The effects of adult children's unemployment on parental mental health – the moderating role of geographic distance.

Anna Baranowska-Rataj, Centre for Demographic and Ageing Research (CEDAR), Umeå University

Erika Sandow, Department of Geography, Umeå University

Jordi Gumà Lao, Center for Demographic Studies, Universitat Autònoma de Barcelona

Introduction

There is a growing body of evidence showing that parental unemployment may have negative consequences for children's mental health (Bubonya et al., 2017; Moustgaard et al., 2018; Mörk et al., 2020; Nikolova & Nikolaev, 2021; Schaller & Zerpa, 2019). However, the effects of adult children's unemployment for parental mental health have been so far much less studied. The latter research question is particularly relevant in the context of population ageing, and intensifying debates about factors that threaten wellbeing among the elderly. This paper shows how unemployment among adult children is related to mental health among parents, and how this relationship is moderated by geographical distance between parents and their children.

Theoretical arguments explaining why unemployment of an individual might be harmful for family members are well developed. According to the spillover-crossover model (Bakker & Demerouti, 2013), individual experiences in work-related life course domain, may spillover into private life, deteriorating individual wellbeing and changing the patterns of behaviour and interactions with family members. As a result, the effects of experiences in work-related life domain may cross over to the family members of an individual who lost a job. Thus, we expect that on average, adult children's' unemployment has negative consequences for mental health of mothers and fathers (Hypothesis 1).

Conceptually, the spillover-crossover model assumes that interactions between family members channel the transmission of negative emotions from the focal individual to his or her family members. When applying this theoretical framework to links between adult children and parents, we need to consider that the frequency of interactions crucially depends on geographic distance. Some children live close to their parents, or even share the same household, 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, offers 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 (Hărăguș, 2022; Tosi & Gähler, 2016). While in-person contacts reduce the risk of depression symptoms among elderly, contacts through telephone, written or e-mail or contacts do not have such a positive effect (Teo et al., 2015). The aforementioned arguments call for a thorough integration of geographical distance between adult children and parents in the analysis. Following these arguments, we expect that adult children's unemployment has weaker negative consequences for mental health of mothers and fathers when adult children live far away (Hypothesis 2). Complementary, we expect that adult children's unemployment has strongest negative consequences for mental health of mothers and fathers when adult children live under the same roof with parents (Hypothesis 3).

Research design

The analysis uses panel data from the Survey of Health, Ageing and Retirement in Europe (SHARE) from 2004 to 2020. SHARE is a panel survey representative of the non-institutionalized population aged 50 and over living in Europe (Börsch-Supan et al., 2013). To implement longitudinal analyses, we selected countries which have been part in SHARE in at least three waves. Therefore, the sample includes: Austria, Belgium, Croatia, Cyprus, Czech Republic, Denmark, Estonia, France, Germany, Greece, Hungary, Italy, Luxembourg, Netherlands, Poland, Slovenia, Spain, Sweden, and Switzerland.

The sample is composed of child-parent dyads where children were within the age range 18-60 and parents were aged 50 years old and over. The final analytical sample was composed of 299,755 distinct observations for 78,837 parent-child dyads with complete information for all variables.

Variables

The mental health condition of parents in our analysis, which corresponds to the dependent variable in our analysis, was measured using the EURO-D Scale (Prince et al., 1999). The EURO-D Scale corresponds to the addition compiles information of all the answers to these 12 items declared by each respondent: depression, pessimism, suicidality, guilt, sleep, interest, irritability, appetite, fatigue, concentration -on reading or entertainment-, enjoyment, and tearfulness.

The two main explanatory variables refer to adult children's labour market status and geographical distance between parents and their children. Labour market status status of children was categorized in three groups: employed (full and part-time employed, self-employed, and working for own family); unemployed; and economically inactive. Distance was grouped into four categories: same household or building; less than 5 km; between 5 km and 25 km; 25 km and further. Distance was included in the models and interacted with the labour market status of the child.

Control variables include parental educational attainment grouped in three categories: no studies or low, medium and high. Parental age was included in continuous form with a squared term to control for nonlinearity of the effects. All the models control also for adult children's educational attainment (with same categories as for parents) and age (in continuous form). In order to control for siblings' influences, we included variables capturing the labour market status of the siblings as well as their distance from parental home. Finally, we included year-specific country unemployment rates to control for macroeconomic factors in all countries in our analysis. Our longitudinal design described in more detail below assures that the unmeasured, time-fixed confounders, such as inherited poor health of parents, are additionally controlled for.

