



# 'Boomerang' moves and young adults' mental well-being in the United Kingdom

Jiawei Wu, Emily Grundy\*

Institute for Social and Economic Research, University of Essex, Colchester, United Kingdom

## ARTICLE INFO

### Keywords:

Boomerang moves  
Mental Health  
Transition to adulthood  
UKHLS  
Young adults' living arrangements

## ABSTRACT

**Background:** In the UK and many other contemporary Western populations, attaining and maintaining residential independence is an important marker of a young person's successful transition to adulthood. However, employment precarity, partnership breakdown, and difficulties in affording housing may mean that some young adults are unable to maintain residential independence and 'boomerang' back to co-reside with their parents. Although a growing body of literature has explored how such counter-transitions affect parents' mental well-being, little is known about effects on the mental health of the young returnees and whether any such effects vary by gender or socio-economic characteristics.

**Data and methods:** We use data from 11 waves (2009–2020) of the UK Household Longitudinal Study (UKHLS) and focus on young adults aged 21–35 (N = 9714). We estimate fixed-effects models to analyse the effect of returning to the parental home on changes in young adults' mental well-being measured using scores on the General Health Questionnaire (GHQ) and the Mental Component Summary (MCS) score of the Short Form Health Survey (SF-12).

**Results:** Over the period of observation, 15% of young adults made one or more moves back to the parental home. The fixed-effects analysis showed that returning to the parental home was associated with a reduction (improvement) in GHQ score, although effects were small and did not vary by gender, employment status, partnership status, or presence of a co-resident biological child. No associations were found with changes in MCS score.

**Conclusion:** Although cross-sectional results from the UK have shown that the mental health of young adults living with parents is worse than that of young adults living independently, we found no evidence that returning to the parental home was associated with a deterioration in young adults' mental health. On the contrary, returns home were associated with a slight reduction in depressive symptoms suggesting that the benefits of parental support may outweigh possible negative impacts of inability to maintain residential independence. Further research in other settings is needed to assess the extent to which these findings reflect the UK context.

## 1. Introduction

In contemporary Western populations leaving the parental home to live independently has been viewed as an important marker of the transition to adulthood and a key developmental task of emerging adulthood (Arnett, 2015; Billari & Liefbroer, 2010; Buchmann & Kriesi, 2011; Furstenberg, 2010; Schwanitz, 2017). In the UK, some other European countries and North America, rates of intergenerational co-residence between young adults and their parents declined in the post-World War II decades but more recently this trend has reversed (Aassve, Cottini et al., 2013; Arnett, 2001; Benson & Furstenberg, 2006).

In the UK, for example, 43% of adults aged 19–29 lived in the parental home in 2018–19 compared with 34% in 1996–97 (Gustafsson, 2021). This change has been interpreted as a response to the poor job prospects, greater financial challenges and increasing housing costs faced by young people, as well as extended education and the interrelated postponement of partnership and parenthood (Cherlin et al., 1997; Mazurik et al., 2020; Newman & Apteekar, 2007; South & Lei, 2015). As well as all driving a later age at first home-leaving, these factors may also underlie moves back to live with parents as 'boomerang kids' (Mitchell, 1998; Stone et al., 2011, 2014; van den Berg et al., 2019).

In the UK, housing pressures have been identified as particularly

\* Correspondence to: Institute for Social & Economic Research, University of Essex, Colchester CO4 3SQ, United Kingdom.

E-mail address: [emily.grundy@essex.ac.uk](mailto:emily.grundy@essex.ac.uk) (E. Grundy).

<https://doi.org/10.1016/j.alcr.2023.100531>

Received 26 August 2022; Received in revised form 31 January 2023; Accepted 4 February 2023

Available online 8 February 2023

1040-2608/© 2023 The Author(s). Published by Elsevier Ltd. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

important (Coulter & Kuleszo, 2022). Home ownership, the preferred tenure, has become increasingly unaffordable and the supply of social housing has contracted leaving more young people reliant on privately rented housing (Corlett & Odamtten, 2021; Hoolachan et al., 2017). This sector has been increasingly deregulated and is characterised by short insecure contracts, uncontrolled rents, and problems of poor housing quality (Kemp, 2015).

Negative events such as economic problems, job loss or partnership breakdown which prompt returns to the parental home are themselves likely to have adverse effects on young adults' well-being (Caputo, 2020). The return may have an additional negative impact if the loss of residential independence leads to feelings of failure and falling behind peers (Culatta & Clay-Warner, 2021), strains parent-child relationships (Fingerman et al., 2016), or impedes establishing and maintaining romantic partnerships (Jamison & Lo, 2020). On the other hand, returning to the parental home is no longer unusual so may carry less stigma than in the past (van den Berg et al., 2019). Support from parents may buffer the negative effect of life crises for young adults (Sage et al., 2013) and returning to the parental home may relieve mental distress arising from the insecurity and poor conditions often experienced by young people living in privately rented accommodation (McKee et al., 2020). Additionally, both parents and children may derive benefits from strengthening their bonds (Fingerman et al., 2016).

Empirical research on the effects of returning to the parental home on young people's mental health is very limited. Only a handful of studies have clearly identified boomerang movers and examined mental health outcomes. They report either detrimental effects in the US (Caputo, 2020; Copp et al., 2015) or null findings in Germany (Preetz et al., 2021), but selection into boomerang moves (e.g. by poorer mental well-being) is not addressed.

In this study, we use panel data from 11 waves (2009–2020) of the annually fielded UK Household Longitudinal Study (UKHLS) which collects rich information on respondents' living arrangements, socio-demographic characteristics, and health and well-being. Our main research question is what are the effects of returning to the parental home on changes in young adults' (aged 21–35) mental well-being? Secondary questions are whether these effects are moderated by returnees' socio-economic and demographic characteristics and whether gender further moderates associations.

## 2. Background

The life course perspective emphasises that life events are experienced differentially depending on individual characteristics, which are also shaped by the social and economic context, and that 'turning points' may significantly alter subsequent life course trajectories (Elder, 1978). Parental resources and attitudes, contextual factors (e.g. welfare regimes and housing costs) and young adults' characteristics and needs all influence young adults' residential patterns (Arundel & Lennartz, 2017; Pelikh & Kulu, 2018). Parents' material resources and attitudes are associated with children's home-leaving and may affect home-returning (Gillespie, 2020; Iacovou, 2010; Mulder & Clark, 2002). However, prior research suggests that young adults' characteristics and needs are the major drivers of boomerang moves (Berrington et al., 2013; Stone et al., 2014). Key characteristics identified by previous studies as being associated with a higher propensity of returns include younger age, being male, and employment, partnership and parenthood status, and changes in these (Mulder et al., 2020; South & Lei, 2015; Stone et al., 2014). Some influences on propensity to return vary by gender. One analysis of the US National Longitudinal Survey of Youth 1997, which included prior measures of parent-child relationships, found that for daughters, but not for sons, returning to the parental home was positively associated with parent-child closeness and negatively associated with mother attentiveness (Gillespie, 2020). Other studies from the US (Guzzo, 2016) and Italy (Ongaro et al., 2009) have reported that, following union dissolution, young fathers are more likely to return to the parental home

than young mothers. Mothers with dependent children are more likely to stay in the home previously shared with a partner and usually have the main responsibility for children, which in the UK leads to higher priority for social housing (Berrington et al., 2013).

