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# The Effects of Adult Children's Unemployment on Parental Mental Health: Geographical Distance as a Moderator

**Anna Baranowska-Rataj, Erika Sandow, and Jordi Gumà Lao**

**ABSTRACT** A large body of research shows that parental unemployment has negative consequences for children's mental health. However, we know much less about the reverse pattern in intergenerational crossover effects. This study fills the gap by showing how unemployment among adult children is related to parents' mental health, and how this relationship is moderated by the geographical distance separating parents from their children. We analyze longitudinal data from seven of the first eight waves of the SHARE survey for 16 European countries from 2004 to 2020. Our analytic sample consists of 299,755 distinct observations for 78,837 parent–child dyads. We employ correlated random-effects models, which control for unobserved fixed-in-time confounders and allow for interacting time-varying observed characteristics in an appropriate way. Our results show that, generally, adult children's unemployment affects parental mental health negatively. Adult children's unemployment has particularly strong negative consequences for the mental health of mothers who coreside with their children. Regarding fathers, relatively larger effects emerge in the group with children who live near enough to have regular interactions but not close enough to provide direct instrumental support. Our findings highlight the role of coresidence and distance in shaping the interrelatedness of economic well-being and health across generations.

**KEYWORDS** Intergenerational relations • Siblings • Unemployment • Mental health

## Introduction

A growing body of evidence shows that parental unemployment may have negative consequences for children's mental health (Johnson et al. 2012; Moustgaard et al. 2018; Schaller and Zerpa 2019). However, the effects of adult children's labor market experiences on parental mental health have so far been studied much less (De Neve and Kawachi 2017; Elo et al. 2018). This article fills this gap by showing how changes in children's labor market status are related to changes in mental health among parents. Additionally, this study offers a new conceptualization and fresh empirical evidence of how geographical distance separating parents from their adult children weakens the impact of children's negative experiences.

Theoretical arguments explaining why an individual's unemployment might be harmful for family members are well-developed. From the life course perspective,

human lives are not lived in isolation but instead interdependently with individuals who are emotionally close and economically interdependent (Elder et al. 2003). This argument is particularly relevant for relations between children and parents (Barr et al. 2018; Lee et al. 2017; Milkie et al. 2008; Yahirun et al. 2020). According to the spillover–crossover model (Bakker and Demerouti 2013), individual experiences in the work-related life domain may spill over into private life, changing the patterns of interactions with family members. As a result, the effects of experiences in the work-related life domain may cross over to the relatives of an unemployed individual.

Conceptually, the spillover–crossover model assumes that interactions within the household channel the transmission of negative emotions from the focal individual to their family members (Bakker and Demerouti 2013). When applying this theoretical framework to the links between adult children and their parents, one needs to consider that the frequency of in-person interactions crucially depends on the geographical distance between family members. Some children live close to their parents, or even share the same household, whereas others live far away and might not be able to visit their parents often. Although today's information and communication technologies, including video and phone calls and social media, offer many ways for parents and children to have frequent contact without meeting in person (König et al. 2021), in-person interactions are still significant for sustaining intergenerational interactions (Tosi and Gähler 2016). Although in-person contacts reduce the risk of depressive symptoms among older adults, telephone or video calls, written letters, or emails do not have such a positive effect (Teo et al. 2015). These arguments call for a thorough integration of geographical distance between adult children and parents in analyses. Integrating interactions between children's distance from their parental home and their labor market status in analyses allows one to take the interrelatedness of these two variables into account.

In the present study, we use longitudinal data from the Survey of Health, Ageing and Retirement in Europe (SHARE), which provides information on mental health outcomes among people aged 50 or older and on adult children's labor market experiences, as well as on geographical distance between adult children and parents. Using correlated random-effects models (Schunck 2013; Wooldridge 2010), we examine how the effects of adult children's unemployment on parental mental health vary depending on geographical distance. Following insights from research on gender differences in parental responses to experiences of children (Ma et al. 2021; Vaalavuo et al. 2023; Yahirun et al. 2017), these models are estimated separately for mothers and fathers. Our analyses carefully control for siblings' labor market experiences and their residential choices. When children reach adulthood, they are likely to follow in their older siblings' footsteps (Grätz et al. 2021; Mulder et al. 2020). If adult children's unemployment is negatively related to parental mental health, so is the unemployment of their siblings. Ignoring such sibling correlations obscures the effects of the concentration of stressful events in parents' lives. Previous research has not paid attention to this issue.

Our article makes three contributions to the literature. First, we provide comprehensive evidence on how young adults' labor market experiences affect the mental health of the older generations in Europe. This question is particularly relevant in the context of population aging and intensifying debates about the factors that threaten the well-being of older adults. Given the broad coverage of European countries in

the data, our results are generalizable to a wide range of societal contexts. Second, our longitudinal analysis reduces the bias from unobserved fixed-in-time factors that may lead to both higher unemployment risk among children and poorer mental health among their parents. In our research design, the influence of siblings is considered a potential time-varying confounder and is carefully controlled for. Third, both the theoretical framework and the empirical analysis offer insights into how processes of leaving the parental home and moving far away from parents shape the interrelatedness of unemployment and mental health across generations.

