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Returns home by children and changes in parents' well-being in Europe

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ABSTRACT

Co-resident adult children may be a source of emotional and instrumental support for older parents, but also a source of conflict and stress. Results from previous research are far from conclusive and indicate that inter-generational co-residence may have both negative and positive effects on parents' depressive symptoms and physical health. We analyse longitudinal data from four waves of the Survey of Health, Ageing and Retirement in Europe (2007–2015) to examine whether returns to the parental home by adult children are associated with *changes* in the quality of life of parents aged 50–75. Results from fixed effects linear regression models show that returns to the parental home by adult children were associated with decreases in parents' quality of life and that this largely reflected declines associated with the return of a child to an 'empty nest' where no other children were still co-resident. In line with previous research which has indicated differing effects of co-residence on parents' depressive symptoms by cultural tradition, this effect was largely driven by decreases in parents' quality of life in a grouping of Nordic/social-democratic. There were no associations between changes in parental quality of life and the returning child's characteristics, although unemployment of a child was negatively, and new partnership of a child, positively associated with changes in parental quality of life.

1. Introduction

Over the past half century, intergenerational co-residence has declined dramatically in Western countries (Da Vanzo and Goldscheider, 1990; Grundy, 2000). However, this pattern has recently altered, and in some countries multigenerational co-residence has increased; a shift interpreted as a family response to high unemployment rates, poor job prospects and financial hardship among young adults (Mykyta and Macartney, 2012). Adult children's increasing need for family support has led to renewed interest in causes of and trends in intergenerational co-residence. Many studies have examined the determinants of leaving and returning to the parental home (Billari and Liefbroer, 2007; Stone et al., 2014) and there is also a large and growing literature on possible implications of intergenerational co-residence for the well-being of both younger and older generations (Russell, 2009; Silverstein et al., 2006). With some exceptions (Aranda, 2015; Maruyama, 2012) most of these previous studies are cross-sectional and focus on the effects of intergenerational co-residence on older parents' depressive symptoms or physical health status. Some indicate a positive impact of co-residence with adult children on parents' well-being (Aranda, 2015; Courtin and Avendano, 2016 [Europe]; Do and Malhotra, 2012 [South Korea]; Teerawichitchainan et al., 2015 [Vietnam and Thailand]; Zunzunegui et al., 2001 [Spain]), whereas others have found that older parents

living with children have worse physical health (Johar and Maruyama, 2014 [Indonesia]; Maruyama, 2012 [Japan]) and more depressive symptoms (Lowenstein and Katz, 2005 [Israel]; Aquilino and Supple, 1991; Mitchell and Gee, 1996; Russell and Taylor, 2009; Silverstein and Bengtson, 1994; Umberson and Gove, 1989 [U.S.]). These varying findings suggest that implications of intergenerational co-residence for parental well-being may vary considerably depending on whether co-residence is a response to parental or to children's needs, whether it reflects continuation of an existing living arrangement or a change for one or other generation, as well as by cultural and institutional context.

There are several alternative pathways to intergenerational co-residence between older parents and adult children. Adult children may have never left home, may have returned home because of their own needs for support or in some cases returned to meet the support needs of parents in need of help and care. In this paper we focus on one of these pathways— returns by an adult child to the parental home when parents are relatively young. We use longitudinal data to examine how this impacts *changes* in parents' Quality of Life (QoL) as a broader indicator of parents' well-being including feelings of control, autonomy, pleasure and self-realization in everyday life (Connell et al., 2014; Hyde et al., 2003).

Apart from any intrinsic effect of intergenerational co-residence, returns to the parental home – also known as boomerang moves

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(Mitchell, 2006) – may be associated with declines in parents' QoL, because of a violation of normative expectations that children should be successfully launched into adulthood (Aquilino and Supple, 1991; Pillemer et al., 2012; South and Lei, 2015; Shanahan, 2000). Ward and Spitze (2007) suggest that such counter-transitions may have negative consequences for parent-child relationships when they are perceived by parents as indicating a lack of autonomy or unwarranted dependency by children.