### 2.1. Living arrangements and young adults' mental well-being

Recent UK analyses show that young people living independently have better mental health and higher life satisfaction than their peers living with parents. One study, based on univariate analysis of cross-sectional 2018–19 data, found a startlingly difference with 12% of 19–29-year-olds overall reporting a mental health problem compared with 65% of those living with parents (Gustafsson, 2021). Another recent study of UK young adults aged 25–26 found both men and women living independently as homeowners had a higher chance of being satisfied with life than those living with parents; for women, but not men, those renting independently were also more likely to be satisfied than those living in the parental home (Gagné et al., 2022). However, these studies do not allow identification of boomerang movers.

Some research has explored the effects of adult children's returns home on their parents' mental well-being (Aranda, 2015; Tosi, 2020; Tosi & Grundy, 2018) but only a few studies in Western populations have clearly identified boomerang movers and examined these returnees' mental well-being, reporting either negative or null effects. For example, Caputo (2020) analysed data from a nationally representative panel study in the US and found that those returning to the parental home after experiencing residential independence reported increased depressive symptoms relative to their stably independent peers. These results held after accounting for other mental health-linked changes that predicted residential patterns, and evaluations of relationships with parents. However, a recent German study (Preetz et al., 2021) found that returning to the parental home during the Covid-19 pandemic was not associated with changes in young adults' life satisfaction and mental well-being.

The findings noted above are subject to between-person variations and individual unobserved time-invariant confounding (e.g. personality traits) that may select young adults into home-returning. Pre-boomerang mental health status has been identified as a determinant of return to the parental home (Sandberg-Thoma et al., 2015; Thomeer & Reczek, 2019). Therefore, young returnees' poorer mental well-being may be attributable to pre-boomerang mental health status, rather than effects of the boomerang move per se. To address potential selection bias, advanced methodological approaches are needed.

Nauck and Ren (2021) estimated fixed-effects models which exploit within-person variation, using individuals as their own control. Analysing 17 waves of longitudinal data from the US, they found that entering 'a nuclear family of origin' living arrangement was associated with worse subjective well-being among American young women. However, Nauck and Ren (2021) used an extensive typology of seven living arrangements and estimated deviations from the grand mean without specifying the reference group in the regression models, making it impossible to clearly identify boomerang movers.

Effects of returning to the parental home on young adults' mental well-being may be moderated by their socio-demographic characteristics. For example, unemployed returnees may be more reliant on their parents, which may lead to more frequent conflict with negative implications for mental health. Consistent with this, Copp et al. (2015) found that returning home was associated with more depressive symptoms when returnees reported employment problems, while Caputo (2020) found that moving back home was associated with fewer depressive symptoms for US young adults who were still in education. There is little previous research from Western populations on whether effects on mental health of returns to the parental home are moderated by gender, partnership status or parenthood, as these are often included as covariates. However, broader theoretical perspectives suggest some possible effect modifications. For example, the persistent gendered

division of household labour may mean that young women returning to the parental home are expected to contribute more to domestic tasks than young men which may be a source of conflict and stress (Nauck & Ren, 2021). Some studies have found that parents attempt to monitor the social and dating behaviour of co-resident daughters more closely than that of sons which again may be a source of conflict affecting returning daughters to a greater extent than sons (Sassler et al., 2008). Gendered norms may also mean that daughters who return to the parental home with children of their own benefit less than sons from grandparental assistance with childcare, although little is known about this.

2.2. Research questions and hypotheses

Our key research question is whether boomerang moves are associated with changes in the mental well-being of young adults in the UK. On the basis of the rather scant literature (Caputo, 2020), we hypothesised that the effects of boomerang moves on young adults’ mental well-being would be detrimental (H1).

We also expected that the effect of boomerang moves on changes in mental well-being would vary by young adults’ employment status, partnership status, the presence of co-resident biological child(ren) and gender (H2). As Copp et al. (2015) found more increases in depressive symptoms for returnees with employment problems, we hypothesised that adverse effects of returns home would be greater for the unemployed, and those who had experienced other recent negative life events, such as partnership dissolution. Women leave home earlier than men, are less likely to return and European survey results show that norms about the age at which an individual is considered ‘too old’ to still be living with parents is younger for women than for men (Aassve et al., 2013). This may mean that female returnees suffer more than their male counterparts from a feeling of falling behind peers. Additionally, gendered norms may result in more conflict and stress between returning daughters and parents and life satisfaction differences between those living independently and those living with parents appear greater for women than for men (Gagné et al., 2022). For these reasons we hypothesised that negative effects of boomerang moves would be greater for women than for men.

Still related to gender differences, we hypothesised that gender would modify effects of boomerang movers’ employment status, partnership status, and the presence of co-resident biological child(ren) on mental health (H3). Some research suggests that employment is particularly important for young men’s mental wellbeing (Gagné et al., 2022) and that parents have greater expectations of son’s financial contributions to household expenses (Gillespie, 2020; Sassler et al., 2008) so we expected gender would moderate impacts of employment status on depressive symptoms with worse effects of unemployment and job loss for men than for women. However, given gendered norms about domestic and childcare tasks, we expected that returns to the parental home would have a less negative effect on the mental health of sons who returned with children of their own compared with equivalent daughters. Given the scant literature, we had no hypotheses as to the direction of any other effect modification by gender.

3. Data and methods

3.1. Data and sample

We drew on data from 11 waves (2009–2020) of the UKHLS (University of Essex, 2021). A nationally representative longitudinal survey fielded annually, the UKHLS collects rich information on respondents’ socio-demographic characteristics, health, and well-being as long as they continue to live in the UK and can be located, contacted and agree to participate (Lynn, 2009). All data collection in the main UKHLS study was approved by the University of Essex Ethics Committee. At wave 1 interviews were successfully conducted with 26,000 households from a

General Population Sample (GPS) (response rate 57%) and 4000 households from an Ethnic Minority Boost Sample (EMBS) (response rate 52%) (Lynn et al., 2012). Members of the former British Household Panel Survey (BHPS) and an Immigrant and Ethnic Minority Boost Sample (IEMBS) were added in 2010 and 2015 respectively. The wave-on-wave household response rates varied between 70% and 90% for these four samples, and recent research has shown that the sample remains representative of the target population (Benzeval et al., 2020).

The field work period for collection of the wave 11 data extended from January 2019 to May 2021 and so was impacted by COVID-19 lockdown restrictions introduced in the UK in March 2020. This meant that in-person interviews were curtailed following the lockdown. However, as the UKHLS has increasingly used computer assisted web collection methods, backed up by computer assisted telephone interviews, the effect of this was slight with an increase to 79% of web first interviews, compared with a planned 70%, and no discernible effect on response rates (Kantar Public, 2021). Although it has been speculated that COVID-19 related lockdowns led to an increase in returns to the parental home by young people, a recent survey showed that there was little evidence of an increase in the proportion of young adults co-residing with older parents during the pandemic (Gustafsson, 2021). This may be because those most affected by job loss or reduced wages in the lockdown period, such as those in low paid customer focused roles, were less likely to have been living independently before the outbreak of the pandemic. Disruptions due to COVID-19 and associated control measures are therefore unlikely to affect our results.