Method

We apply linear correlated random effects models (Schunck, 2013; Schunck & Perales, 2017; Wooldridge, 2010), which allow for consistent estimation of the effects of time-varying characteristics in a manner similar to that of fixed-effects models. Estimation involves including the person-specific means of time-varying characteristics in the set of the covariates. The person-specific means of time-varying characteristics pick up any correlation between these variables and the unobserved random effects (Wooldridge, 2010). Thus, we reduce bias which may arise due to factors that lead to unemployment among adult children and are correlated with mental health of parents.

The use of hybrid models is more appropriate than fixed effects models in the context of panel data with short time dimension and unbalanced structure (Bell & Jones, 2015). This is the case in our study, where many parents are observed for less than four survey waves and the number of observation points varies across individuals. Finally, correlated random effects models also permit including interactions between time-varying variables in an appropriate way (Giesselmann & Schmidt-Catran, 2022). In this study, interactions are introduced to test the hypotheses 2 and 3 about the moderating effect of the geographic distance between parents and children.

We estimated separate models for mothers and fathers in order to consider gender differences in mental health responses to unemployment (Paul & Moser, 2009).

Preliminary results

Our results from correlated random effects models show a statistically significant detrimental effect of adult children's unemployment on mental health of their parents. The magnitude of this effect is 0.129

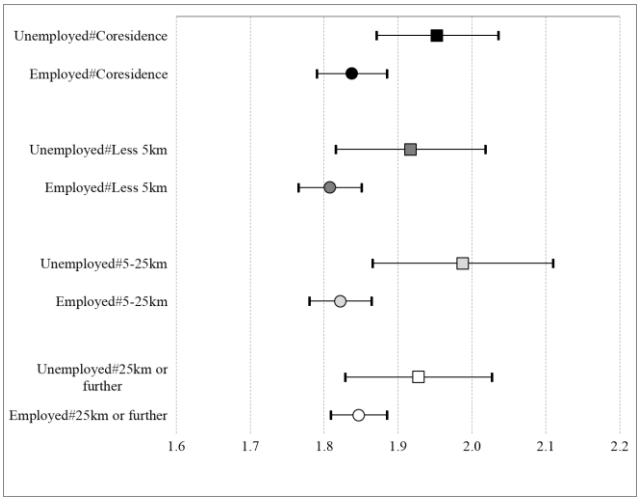
score among mothers and 0.113 scores among fathers. Thus, overall, the results confirm Hypothesis 1 that on average, adult children's' unemployment has negative consequences for mental health of parents.

In order to test Hypotheses 2 and 3, we present the predicted values from models with the interaction between labour market status of children and geographic distance (Figure 1). The results show that while levels of depressive symptoms generally are higher for parents whose children are unemployed compared to parents with employed children, these differences are not statistically significant across all distance categories, which is generally in line with our theoretical predictions.

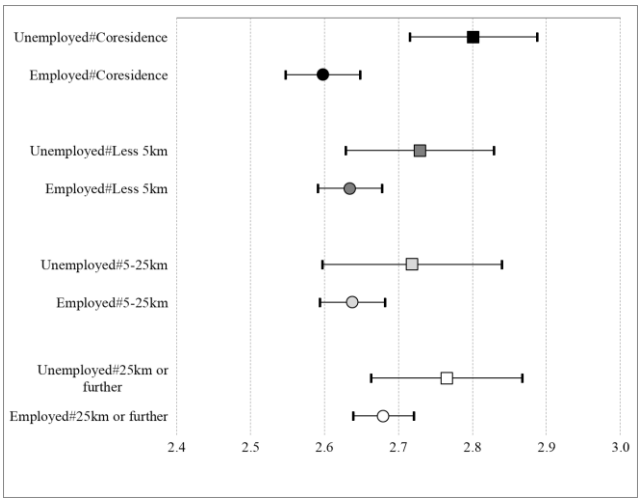
Looking at the results for fathers, the differences in depressive symptoms for fathers are not statistically significant in any of the distance categories except for the category of parents with children living 5-25 km away. This contradicts the idea reflected in Hypothesis 2 that the effects of unemployment should be particularly strong among parents whose children who live close by and weaken as the geographical distance gets larger. For mothers, who live together with adult children, the unemployment of a child increases depressive symptoms by 0.203 compared to when the child is employed, and this estimate is statistically significant at a 95% confidence level. When mothers do not coresidence with their children, the effects of unemployment are weaker and not statistically significant. The results for mothers provide partial support for Hypothesis 3, which states that adult children's unemployment has strongest negative consequences when adult children live under the same roof with parents.