Returns to the parental home may be especially stressful for parents, when they result in a disruption of the normative empty nest. Previous studies have shown that parental life satisfaction increases as adult children leave the family nest and achieve adult status (White and Edwards, 1990; Pillemer et al., 2012; VanLaningham et al., 2001). A reverse (negative) effect might be exerted by adult children refilling an empty nest (Ward and Spitze, 2004). Home returning may thus be related to a decline in parents' QoL to a greater extent, or only, when all other children have also left home. However, some parents may welcome adult children returning home and enjoy sharing experiences and daily activities under the same roof (Aquilino and Supple, 1991). Boomerang children may be an important source of support and company for parents living in an empty nest, which would suggest a positive association between returns in the parental home and parents' QoL.

1.1. Processes behind boomerang moves

Home returning behaviours are often affected by other life course transitions, including changes in economic resources, such as unemployment; changes in family circumstances, such as partnership breakdown; or deterioration in the physical or mental health of the child (South and Lei, 2015). New economic constraints, such as job loss or income reduction, increase the need for intergenerational support and are related to children's decision to move back to the parental home (Kleinepiper et al., 2017; Sandberg-Thoma et al., 2015; Smits et al., 2010; Wiemers, 2014). Economic difficulties and temporary instability prompt returns to the parental home, particularly among young adults who leave education to find a position in the labour market (Stone et al., 2011, 2014). Similarly, union dissolution may prompt a return to the parental home as a possible solution to economic, housing, and emotional problems arising from the event (Arundel and Lennartz, 2017; Gram-Hanssen and Bech-Danielsen, 2008; Guzzo, 2016; Michielin et al., 2008; South and Lei, 2015). Emotional distress and mental health problems per se make the transition to adulthood more difficult and are correlated with boomerang moves (Sandberg-Thoma et al., 2015).

For parents these events in a child's life may be distressing in themselves, regardless of whether or not they result in the child's return home. The notion of linked lives suggests that parents tend to suffer when they see their children suffer, and previous studies have indicated that children's exposure to problematic and stressful experiences are associated with a decline in parents' well-being and mental health (Elder et al., 2003; Fingermaier et al., 2012; Greenfield and Marks, 2006; Kalmijn and De Graaf, 2012; Knoester, 2003; Milkie et al., 2008; Pillemer et al., 2017). It has been also shown that job loss and family break-ups are factors that exacerbate the negative consequences of living together on parents' well-being, life satisfaction and marital relationship quality (Aquilino and Supple, 1991; Copp et al., 2017; Davis et al., 2016).

1.2. European context

Variations in preferences, attitudes and family norms across European regions suggest that returns to the parental home may have diverse impacts on parents' well-being (Grundy and Murphy, 2017). Returning home may countervail expectations about a normal developmental path, especially in some Western and Nordic societies where self-achievement and autonomy are valued. However, this may be not

the case in Southern and Eastern European countries where family attitudes are more conservative and are linked to values stressing family interdependence and traditional roles (Inglehart, 2015; Duncan and Pfau-Effinger, 2012; Jappens and Van Bavel, 2012; Reher, 1998).

Cultural traditions interact with political and economic institutions. In Nordic countries, and other countries deemed 'social-democratic' in some discourses on welfare state typologies, welfare systems provide services and supports that cushion some of the impact of events such as illness or unemployment arguably making practical support from the family less critical (Anttonen et al., 2003; Esping-Andersen, 1990). State or state facilitated provision of income, housing and care support systems facilitates the residential independence of young and old generations (Oinonen, 2008). In Southern and Eastern Europe, by comparison, the supply of state support is much less generous and parents may expect to provide support to adult children who need it through co-residence. For example, there is evidence for some Southern countries that weak public support systems along with high levels of homeownership and restricted rental markets are associated with delays in home leaving and with returns home (Albertini et al., 2017; Tosi, 2017; Mulder and Billari, 2010). In former Eastern bloc countries the erosion of welfare states following the collapse of the Soviet Union has been associated with an increase in intergenerational co-residence; and, it is argued, a resurgence of familistic values (Mair, 2013).

The economic recession of the last decade has increased young adults' needs for family support and in some countries has been associated with higher rates of intergenerational co-residence (Aassve et al., 2013). Economic hardship which generally has negative impacts on people' QoL, may affect young adults' decision to return home, particularly in countries such as Greece where the crisis had more severe consequences.