## Theoretical Background

The concept of "linked lives" developed in life course research posits that the transitions and events in the lives of family members need to be viewed as embedded in shared networks of experiences (Elder et al. 2003). Specifically, the impact of experiences related to working life on the mental health of family members can be understood from the perspective of the spillover–crossover model (Bakker and Demerouti 2013). Spillover effects emerge when negative events in an individual's working life, such as job losses or unemployment, have consequences for the other life domains of this person, such as their health or family life. Crossover effects take place when, as a result of spillover effects, negative events in the individual's working life have consequences for family members. Thus, crossover effects are related to transmitting the consequences of negative life events across individuals who are emotionally close and economically interdependent. Crossover effects from unemployed adult children to their parents may occur as a result of empathy: when their adult children experience anxiety or depressive moods, parents may share these feelings. In more severe cases, adult children's unemployment may lead to emotional reactions and externalizing behaviors among young adults that bring about a deterioration or even disruption of intergenerational relations, also with negative consequences for the parents' mental health. Furthermore, following the idea of the "social foreground" proposed by Torssander (2013), adult children's socioeconomic resources may protect mental health in the older generation. Accordingly, adult children's unemployment may negatively affect the mental health of parents because of the financial difficulties that unemployment often implies, with children's return to the parental home as the most extreme consequence (Tosi 2020). Parental mental health may also deteriorate owing to unfulfilled parental expectations. Parents usually have hopes regarding their children's socioeconomic achievements (Keijer et al. 2016), and their adult children's unemployment may therefore lead to a sense of failure and guilt among parents (Greenfield and Marks 2006). We thus expect that, on average, adult children's unemployment has negative consequences for the mental health of mothers and fathers (*Hypothesis 1*).

The aforementioned mechanisms related to crossover effects are contingent on geographical distance. As the frequency of contacts decreases with increasing geographical distance (König et al. 2021), so may family members' interactions. When parents live farther away from their children, they may not be as exposed to the emotional strains associated with their child's unemployment. This limited exposure may mitigate the negative impact on parental mental health, as the parents are not constantly

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immersed in the challenges and uncertainties faced by the unemployed child. The physical distance may create a certain level of emotional detachment given the less frequent intergenerational contact, which could be protective for the parents' mental health in this scenario. On the contrary, if parents and adult children live close to one another, mutual contacts may remind the parents of unfulfilled expectations and intensify the feelings of disappointment or guilt. Following these arguments, we expect that adult children's unemployment has weaker negative consequences for the mental health of mothers and fathers when adult children live far away (*Hypothesis 2*).

While coresidence in principle could be conceptualized as the smallest possible geographical distance, close distance and coresidence are still distinct categories. Living in close proximity allows for regular meetings but does not involve the same level of constant presence. Coresidence involves sharing the same living space, which leads to more frequent and intense interactions between adult children and their parents. On the one hand, when adult children live under the same roof as their parents, the parents may have greater opportunities to provide emotional, social, and instrumental support (Bordone 2009). Coresidence can also facilitate the intergenerational exchange of support in both directions, where parents and children provide mutual help, with a positive impact on parental well-being (Courtin and Avendano 2016; van der Pers et al. 2015). On the other hand, these positive effects emerge when the interaction and exchange of support are sought from both parties. In practice, coresidence often results from economic necessity. Studies have also found that parents who coreside with their adult children (Caputo and Cagney 2023) or transition to live with their child (Tosi and Grundy 2018) experience an increase in depressive symptoms, and transitions to coresidence with unemployed children have been found to be associated with larger increases in parents' depressive symptoms (Caputo 2019; Tosi 2020). Indeed, major changes in individuals' lives, such as unemployment, have been shown to be key determinants of returning to the parental home (Stone et al. 2014). We expect that adult children's unemployment has stronger negative consequences for the mental health of mothers and fathers when adult children coreside with their parents (*Hypothesis 3*).

## Previous Research

A small but growing field of research suggests that children's socioeconomic success, as perceived by parents (Cichy et al. 2013; Zhang and Silverstein 2023) or measured objectively in terms of educational attainment, occupational status, or income (Elo et al. 2018; Ma et al. 2021; Torres et al. 2021; Torssander 2013; Wolfe et al. 2018; Yahirun et al. 2020), is associated with better health outcomes and longer lives for parents. To the best of our knowledge, only two studies focus on how unemployment among adult children affects parental mental health. Albertini and Piccitto (2023) showed that children's unemployment has a small, albeit statistically significant, negative effect on mothers' psychological well-being, whereas the effect on fathers' psychological well-being was negligible. Similar conclusions were reached by Bister et al. (forthcoming), who pointed also to differences in the magnitude of the effects across groups of countries.

