

# Parental employment uncertainty and children early skills development and well-being

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## Introduction

This study analyses the role of household employment uncertainty on children early skills development and well-being. Employment uncertainty has increased markedly in high-income countries over the last 40 years, and in 2020 both in Europe and in France one employee out of six has a temporary job (OECD 2021). In Germany, almost half of children do not live in households where both parents hold a permanent contract (Betthäuser et al., 2021). In the framework of the lifecourse approach, (Elder, 1998; Benzeval et al., 2014), scholars have shown that the impact of early development inequality influences health in adulthood, educational achievement and labour market outcomes (Dämmrich and Triventi, 2018; Heckman and Mosso, 2014; Skopek and Passaretta, 2021). Understanding early childhood dynamics is crucial because policy interventions at this stage can be highly beneficial and cost-effective.

Temporary workers experience a turbulent work trajectory, characterised by episodes of unemployment; lower income and welfare state protections, and feel less economically secure (Ranci et al., 2017, Kalleberg, 2018). Growing empirical evidence links employment uncertainty with decreased psychophysical health of the workers, reduction in their spouses' well-being, and household instability (Benach, 2014; Brand, 2015). Complementarily, an emerging literature has begun to investigate the role of the unemployment of the parents on their children's health, educational achievement, soft skills, and job outcomes (Lindo, 2011; Rege, Telle and Votruba, 2011; Schaller and Zerpa, 2017, Lindemann and Gangl, 2018). The literature suggests that the impact of unemployment may be gendered: maternal unemployment does not seem to negatively affect children, except when mothers are lone parents (Secret and Peck-Health, 2004; Page et al., 2019, Kalil and Ziol-Guest, 2008).

Less is known about the impact of temporary work. Emerging evidence suggests that in the US maternal employment instability is associated with lower educational performance and socio-emotional well-being (Johnson, Kalil and Dunifon, 2012; Lombardi and Coley 2013,

Pilkauskas et al. 2018). In Germany, non-standard work of one or both parents is linked to a lower probability of entering the academic track in secondary education (Betthäuser et al., 2021).

The main contributions of this work are four. First, we add to the emerging literature that investigate the mechanisms of reproduction of inequality before children enter the educational system (Blossfeld et al., 2017). Second, we take into account the employment uncertainty of both family members, in order to assess the role of gender in the household dynamics. Third, we investigate the role of employment uncertainty, including temporary work, on early childhood in a European country that has a dual labor market, where the comparison between temporary job and permanent job can be more clear-cut (DiPrete et al. 2006). Fourth, France does not belong to the liberal welfare state regime, which is the context where the large majority of studies on this topic are conducted. The lack of variability in the type of welfare state regime undermines the generalizability of the results (Kim et al., 2012). Diversifying the social context can provide insight on the role of this institution.

In the theoretical framework of the Family Investment Model (FMI), employment uncertainty could be connected to worse children's outcomes because lower and uncertain income would constrain investment in children human and cultural capital (Conger and Donnellan, 2007; Heckman and Mosso, 2014). Moreover, the Family Stress Model (FSM) would suggest that the psychological stress, depression and anxiety connected to employment uncertainty (Benach 2014, Brand 2015) could increase harshness and inconsistency in family interactions, thus undermining the psychological adjustment of the child (Conger and Donnellan, 2007) and the development of their cognitive skills (Layte, 2017). Therefore, we hypothesize that a higher degree of household employment uncertainty is associated to worse children's outcomes (H1a). Conversely, the role of employment uncertainty could be reduced or compensated in the French context by the comprehensive family welfare, the affordable health system, and the good quality and free public pre-school (H1b). Moreover, in two-parents household, unemployed mothers could allocate more time in their schedule for interactive childcare. Therefore, mothers' turbulent work trajectories could have a lower correlation with children's outcomes than fathers' employment uncertainty (H2a). On the other hand, the maternal distress caused by temporary work in addition to unemployment could impact children development, particularly when mirrored by paternal stress and anxiety (H2b). Furthermore, we hypothesize stronger association over time, as the children develop and differentiate increasingly (H3). Lastly, we

hypothesize that employment uncertainty is associated with worse children's outcomes when it is persistent (H5).

### **Data**

We use data from the survey ELFE (Étude Longitudinale Française depuis l'Enfance) collected in France by INED (National Institute of demographic studies). ELFE is a nationally representative, longitudinal study that follows about 18,000 children from their birth in 2011. It has a rich set of validated and internationally standardized measures of early skills as well as a comprehensive set of control variables. The dataset that we use includes the first four waves, collected when the ELFE child was 2 months old, 1 year old, 2 years old and 3 and a half years old. In the first three waves, both parents are interviewed. In the fourth wave, the interview is administered only to the referent parent, which is often the mother. The surveys were conducted via phone (CATI). In addition, the British Ability Scale was administered face to face during a home visit to a sub-sample of families (9,293). The survey weight includes both the design weights and the calibration. The attrition is standard among cohort studies and more prevalent among disadvantaged households. The estimates of this study are, therefore, the lower bounds of the population coefficients.

