparts whose parents were owner-occupiers. In the NCDS samples, parental housing variables are significantly associated with all transitions except leaving the parental home. For men and women in the younger cohort, housing variables are significantly associated with the timing of most transitions. Compared to children of owner-occupiers, sons and daughters of public tenants were significantly quicker to leave school, enter full-time employment, and start a family. Although the sign of the parameters suggest they entered partnerships earlier, in the full model the time ratio is only significant for women. For BCS men, the control variables seem to explain the significant association between public housing and the timing of first partnership. Similar to the results presented in Table 2, even after adding controls for family background, we find that sons of public tenants in the BCS sample spent a significantly longer time living in the parental home

than otherwise similar men with a different housing type. Within each cohort and model specification, the coefficients for public housing are roughly similar for men and women with the exception of entry into parenthood. Living in public housing at age 16 is associated with an even more accelerated transition to parenthood for women than for men. Comparing the two cohorts, gender differences appear to have become more pronounced over time.

The results in Table 3 suggest that the transition to adulthood is more protracted for children whose parents were owner-occupiers and that children living in public housing at age 16 generally assumed adult roles at an earlier age . This is likely due, in part, to the fact that publicly funded housing is a mark of disadvantage. Once controls for family background characteristics are included (model b) differences with children whose parents were owner-occupiers and those whose parents were public tenants narrow for all outcomes in the NCDS and for all outcomes but home leaving in the BCS. The introduction of controls has the largest impact on estimates of the timing of the transition to motherhood in both cohorts, and of the transition to fatherhood in the BCS sample. But even after controlling for family background characteristics significant differences between owner-occupiers and public tenants persist.

Although the "other" housing category is a small and somewhat heterogeneous group, it is probably a useful comparator for our public tenants who, because of their economic circumstances, would be unlikely to be owner-occupiers if they had not been allocated a publicly owned or subsidized rental unit. In what we have presented thus far, children in the other category appeared, with only a few exceptions, to make transitions more quickly than children of owner-occupiers and more slowly than children of public tenants. In the models that include family background characteristics, this pattern persists but differences between public tenants and other children whose parents are not owner-occupiers narrow. Only for the transition to parenthood do differences between these two groups of children widen for the NCDS cohort members and for women in the BCS sample.

For BCS men, gaps between these two groups widen for the transition out of education and into employment. For all other outcomes, the inclusion of socio-economic controls narrows differences between children of public tenants and other children whose parents are not owner-occupiers. To the extent that this group is the most relevant comparator and that early transitions to adulthood – to parenthood in particular -- are associated with a greater risk of subsequent disadvantage, we find little evidence that access to social housing is protective. However, this finding is tentative and based on models that include a very conservative set of control variables. It may be that other unobserved differences that are associated both with housing status and with the timing of our five transitions are driving the results.

Cross cohort comparisons of the link between parental housing status and the timing of transitions suggest that differences between owner-occupiers and public tenants grew stronger for transitions out of education and into parenthood. For most of the other transitions, differences by parental housing status appeared to narrow across the two cohorts; the time ratios moved closer to one. The only exception we have already discussed. The tendency for sons of public tenants to remain longer in the parental home seemed to strengthen across the two cohorts.

Table 3: Parameter Estimates for Housing Status Variables (Owner Occupation as the Reference Category) from AFT Models of Time Spent before Making each of Five Transitions

	NCDS Sample				BCS Sample			
Transition	**men**		**women**		**men**		**women**	
From Full-Time Education	a	b	a	B	a	b	a	b
Public housing	0.955**	0.978**	0.957**	0.977**	0.940**	0.960**	0.941**	0.962**
Private rental and other	0.976	0.989*	0.973**	0.983**	0.949**	0.955**	0.962**	0.978*
To Full-Time Employment								
Public housing	0.944**	0.969**	0.940**	0.965**	0.954**	0.979**	0.955**	0.975**
Private rental and other	0.969**	0.982**	0.960**	0.973**	0.943**	0.954*	0.976	0.986
From the Parental Home								
Public housing	1.018	1.007	1.005	1.005	1.046**	1.035**	1.012	1.009
Private rental and other	0.998	0.993	0.988	0.981	1.006	0.990	1.008	1.014
To First Partnership								
Public housing	0.954**	0.975**	0.933**	0.960**	0.969**	0.985	0.952**	0.969**
Private rental and other	0.969	0.982	0.957**	0.969**	0.978	0.982	0.958	0.977
To Parenthood								
Public housing	0.954**	0.960**	0.876**	0.925**	0.882**	0.915**	0.834**	0.872**
Private rental and other	0.969**	0.989	0.944**	0.967*	0.989	1.011	0.920	0.975
Sample Size	3713	3713	3993	3993	2772	3283	2772	3283

Note: ** p<0.01, * p<0.05;

a The parameters are taken from models that control for tenure only
b The parameters are taken from models that control for family structure, socio-economic background, and number of siblings. Parameter estimates for additional controls are not presented but are available, on request, from the first author.