Some studies investigated the associations between parental well-being and the summation of different negative events experienced by children, pooling together

diverse experiences such as criminal justice exposure, injury or accident, or becoming the victim of a crime (Barr et al. 2018; Greenfield and Marks 2006; Milkie et al. 2008). However, when a variety of events in distinct life domains are summed into a single measure, theoretical mechanisms behind specific influences are less clear.

Studies on intermittent factors that mediate the effects of adult children's unemployment on parental well-being have shown mixed results. For example, Hammersmith (2018) demonstrated that adult children's unemployment is linked to a deterioration of relations with parents, but no such effects were found by Pillemer and Suitor (1991). These potentially divergent findings highlight the need to further our knowledge of the mechanisms that drive the effects of adult children's unemployment on parental mental health, as well as the conditions under which adult children's unemployment is particularly detrimental for parents.

In light of the theoretical arguments presented here, the geographical distance separating parents from their children may play an important moderating role. Although previous research has examined the impact of intergenerational coresidence on parental well-being (Caputo 2019; Tosi 2020) or looked at the effects of having children living close by on parental well-being (Courtin and Avendano 2016; van der Pers et al. 2015), none of the studies in this field have tested whether coresidence strengthens the detrimental impact of adult children's unemployment or whether this impact weakens when children live far away.

## Research Design

The analysis used panel data from seven of the first eight waves of the Survey of Health, Ageing and Retirement in Europe from 2004 to 2020. SHARE is a panel survey that is representative of the noninstitutionalized population aged 50 or over living in Europe (Börsch-Supan et al. 2013). It collects information on multiple aspects of the older European population, such as demographic characteristics and data on work, family, and health. In addition, SHARE's questionnaire includes a specific module collecting sociodemographic information on respondents' children. The third wave of the survey was not included because it was a special edition dedicated to collecting biographical information instead of the usual questionnaire. Although the seventh wave also collected biographical information, panel-type information was collected for the countries that joined SHARE at that time. The number of countries participating in SHARE has changed over time, from 12 in the first wave to a total of 27 in the eighth wave. In the eighth wave, the greatest number of countries joined (seven). However, given the longitudinal nature of the analysis in this study, the latter group of countries could not be included because they had only one observation for the individuals in their samples. We selected only countries that have taken part in at least three waves of SHARE, following the methodological recommendation of Giesselmann and Schmidt-Catran (2022). Therefore, the sample was composed of the following European countries: Austria, Belgium, Czech Republic, Denmark, Estonia, France, Germany, Greece, Italy, Luxembourg, the Netherlands, Poland, Slovenia, Spain, Sweden, and Switzerland. Table A1 (shown in the online appendix, along with all other tables and figures designated with an "A") summarizes the participation of each country in our analysis in the different waves of SHARE.

Longitudinal surveys typically suffer from attrition and nonresponse. Studies assessing panel attrition in SHARE show high retention rates across survey waves, with about 80% of respondents repeating their participation over time (Bergmann et al. 2019). Furthermore, Kneip et al. (2015) did not find any strong correlations between socioeconomic characteristics of respondents and the risk of attrition in SHARE. Because those studies did not consider respondents' children's characteristics, which are the focus of this study, we conducted our own analysis of associations between the risk of attrition and our covariates to confirm that selective attrition does not bias our results (Table A3). Nonresponse rates were rather low in the vast majority of variables used for this analysis (Table A3); however, they were relatively high for items used in constructing household net wealth. The SHARE survey organizers have addressed this by providing a composite measure of wealth that includes imputed values calculated using the fully conditional specification imputation method (De Luca et al. 2015).

We selected a sample of parent–child dyads in which the children were aged 18–60 and the parents were aged 50 or older. Considering that individuals with no more than four children constituted the vast majority of survey respondents in all waves (about 95%), we restricted our analysis to individuals with no more than four children. We selected only those dyads that were observed in SHARE at least three times. Our final analytic sample was composed of 299,755 distinct observations for 78,837 parent–child dyads with complete information for all variables included in the analysis (see Figure A1 for details about the sample selection).

The mental health condition of parents, which corresponds to the dependent variable in our analysis, was measured using the EURO-D scale (Prince et al. 1999). This is a cross-national and cross-cultural indicator used to compare the prevalence of later life depression in Europe (Guerra et al. 2015; Portellano-Ortiz et al. 2018). The EURO-D scale compiles information from 12 dimensions: depression, pessimism, suicidality, guilt, sleep, interest, irritability, appetite, fatigue, concentration on reading or entertainment, enjoyment, and tearfulness (Mehrbrodt et al. 2019). The indicator is a sum of all the answers to these 12 items, resulting in a final scale ranging from 0 (not depressed) to 12 (very depressed).

