

Uncovering the heterogeneity of the effects of adult children's unemployment on their parents' mental health in Europe.

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Extended abstract

Numerous studies have underscored the detrimental impact of parental unemployment on the mental health of children (Baranowska-Rataj et al. 2024; Högberg & Baranowska-Rataj 2024; Moustgaard et al. 2018). However, much less is known regarding the reverse relationship in intergenerational relations. In the current landscape of population aging, where intergenerational coexistence is prolonged, investigating how children's employment status influences parents' mental health furthers the knowledge on older adults' well-being from a multi-actor perspective.

The few studies that have examined the intergenerational relationship between children's unemployment and their parents have revealed a significant association between these factors (Albertini & Piccitto 2023; Gumà-Lao & Baranowska-Rataj, 2023, Bister et al., 2025). This area of research shows that the effects of adult children's unemployment vary substantially, with some types of families in some societal contexts being strongly affected, and others experiencing virtually no harm. While previous research has explored the effect heterogeneity based on selected criteria pertaining to either family-level or macro-level context, this study adopts a more flexible approach benefiting from recent developments in machine learning (Athey & Wager 2019). Our approach not only allows for including a whole myriad of moderators simultaneously but also to consider their potential interactions.

The idea of heterogeneity of mental health responses to stressors is rooted in the stress processes literature. According to stress process models (Pearlin & Bierman 2012), both the exposure to stressors and the mental health responses to stressors may be determined by the same factors. Thus, the same family-specific or contextual factors that increase the exposure to children's unemployment, may also lead to stronger effects of children's unemployment on parents' mental health. This pattern may be particularly relevant for more vulnerable groups of parents, with low socio-economic status, with pre-existing health problems or in advanced age.

The opposite may be true for macro-level factors, such as social policies and macroeconomic developments. According to the literature on the social norm of unemployment (Clark 2003), losing a job becomes less stigmatizing when this negative experience is shared with others, and

thus, in countries with higher aggregate unemployment rates, becoming unemployed is less harmful. Moreover, some of the protective measures offered by welfare states, may increase the incidence or the duration of unemployment but simultaneously shield the mental health of the unemployed (Beckfield et al. 2015). However, an open question remains whether contextual factors such as aggregate unemployment rates or social policies moderate the health effects of unemployment across generations. The only exception was the research by Albertini and Piccitto (2023), who pointed out that the negative effect of children's unemployment on mental health of their mothers was larger in a context of higher levels of unemployment in the specific case of the United Kingdom. Moreover, there are many possible measures of social policies and the theory is not clear enough about which ones may be most relevant for parental health.

We aim at analyzing how parental features (individual level) and societal context (contextual level) moderate the intensity of the relationship between children's employment status and parents' mental health. For this purpose, we analyze the data from the fifth and sixth waves of the panel Survey of Health, Ageing and Retirement in Europe (SHARE). This comprehensive survey encompasses information on individuals aged 50 years old and over, and additionally includes information on the employment status of their children. The longitudinal dimension of the survey allows exploring the effect of a change in children's employment status on their parent's mental health. We selected these two waves because they are the most recent consecutive panel editions of the survey that were not influenced by the COVID-19 pandemic. To consider children's unemployment as a treatment variable, we selected a subsample from the fifth wave consisting of individuals aged between the age range between 50 and 74 years old who had no unemployed children, but at least one child within the active age range who was employed and at risk of becoming unemployed in the subsequent wave.

We combine these individual data with a whole range of indicators of aggregate unemployment rates and social policies obtained from different sources as Eurostat and Social Policy Indicators (SPIN) database. Contextual factors informing about economic context and employment protection legislations in each country serve as potential sources of heterogeneity of the effects of interest in this study. Complementarily, individual characteristics of parents as their sociodemographic information could determine their individual exposure to adult children's unemployment.

We estimated the Conditional Average Treatment Effect using a well-known machine learning method as Causal Forests, following the proposal by Athey and Wager (2019). The authors proposed combining the calculation of the individual propensity score to get the treatment (a child becomes unemployed in the sixth wave of SHARE) with a cluster-robust Random Forests to

elucidate the potential heterogeneous effect of this treatment on a dependent variable (mental health of parents measured by EUROD scale) by clusters (country of residence).