We selected our study sample by first focusing on respondents who were aged between 21 and 35 for the whole period of observation (2009–2020) (n = 16,178). Similarly to other UK studies (Stone et al., 2014), we excluded young adults aged under 21 as many 18-year-olds in the UK are still in secondary school and other 18–20-year-olds are students who spend part of the year in student residences and part in the parental home. We necessarily excluded those who were only interviewed once (n = 6261), those with inconsistent information on sex (n = 3), and those without living parent(s) (n = 200). The final study sample comprised 9714 respondents with a total 45,923 person-years of observation.

Our study sample’s pattern of co-residence with their parent(s) over the full follow-up period falls into 7 mutually exclusive categories: (1) always lived with parent(s); (2) never co-resided with parent(s); (3) left parent(s) and never returned; (4) left parent(s), returned, and never left again; (5) returned to the parental home and never left again; (6) returned to the parental home and left again; (7) moved out/in more than once. Young adults in the latter 4 categories were ‘boomerang’ children who experienced the event of returning to the parental home at

**Table 1**  
Young adults’ patterns of co-residence with parent(s) during the entire follow-up period (N = 9714).

	All		Men		Women	
	Freq.	%	Freq.	%	Freq.	%
Always lived with parent(s)	207	2.13	140	3.08	67	1.29
Never co-resided with parent(s)	6352	65.39	2688	59.22	3664	70.80
Left parent(s) and never returned	1671	17.20	902	19.87	769	14.86
Left parent(s) and returned	122	1.26	83	1.83	39	0.75
Joined parent(s) and stayed	197	2.03	116	2.56	81	1.57
Joined parent(s) and left again	600	6.18	285	6.28	315	6.09
Moved out/in more than once	565	5.82	325	7.16	240	4.64
Total	9714	100.00	4539	100.00	5175	100.0

Notes: Data source: UKHLS waves 1–11

least once. These four groups combined accounted for just over 15% of our study sample (18% of men, 13% of women) as shown in Table 1.

### 3.2. Measures

#### 3.2.1. Dependent variables: GHQ score and MCS score

Prior research on boomerang moves and mental health has measured mental health using the 9-item Center for Epidemiological Studies - Depression (CES-D) scale (Caputo, 2020), the 6-item CES-D scale (Copp et al., 2015), the 5-item Mental Health Inventory (MHI-5) (Nauck & Ren, 2021), and the Mental Component Summary (MCS) score from the 12-item Short-Form Survey (SF-12) (Pretz et al., 2021). In the UKHLS, the only mental health-related measures available in every wave were the 12-item General Health Questionnaire (GHQ-12) and MCS score. Both measures have been widely validated (Goldberg et al., 1997; Ware et al., 1996), with GHQ score reflecting mental distress and MCS score corresponding to mental health functioning.

The GHQ-12 is a well-established screening test, usually self-administered, used in community settings. It was initially designed to identify people with symptoms of mental distress that would be recognised by a mental health professional as a ‘case’ (Goldberg & Williams, 1988) but has also been widely used as a continuous measure. The GHQ-12 fielded in the UKHLS has 12 items each scored on a four-point Likert scale running from high to low for positively worded questions and the reverse for negatively worded ones. Respondents were asked: how often they had recently “been able to concentrate”, “lost much sleep over worry”, “been able to overcome difficulties”, “played a useful part in things”, “been capable of making decisions”, “been constantly under strain”, “enjoyed normal day-to-day activities”, “been able to face up to problems”, “felt unhappy or depressed”, “lost confidence”, “thought of yourself as a worthless person”, and “felt reasonably happy”. The GHQ score is the summary score of the values for these 12 items, ranging from 0 (the least distressed) to 36 (the most distressed). Lower scores thus indicate better mental health.

The MCS score is scored against population norms, with a range from 0 (low functioning) to 100 (high functioning). In the SF-12, six mental health-related questions were asked about mental well-being in the last four weeks: mental health meant accomplished less, mental health meant worked less carefully, felt calm and peaceful, had a lot of energy, felt downhearted and depressed, mental health interfered with social life. These correspond to four domains: Vitality (VT), Social Functioning (SF), Role Emotional (RE), and Mental Health (MH). Answers to these items were converted to a single score, calibrated against population norms, by the UKHLS research team.

#### 3.2.2. Independent variable: the event of returning to the parental home

The key independent variable of interest is the event of an adult child’s return to the parental home. We identified adult returnees by comparing respondents’ living arrangements across two waves in which they were interviewed (these could be non-consecutive if respondents were not interviewed in every wave). At each wave, dyadic relationships between every two household members were recorded. Therefore, a person who lived in a household without the presence of his/her parent (s) at wave  $t$  but lived with his/her parent(s) at wave  $t + n$  ( $n$  could be 1, 2, etc.) would be regarded as a returnee at wave  $t + n$ . Also, he/she would keep the ‘returnee’ status as long as he/she stayed with parent(s) before leaving again. In this way, we constructed a binary variable ‘returnee status’, assigning value 1 to respondents who were returnees at a specific wave. It is possible that repeat movers may have different characteristics from those who returned once only, and that the effects of repeat returns differ from those of first return. In sensitivity analyses, we therefore also distinguished between those who returned once only and those making two or more transitions back to the parental home, and between effects of first and repeat returns.

#### 3.2.3. Covariates

Informed by prior research (Caputo, 2020; Copp et al., 2015), we included a range of covariates related to young adults’ characteristics: age, age squared, gender, educational attainment (lower secondary, upper secondary, higher or other post-school qualifications, others), tertile of total net personal income (lowest, intermediate, highest), reported longstanding illness that had lasted over 12 months, living in rural area, and whether born outside the UK. Information on parental home characteristics was limited and was gathered from waves in which the young person was in the parental household. Therefore, we were not able to include composition of the parental home (e.g. natural parent(s) only vs natural and/or adoptive/step/foster parent(s)) in our fixed-effects models. Apart from gender, we also examined three other moderators related to young adults’ socio-economic and demographic characteristics: employment status (employed; unemployed; not in labour force (including students)); partnership status (never married; divorced, separated or widowed; married or cohabiting), and whether or not respondents had any co-resident biological children.

### 3.3. Analytical strategy

First, we present descriptive statistics for the 9714 young adults aged 21–35 at first interview (which could be at any wave up until wave 10) according to their patterns of co-residence with parent(s) throughout the entire follow-up period. We used a detailed classification distinguishing four groups: (a) always lived with parents; (b) always lived independently; (c) lived with parent(s) and then lived independently for the rest of the follow-up period; (d) returned to the parental home at least once (which corresponds to the latter four categories in Table 1).

We then estimated fixed-effects (FE) models (Allison, 2009) to account for unobserved time-invariant confounding to analyse the association between boomerang moves and changes in young adults’ mental well-being. We clustered standard errors at the individual level to account for intra-person serial correlations between waves (Wooldridge, 2015). We also explored using random-effects (RE) models but found that, when using tests appropriate for clustered data (Arellano, 1993; Schaffer & Stillman, 2010; Wooldridge, 2002), model assumptions were violated.

Next, we added two-way interaction terms with young adults’ employment status, partnership status, presence of co-resident biological child(ren), and gender separately to explore effect modifications. We also added three-way interaction terms (returnee  $\times$  employment status / partnership status / co-resident biological child(ren)  $\times$  gender) separately.