The two main explanatory variables refer to children's distance from their parental home and their labor market status. The employment status of children was categorized into three groups: employed (full and part-time employed, self-employed or working for own family business); unemployed; and economically inactive (in vocational training or education, in retirement, permanently sick or disabled, looking after home or family, and other situations). Even though our focus was on the unemployment category (and how it compares with employment), we include parents with adult children who are economically inactive, and we control for this residual category. Distance was grouped into four categories: coresidence in the same household or building, and living less than 5 km, between 5 km and 25 km, or greater than 25 km away. To examine how the impact of unemployment on parental mental health is moderated by the distance of the adult child from the parental home, distance was interacted with the child's labor market status.

Our models include characteristics of adult children and their parents. We included parental education, wealth, and age. Educational attainment was grouped into three categories: primary education or lower, secondary education, and tertiary education.

Wealth was measured by total household net worth resulting from the sum of financial and housing wealth minus liabilities, plus household income (income of all household members). Age was included in continuous form with a squared term to control for the effects' nonlinearity. All the models also controlled for adult children's educational attainment (with the same categories as for parents) and age (in continuous form after testing for a lack of the effect of the quadratic term). The distribution of the control variables in our sample is presented in Table A2.

Parents with more than one child are subject to multiple possible interrelated exposures, and finding an optimal way to summarize children's experiences into a single measure remains an unresolved puzzle in intergenerational research (Torssander 2013). For instance, a parent with two children may be lucky to see both having stable employment or might see the younger one struggling to find a job while the older one succeeds in the job search, or the reverse, or both children may be unemployed. In the case of parents with three or more children, the number of possible constellations of children's labor market statuses obviously becomes even larger. Siblings' similarity in educational outcomes and residential choices has been documented in previous research (Grätz et al. 2021; Mulder et al. 2020). A concentration of stressful events may result in multiplicative rather than additive effects on health (Comolli et al. 2021), meaning that siblings' unemployment (and distance from parents) may result in an upward bias of our estimates. Given that there is a correlation between offspring proximity to parents and their employment status (Choi et al. 2020), apart from using the distance as a moderator, we also controlled for any confounding effects of this variable separately for each child. Stratifying analyses according to the combination of number of children and their labor market statuses, as well as interacting these with geographical distance, would render a whole set of results that are altogether very difficult to interpret. In this article, we therefore examined the impact of labor market status and geographical distance of each child separately, while controlling for the influence of the presence of any siblings who are unemployed or live away from the parents. Specifically, we added binary variables capturing the presence of at least one unemployed sibling in a family, or at least one who is economically inactive. Compared with studies that use proportions of children experiencing adverse events as explanatory variables, our approach helps disentangle the effects of unemployment of the anchor child on the number of depressive symptoms of a parent from the consequences of the concentration of stressful unemployment experiences within a family. Likewise, we added control variables capturing the influences related to siblings' distances from parents. Finally, the set of control variables includes country-year-specific unemployment rates as well as country- and year-specific fixed effects to capture macro-level confounders.

When estimating the key effects of interest, we controlled for variables that were assumed to affect, rather than be determined by, the adult child's risk of becoming unemployed. Hence, variables that may be potential mediators, such as the number of grandchildren or the parents' own labor market status, were not included in our models. A vast body of literature has shown that unemployment affects childbearing (Alderotti et al. 2021). At the same time, transition to grandparenthood is associated with changes in mental health (Sheppard and Monden 2019). Thus, grandparenthood lies on the causal path from adult children's unemployment to parental mental health. Likewise, parents' own labor market status may be a mediator because the

unemployed child may motivate parents to postpone retirement, and at the same time retirement is an important driver of changes in mental health (van der Heide et al. 2013).

We applied linear correlated random-effects models (Schunck 2013; Wooldridge 2010). These models allow for the consistent estimation of the effects of time-varying characteristics in a manner similar to that of fixed-effects models. Estimation of correlated random-effects models involves including the person-specific means of time-varying characteristics in the set of the model covariates. The correlated random-effects model can be written as follows:

$$Y_{it} = \beta_0 + \beta_1 x_{it} + \beta_2 c_i + (\beta_3 - \beta_1)\overline{x}_i + \nu_i + \epsilon_{it},$$

where subscript $i$ denotes persons and $t$ denotes person–year observations, $x_{it}$ denotes time-varying characteristics of persons and $c_i$ time-constant characteristics, $\nu_i$ is the individual effects, and $\epsilon_{it}$ is the error term. The correlated random-effects model relaxes the assumption of zero correlation between individual effects (i.e., time-constant unobserved characteristics) and time-varying covariates $x_{it}$. Specifically, the inclusion of the person-specific means of time-varying characteristics $\overline{x}_i$ picks up any correlation between these variables and the individual effects. Thus, this approach reduces the possible bias resulting from unobserved heterogeneity, as time-constant confounders are controlled for within our modeling framework. In other words, our analyses disentangle social selection from social causation in relationships between socioeconomic status and mental health (Mossakowski 2014).