In this paper we investigate whether there is a negative (adverse) association between boomerang moves and parent's QoL; whether any such association varies across European regions and varies according to whether the adult child returns to an 'empty nest' or a household including other co-resident children. We also analyse whether antecedent or concomitant transitions by the child into unemployment and divorce/separation moderate any association between boomerang moves and changes in parent's QoL.

2. Data and methods

2.1. Data and sample

We used data from four waves of the *Survey of Health, Ageing and Retirement in Europe* (SHARE). This is a cross-national population representative longitudinal survey. Information about individuals aged fifty years or older and their partner – independently of his/her age – were gathered in 2007 (wave 2), 2011 (wave 4), 2013 (wave 5) and 2015 (wave 6). Respondents were interviewed in multiple waves, but the sample was also refreshed to keep it representative of the ageing population at each wave. Although representative, the sample size is not proportional to the population living in each country (weighted results available upon request). We excluded the first wave from the analysis because indicators of parents' QoL were collected through a self-completion ("drop off") questionnaire including a high proportion of missing values (about 36%) and a low response rate (less than 50%). The third wave collected retrospective life history data and lacked information on variables of interest here. The initial household response rate in wave 2 was 54% (Börsch-Supan et al., 2013) and only 61% of these respondents also participated in the last interview. The attrition rate was 33% between waves 2 and 4, 21% between waves 4 and 5, and 20% between waves 5 and 6. Attrition was particularly high in Germany and the Czech Republic (about 60%), and low in Denmark (about 30%), while the household response rate was particularly low (< 40%) in Belgium and Switzerland.

SHARE gathered detailed information for up to five children living

inside or outside the household (about 98% of the overall population). We used the reported sex and date of birth of each child to link children's information and follow the same child across waves. In our sample we included people aged 50–75 who had at least one child living outside the parental home at baseline. We chose this upper age limit in order to reduce the chance that home returning was driven by parents' support needs as intergenerational co-residence of frail elderly parents and caregiving children may have different implications for parents' QoL. We restricted the sample to parents who were present in at least two waves as our outcome of interest was change in quality of life. We also excluded 3080 respondents not living in their country of origin as migrant parents may have different levels of well-being and different cultural views about intergenerational co-residence. The final sample includes data from 17 countries. Drawing on previous research cultural roots, attitudes and welfare regimes, in some analyses we divided countries into four groups: a Southern European grouping (Italy, Spain, Portugal and Greece), a former Eastern bloc cluster (Slovenia, Czech Republic, Estonia, and Poland), a Western European group (Austria, France, Luxembourg, Belgium, Germany and Switzerland) and a Nordic group (the Netherlands, Sweden and Denmark). In additional sensitivity analyses we also undertook some analyses for different subgroups of countries.

2.2. Measures

2.2.1. Quality of life

The indicator of quality of life used was the CASP-12; a short version of the original 19 item version (CASP-19). CASP is a validated measure of quality of life and well-being derived from a theory of human needs comprising four life domains: 'control', 'autonomy', 'pleasure' and 'self-realization' (Hyde et al., 2003; Sim et al., 2011). The shortened 12-item scale combines the life domains 'control and autonomy' and has been recommended in previous research as appropriate to measure quality of life among people aged 50 or over (Wiggins et al., 2008). The scale is based on 12 indicators and ranges from 12 to 48, with higher scores indicating better quality of life.

2.2.2. Independent variables

The main independent variable referring to returns to the parental home was derived from a question about parent-child geographical proximity. In two parent households, questions about children's characteristics were asked of one of the two parents (the family respondent) who replied on behalf of both. The variable was set equal to one when a parent reported that a specific child was living outside the parental home at baseline but was co-resident at follow-up. Respondents who had a returning child were then excluded from the sample after the event, thus excluding reverse transitions (children leaving the parental home) from the estimates. We excluded cases where parents changed accommodation between waves ($n = 139$) as in this case it might be the parent who moved to the child's home. We also created a dichotomous variable indicating whether or not parents had any co-resident child at baseline as we wished to see if the effects on parental well-being varied depending on whether a child returned to an empty or a partially full nest.