Last, we examined the pattern of missingness and found it to be non-systematic. We therefore performed multiple imputation by chained equations (MICE) to handle missing data (item non-response) for covariates (Eddings & Marchenko, 2011; Young & Johnson, 2015) and estimated FE models using the imputed data. As results from the complete case analysis (CCA) and multiply imputed data yielded very similar results, we report results from the MICE estimation. To illustrate three-way interaction results, we calculated and graphically present predictive margins on non-imputed data (due to the problem of estimation for time-invariant interaction terms in imputed datasets (Klein, 2016)). The three-way interaction table and margins plot, together with other selected results from the CCA, are presented in the supplementary material.

In all regression models, individual longitudinal sampling weights were not applied, because our sample included respondents who were not interviewed at every wave and so lacked a valid longitudinal weight. All analyses were performed using Stata/SE 16.

## 4. Results

Table 2 presents descriptive statistics for adults aged 21–35 at first interview according to their returnee status throughout the entire



**Table 2**  
 Characteristics of adults aged 21–35 at first interview according to their co-residence patterns with parent(s) (N = 9714; non-weighted).

	Non-returnees			Returnees	Total (N = 9714) Mean (SE) / Freq. (%)
	Always lived with parent (s) (N = 207) Mean (SE) / Freq. (%)	Always independent (N = 6352) Mean (SE) / Freq. (%)	Lived with parent (s) and moved to independent household (N = 1671) Mean (SE) / Freq. (%)	At least one boomerang move (N = 1484) Mean (SE) / Freq. (%)	
<b>Mental Health Indicators</b>					
GHQ score	11.40 (6.31)	10.88 (5.42)	11.05 (5.34)	11.38 (6.17)	10.98 (5.53)
MCS score	50.84 (9.35)	49.07 (10.13)	49.86 (9.64)	47.16 (11.16)	49.03 (10.18)
<b>Individual Characteristics</b>					
Male	140 (67.63)	2688 (42.32)	902 (53.98)	809 (54.51)	4539 (46.73)
Born outside the UK	15 (8.98)	1750 (30.57)	128 (9.28)	210 (16.04)	2103 (24.51)
Age group					
21–25	134 (91.16)	2423 (41.55)	1042 (76.73)	826 (73.10)	4425 (52.26)
26–30	13 (8.84)	2414 (41.39)	257 (18.92)	253 (22.39)	2937 (34.69)
31–35	0 (0.00)	995 (17.06)	59 (4.34)	51 (4.51)	1105 (13.05)
Employment status					
Employed	77 (52.38)	3808 (65.31)	874 (64.36)	688 (60.88)	5447 (64.34)
Unemployed	31 (21.09)	569 (9.76)	202 (14.87)	188 (16.64)	990 (11.69)
Not in labour force (non-students)	15 (10.20)	1052 (18.04)	79 (5.82)	89 (7.88)	1235 (14.59)
Students	24 (16.33)	402 (6.89)	203 (14.95)	165 (14.60)	794 (9.38)
Education					
Lower secondary	31 (25.62)	1523 (30.02)	345 (30.16)	250 (24.95)	2149 (29.27)
Upper secondary	39 (32.23)	765 (15.08)	233 (20.37)	197 (19.66)	1234 (16.81)
Higher and other post-school qualifications	33 (27.27)	2120 (41.78)	433 (37.85)	444 (44.31)	3030 (41.28)
Other	18 (14.88)	666 (13.13)	133 (11.63)	111 (11.08)	928 (12.64)
Partnership status					
Never married	144 (97.96)	1338 (22.99)	1251 (92.12)	916 (81.21)	3649 (43.16)
Divorced/separated/widowed	0 (0.00)	108 (1.86)	15 (1.10)	21 (1.86)	144 (1.70)
Married/cohabiting	3 (2.04)	4375 (75.16)	92 (6.77)	191 (16.93)	4661 (55.13)
Individual income tertile					
Lowest	84 (57.14)	1661 (28.48)	562 (41.38)	570 (50.44)	2877 (33.98)
Intermediate	48 (32.65)	2046 (35.08)	511 (37.63)	369 (32.65)	2974 (35.12)
Highest	15 (10.20)	2125 (36.44)	285 (20.99)	191 (16.90)	2616 (30.90)
Reported longstanding illness	37 (25.17)	1013 (17.39)	216 (15.92)	198 (17.58)	1464 (17.32)
Lived with ≥ 1 biological child	2 (1.56)	2381 (43.95)	83 (7.33)	119 (12.07)	2585 (33.73)
Lived in rural area	23 (15.65)	780 (13.39)	280 (20.62)	150 (13.29)	1233 (14.58)
<b>Housing Tenure</b>					
Tenure					
Privately rented	13 (6.28)	2607 (42.05)	74 (4.43)	222 (15.42)	2916 (30.64)
Socially rented	54 (26.09)	1266 (20.42)	314 (18.81)	326 (22.64)	1960 (20.60)
Owner-occupied	140 (67.63)	2327 (37.53)	1281 (76.75)	892 (61.94)	4640 (48.76)

Notes: Data source: UKHLS waves 1–11.

follow-up period. Approximately two thirds of the young adults (6352 out of 9714) always lived independently, while about 2% (207 out of 9714) always lived with parents. As would be expected, the latter group included the highest proportions of males, those in the youngest age group, those never-married and those in the lowest individual income tertile. GHQ scores were lowest (best) for those who lived independently throughout but those who lived with parent(s) throughout had the

highest (best) MCS score.

Table 3 shows the results from the main fixed-effects model, estimated using imputed data, which examines the association between returning to the parental home and changes in young adults' mental well-being. Results show that returning to the parental home was associated with a reduction in young adults' GHQ score (coef. = -0.73,  $p < 0.01$ ). However, the effect size was small (Cohen's  $d$  was 0.05). No

**Table 3**

Results from FE models estimated on imputed data of the effects of returning to the parental home on changes in young adults' mental well-being (N = 9714).

	GHQ	MCS
Returnee	-0.73 ** (0.27)	0.86 + (0.48)
Observations	31,849	31,603

Notes: Data source: UKHLS waves 1–11. FE = fixed-effects. Models adjusted for age, age squared, partnership status, employment status, educational attainment, longstanding illness, region (rural/urban), individual income tertile, whether lived with any biological child and gap between respondents' interview waves. Robust standard errors in parentheses.

\*  $p < 0.01$ , \*  $p < 0.05$ , +  $p < 0.1$

associations significant at the 5% level were found between boomerang moves and changes in young adults' MCS score.

Table 4 shows the results from FE models including interaction terms with young adults' socio-demographic characteristics (employment status, partnership status, the presence of co-resident biological children, and gender). Some main effects were significant: returning to the parental home was associated with a reduction in GHQ score when the returnee was employed (coef. =  $-0.80$ ,  $p < 0.01$ , Model A); never-married (coef. =  $-0.84$ ,  $p < 0.01$ , Model B); had no co-resident biological children (coef. =  $-0.79$ ,  $p < 0.01$ , Model C), or was female (coef. =  $-0.86$ ,  $p < 0.05$ , Model D). However, no effect modification by these variables were found on GHQ score. Neither main effects (except for not living with biological children) nor effect moderation were found for

**Table 4**

Results from FE models with two-way interaction terms (employment status, partnership status, co-resident biological child(ren), and gender) estimated on imputed data of the effects of returning to the parental home on changes in young adults' mental well-being (N = 9714).