The estimate of $(\beta_3 - \beta_1)$ represents the difference of the within- and between-effects. Accordingly, the test of statistical significance of this estimate can be interpreted in a similar way as the results from Hausman tests comparing the estimates from fixed-effects and random-effects models (Schunck 2013). The direction of bias that would have occurred in our results if we did not control for unobserved heterogeneity can be inferred from the sign of the $(\beta_3 - \beta_1)$ term. For instance, if parents with unobserved characteristics commonly associated with mental health problems are overrepresented in families with unemployed children, between-effects of adult child unemployment on parental depressive symptoms will be larger than the within-effects would imply. In our analyses, this will be reflected with a positive sign of the $(\beta_3 - \beta_1)$ term.

The use of correlated random-effects models has been shown to be more appropriate than fixed-effects models in the context of panel data with a short time dimension and unbalanced structure (Bell and Jones 2015). This is relevant for our study, where many parents are observed for less than four survey waves owing to attrition or non-response. Finally, the advantage of correlated random-effects models compared with fixed-effects models is that they offer a possibility to include interactions between time-varying variables in an appropriate way. To address Hypotheses 2 and 3, we need to introduce interactions between geographical distance and the labor market status of adult children. Interactions included in fixed-effects models with use of standard software may lead to biased estimates (Giesselmann and Schmidt-Catran 2022). Therefore, following Schunck (2013), we first computed the mean of the variable corresponding to the interaction term and then included this variable together with its mean in our models. In all analyses, we estimated separate models for mothers

and fathers to take into account the gender differences in depressive symptoms documented in previous research (Oksuzyan et al. 2018).

## Empirical Results

To provide descriptive evidence, Figure 1 presents the average number of depressive symptoms for mothers and fathers according to the labor market status of children and the geographical distance between parents and children, without controlling for background characteristics. Parents who have an unemployed child have, on average, higher values for depressive symptoms compared with those with an employed child. We observe that for mothers, the difference between the values when children are employed versus unemployed is greater when the distance is shorter. For fathers, the largest difference is found when the children live relatively close to them (less than 5 km or between 5 and 25 km), whereas the smallest difference is seen when children coreside or live farther away than 25 km.

Next, we estimate correlated random-effects models with (Table A4) and without (Table A5) the interaction between labor market status and distance. Children's unemployment shows a significant detrimental effect on their parents' mental health. The magnitude of this effect is 0.14 among mothers, whereas among fathers, the effect amounts to 0.12; the difference of both estimates from zero is statistically significant (see the top findings in panels a and b of Figure 2, and Table A4). Thus, the results confirm Hypothesis 1 that, on average, adult children's unemployment has negative consequences for the mental health of mothers and fathers.

The results in Table A5 show that while levels of depressive symptoms are generally higher for parents whose children are unemployed compared with parents with employed children, these differences are not statistically significant across all distance categories. As shown in Figure 2, among mothers who coreside with their adult children, the unemployment of a child increases depressive symptoms by 0.21 compared with when the child is employed. However, when mothers do not coreside with their children, the effects of unemployment are not statistically significant. Among mothers who do not live under the same roof but still close by, at a distance of up to 5 km, the estimate of the effect of unemployment amounts to 0.11. Similarly, for distances between 5 and 25 km, and for mothers living farther away than 25 km from their unemployed child, the estimates are close to zero.

For fathers, the depressive symptoms are 0.13 higher for those with unemployed children than those with employed children when they coreside. The estimate amounts to 0.19 when the distance is less than 5 km. For distances between 5 and 25 km, the estimate amounts to 0.18. The smallest effects are found in the case of distances farther than 25 km (0.09), and in this group the estimates are not statistically significant.