As noted above, parents' well-being may be influenced by the status of their children, whether or not they return home. In order to allow for this, we included four dummy variables in the analysis indicated whether or not parents had at least one child who was (i) unemployed, (ii) in education, (iii) married or partnered, or (iv) divorced or separated. In a further step, we distinguished between children's returns to the parental home occurring when they were employed, unemployed, or not in the labour force, and when they were partnered, never married, or divorced/separated. The reference group refers to parents who had no children returning home. We considered employment and marital status measured before the move of the child back to the parental home, because the status prior to the move is more likely to

capture the actual reason for returning home. We also distinguished between children who had left the parental home less than six years and at least six years before returning home. A reasoning for this distinction is that returns to co-residence may be seen as a violation of normative expectations to a greater extent when they occur many years after the transition out of the parental home.

2.2.3. Other covariates

Although children's needs are usually more important than parents' ones in predicting boomerang moves (Smits et al., 2010), in some cases parental support needs, such as poor health, may also prompt co-residence. As health is also strongly associated with QoL (Blane et al., 2008) we included four covariates related to health status of the parents. These were: number of chronic diseases (0–10); number of mobility limitations (0–10); one or more limitations in activities of daily living (ADL); one or more limitations in instrumental activities of daily living (IADL). Respondents answered these questions about health conditions individually. Difficulties with everyday activities (ADL) included in the questionnaire were related to dressing, eating, using the toilet, bathing and showering, getting in and out of bed, and walking across a room; while instrumental activities (IADLs) referred to preparing a hot meal, shopping for groceries, making telephone calls, taking medications, and managing money. Health indicators were to some extent correlated with each other, and thus we checked our results using an index of health conditions. The items were treated as continuous variables – indicating the number of ADL, IADL, mobility limitations and chronic diseases – and were combined into an index (Cronbach's alpha = 0.67) by adopting a principal component analysis and weighting each item for its factor loading. We found similar results to those presented in the text below.

Becoming widowed may be associated with both children's returns to the parental home and parental QoL (Bond et al., 2003). Retirement may also be associated with changes in parental QoL and probability of a child returning home. We therefore included parent's age, marital and employment status as additional covariates. Marital status was treated as a categorical variable distinguishing between the currently partnered, the divorced/separated/never married, and the widowed. A dichotomized variable was derived to identify those who retired from the labour market during the observation window.

2.3. Empirical model

We used fixed effects linear regression models in order to estimate the association between *changes* in living arrangements and *changes* in parent's QoL. The estimates were based on within-individual variation, and thus, although 99,000 observations were included in the sample, the coefficient related to boomerang moves was estimated on 1070 transitions (see Table 1). The advantage of this modelling strategy is that it controls for time-invariant observed and unobserved characteristics, for example, previous history of family relationships which might influence children's decision to return home and parent's QoL. Between-country differences are accounted for, under the assumption of parallel intercepts.

We examined the pooled sample of mothers and fathers because preliminary results showed no gender differences in the association between boomerang moves and parent's QoL. Since there was a correlation between partners' QoL, we used cluster-robust standard errors to take account of this intra-household correlation (Wooldridge, 2003). Although we observed a skewed distribution of CASP score, diagnostic analyses for our fixed effects models showed that the residual distribution did not violate the normality assumption (at 95% level).

We analysed unbalanced panel data where the number of waves as well as the time between waves vary remarkably across individuals and countries. To account for this, we derived the number of months that respondents spent in the observation window from the date of the first interview. This variable served to control for the length of the time

Table 1
Sample characteristics.

	Mean or % (S.D.)	Transitions or average changes % or mean (S.D.)				
		N.	In	N.	Out	N.
CASP score (12-48)	38.2(5.94)		0.08(4.98)			
Child returns home	1.1	1070	1.7	1070		
One or + child: unemployed	10.2	10,125	7.1	3963	60.5	3783
One or + child: student	9.6	9501	2.8	1570	54.1	3627
One or + child: partnered	75.8	75,259	22.3	3515	3.4	1573
One or + child: divorced/ separated	15.7	15,612	5.0	2644	13.8	1280
Age	63.3(6.37)		2.64(1.39)			
Mother	57.1	56,690				
Marital status						
Partnered	75.8	75,201	1.7	249	2.8	1318
Divorced/separated	13.2	13,101	0.5	247	3.2	262
Widowed	11.0	10,961	2.1	1150	1.0	66
Retirement	58.2	57,808	24.6	6897	4.0	1356
Number of chronic diseases	1.58(1.45)		0.09(1.25)			
Number of mobility limitations	1.21(1.94)		0.11(1.68)			
At least 1 limitation in ADL	8.1	7954	5.7	3263	54.1	2474
At least 1 limitation in IADL	12.2	12,130	8.7	4826	50.5	3457
Other child(ren) at home	25.3	25,109				
Catholic countries	57.5	57,748				
N. of observations	100.0	99,263	55,136			
N. of parents		37,163				
Movers' characteristics						
Gender: daughter	44.4	475				
Age	36.6(8.31)					
Employment status						
Employed	71.0	760				
Unemployed	12.0	128				
Other not active	17.0	182				
Marital status						
Partnered	31.9	341				
Never married	56.1	600				
Divorce/Separated	12.0	129				
Years out of the parental home						
< =5	42.1	450				
> 5	57.9	620				
N. of observations/parents	100.0	1070				