	GHQ	MCS
<b>Model A: Interaction with employment status</b> (employed = ref)		
Returnee	-0.80 ** (0.27)	0.84 + (0.48)
Returnee × Unemployed	0.10 (0.52)	0.61 (0.84)
Returnee × Not in Labour Force	0.49 (0.43)	-0.50 (0.82)
<b>Model B: Interaction with partnership status</b> (never married = ref)		
Returnee	-0.84 ** (0.31)	0.91 + (0.52)
Returnee × Divorced/Separated/Widowed	0.73 (0.79)	0.61 (1.55)
Returnee × Married/Partnered/Cohabiting	0.31 (0.45)	-0.33 (0.83)
<b>Model C: Interaction with co-resident biological child(ren)</b> (no biological child in the household = ref)		
Returnee	-0.79 ** (0.30)	0.99 * (0.50)
Returnee × ≥1 biological child in the household	0.29 (0.58)	-0.74 (1.06)
<b>Model D: Interaction with gender</b> (female = ref)		
Returnee	-0.86 * (0.38)	1.20 (0.73)
Returnee × Male	0.24 (0.54)	-0.63 (0.95)
Observations	31,849	31,603

Notes: Data source: UKHLS waves 1–11. Two-way interaction terms were added separately in different models, but results were shown together. FE = fixed-effects. Models adjusted for age, age squared, partnership status, employment status, educational attainment, longstanding illness, region (rural/urban), individual income tertile, whether lived with any biological child and gap between respondents' interview waves. Robust standard errors in parentheses.

\*  $p < 0.01$ , \*  $p < 0.05$ , +  $p < 0.1$

MCS score.

Table S1 and Figure S1 show selected results from FE models with three-way interaction terms (returnee × employment status / partnership status / co-resident biological child(ren) × gender) estimated on non-imputed data. We only found one significant three-way interaction term (returnee × co-resident biological child(ren) × gender). The margins plot implies that male returnees seemed to derive more mental health improvement if on return they had biological children in the household (a larger decrease in GHQ score and a larger increase in MCS score), but analysis of predictive margins and pairwise comparison with the Bonferroni correction indicated that these gender differences were not significant. We do not report results for employment status and partnership status due to null findings.

#### 4.1. Sensitivity analyses

We carried out several sensitivity analyses to check the robustness of our key findings in Table 3. Firstly, we alternatively estimated FE models on complete case data (Table S2). The FE model shows that the association between boomerang moves and a reduction in GHQ score still held (coef. =  $-0.72$ ,  $p < 0.05$ ). Cohen's d was 0.05, suggesting a small effect size.

We secondly investigated possible bias arising from our necessary exclusion of those interviewed only once over the whole period who might be expected to have poorer mental health than those who remained in the study. As Table S3 shows, this excluded group differed in several respects from the analysis sample and, for example, included higher proportions of overseas born and students, and a lower proportion living with parents. However, there was no indication that this dropout group had worse GHQ or MCS scores than those interviewed at least once subsequently.

Another potential source of bias may arise from our inclusion of data from non-consecutive waves which may mean that some return moves were missed (for example, if a young adult lived with parents at wave 1 and wave 3 and responded on these occasions but at wave 2 lived independently and failed to respond, we would miss their return move). We allowed for this to some extent by including an indicator of the gap between waves at which study members were interviewed in all models. We also investigated this by alternatively selecting only respondents who were interviewed consecutively (N = 7197, 74% of our original study sample), estimated FE models on non-imputed data and present results from CCA in Table S4. The FE model shows that the association between boomerang moves and a reduction in GHQ score still held (coef. =  $-0.86$ ,  $p < 0.05$ ). As before, Cohen's d was 0.05, indicating a small effect size.

It is possible that those who made repeated returns to the parental home had poorer mental health than other returnees, or that effects of subsequent returns differed from those of the first return. Investigation of the data showed that the maximum number of returns in our study sample was four over the eleven-wave period, and about 60% of the boomerang moves were repeat returns (results not shown). Table S5 shows that those who returned once and those who returned multiple times did not differ on most characteristics (including GHQ and MCS scores) at first interview. In order to test the effect of repeat returns, we used a categorical independent variable (1 = no return, 2 = first return, 3 = repeat return) in the FE model to capture the effects of first return and second or higher-order of returns. Table S6 shows that first return (coef. =  $-0.67$ ,  $p < 0.05$ ) and repeat returns (coef. =  $-0.80$ ,  $p < 0.05$ ) were both associated with a reduction in GHQ score. We alternatively constructed an interaction term (returnee × the order of return (binary, first return vs repeat returns)) and estimated the FE model but found the interaction term to be non-significant (results not shown), suggesting that the effects of boomerang moves did not vary by the order of return.

Poorer mental health may select young adults to return to the parental home and introduce bias if this is not accounted for. To illustrate this potential selection bias and justify our FE model approach that

exploits within-individual variation, we additionally conducted discrete-time event history analyses. We used each respondent's information at wave  $t$  when they were not living with parents, as well as changes between wave  $t$  and wave  $t + n$  ( $n$  could be 1, 2, etc.), to predict the likelihood of boomerang moves at wave  $t + n$  (Table S7). In this way, each individual may contribute multiple records to regression models. We estimated logistic regression models separately for our original study sample ( $N = 9714$ ) and consecutively interviewed respondents ( $N = 7197$ ). Table S7 shows that higher GHQ score (more depressive symptoms) was associated with higher odds of return, while better mental well-being (higher MCS score) was associated with lower odds of returns. These results suggest that the adverse effects of boomerang moves reported in previous studies that captured only between-individual variation may be prone to selection bias, lending support to our choice of FE models.

## 5. Discussion

In the scarce literature on how boomerang moves may affect young adults' mental well-being (Caputo, 2020; Copp et al., 2015; Nauck & Ren, 2021; Preetz et al., 2021), unobserved personal time-invariant confounding is often not accounted for. Also, little is known about how effects may be modified by returnees' socio-economic and demographic characteristics. In this study, we used 11 waves of data from UKHLS to explore the effects of boomerang moves on changes in young adults' GHQ score and MCS. We estimated fixed-effects models to deal with selection bias and explored effect moderation by employment status, partnership status, and the presence of biological child(ren), as well as gender differences and gender moderation of other modifiers.

Previous studies have reported poorer mental well-being for American young returnees (Caputo, 2020; Copp et al., 2015) or a null effect in Germany (Preetz et al., 2021), which informed our hypothesis one (H1) that returning to the parental home would be detrimental for returnees' mental well-being. However, contrary to these findings and our H1, we found that boomerang moves were associated with a reduction in young returnees' GHQ score, suggesting an improvement in young adults' mental well-being after they returned to the parental home, although the effect was small, and we found no changes in MCS score. Our findings imply that prior research may be prone to selection bias – young adults with poorer mental health may be more likely to return, leading to the misinterpretation that the boomerang move worsened their mental well-being. Among previous studies, only Nauck and Ren (2021) estimated fixed-effects models and noted a reduction in women's subjective well-being when entering 'a nuclear family of origin (with both biological parents, no children)' in the US. However, these women may not qualify as boomerang movers. According to their classification of living arrangements, these women may have moved from 'an extended family of procreation (with parents and partner, possibly with children) to 'a nuclear family of origin'. Therefore, our study is, to our knowledge, the first in a Western population which has clearly identified boomerang movers and estimated fixed-effects models to address unobserved confounding.