### **Variables**

We select three dependent variables for each wave, in order to assess the association of the employment uncertainty of the parents with, respectively, i) cognitive skills development, ii) soft skills development, iii) well-being of the children. As proxy for cognitive development, we use the MacArthur-Bates Communicative Development Inventory when the children are two years old, and the French equivalent of the British Ability Scale when they are three and a half years old. We use two measures of soft skills: conflictual behaviour when the child is two years old and difficult behaviour, a sub-scale from the "Strength and difficulty questionnaire" (SDQ), when the child is three and a half years old. Since each wave of the survey was conducted over a few months, these four variables are age standardised. As a proxy for children's well-being, we use parent-reported wheezing in both waves.

The independent variables are employment uncertainty and persistent employment uncertainty. Employment uncertainty includes the following four categories: i) both parents have a permanent contract, ii) only the father has a permanent contract, iii) only the mother has a permanent contract, iv) none of the parents has a permanent contract. Persistent employment uncertainty is operationalized as the sum of the number of years that both parents spent in employment uncertainty.

We take into account the following control variables: age of the parents, their migratory background, the level of education of the household, the marital status of the couple, their social class, whether at least one of the parents does not speak French with their child, whether the child has at least one sibling, the birth order and sex of the child, whether they are a twin, premature or had low birth weight.

### **Analytical strategy**

In order to use the data more efficiently, we use twelve analytical sample: six samples for the analysis of employment uncertainty, and six samples for the analysis of persistent employment uncertainty. The sample selection is articulated in three stages. First, we select the independent variable. Second, we select the survey wave. Third, we select a sample "A" that includes only households where both parents are employees, and a sample "B" that includes all parents. In the latter, for examples, couples can be composed of an employee and a self-employed, both parents can be self-employed, or one or both parents can be unemployed or inactive. We are interested in analysing the role of the different degrees of the employment (un)certainly of both parents; therefore, we retained only the households where parents cohabit together.

In order to estimate the association between employment uncertainty and, respectively, cognitive skills and psycho-social adjustment; we perform Ordinal Least Squares. When investigating the children outcome "wheezing", we carry out Linear probability model. We include in the appendix the analysis on imputed datasets with the aim of increasing efficiency and as a robustness check. We carry out the imputation using a substantive-model compatible fully conditional specification, using as independent variables the type of contract of the mother (0 = permanent, 1 = temporary), the type of contract of the father and their interaction.

### **Preliminary findings**

Temporary contract seems to be associated with worse early skills development when both parents face employment uncertainty. The intensity of the association seems stronger for cognitive skills, and when the child is three years old. The order of magnitude of the coefficients ranges from one sixth to one third of a standard deviation. Wheezing does not seem to be linked to employment uncertainty. This could be connected to the French public health system and welfare state.

Concerning persistent employment uncertainty, the results are more mixed. On average, a continuous temporary job does not seem to be associated with worse outcomes. Conversely, long spells of unemployment and inactivity seems associated with worse cognitive and behavioural outcomes.

Due to the sample size of the survey and attrition, when looking only at the complete cases, the number of households included in the category "none of the parents has a permanent contract" is not large in either wave (N= 132 in 2013, and N = 96 in 2014). Therefore, we consider the estimates of this work a lower bound of the population coefficient. Moreover, ELFE collects different measures of cognitive ability and soft skills each wave. Consequently, the analysis uses the data cross-sectionally and it is descriptive in its nature.

Theme: "Economics, human capital and labour market", chaired by Anna Baranowska-Rataj.

Keywords: early childhood skill development, child well-being, employment uncertainty, temporary work, life-course

## References

- Benach, Joan, Alejandra Vives, Marcelo Amable, Christophe Vanroelen, Gemma Tarafa, and Carles Muntaner. 2014. "Precarious Employment: Understanding an Emerging Social Determinant of Health." *Annual Review of Public Health* 35: 229–53.
- Benzeval, M., Bond, L., Campbell, M., Egan, M., Lorenc, T., Petticrew, M., and F. Popham. 2014. *How does money influence health?* Joseph Rowntree Foundation. York. Retrieved on October 29, 2021 (<https://www.jrf.org.uk/report/how-does-money-influence-health>)
- Bethhäuser, Bastian Andreas, Nhat An Trinh, and Anette Eva Fasang. 2021. *The Temporal Dimension of Parental Employment: Fixed-Term Contracts, Non-Standard Work Schedules and Children's Education in Germany*. preprint. SocArXiv. doi: [10.31235/osf.io/zu2ka](https://doi.org/10.31235/osf.io/zu2ka).
- Blossfeld, Hans-Peter et al. (2017). *Childcare, Early Education and Social Inequality: An International Perspective*. Edward Elgar Publishing.
- Brand, Jennie E. 2015. "The Far-Reaching Impact of Job Loss and Unemployment". *Annual Review of Sociology* 41.1, pp. 359–375. DOI: 10.1146/annurev-soc-071913043237.
- Conger, Rand D. and M. Brent Donnellan. 2007. "An Interactionist Perspective on the Socioeconomic Context of Human Development". *Annual Review of Psychology* 58(1), pp. 175–199. DOI: 10.1146/annurev.psych.58.110405.085551.
- Dämmrich, Johanna and Moris Triventi. 2018. "The Dynamics of Social Inequalities in Cognitive-related Competencies along the Early Life Course – A Comparative Study". *International Journal of Educational Research*, 88, pp. 73–84. DOI:10.1016/j.ijer.2018.01.006.
- DiPrete, Thomas A. and Gregory M. Eirich. 2006. "Cumulative Advantage as a Mechanism for Inequality: A Review of Theoretical and Empirical Developments". *Annual Review of Sociology*, 32, pp. 271–297. ISSN: 0360-0572.
- Elder Jr, Glen H. 1998. The life course as developmental theory. *Child development*, 69(1), 1-12.