Our findings thus far show that the timing of individual transitions differ significantly by housing status. In addition, an examination of the predicted median age of each transition in Table 2 suggests that compared to children of owner-occupiers, the whole sequence of events is taking place over a shorter time interval for children of public tenants. This raises the possibility that children living in public housing may exhibit more heterogeneity not just in the timing but in the order with which they undertake each transition. Our analyses thus far tell us little about the ordering of events for individual cohort members, however. For this reason, we supplement the previous analyses which focus on each event individually with additional descriptive information on the order of the events as they are experienced by the individual cohort members.

In Britain, it is normative for individuals to set up their own home before forming a partnership or having children. But it is expensive to set up an independent household and children from poorer households, and those experiencing more difficult labour and housing markets, may find it more difficult to make the transition from the parental home. We anticipate that more disadvantaged children may have been more likely to form concealed households - where cohort members are living in the parental household either at the commencement of cohabiting partnership or parenthood or both. A concealed household, by its very nature, may mean additional pressures in terms of overcrowding and represent a challenge in terms of forming the 'nuclear family' ideal. Specifically, we want to know whether this kind of "disorder" is associated with children's housing tenure at age 16, and whether or not disorder was more commonly experienced by the BCS cohort members whose employment and housing options were far less favourable than those experienced by the NCDS cohort. In Table 4, we examine the extent of disorder disaggregated by cohort, sex and housing status. The data presented there demonstrate, contrary to our expectations, that disorder resulting in a concealed household remained comparable across both cohorts. Members of the NCDS study were more likely to begin partnerships (with or without having children) before leaving home while the younger cohort members were more likely to become lone parents before leaving home. Women are more likely to report having lived in a concealed household, but that may be due to a tendency for young couples to move in with the woman's parents. It may also be due to the fact that men tend under-report their children particularly when they are non-resident.

Table 3: Disordered transitions and concealed housing: NCDS and BCS70

	NCDS						
	men			women			Total
Type of "Disorder"	Owner	Public Tenant	Other	Owner	Public Tenant	Other	
None	86.8%	80.6%	83.3%	85.5%	75.6%	83.3%	82.8%
Parenthood and Partnership before Home Leaving	3.4%	6.4%	3.0%	3.9%	8.3%	4.7%	5.1%
Parenthood before Home Leaving	1.1%	1.4%	0.6%	1.9%	3.6%	2.2%	1.9%
Partnership before Home Leaving	8.7%	11.6%	13.3%	8.7%	12.6%	9.7%	10.2%
Total	1,990	1,393	330	2,089	1,544	360	7,706
	BCS70						
	men			women			Total
	Owner	Public Tenant	Other	Owner	Public Tenant	Other	
None	86.8%	74.2%	87.9%	84.9%	68.3%	73.2%	82.6%
Parenthood and Partnership before Home Leaving	2.2%	6.4%	3.5%	3.1%	8.1%	4.9%	3.7%
Parenthood before Home Leaving	2.0%	6.8%	1.7%	3.7%	12.9%	7.3%	3.0%
Partnership before Home Leaving	8.9%	12.6%	6.9%	8.4%	10.7%	14.6%	9.3%
Total	2,152	562	58	2,519	682	82	6,055

Using the same set of predictors as for models for the timing of transitions to adulthood, we use a multinomial logistic model to examine the likelihood of forming three different types of concealed households (the reference category is no disorder in the three demographic transitions). Coefficients for the age 16 housing variables are presented in Table 5 as relative risk ratios where the reference category is owner-occupation. The findings demonstrate that the ratio of the relative risks for publicly subsidised housing increased across the two cohorts. For the BCS sample, the RRR linking public housing with

forming a partnership and becoming a parent before leaving home exceeds two for both men and women. Although significant, the same RRRs for the NCDS sample are substantially smaller. When we consider disorder that involves parenthood preceding home leaving – a pattern which involves entry into lone parenthood -- the housing coefficients are only significant for the BCS sample. Here the RRRs are large for both sexes, but particularly for women. These findings suggest that disorder in the life course may be an important driver of differences in subsequent well-being of children of public tenants and those of owner-occupiers.

Table 5: Relative Risk Ratios Linking Housing Circumstances at Age 16 to the Formation of Different Types of Concealed Household, by Sex and Cohort

		NCDS			BCS	
		Men	**Women**		**Men**	**Women**
Concealed Housing I: Parenthood and Partnership Transitions Occur before Leaving the Parental Home Baseline: No Concealed Housing						
Housing at Age 16 (Ref: Owner Occupation)	Public Housing	1.444*	1.754**	Public Housing	2.278**	2.122**
	Private Rental and Other	0.744	1.081	Private Rental and Other	1.216	1.498
Concealed Housing II: (Lone) Parenthood Transition Occurs before Leaving the Parental Home Baseline: No Concealed Housing						
Housing at Age 16	Public Housing	1.109	1.364	Public Housing	2.691**	3.018**
	Private Rental and Other	0.548	0.972	Private and Other	0.675	1.957
Concealed Housing III: Partnership Transition Occurs before Leaving the Parental Home Baseline: No Concealed Housing						
Housing at Age 16	Public Housing	1.145	1.201	Public Housing	1.351 BS	1.481*
	Private Rental and Other	1.362	0.995	Private Rental and Other	0.671	1.972*

Note: ** p<0.01, * p<0.05; The parameters are taken from models that control for family structure, socio-economic background, and number of siblings. Parameter estimates for additional controls are not presented in the Table but are available, on request, from the first author. According to results from the Hausman test, we cannot reject the IIA assumption.

