Do family-work friendly policies foster healthy aging?

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Introduction

Depressive disorders are a major issue for healthcare systems. Using, the Global Burden of Disease (GBD) data, Ferrari et al. (2013) shows that in 2010, depressive disorders were the second leading cause of years lived with disability. Women are more affected by depressive disorders than men (Aria-de la Torre et al., 2021). Childbirth is a critical time when women face a high risk of experiencing a depressive episode. During the perinatal period, it is estimated that 11,9% of women suffer from depressive disorders (Woody et al., 2017). Depressive episodes experienced around pregnancy can have long-term consequences for mental health. As a result, there is a demand for understanding how to protect women's mental health during this critical event.
Around childbirth, the public policy context can contribute to protect or worsen short-term and long-term mental health. Parental leave, in particular, could have a protective effect by facilitating the family-work balance in the first years after childbirth. But it could also have a negative effect, by keeping women away from the labour market, with long-term consequences for their employment. This article answers two questions:

- What is the association between parental leave and women's mental health, in the long term, when women are over 50?
- To what extent is this association explained by the labour market consequences of prolonged parental leave?

Those questions are answered using the example of France and its parental leave policy, *Allocation Parentale d'Education* (APE). Data comes from the CONSTANCES cohort, which is newly used in this literature. CONSTANCES is a large generalist epidemiological cohort. Combined with administrative data (CNAV), it gives access to information on the health and employment in the 2010s of women who benefited from APE between 1985 and 2003.

Literature review

There is a valuable literature on the association of maternity and parental leaves with women's health. Maternity leave and parental leave are two distinct areas of public policy. Maternity leave is intended solely for mothers, with the main aim of enabling them to recuperate physically from childbirth and bonding with their new-born. Parental leave, on the other hand, is aimed at both parents, and responds to multiple public policy imperatives: lower unemployment, reduced inequalities between men and women, help in balancing family and work, etc. When it comes to women's health, the literature sometimes deals with both subjects simultaneously, which is why both schemes will be mentioned in this literature review.

In a first approach to this abundant literature, two dichotomies can enable us to structure its results: firstly, according to the type of health indicator considered (mental health or physical health), and secondly, according to the temporal distance separating birth and health assessment (short-term assessment or long-term assessment).

- In the short run, the literature review by Heshmati et al (2023) shows that longer parental leave is generally associated with better mental health in women. The authors point out that a threshold effect is possible, and that after 12 weeks' leaves, the articles they analyse no longer show any substantial improvement in mental health. With regard to physical health, Aitken et al (2015) show in their literature review that maternity leave is positively associated with general physical health status at the individual level.
- In the long run, Avendano et al. (2015) show from a study of several European countries that more generous, longer, maternity leave is associated with fewer depressive symptoms after the age of 50. Courtin et al (2012) in the case of Denmark show that lengthening parental leave in the 1980s, thirty years later, is associated with better mental health in women. Bister et al. (2023), looking at the number of sick days over the career of German women who had children in the 1960s and 1970s, show a negative association with parental leave longer than 12 weeks.

To date, the literature has focused less on the long-term consequences of these schemes and has mainly focused on short leaves. Our work responds to this need for additional information.

Institutional context

The *allocation parentale d'éducation* (APE) is a parental leave policy implemented in France between 1985 and 2003. It was available to both men and women, but women have been the main beneficiaries. APE was an allowance provided to parents of several children, to offset part of the drop in income resulting from a reduction or cessation of activity in order to care for their offspring. When APE was paid as part of parental leave, it gave rise to job protection. Through APE, parental leave was paid 496 euros per month in 2003 for a full activity stop. APE was not means-tested, but other conditions applied. First, the person receiving APE must have worked for at least two years in the five years preceding childbirth. Second, APE was only available from the third child onwards, until July 1994, when births of rank 2 also became eligible for APE. APE is the remuneration system for parental leave, which can be lengthy, since APE can be paid up to the child's 3rd birthday.

The change in the number-of-children eligibility rule in 1994 has been widely studied by economists, who have assessed its short-term effects on the labour supply of women. From the outset, they have observed a drop in employment and activity rates of mothers at the birth of their second child (Piketty, 1998). Three years after birth, these same mothers do return to employment, with no effect on the probability of having three or more children (Piketty, 2003; Algava et al., 2005). This policy has had heterogeneous effects across the population. It has mainly attracted young, low-skilled women, who were less attached to the labour market (Afsa, 1996; Bonnet and Labbé, 2000). Among women receiving APE, more educated women tended to use this benefit for shorter periods than less educated women (Algava et al., 2005). Taking into account those short-term effects of APE on the labour supply (lower activity rate and return to work after 3 years), its effect on health appears ambiguous.