We performed a preliminary analysis with a set of variables informing about both the parents' features (age, EUROD at wave 5 as an initial baseline level of mental health, education, and sex) and country-specific protection for unemployed population and general economic context in 2015 (GDP annual growth, GINI, Tax Wedge on labor costs, PUB -progressiveness of unemployment benefits-, RRUB -overall net replacement rate of unemployment benefits-, right to collective bargaining, right to unionization, legally mandated redundancy compensation, extension of collective agreements, and unemployment rate).

Preliminary Results

Initial results uncover a significant increase (0.168) in the number of depressive symptoms among parents when at least one child becomes unemployed after controlling for their individual propensity to experience this event. The complementary assessment of the causal model fit confirmed the accuracy of the predicted values (an estimate value of 0.76 for the mean forest prediction, which is significant at the 0.001 level). However, the value of -10.2 for the Differential Forest Prediction indicator implies that the model is not able to capture the between country-heterogeneity.

The exploration of the propensity score and the predicted average treatment effects' values uncovers that the parents' features are mainly related to the propensity of experiencing the event of unemployment of a child (Figures 1a and 1b), while Figure 2 points to some country differences in the effect on mental health of parents of this event, though this heterogeneity is still not captured by the model.

Figure 1. Propensity score of having an unemployed child at wave 6 according parent's features

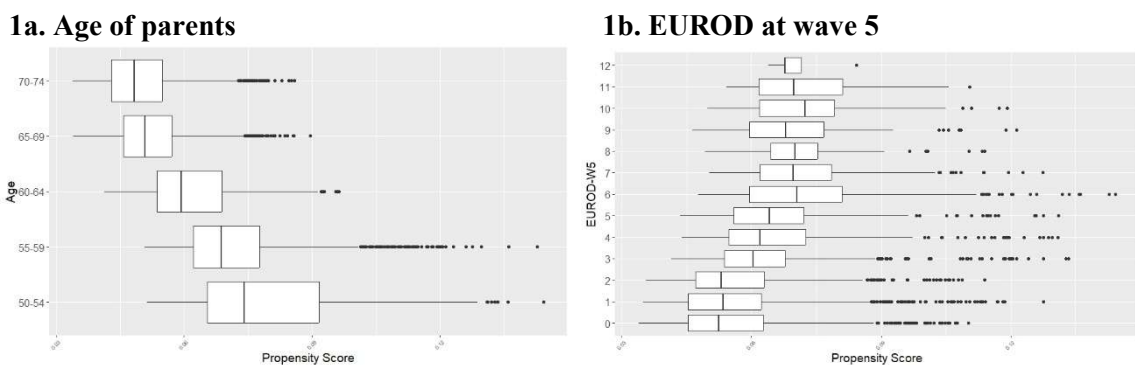
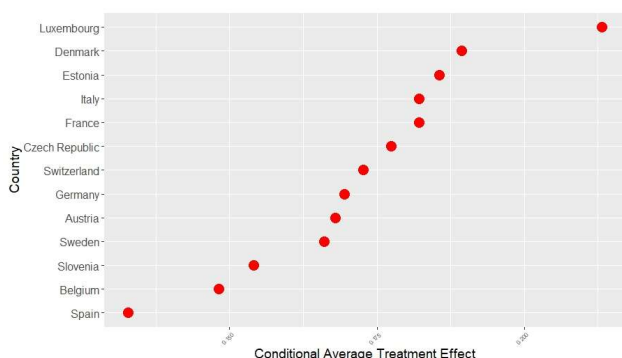


Figure 2. Conditional average treatment by country of residence



Data Source: Waves 5 and 6 of SHARE Survey

Conclusions

Our research contributes to the understanding of the heterogeneity of cross-over effects of unemployment in younger generations on the mental health and well-being of the elderly population. Preliminary analysis confirms a significant impact of children's unemployment on their parents' mental health, even after controlling for parents' propensity of experiencing this event. However, we have not yet been able to identify the contextual variables that explain the country-specific differences in the effects of children's unemployment. This seems to indicate a diversity of national contexts in terms of labor market protection and economic outcomes in Europe. Future research will consider the average values of the contextual factors considered in our analysis from the beginning of the macroeconomic recession (year 2008) to account for the potential effect of the level and duration of this negative context just a few years later. In addition, we also plan to include country-level information on social and family norms from the European Social Survey. This will complement our research by considering the importance of the family in each country, in addition to economic and labor market protection policies. Finally, European countries that did not participate in the fifth and sixth waves of SHARE will be included in the analysis in order to increase the number of clusters in our research. This would increase the model's ability to capture the potential heterogeneity in our research.

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