Conclusion

In this paper we set out to explore whether the timing of some of the more important events that mark the transition to adulthood was different for children who lived in public housing at age 16 than for children whose parents lived in other types of housing. We have reason to think that children of public tenants are more disadvantaged on average, especially for our younger cohort. This disadvantage may have led to earlier transitions (except perhaps for home leaving) because more advantaged children might be more likely to prolong their education and, to the extent that the student role is incompatible with other adult roles, delay the other transitions we consider. Because the expansion of higher education appears to have predominantly benefited more advantaged children (see for example, Machin and Vignoles 2004), we might expect to see gaps in the timing of transitions grow over time. Our findings are not entirely consistent with these hypotheses. We find that children of public tenants did, in fact, experience most transitions earlier. Except for BCS men, the median age of nest leaving does not differ much by housing status. However, similarities in the timing of this transition could simply mask two different home leaving processes. More advantaged children move out of the parental home to continue their education, while other children leave school earlier and move out to set up an independent household. For all other transitions, the median age was younger for public tenants, but the only substantial differences by housing tenure were found for the transition to partnership (particularly for the NCDS men and women) and parenthood. And only for parenthood do gaps in the median age by parental housing status grow over time. If prolonged investments in education are delaying subsequent transitions, and differentially delaying transitions for more advantaged children, it is not clear why differences in the timing of the transition from education are not equally large. Children of owner-occupiers appear to be delaying parenthood far more dramatically than delays in their exit from the educational system would suggest. Our results appear to be driven by more than just the

expansion education and the propensity of more advantaged children to take advantage of educational opportunities.

Nevertheless, these results are subject to certain caveats. In particular, our results reflecting education and employment reflect only a partial picture due to our strategy of artificially censoring our models. These results may more accurately reflect the picture for people with lower levels of qualifications, as opposed to those with university level qualifications, a disadvantage of modelling the polynomial hazards of these events.

We were also interested in whether our findings could shed light on the well-established but not well-explained link between childhood housing and adult disadvantage. The stark differences in the timing of first parenthood by parental housing status may be especially important in this regard. Although the median age at first parenthood has increased across the two cohorts, it has increased most for children of owner-occupiers. Previous research has shown that early parenthood is associated with subsequent disadvantage for both women and men (Hobcraft and Kiernan 2001; Sigle-Rushton 2005), and gaps in the timing by housing status appear to be driven not just by the timing of early transitions. Children of public tenants don't just become parents sooner, they are also more likely to become parents before they make other transitions that normatively should precede parenthood. Further research should examine the links between housing, disorder and subsequent disadvantage and test whether this is a significant explanatory pathway.

A final aim of our study was to explore whether, amongst children with similar socio-economic backgrounds, children of public tenants differ experience the transition to adulthood differently from children in other types of housing, particularly those in the private rented sector. We thought children of public tenants could remain in the parental home longer because their families may have access to better quality housing . They may experience less overcrowding than otherwise similar families who must pay market rates. To the extent that housing quality has declined over time, we might expect this effect to be

stronger for the NCDS sample than for the BCS sample. On the other hand, children of public tenants may live in families that have more disposable income to invest in them and to subsidize their transitions. This could result in delay if additional resources are invested in education (which would then push back other transitions) or acceleration if public tenants do not invest in their children's education but instead subsidize transitions to parenthood or partnership. Our results suggest that children of public tenants make most transitions sooner than their counterparts who are not owner-occupiers. The beneficial aspects of public housing appear to work not through investments in education but through parents' ability to provide housing in kind (for BCS men in particular) and through an ability to subsidize the costs of the transition to parenthood by providing housing benefits in kind.

Taken together our results provide some confirmation that parental housing status is an important stratifying variable. The transition to adulthood was experienced more quickly and in a more disordered fashion by public tenants than by other children. These differences were not simply due to differences in the socio-economic characteristics of their parents, but remained in models that controlled for family background characteristics. Although it remains to be seen whether our findings are robust to a richer set of controls, they do underscore the importance of housing as a key explanatory variable in its own right. A greater understanding of the role that housing has played in the lives of British children and how it affects their life chances is clearly warranted. We hope that researchers who are interested in the family play closer attention to this potentially important but rather under-studied childhood background factor.

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