While the patterns described do not contradict Hypothesis 2—stating that adult children's unemployment should have weaker negative consequences for the mental health of parents when the children live far away rather than close by—overall, we do not observe a monotonous decline of estimates across all distance categories. Therefore, we cannot interpret our results in favor of the hypothesis that living far away significantly mitigates the negative effect of adult children's unemployment on parents' health.
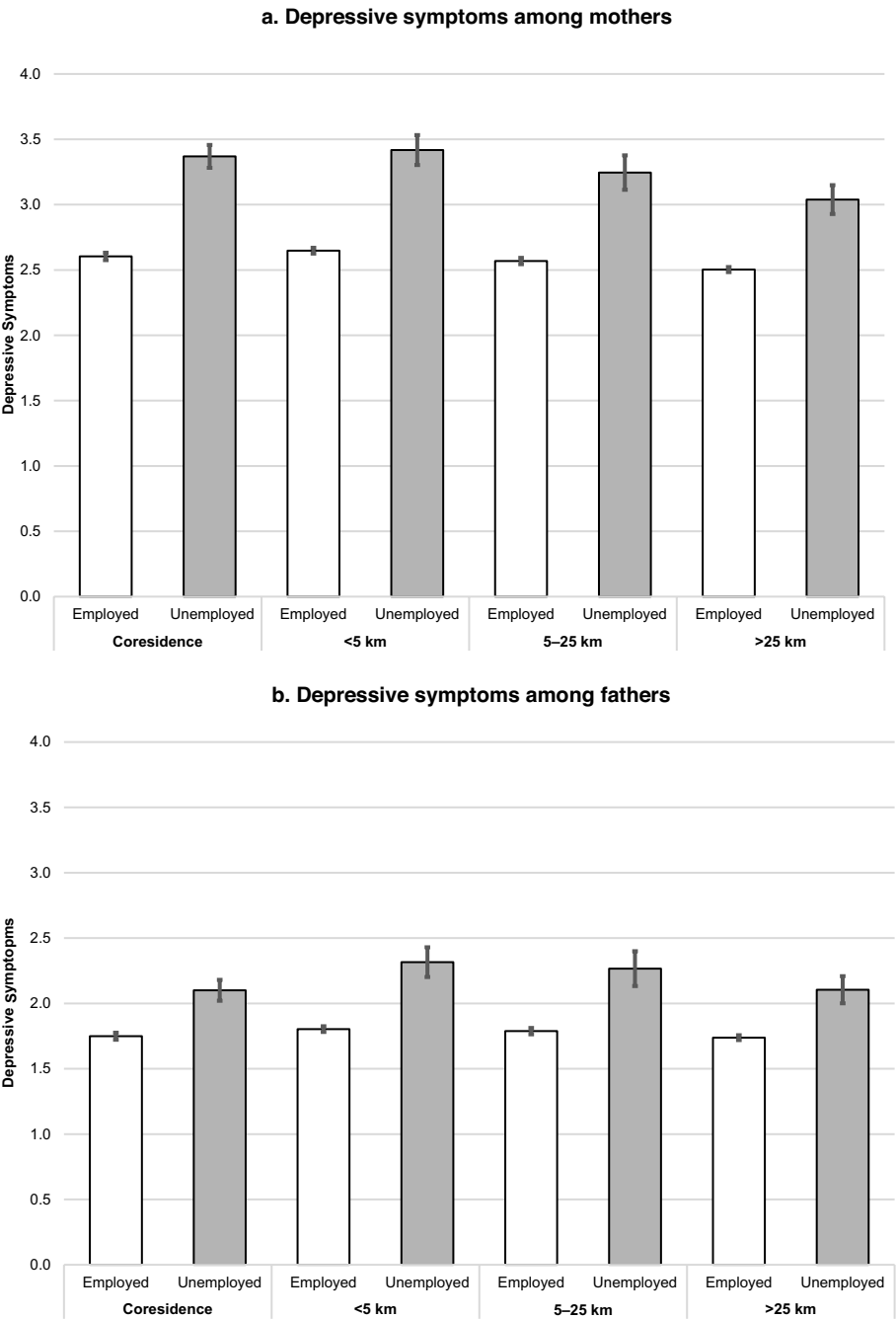
## a. Depressive symptoms among mothers



## b. Depressive symptoms among fathers



**Fig. 1** Depressive symptoms among parents according to labor market status of adult children and their distance from parents. *Source:* Waves 1 to 8 of the SHARE survey.
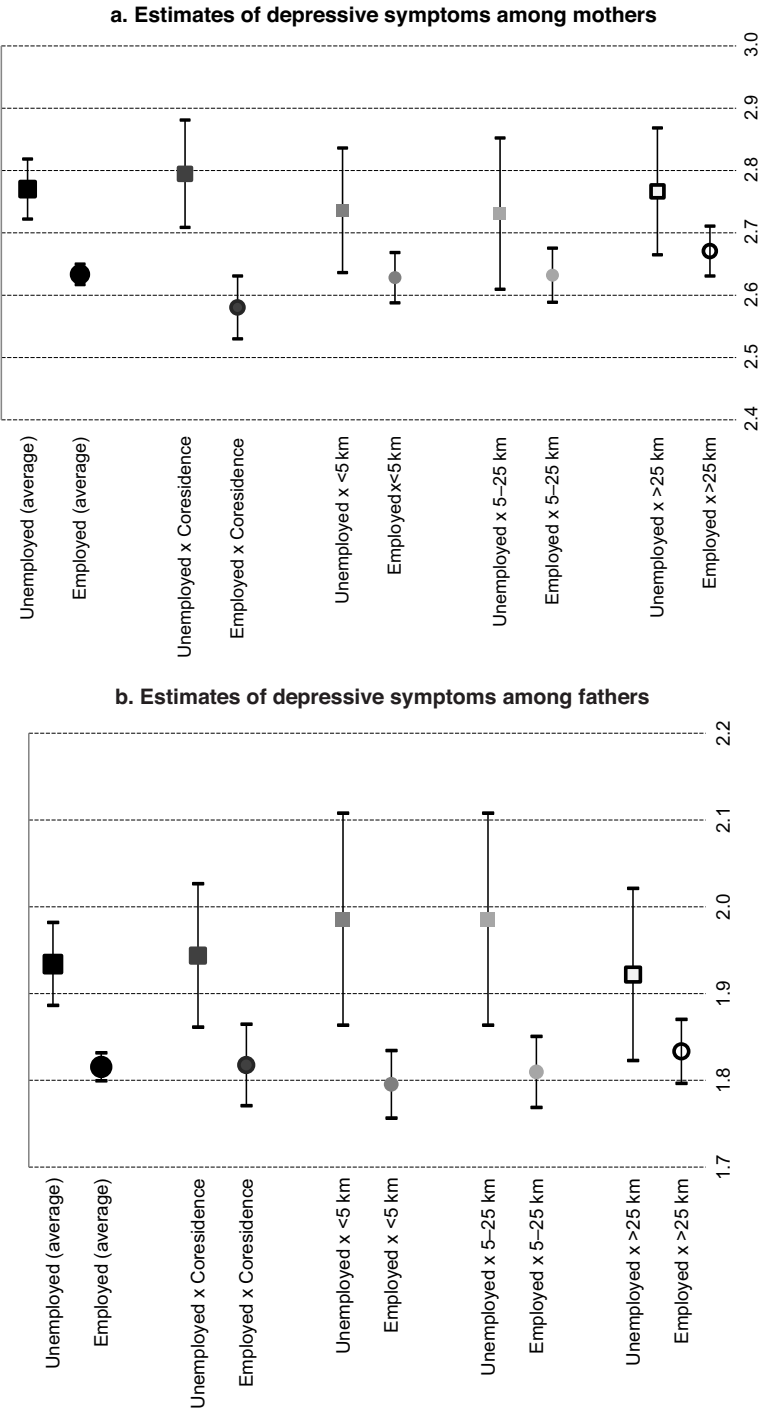
## a. Estimates of depressive symptoms among mothers