Note: mean and % based on the total number of observations. Transitions or average changes based on within-individual changes cross waves. Unweighted results.

between waves.

2.4. Analytical strategy

After a brief description of the sample characteristics, we present results from the fixed effects linear regression models. In the first model, we analysed the main association between home returning and changes in parent's QoL, net of parents' and children's characteristics. In the second model, we added an interaction term between having a child move back and having other children living at home. We tested whether returns to an empty nest had a stronger association with changes in parent's QoL, compared to boomerang moves when other children were co-resident. In models 3, 4 and 5, we analysed children's characteristics which may underlie reasons for moving back home as time spent by a returning child outside the family of origin as well as his or her employment and marital status might moderate the association between returns home and parent's QoL. Finally, we fitted separate models for Nordic, Western, Southern and Eastern European countries, and then we tested whether the association between returns to the parental home and parent's QoL was significantly different in these contexts.

3. Results

3.1. Sample description

Table 1 provides descriptive information on the study sample. Parent's QoL was on average equal to 38.3 (SD = 5.9) on a scale ranging from 12 to 48. QoL increased on average by 0.08 points over time with a standard deviation of five points. Only two per cent of parents aged 50-75 had a child moving back to live with them. The second panel in Table 1 shows that adult children who returned to the parental home were on average aged thirty-six years old and about forty per cent of them were daughters. Among boomerang children, 71% were employed, 12% unemployed and 17% out of the labour force. Most children moving back home (about 56%) were never married, while only twelve per cent were divorced or separated. Over 40% of children had left the parental home no more than five years before returning home.

About one-tenth of parents had at least one unemployed child and/or one in education, while 7% and 3% of parents had a child who became unemployed or a student respectively. Reverse transitions out of unemployment and education were relatively more frequent, and more than half of parents with unemployed or student children had at least one who found a job or left education. Most parents (76%) had at least one child living with a partner, while only 16% of them had a divorced child. About one-quarter of parents had a child who got married and 5% had a child who became divorced.

3.2. Returning home and parent's quality of life

Table 2 presents the results of fixed effects linear regression models, where we estimated the association between returning home and changes in parent's QoL. Model 1 shows that parent's QoL decreased when an adult child moved back to live with them. This association

Table 2
Results of fixed effects linear regression models on parental Quality of Life (CASP-12).

	Model 1		Model 2	
	Coef.	S.E.	Coef.	S.E.
Child returns home	-0.32*	(0.16)	-0.84**	(0.23)
One or + child: unemployed	-0.28**	(0.06)	-0.28**	(0.06)
One or + child: student	-0.02	(0.06)	-0.02	(0.06)
One or + child: partnered	0.17**	(0.07)	0.17**	(0.07)
One or + child: divorced/separated	-0.03	(0.08)	-0.03	(0.08)
Age	0.62**	(0.07)	0.61**	(0.07)
Age ²	-0.01**	(0.00)	-0.01**	(0.00)
Marital status (Ref. Partnered)				
Divorced/Separated	0.13	(0.22)	0.13	(0.22)
Widowed	0.08	(0.15)	0.08	(0.15)
Retirement	0.38**	(0.06)	0.39**	(0.06)
N. of chronic illness	-0.24**	(0.02)	-0.24**	(0.02)
N. of mobility limitations	-0.38**	(0.01)	-0.38**	(0.01)
One or + limitations in ADL	-0.40**	(0.08)	-0.40**	(0.08)
One or + limitations in IADL	-0.87**	(0.06)	-0.87**	(0.06)
Wave (Ref.2)				
4	0.09	(0.19)	0.09	(0.19)
5	0.42	(0.27)	0.42	(0.27)
6	0.33	(0.35)	0.33	(0.35)
Time under observation	-0.01**	(0.00)	-0.01**	(0.00)
Child returning * Other co-resident child (ren)			0.96**	(0.33)
Constant	18.34**	(3.01)	18.45**	(3.01)
N. of families	27,433		27,433	
N. of parents	37,163		37,163	
Observations	99,263		99,263	
R-squared	0.04		0.04	