Data

Survey data come from the CONSTANCES cohort. CONSTANCES is a generalist epidemiological cohort, which includes 200,000 volunteers, drawn at random from the insured population of the general social security scheme in France. Inclusion took place between 2012 and 2019. The volunteers were between 18 and 69 at that time. In this paper we focus on women aged 50+ (n=47,395).

Health

Depressive episodes are measured using the CES-D (Center for Epidemiologic Studies Depression Scale), developed from several validated clinical depression scales (Radloff, 1977). We will use the CES-D as a continuous variable (range 0 to 20).

Occupation and Trajectories

We use the French classification of occupations in 5 classes (highly-skilled workers, skilled workers (intermediate), low skilled clerical and manual workers, self-employed) to which we add the unemployed and non-employed. The retrospective questionnaire on career allows us to observe occupational changes between age 20 and 50. We use a typology that stratified our population in 11 classes of career path: remained in unskilled occupations, upward trajectory from unskilled occupations, downward trajectory from low skilled to unskilled occupations, remained in low skilled occupations, downward trajectory from skilled to low skilled occupations, upward trajectory from skilled to highly skilled occupations, remained in highly skilled occupation, mainly self-employed, non-employed and missing OC.

Table 1: career paths among women over 55

Characteristic	**Women**, N = 28,829[1]
Trajectory	
Unskilled	1,642 (5.7%)
↓ Unskilled	605 (2.1%)
↑ Low skilled	789 (2.7%)
Low skilled	6,846 (24%)
↑ Skilled	1,515 (5.3%)
Skilled	8,344 (29%)
↑ Highly skilled	853 (3.0%)
Highly skilled	2,862 (9.9%)
Self employed	378 (1.3%)
Non-employed	1,211 (4.2%)
Employed, missing SOC	3,784 (13%)

[1] n (%)

Note: this table was drafted using a subsample of women aged 55 and over, whose career trajectory is missing for less than a third of the time between 20 and 55 years old.

We use also an indicator of duration of non-employment and of unemployment over the career (between 20 to 50 years old).

Finally, administrative data coming from the French retirement system (*Caisse Nationale d'Assurance Vieillesse*, CNAV), matched with CONSTANCES data, indicate whether a person was a beneficiary of APE and the years the allowance was received.

These sources offer several advantages:

- CONSTANCES enables us to consider the long-term effects of APE. A minimum of 9 years separates the last births eligible for APE (2003) and the first inclusion in the survey (2012). The maximum duration between the first births eligible for APE (1985) and the last inclusion (2019) is 34 years.
- Matching with CNAV data provides us with reliable information on the receipt of APE, an event that is often distant in time, and which may be difficult for those concerned to recall at the time of survey inclusion.
- Finally, CONSTANCES includes a large number of individuals, giving us a substantial sample size. There are 47,395 women aged 50 and above at inclusion. Among them, 31,908 have at least 2 children. In this sub-group, 2,003 were APE beneficiaries at some point between 1985 and 2007.

Method and preliminary results

First, we describe the career path of women according to their number of children and estimate potential differences according to the receipt of APE. We assess the association between the receipt of APE and the duration of non-employment and unemployment within the career. To measure those associations, we use logistic regressions. Explained variables are indicators for different durations of unemployment and inactivity spells and different career paths. The explaining variable is an indicator for whether or not the individual was a beneficiary of APE and how long. Various controls are used to limit selection bias: age at childbirth, education level, social and geographic origins, total number of children, health before 20. If APE was on the long run an

inactivity trap for the women who entered it, one can expect that APE would be associated with more stagnant career path, more years non-employed or unemployed. The effect would be larger for longer duration of APE. If the association only exists because of selection into APE, the coefficient associated with APE should be non-significant.

Second, we assess the association between career paths, non-employment duration and mental health, as well as the role APE as a possible modifier of this association. We assume that the role of APE differs according to the career path and the duration of inactivity or unemployment over the career. To measure those associations, we use regression analysis. The explained variable is depressive episode scale. The explaining variables are: categorical variables for non-employment and unemployment duration spells. Indicator of having been an APE beneficiary and interacted variables between that variables and labour market explaining variables are added. We hypotheses that parental leave, i.e., APE, is a mediator on the labour market trajectory effect on mental health. Various controls are used to limit selection bias: age at childbirth, education level, social and geographic origins, total number of children, health before age 20. One can expect a negative association between mental health and inactivity and unemployment duration. If the APE in the long run contributed to hinder women's career, one can expect the interacted term to be negative as well. If APE's effect only comes from that channel then the coefficient associated with indicator for APE outside of the interaction should be non-significant.

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