## b. Estimates of depressive symptoms among fathers



**Fig. 2** The effects of children's labor market status calculated on average (see Table A3) and based on models with interactions between labor market status and distance (see Table A4). The estimates are predicted values from the correlated random-effects models for mothers (panel a) and fathers (panel b). Squares correspond to unemployed children and circles to employed children. *Source:* Waves 1 to 8 of the SHARE survey.

The results support Hypothesis 3, as they indicate that when adult children live under the same roof as their parents, the unemployment of a child increases the depressive symptoms for both mothers and fathers. However, we do not find that parents with coresident unemployed children are the most vulnerable group, as the effect of children's unemployment on fathers' mental health was of similar size and statistically significant for other distance categories.

We briefly comment on the ancillary estimates in our analysis. As discussed in the previous section, the estimates related to means of time-varying variables (denoted with the prefix M in Tables A4 and A5) represent the differences of the within- and between-effects. Although these estimates are not central to our hypotheses, they shed some light on selection processes. For instance, positive and statistically significant estimates for individual-level means of unemployment of children suggest that parents with unobserved characteristics positively associated with depressive symptoms are overrepresented in families with unemployed children. Thus, if we relied on models that do not control for unobserved confounders, our estimates of the effects of unemployment on parental depressive symptoms would be biased upward (by 0.53 and 0.22 for mothers and fathers, respectively, see Table A4). Interestingly, parents coresiding with unemployed children appear to be a group with unobserved characteristics that decrease the number of depressive symptoms, as the differences of the within- and between-effects are negative (see Table A5). Thus, ignoring the role of confounders could potentially lead to underestimating the moderating role of intergenerational coresidence, although the bias would be relatively small.

Regarding control variables, the labor market status included a residual category of parents with economically inactive children. While we did not specify any theory-driven hypotheses about this group, we find that adult children's inactivity is negatively related to parental mental health (though the effects are not statistically significant for fathers, see Table A4), and it does not interact with intergenerational distance (see Table A5). Regarding the background variables, the educational level attained by children is negatively related to depressive symptoms among parents, whereas the age of children exhibits a positive, albeit rather weak, association with parental depressive symptoms. These results are consistent with findings from previous studies on children's characteristics and parental health (Drefahl and Mussino 2023; Friedman and Mare 2014; Liu et al. 2022). As expected, siblings' unemployment is negatively related to parental mental health. Siblings' geographical distance to their parents is only weakly related to parental mental health. The parents' own age is negatively associated with depressive symptoms, although these effects are nonlinear. The parents' educational attainment is related to a lower number of depressive symptoms. Finally, after controlling for country- and year-specific fixed effects, the aggregate unemployment in each country over the study period (2004–2020) is related to a slight increase in the number of depressive symptoms among mothers.

## Discussion

In this study, guided by the life course perspective (Elder et al. 2003), we investigated how adult children's unemployment is related to parental mental health. Our findings align with previous research showing that the socioeconomic achievements

of adult children protect parental health (Lee et al. 2017; Torssander 2013; Yahirun et al. 2020), while negative life events and transitions experienced by offspring, such as unemployment, lead to deterioration of parental health (Barr et al. 2018; Milkie et al. 2008). Our study extends the literature by examining the moderating role of geographical distance and coresidence on these intergenerational effects. We argue that these influences are unlikely to be homogeneous across the universe of families. Following arguments from the spillover–crossover model (Bakker and Demerouti 2013), central for understanding how negative working life events such as unemployment can have an impact on family members, this study conceptualizes geographical distance as an important potential moderator. In taking a longitudinal approach, we estimated correlated random-effects models to disentangle the relationship between the labor market status of adult children and parental mental health net of fixed-in-time, unobserved characteristics of children and parents. Additionally, we controlled for possible confounding effects of changes in siblings' labor market status and residential choices, something that has not been addressed in previous research.