Note: **p < .01, *p < .05, + p < .1. Unweighted estimates. ADL: limitations in activities of daily living. IADL: limitations in instrumental activities of daily living. Other co-resident child(dren) is a time-constant variable measured at baseline. Cluster-robust standard errors in parenthesis.

held after controlling for children's transitions into unemployment, education, partnership, and divorce/separation. Parents' QoL score decreased by 0.28 points when one of their children became unemployed. By contrast, parents experienced an increase in QoL when a child got married or started cohabiting with a partner. There were no associations between children's transition to divorce/separation and changes in parent's QoL. With regard to parents' health conditions, indicators considered in the analysis were associated with changes in parents' QoL in the expected direction. Increases in number of chronic diseases and mobility limitations as well as starting to have limitation (s) in daily and instrumental activities exerted a significant influence in reducing parents' QoL.

In the second model, we added an interaction term between having at least one child living in the parental home at baseline and having a returning child. The coefficient related to the interaction term is positive, indicating that the negative association between boomerang moves and parent's QoL was lower when another child was living in the parental home. Parent's QoL decreased if children returned to an empty nest, whereas there was no association between returns to the parental home and changes in parent's QoL when other children still lived at home. The size of the coefficients suggests that parent's QoL declined as a child refilled the nest (Coef. = -0.88) to a similar extent as having at least one limitation in instrumental activities (Coef. = -0.87). A likelihood-ratio test confirmed that the second model had a better fit compared to the first one (LR test = 17.7; p-value < .001).

3.3. Movers' characteristics

In Table 3 we analysed whether the association between returning home and changes in parent's QoL was moderated by characteristics of the boomerang child. Model 3 shows that declines in parent's QoL were associated with boomerang moves when the mover was unemployed, while there were no associations in case of employed and inactive

Table 3
Results of fixed effects linear regression models on parents' Quality of Life (CASP-12) according to movers' characteristics.

	Model 3		Model 4		Model 5	
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Movers' characteristics						
Employment status						
Employed	-0.28	(0.20)				
Unemployed	-0.98*	(0.49)				
Other not active	-0.33	(0.38)				
Marital status						
Partnered			-0.45	(0.30)		
Never married			-0.42*	(0.21)		
Divorced/Separated			0.05	(0.50)		
Years out of the parental home						
< =5					-0.19	(0.24)
> 5					-0.48*	(0.23)
One or + child: partnered	0.18**	(0.07)			0.17**	(0.07)
One or + child: divorced/ separated	-0.03	(0.08)			-0.03	(0.08)
One or + child: unemployed			-0.28**	(0.06)	-0.28**	(0.06)
One or + child: student			-0.03	(0.06)	-0.02	(0.06)
Constant	19.73**	(3.00)	19.79**	(3.00)	21.55**	(3.41)
N. of families	27,433		27,433		27,433	
N. of parents	37,163		37,163		37,163	
Observations	99,263		99,263		99,263	
R-squared	0.04		0.04		0.04	

Note: **p < .01, *p < .05, + p < .1. Control variables are those presented in Table 2. The reference group of the mover characteristics refers to parents with no returning children. Unweighted estimates. Cluster-robust standard errors in parenthesis.

movers. The size of the coefficients would suggest that boomerang moves due to unemployment (Coef. = -0.98) were strongly associated with parent's QoL, compared to other returns associated with an active (Coef. = -0.28) or an inactive (Coef. = -0.33) positions in the labour market. However, we formally compared the coefficients using the Wald test and the results indicated that there were no differences between coefficients related to employed, unemployed and inactive children. Similarly, Model 4 indicates that parent's QoL declined as the child who moved back in with them was never married. But the coefficients correlated to partnered (Coef. = -0.42) and never married (Coef. = -0.45) children were very similar to each other, suggesting that children's partnership did not affect the association between returns to the parental home and changes in parents' QoL. The Wald test confirmed that there were no differences between coefficients.