Our finding of small mental health benefits for boomeranging young adults, robust to various model specifications, supports arguments that the parental home may provide a crucial safety net for UK young adults (Sage et al., 2013) many of whom are exposed to the precarity of private rented sector accommodation which may have adverse effects on mental health (McKee et al., 2020). The parental home may provide stability and security, sheltering young returnees from the stressful outer world (Hiscock et al., 2001) and contributing to an improvement in their mental well-being. The apparent positive, rather than negative, effects on mental health benefits associated with boomerang moves may also reflect the diminished importance of residential independence as a crucial indicator of a successful transition to adulthood. Spéder et al. (2014) analysed European Social Survey data to examine country and regional differences in attitudes about markers of adulthood. Their

results suggested that British respondents attached less importance to leaving home as an indicator of attaining adulthood compared with respondents in other Northern and Western European countries. Qualitative research has also suggested a shift in young adults' perceptions about adulthood that attaches less significance to traditional markers (Silva, 2012) and places greater value on agency and subjectivity in constructing adulthood (Macmillan, 2006; Sassler et al., 2008).

We found that the effects of returning to the parental home on young adults' mental well-being did not systematically vary by employment status, partnership status, or presence of a co-resident biological child, providing no support for our second hypothesis (H2). Previous literature (Copp et al., 2015) has shown that employment problems may worsen returnees' mental well-being. In our study, the direction and magnitude of coefficients for interaction terms in our models (Table 4) implied that being unemployed may be associated with a smaller reduction in GHQ score after a return to the parental home, but this moderation effect was not significant. Similarly, other effect moderations were not significant. These null findings suggest that the effect of boomerang moves on mental well-being were similar for young adults with different socio-economic and demographic characteristics although further research on these topics is needed.

We did not find gender differences in the effects of boomerang moves or effect moderation by young adults' socio-economic and demographic characteristics, so our third hypothesis (H3) was not supported. Models with two-way interaction terms hinted at larger mental benefits for women – contrary to our expectations – but the effect was not significant. The three-way interaction term implied that when returnees' biological children were present in the returnees' parental home (presumably taken back by returnees), male returnees seemed to report greater mental benefits but, again, the effect was not significant. However, the results lend some support to the hypothesis that sons who return to the parental home with a child of their own may benefit more than daughters with children from grandparental childcare assistance. However, this speculation should be treated with caution and requires further investigation.

Limitations of our study need to be acknowledged. First, the role of parental characteristics and family interaction (e.g. emotional closeness or family structure) was explored by Caputo (2020) and Copp et al. (2015) and Gillespie (2020) demonstrated that variables related to relationship quality were associated with returns to the parental home by US young adults. Unfortunately, due to the nature of the UKHLS data and our fixed-effects model specification, we were not able to investigate any possible influences of characteristics related to the parental home, such as presence of siblings or step-parents. Parental-home information was only available at waves when young adults co-resided with their parents which makes it impossible to estimate fixed-effects models including these variables. Second, although we used multiple imputation to address the issue of possible bias arising from missing values, we were unable to use longitudinal weights because our sample included respondents who were not interviewed at every wave and so lacked a valid longitudinal weight. Third, young adults' parenthood status (becoming a parent or being a parent) was investigated by Caputo (2020), Copp et al. (2015), and Nauck and Ren (2021) in their research on the mental health effects of returns to the parental home. However, due to the lack of relevant information in the UKHLS questionnaire, we were unable to examine the transition to parenthood and used 'the presence of biological child(ren)' to best capture respondents' parenting commitments so not taking account of any commitments to non-co-resident offspring. Fourth, we handled selection bias by taking advantage of the strength of fixed-effects models that exploits within-individual variation. However, there may be unobserved time-variant factors correlated with boomerang moves that would introduce bias to our results – this endogeneity issue was not completely solved by fixed-effects models. Therefore, our results should be interpreted with caution and future research is needed to investigate the causal link between boomerang moves and young adults' mental

well-being. Previous research has shown differences in the mental health impacts of a child's return to the parental home on parental mental well-being by European region (Aranda, 2015; Tosi & Grundy, 2018) so additional research on effects in other contexts is also needed.

Overall, our key finding is that returning to the parental home in the UK was associated with a reduction in young adults' GHQ score with a small effect size, suggesting a slight improvement in young returnees' mental well-being. These results imply that in the UK non-normative life course transitions in early adulthood such as boomerang moves may not necessarily lead to detrimental health effects for young adults and indeed the additional support available from parents may be beneficial. Further research taking account of relevant factors we were unable to consider, such as parental housing and resources, presence of siblings and step-kin in the parental household and quality of relationships with parents is needed to see how these factors influence the effects of returning home on young adults' mental well-being. Further cross-national research is also needed to assess the extent to which our results may be specific to the UK context, especially as housing options for young people in the UK are particularly constrained.

### Financial disclosure statement

This work was supported by an UK Economic and Social Research Council grant "Families, households and health in ageing populations: Projections and implications" (Grant Reference: ES/T014083/1).

The data used was accessed from the UK Data Service which is also funded by the UK Economic and Social Research Council.

### Conflict of interest

None.

### Appendix A. Supporting information

Supplementary data associated with this article can be found in the online version at [doi:10.1016/j.alcr.2023.100531](https://doi.org/10.1016/j.alcr.2023.100531).