Figure 1. Predicted values for the depressive symptoms among parents according to labour market status of adult children and children's distance from parental home.

Panel A. Results for fathers



Panel B. Results for mothers



Note: Squares correspond to unemployed children, while circumferences to employed children.

References

Bakker, A. B., & Demerouti, E. (2013). The spillover-crossover model. *New frontiers in work and family research*, 54-70.

Bell, A., & Jones, K. (2015). Explaining fixed effects: Random effects modeling of time-series cross-sectional and panel data. *Political Science Research and Methods*, *3*(01), 133-153.

Bubonya, M., Cobb-Clark, D. A., & Wooden, M. (2017). Job loss and the mental health of spouses and adolescent children. *IZA Journal of Labor Economics*, *6*(1), 6.

Börsch-Supan, A., Brandt, M., Hunkler, C., Kneip, T., Korbmacher, J., Malter, F., Schaan, B., Stuck, S., & Zuber, S. (2013). Data resource profile: the Survey of Health, Ageing and Retirement in Europe (SHARE). *International journal of epidemiology*, *42*(4), 992-1001.

Giesselmann, M., & Schmidt-Catran, A. W. (2022). Interactions in fixed effects regression models. *Sociological Methods & Research*, *51*(3), 1100-1127.

Hărăguș, M. (2022). Intergenerational Contacts During the COVID-19 Pandemic: Personal or Electronic? International Conference on Human-Computer Interaction,

König, R., Isengard, B., & Szydlik, M. (2021). Despite the distance? Intergenerational contact in times of migration. In *The Palgrave handbook of family sociology in Europe* (pp. 513-535). Springer.

Moustgaard, H., Avendano, M., & Martikainen, P. (2018). Parental unemployment and offspring psychotropic medication purchases: A longitudinal fixed-effects analysis of 138,644 adolescents. *American journal of epidemiology*, *187*(9), 1880-1888.

Mörk, E., Sjögren, A., & Svaleryd, H. (2020). Consequences of parental job loss on the family environment and on human capital formation-Evidence from workplace closures. *Labour Economics*, *67*, 101911.

Nikolova, M., & Nikolaev, B. N. (2021). Family matters: The effects of parental unemployment in early childhood and adolescence on subjective well-being later in life. *Journal of Economic Behavior & Organization*, *181*, 312-331.

Paul, K. I., & Moser, K. (2009). Unemployment impairs mental health: Meta-analyses. *Journal of Vocational behavior*, *74*(3), 264-282.

Prince, M. J., Reischies, F., Beekman, A. T., Fuhrer, R., Jonker, C., Kivela, S.-L., Lawlor, B. A., Lobo, A., Magnusson, H., & Fichter, M. (1999). Development of the EURO–D scale–a European Union initiative to compare symptoms of depression in 14 European centres. *The British Journal of Psychiatry*, *174*(4), 330-338.

Schaller, J., & Zerpa, M. (2019). Short-run effects of parental job loss on child health. *American Journal of Health Economics*, *5*(1), 8-41.

Schunck, R. (2013). Within and between estimates in random-effects models: Advantages and drawbacks of correlated random effects and hybrid models. *Stata Journal*, *13*(1), 65-76.

Schunck, R., & Perales, F. (2017). Within-and between-cluster effects in generalized linear mixed models: A discussion of approaches and the xthybrid command. *Stata Journal*, *17*(1), 89-115.

Teo, A. R., Choi, H., Andrea, S. B., Valenstein, M., Newsom, J. T., Dobscha, S. K., & Zivin, K. (2015). Does mode of contact with different types of social relationships predict depression in older adults? Evidence from a nationally representative survey. *Journal of the American Geriatrics Society*, *63*(10), 2014-2022.

Tosi, M., & Gähler, M. (2016). Nest-leaving, childhood family climate and later parent–child contact in Sweden. *Acta Sociologica*, *59*(3), 249-268.

Wooldridge, J. M. (2010). *Econometric analysis of cross section and panel data*. MIT press.