In model 5 we examined whether the association between boomerang moves and parents' QoL was influenced by the time the returning child had spent outside the parental home. The results suggest that parents' QoL decreased when one of their children moved back after six or more years of independent living, while there was no association when a child returned home after a shorter period. However, the Wald test indicated that the difference between the coefficients related to short and long-term moves was not significant. Additional analyses revealed no differences by movers' age and sex.

3.4. European differences

Table 4 presents separate models for Nordic, Western, Southern and Eastern European countries. We found that in Nordic European countries parent's QoL decreased as a child moved back whereas returns to the parental home were not associated with changes in parents' QoL in the other parts of Europe. We also tested whether these differences between country clusters were significant, by including an interaction term between returning home and country group in the analysis. The results of the overall model in Table 4 indicate that decreases in parent's QoL were associated with boomerang moves to a greater extent in Nordic than in Western, Southern and Eastern Europe.

3.5. Robustness checks

We carried out a number of sensitivity analyses to check the robustness of our results. One of them was performed including lagged (t-1) dummy variables for boomerang moves occurring in short (1 or 2 years between waves) and long term (more than 2 years between waves). This allowed us to test the anticipation effect of returning home on parent's QoL: parent's well-being might decline before a child's return in response to unobserved events related to home-returning behaviour. For example, mental health problems of a child might affect both the decision to return to the parental home (Sandberg-Thoma et al., 2015) and the well-being of parents (Knoester, 2003). An anticipation effect might be also be due to reverse causality when children return to the parental home as a result of a decline in parent's QoL. However, the results presented in Table 5 show that there were no anticipation effects and the results were similar to those presented above. Returns to the parental home were associated with a decline in parent's QoL when the returning child refilled the nest. Model 8 shows that this association was stronger in Nordic than in other European regions, in spite of a marginally significant anticipation effect.

4. Discussion

Previous research has investigated various aspects of associations between intergenerational co-residence and parents' mental and physical health (Grundy and Murphy, 2017; Lowenstein and Katz, 2005; Maruyama, 2012; Zunzunegui et al., 2001). Two recent studies have shed new light on this association, indicating that co-residing with an adult child is negatively related to parents' depressive symptoms in

Table 4
Results of fixed effects linear regression models on Quality of Life (CASP-12) according to European areas.

	Nordic		Western		Southern		Eastern		Overall	
	Coef	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Child returns home	-1.34**	(0.37)	-0.14	(0.31)	0.00	(0.37)	-0.18	(0.33)	-1.26**	(0.37)
Child returns * Western									1.20*	(0.47)
Child returns * Southern									0.96*	(0.48)
Child returns * Eastern									0.91 +	(0.49)
Constant	8.44	(5.44)	11.98*	(4.85)	69.12**	(9.29)	10.47	(7.14)	18.36**	(3.02)
N. of families	5387		11,589		4640		5817		27,433	
N. of parents	7294		15,372		6747		7750		37,163	
Observations	19,604		41,696		17,326		20,637		99,263	
R-squared	0.03		0.05		0.08		0.05		0.04	

Note: **p < .01, *p < .05, + p < .1. Control variables are those presented in Table 2. Nordic countries: Denmark, Sweden, the Netherlands; Western countries: Austria, Germany, France, Switzerland, Belgium and Luxemburg; Southern countries: Italy, Spain, Portugal and Greece; and Eastern European countries: Czech Republic, Poland, Slovenia and Estonia. Unweighted estimates. Cluster-robust standard errors in parenthesis.

Table 5
Results of fixed effects linear regression models on Quality of Life (CASP-12) controlling for anticipation effects.