Our results confirm that adult children's unemployment negatively affects parental mental health (Hypothesis 1). These results are in line with other studies showing that the employment status of adult children can influence the well-being of parents (Albertini and Piccitto 2023; Bister et al. forthcoming). We found that, overall, adult children's unemployment significantly increases depressive symptoms among both mothers and fathers, highlighting that the economic well-being of a younger generation has implications for the mental health of older generations.

We expected that the geographical distance between parents and adult children could impact the relationship between unemployment and parental mental health (Hypothesis 2), with increased distance weakening the impact. Our results partially support this hypothesis. Although we observed that the negative effects of children's unemployment on parental mental health were less pronounced at greater distances, the pattern was not consistent across distance categories. Therefore, we did not find strong evidence that greater distances mitigate the negative consequences of adult children's unemployment on parents' mental health.

Hypothesis 3 is supported by our results, which show that coresidence with an unemployed child exacerbates the negative consequences on parental mental health for both mothers and fathers, although the impact on mothers seems more pronounced. We could speculate that this pattern is due to traditional gender roles that place a heavier burden on women for caregiving and emotional support within the family (Simon 2014). Mothers may therefore be more likely than fathers to shoulder emotional and practical responsibilities when an unemployed child lives at home, which can lead to increased stress and depressive symptoms. These results also add to recent research showing that intergenerational coresidence may be a risk factor for parental mental health (Caputo 2019; Caputo and Cagney 2023).

In summary, this study finds that adult children's unemployment increases depressive symptoms in parents, but the moderating role of geographical distance and coresidence is not as straightforward as hypothesized. These results highlight the distinct ways in which parental mental health is influenced by a child's unemployment, emphasizing the importance of considering both geographical distance and coresidence in understanding the dynamics between adult children's employment status and parental well-being.

**CORRECTED PROOFS**

Despite its longitudinal design and the novelty of the findings, this study has some limitations. First, our analyses do not distinguish between reasons for changes in the geographical distance between children and parents. We cannot consider whether coresidence or living near is a result of older parents moving to live with, or nearer, their child to give or receive support. Moreover, intergenerational coresidence may occur when adult children never left their parental home (so-called nesters) or when adult children returned home because of personal circumstances or in response to changed parental care needs (often referred to as boomerang children) (Stone et al. 2014; Tosi 2020). There may be a difference in how the parent–child relationship, and thus the parents' mental health, is affected depending on whether the child returns to the parental home or a nester continues to stay at home. These represent interesting and relevant opportunities for further studies. Because geographical proximity to parents and how it shapes intergenerational relations vary across Europe, the effects of adult children's unemployment on parental mental health may vary between countries. In southern European countries, with generally stronger family ties and norms of intergenerational support, it is more common for adult children to live with their parents than in northern Europe (Buber and Engelhardt 2008; Hank 2007; Isengard and Szydlik 2012). In the Nordic countries, coresidence and frequent contacts between parents and adult children are generally less common. With a strong welfare state and public safety net, one's need for support if unemployed is different in the north of Europe, and coresidence is less commonly a context for an exchange of instrumental support. Although this study provides evidence that geographical proximity has a moderating role in the relationship between a child's unemployment and their parents' mental health, more detailed research on international differences could bring additional insights. One approach is to employ harmonized data from long-run panel surveys or harmonized multicountry register databases, thus offering sufficient statistical power to detect variations in interactions between labor market status and geographical distance. Finally, another limitation of our study is the lack of information on the health of children, which could be a potential confounder.

This study offers distinct contributions to research linking labor market developments and population health. From a methodological perspective, our study contributes to the literature by employing correlated random-effects models (Schunck 2013; Wooldridge 2010), which reduce the bias from unobserved fixed-in-time factors, and by carefully controlling for the interrelatedness of siblings' unemployment and residential choices. Regarding the substantial findings, although a vast body of literature documents the negative effects of unemployment on the mental health of individuals who experience job losses (for an overview, see Brand 2015), our results reveal that economic adversities may have a much broader impact. Just as parental unemployment matters for the health and life chances of children (Moustgaard et al. 2018; Schaller and Zerpa 2019), adult children's unemployment may negatively affect parental mental health. This highlights the importance of integrating insights from studies on the nature of intergenerational relations and the interrelatedness of family members in future research on socioeconomic inequalities in health and well-being. In light of our findings regarding the moderating role of coresidence of children and parents, our study also implies that social policies to improve labor market opportunities, as well as well-designed regulations of housing markets, may be beneficial not only for young people but also for the health and well-being of older generations. ∎

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