### References

- Aassve, A., Arpino, B., & Billari, F. C. (2013). Age norms on leaving home: multilevel evidence from the European social survey. *Environment and Planning A: Economy and Space*, 45(2), 383–401. <https://doi.org/10.1068/a4563>
- Aassve, A., Cottini, E., & Vitali, A. (2013). Youth prospects in a time of economic recession. *Demographic Research*, 29, 949–962. <https://doi.org/10.4054/DemRes.2013.29.36>
- Allison, P. D. (2009). *Fixed Effects Regression Models*. SAGE publications.
- Aranda, L. (2015). Doubling up: A gift or a shame? Intergenerational households and parental depression of older Europeans. *Social Science & Medicine*, 134, 12–22. <https://doi.org/10.1016/j.socscimed.2015.03.056>
- Arellano, M. (1993). On the testing of correlated effects with panel data. *Journal of Econometrics*, 59(1), 87–97. [https://doi.org/10.1016/0304-4076\(93\)90040-C](https://doi.org/10.1016/0304-4076(93)90040-C)
- Arnett, J. J. (2001). Conceptions of the transition to adulthood: perspectives from adolescence through midlife. *J. of Adult Development*, 8(2), 133–143. <https://doi.org/10.1023/A:1026450103225>
- Arnett, J. J. (2015). *Emerging Adulthood: The Winding road From the Late Teens Through the Twenties*. Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780199795574.013.9>
- Arundel, R., & Lennartz, C. (2017). Returning to the parental home: boomerang moves of younger adults and the welfare regime context. *Journal of European Social Policy*, 27(3), 276–294. <https://doi.org/10.1177/0958928716684315>
- Benson, J. E., & Furstenberg, F. F. (2006). Entry into adulthood: are adult role transitions meaningful markers of adult identity? *Advances in Life Course Research*, 11, 199–224. [https://doi.org/10.1016/S1040-2608\(06\)11008-4](https://doi.org/10.1016/S1040-2608(06)11008-4)
- Benzeval, M., Bollinger, C.R., Burton, J., Crossley, T.F., Lynn, P., 2020. *The representativeness of Understanding Society, Understanding Society Working Paper Series No. 2020 - 08*. (<https://www.understandingsociety.ac.uk/sites/default/files/downloads/working-papers/2020-08.pdf>).
- Berrington, A., Stone, J., Falkingham, J., 2013. *The impact of parental characteristics and contextual effects on returns to the parental home in Britain*. ESRC Centre for Population Change Working Paper Number 29. ([https://eprints.soton.ac.uk/346896/1/2013\\_WP29\\_Parental\\_Characteristics\\_and>Returns\\_to%2520\\_the\\_Parental\\_Home\\_Berrington\\_et\\_al.pdf](https://eprints.soton.ac.uk/346896/1/2013_WP29_Parental_Characteristics_and>Returns_to%2520_the_Parental_Home_Berrington_et_al.pdf)).
- Billari, F. C., & Liefbroer, A. C. (2010). Towards a new pattern of transition to adulthood. *Advances in Life Course Research*, 15(2), 59–75. <https://doi.org/10.1016/j.alcr.2010.10.003>
- Buchmann, M. C., & Kriesi, I. (2011). Transition to adulthood in Europe. *Annual Review of Sociology*, 37(1), 481–503. <https://doi.org/10.1146/annurev-soc-081309-150212>
- Caputo, J. (2020). Parental coresidence, young adult role, economic, and health changes, and psychological well-being. *Society and Mental Health*, 10(3), 199–217. <https://doi.org/10.1177/2156869318812008>
- Cherlin, A. J., Scabini, E., & Rossi, G. (1997). Still in the nest: delayed home leaving in Europe and the United States. *Journal of Family Issues*, 18(6), 572–575. <https://doi.org/10.1177/019251397018006001>
- Copp, J. E., Giordano, P. C., Longmore, M. A., & Manning, W. D. (2015). Living with parents and emerging adults' depressive symptoms. *Journal of Family Issues*, 38(16), 2254–2276. <https://doi.org/10.1177/0192513x15617797>
- Corlett, A., & Odumtten, F. (2021). *Hope to Buy: The Decline of Youth Home Ownership*. Resolution Foundation., (<https://www.resolutionfoundation.org/publications/hope-to-buy/>).
- Coulter, R., & Kuleszo, J. (2022). Comparing regional patterns of homeownership entry across four British birth cohorts. *Housing Studies*, 1–21. <https://doi.org/10.1080/02673037.2022.2100326>
- Culatta, E., & Clay-Warner, J. (2021). Falling behind and feeling bad: unmet expectations and mental health during the transition to adulthood. *Society and Mental Health*, 11(3), 251–265. <https://doi.org/10.1177/2156869321991892>
- Eddings, W., Marchenko, Y. 2011. *How can I account for clustering when creating imputations with mi impute?* Retrieved 2nd February from (<https://www.stata.com/support/faqs/statistics/clustering-and-mi-impute/#strat1>).
- Elder, G. H. (1978). Approaches to Social Change and the Family. *American Journal of Sociology*, 84, S1–S38. <https://doi.org/10.1086/649235>
- Fingerman, K. L., Huo, M., Kim, K., & Birditt, K. S. (2016). Coresident and noncoresident emerging adults' daily experiences with parents. *Emerging Adulthood*, 5(5), 337–350. <https://doi.org/10.1177/2167696816676583>
- Furstenberg, F. F. (2010). On a new schedule: transitions to adulthood and family change. *The Future of Children*, 20(1), 67–87. (<http://www.jstor.org/stable/27795060>).
- Gagné, T., Sacker, A., & Schoon, I. (2022). Transition milestones and life satisfaction at ages 25/26 among cohorts born in 1970 and 1989–90. *Advances in Life Course Research*, 51, Article 100463. <https://doi.org/10.1016/j.alcr.2022.100463>
- Gillespie, B. J. (2020). Adolescent intergenerational relationship dynamics and leaving and returning to the parental home. *Journal of Marriage and Family*, 82(3), 997–1014. <https://doi.org/10.1111/jomf.12630>
- Goldberg, D. P., Gater, R., Sartorius, N., Ustun, T. B., Piccinelli, M., Gureje, O., & Rutter, C. (1997). The validity of two versions of the GHQ in the WHO study of mental illness in general health care. *Psychological Medicine*, 27(1), 191–197. <https://doi.org/10.1017/S0033291796004242>
- Goldberg, D. P., & Williams, P. (1988). *A User's guide to the General Health Questionnaire*. Windsor: NFER-Nelson.
- Gustafsson, M. (2021). *Boom (erang) Time? An Analysis of Younger Adults Living With Their Parents*. Resolution Foundation., (<https://www.resolutionfoundation.org/app/uploads/2021/06/Boomerang-Time.pdf>).
- Guzzo, K. B. (2016). Do Young Mothers and Fathers Differ in the Likelihood of Returning Home? *Journal of Marriage and Family*, 78(5), 1332–1351. <https://doi.org/10.1111/jomf.12347>
- Hiscock, R., Kearns, A., MacIntyre, S., & Ellaway, A. (2001). Ontological security and psycho-social benefits from the home: qualitative evidence on issues of tenure. *Housing, Theory and Society*, 18(1–2), 50–66. <https://doi.org/10.1080/14036090120617>
- Hoolachan, J., McKee, K., Moore, T., & Soaita, A. M. (2017). 'Generation rent' and the ability to 'settle down': economic and geographical variation in young people's housing transitions. *Journal of Youth Studies*, 20(1), 63–78. <https://doi.org/10.1080/13676261.2016.1184241>
- Iacovou, M. (2010). Leaving home: Independence, togetherness and income. *Advances in Life Course Research*, 15(4), 147–160. <https://doi.org/10.1016/j.alcr.2010.10.004>
- Jamison, T. B., & Lo, H. Y. (2020). Exploring parents' ongoing role in romantic development: Insights from young adults. *Journal of Social and Personal Relationships*, 38(1), 84–102. <https://doi.org/10.1177/0265407520958475>
- Kantar Public. (2021). *UK Household Longitudinal Study: Wave 11 technical report*. (<https://www.understandingsociety.ac.uk/sites/default/files/downloads/documentation/mainstage/technical-reports/wave-11-technical-report.pdf>).
- Kemp, P. A. (2015). Private renting after the global financial crisis. *Housing Studies*, 30(4), 601–620. <https://doi.org/10.1080/02673037.2015.1027671>
- Klein, D., 2016. Marginal effects in multiply imputed datasets. 14th German Stata Users Group meeting proceedings ([http://www.stata.com/meeting/germany16/slides/de16\\_klein.pdf](http://www.stata.com/meeting/germany16/slides/de16_klein.pdf)).
- Lynn, P., 2009. Sample design for Understanding Society, Understanding Society Working Paper Series No. 2009 - 01. (<https://www.understandingsociety.ac.uk/sites/default/files/downloads/working-papers/2009-01.pdf>).
- Lynn, P., Burton, J., Kaminska, O., Knies, G., Nandi, A., 2012. An initial look at non-response and attrition in Understanding Society, Understanding Society Working Paper Series No. 2012 - 02. (<http://repository.essex.ac.uk/7140/1/2012-02.pdf>).
- Macmillan, R. (2006). Constructing adulthood: agency and subjectivity in the transition to adulthood. *Advances in Life Course Research*, 11, 3–29. [https://doi.org/10.1016/S1040-2608\(06\)11001-1](https://doi.org/10.1016/S1040-2608(06)11001-1)
- Mazurik, K., Knudson, S., & Tanaka, Y. (2020). Stuck in the nest? a review of the literature on coresidence in Canada and the United States. *Marriage & Family Review*, 56(6), 491–512. <https://doi.org/10.1080/01494929.2020.1728005>