- Heckman, James J. and Stefano Mosso. 2014. "The Economics of Human Development and Social Mobility". *Annual Review of Economics*. 6(1), pp. 689–733. DOI: 10.1146/annurev-economics-080213-040753.
- Johnson, Rucker C., Ariel Kalil, and Rachel E. Dunifon. 2012. "Employment Patterns of Less-Skilled Workers: Links to Children's Behavior and Academic Progress". *Demography* (49)2, pp. 747–772. DOI: 10.1007/s13524-011-0086-4.
- Kalil, Ariel and Kathleen M. Ziol-Guest. 2008. "Parental Employment Circumstances and Children's Academic Progress". *Social Science Research*, 37(2), pp. 500–515. DOI: 10.1016/j.ssresearch.2007.08.007.
- Kalleberg, A. 2018. *Precarious Lives: Job Insecurity and Well-Being in Rich Democracies*. Cambridge, UK ; Medford, MA: Polity Press.
- Kim I-H, Muntaner C, Vahid Shahidi F, Vives A, Vanroelen C, Benach J. 2012. Welfare states, flexible employment, and health: a critical review. *Health Policy* 104(2):99–127
- Layte, Richard. 2017. "Why Do Working-Class Kids Do Worse in School? An Empirical Test of Two Theories of Educational Disadvantage". *European Sociological Review* 33(4), pp. 489–503. DOI: 10.1093/esr/jcx054.
- Lindemann, Kristina and Markus Gangl. 2018. "The Intergenerational Effects of Unemployment: How Parental Unemployment Affects Educational Transitions in Germany". *Pre-print*. DOI: 10.13140/rg.2.2.15896.90882.
- Lindo, Jason M. 2011. "Parental Job Loss and Infant Health". *Journal of Health Economics* 30(5), pp. 869–879. DOI: 10.1016/j.jhealeco.2011.06.008.
- Lombardi, Caitlin McPherran and Rebekah Levine Coley. 2013. "Low-Income Mothers' Employment Experiences: Prospective Links with Young Children's Development". *Family Relations* 62(3), pp. 514–528.
- OECD. 2021. "Fixed-Term Employment (Indicator)" Retrieved on October 29, 2021 <https://data.oecd.org/emp/temporary-employment.htm>
- Page, M., Schaller, J., & Simon, D. 2019. The Effects of Aggregate and Gender-Specific Labor Demand Shocks on Child Health. *Journal of Human Resources*, 54(1), 37–78. <https://doi.org/10.3368/jhr.54.1.0716.8045R>
- Pilkauskas, N.V., Brooks-Gunn, J. and Waldfogel, J., 2018. Maternal employment stability in early childhood: Links with child behavior and cognitive skills. *Developmental psychology*, 54(3), p.410.
- Ranci, Costanzo et al. 2017. *The rise of economic insecurity in the EU: Concepts and measures*. Tech. rep. Lives Working Paper.
- Rege, Mari, Kjetil Telle, and Merk Votruba. 2011. "Parental Job Loss and Children's School Performance". *The Review of Economic Studies* 78(4), pp. 1462–1489. ISSN: 0034-6527.
- Schaller, Jessamyn and Mariana Zerpa 2017. "Short-Run Effects of Parental Job Loss on Child Health". *American Journal of Health Economics* 5(1), pp. 8–41. DOI: 10.1162/ajhe\_a\_00106.

Secret, Mary and Claudia Peck-Heath. 2004. "Maternal Labor Force Participation and Child Well-Being in Public Assistance Families". *Journal of Family Issues* 25(4), pp. 520–541 DOI: 10.1177/0192513X03257761.

Skopek, Jan and Giampiero Passaretta. 2021. Socioeconomic inequality in children's achievement from infancy to adolescence: The case of Germany. *Social Forces*. 100 (1), 86-112