	Model 6		Model 7		Model 8	
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Child returns home	-0.53*	(0.26)	-1.02**	(0.31)	-1.44**	(0.42)
Child returns home*other child (ren) at home			0.92**	(0.33)		
Child returns * Western					1.26**	(0.46)
Child returns * Southern					0.88 +	(0.49)
Child returns * Eastern					0.79 +	(0.47)
Anticipation effects:						
1 or 2 years before returning home	0.05	(0.27)	0.00	(0.27)	0.01	(0.27)
+ 2 years before returning home	-0.46	(0.32)	-0.41	(0.32)	-0.56 +	(0.32)
Constant	20.20**	(3.00)	20.29**	(3.41)	20.21**	(3.41)
N. of families	27,433		27,433		27,433	
N. of parents	37,163		37,163		37,163	
Observations	99,263		99,263		99,263	
R-squared	0.04		0.04		0.04	

Note: **p < .01, *p < .05, + p < .1. Control variables are those presented in Table 2. Unweighted estimates. Cluster-robust standard errors in parenthesis.

Europe (Aranda, 2015; Courtin and Avendano, 2016) but with some geographic variation. In this paper, we extended this literature by analysing a specific pathway to co-residence – boomerang moves – and its association with changes in parent's quality of life. We found that parents' experienced a decline in QoL when one of their children returned to live with them, although, as discussed below, there were variations across European regions and living arrangements.

The findings show that returning home was correlated with a decline in parent's QoL when there were no other children in the parental home. Parents enjoy their independence when their children leave the home, and refilling an empty nest may be regarded as a violation of this life course stage (Settersten, 1998; White and Edwards, 1990; VanLaningham et al., 2001).

Returns to the parental home were associated with a decline in parent's QoL in Nordic countries where autonomy has a greater value and public support systems facilitate independence of younger and older family generations. By contrast, there was no association in Southern and Eastern European societies where people rely more on the family and shelter is an important form of support that parents provide to their adult children. Similarly to Aranda (2015)'s findings showing a positive effect of co-residence on older parents' mental health in Catholic areas of Europe, we found that home returning had a less negative and non-significant association with parent's QoL in Southern

Europe where an interplay between cultural systems and welfare institutions fosters family *interdependence*. However, we also found no associations in Western European societies where there is a higher heterogeneity in family attitudes and welfare state arrangements. Many other factors related to gender roles, care services and family cultures might explain these results, but the analysis presented here does not allow us to distinguish between cultural and institutional mechanisms. Further research is needed to shed light on country-specific settings, as well as on the role of the recent economic downturn.

We analysed transitions into unemployment and/or divorce/separation as possible confounding factors in the association between returns home and changes in parent's QoL. Parent's QoL decreased when a child became unemployed, and increased when a child started living with a partner. These findings are consistent with the concept of linked lives (Elder et al., 2003) and previous research findings on the U.S. (Greenfield and Marks, 2006; Milkie et al., 2008; Pillemer et al., 2017). However, these life course factors did not explain the decrease of parents' QoL associated with boomerang moves. Other unobserved factors related to parent-child relationship quality and changes in psychological states of children might confound the association between boomerang moves and parents' well-being. Ward and Spitze (2007), for example, found that in the U.S. children moving back home were negatively selected on prior relationship quality, but parents provided housing support to them nonetheless. Our approach based on fixed effects models eliminated the influence of such time-constant selection factors, and additional analyses showed no significant interaction terms between returning home and contact frequency at baseline as an indicator of the strength of parent-child relationships.

We attempted to understand whether movers' characteristics moderated the association between returning home on parental well-being. We found no support for this hypothesis. This is inconsistent with Aquilino and Supple (1991)'s results showing that parent-child conflicts and parents' dissatisfaction with living arrangements increased when they lived with an unemployed or divorced child. However, in our sample the number of returns due to unemployment was small and this may mean that we lacked sufficient statistical power to detect any such association.

In interpreting these results a number of limitations need to be considered. Firstly, as indicated above, the number of observations in sub-groups of interest was small and thus our estimates were based on only about one thousand parents who had a returning child. Secondly, rates of initial non-response were high in some cases. We attempted to address possible bias of non-response by repeating the analysis excluding two countries (Belgium and Switzerland) where the initial household response rate was particularly low, and we found similar results. Third, using SHARE data it is possible to examine changes in QoL, but this comes at the cost of sample attrition which was quite high in some countries included in the analysis. Our empirical strategy

considered the time spent by respondents in the observation window to at least partly adjust the results for the possible bias due to unbalanced panel data.

Despite these limitations, the findings showed the importance of considering adult children's residential moves in the analysis of older people's quality of life. In some contexts where family orientations and welfare institutions promote individuals' independence, returning to the parental home may indicate a lack of autonomy which has negative implications for parents' well-being.

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