- McKee, K., Soaita, A. M., & Hoolachan, J. (2020). 'Generation rent' and the emotions of private renting: self-worth, status and insecurity amongst low-income renters. *Housing Studies*, 35(8), 1468–1487. <https://doi.org/10.1080/02673037.2019.1676400>
- Mitchell, B. A. (1998). Too close for comfort? parental assessments of "boomerang kid" living arrangements. *The Canadian Journal of Sociology / Cahiers canadiens Développés sociologie*, 23(1), 21–46. <https://doi.org/10.2307/3341660>
- Mulder, C. H., & Clark, W. A. V. (2002). Leaving home for college and gaining independence. *Environment and Planning A: Economy and Space*, 34(6), 981–999. <https://doi.org/10.1068/a34149>
- Mulder, C. H., Lundholm, E., & Malmberg, G. (2020). Young adults' return migration from large cities in Sweden: the role of siblings and parents. *Population, Space and Place*, 26(7), Article e2354. <https://doi.org/10.1002/psp.2354>
- Nauck, B., & Ren, Q. (2021). Coresidence with kin and subjective well-being in the transition to adulthood: a comparison of the United States, Germany, Japan and China. *Chinese Journal of Sociology*, 7(1), 22–47. <https://doi.org/10.1177/2057150x20984864>
- Newman, K., & Aptekar, S. (2007). Sticking around: Delayed departure from the parental nest in Western Europe. In S. Danziger, & C. E. Rouse (Eds.), *The Price of Independence: The Economics of Early Adulthood* (pp. 207–230).
- Ongaro, F., Mazzucco, S., & Meggiolaro, S. (2009). Economic Consequences of Union Dissolution in Italy: Findings from the European Community Household Panel. *European Journal of Population / Revue européenne Développée Démographie*, 25(1), 45–65. <https://doi.org/10.1007/s10680-008-9157-7>
- Pelikh, A., & Kulu, H. (2018). Short- and long-distance moves of young adults during the transition to adulthood in Britain. *Population, Space and Place*, 24(5), Article e2125. <https://doi.org/10.1002/psp.2125>
- Preetz, R., Filser, A., Brömmelhaus, A., Baalman, T., & Feldhaus, M. (2021). Longitudinal changes in life satisfaction and mental health in emerging adulthood during the COVID-19 pandemic. risk and protective factors. *Emerging Adulthood*, 9(5), 602–617. <https://doi.org/10.1177/21676968211042109>
- Sage, J., Evandrou, M., & Falkingham, J. (2013). Onwards or homewards? complex graduate migration pathways, well-being, and the 'parental safety net'. *Population, Space and Place*, 19(6), 738–755. <https://doi.org/10.1002/psp.1793>
- Sandberg-Thoma, S. E., Snyder, A. R., & Jang, B. J. (2015). Exiting and returning to the parental home for boomerang kids. *Journal of Marriage and Family*, 77(3), 806–818. <https://doi.org/10.1111/jomf.12183>
- Sassler, S., Ciambone, D., & Benway, G. (2008). Are they really mama's boys/daddy's girls? the negotiation of adulthood upon returning to the parental home. *Sociological Forum*, 23(4), 670–698. <https://doi.org/10.1111/j.1573-7861.2008.00090.x>
- Schaffer, M.E., Stillman, S., 2010. *xtoverid: Stata module to calculate tests of overidentifying restrictions after xtreg, xtivreg, xtivreg2 and xthtaylor.* (<http://ideas.repec.org/c/boc/bocode/s456779.html>).
- Schwanitz, K. (2017). The transition to adulthood and pathways out of the parental home: a cross-national analysis. *Advances in Life Course Research*, 32, 21–34. <https://doi.org/10.1016/j.alcr.2017.03.001>
- Silva, J. M. (2012). Constructing adulthood in an age of uncertainty. *American Sociological Review*, 77(4), 505–522. <https://doi.org/10.1177/0003122412449014>
- South, S. J., & Lei, L. (2015). Failures-to-launch and boomerang kids: contemporary determinants of leaving and returning to the parental home. *Social Forces*, 94(2), 863–890. <https://doi.org/10.1093/sf/sov064>
- Spéder, Z., Murinkó, L., & Settersten, R. A., Jr. (2014). Are conceptions of adulthood universal and unisex? ages and social markers in 25 European countries. *Social Forces*, 92(3), 873–898. <https://doi.org/10.1093/sf/sot100>
- Stone, J., Berrington, A., & Falkingham, J. (2011). The changing determinants of UK young adults' living arrangements. *Demographic Research*, 25, 629–666. <https://doi.org/10.4054/DemRes.2011.25.20>
- Stone, J., Berrington, A., & Falkingham, J. (2014). Gender, turning points, and boomerangs: returning home in young adulthood in great britain. *Demography*, 51(1), 257–276. <https://doi.org/10.1007/s13524-013-0247-8>
- Thomeer, M. B., & Reczek, C. (2019). Intergenerational coresidential patterns by young adult's and their mother's mental health and substance use. *Journal of Family Issues*, 41(9), 1498–1524. <https://doi.org/10.1177/0192513x19894348>
- Tosi, M. (2020). Boomerang kids and parents' well-being: adaptation, stressors, and social norms. *European Sociological Review*, 36(3), 460–473. <https://doi.org/10.1093/esr/jcz068>
- Tosi, M., & Grundy, E. (2018). Returns home by children and changes in parents' well-being in Europe. *Social Science & Medicine*, 200, 99–106. <https://doi.org/10.1016/j.socscimed.2018.01.016>
- University of Essex. (2021). .. *Understanding Society: Waves 1-11, 2009-2020 and Harmonised BHPS: Waves 1-18, 1991-2009. [data collection]* (fourteenth ed.). UK Data Service. SN: 6614. <https://doi.org/10.5255/UKDA-SN-6614-15>
- van den Berg, L., Kalmijn, M., & Leopold, T. (2019). Leaving and returning home: a new approach to off-time transitions. *Journal of Marriage and Family*, 81(3), 679–695. <https://doi.org/10.1111/jomf.12550>
- Ware, J. E., Kosinski, M., & Keller, S. D. (1996). A 12-Item short-form health survey: construction of scales and preliminary tests of reliability and validity. *Medical Care*, 34(3), 220–233. (<http://www.jstor.org/stable/3766749>).
- Wooldridge, J. M. (2002). *Econometric analysis of cross section and panel data*. MIT Press.
- Wooldridge, J. M. (2015). *Introductory econometrics: A modern approach*. Cengage learning.
- Young, R., & Johnson, D. R. (2015). Handling missing values in longitudinal panel data with multiple imputation. *Journal of Marriage and Family*, 77(1), 277–294. <https://doi.org/10.1111/jomf.12144>