Work and Family over the Life-Cycle : a Typology of Couples

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Summary

Childbirths are a crucial step in the resetting of gender relationships within the family. They clearly create a gap in spouses' career profiles. Usually, studies adopt an approach centred on individuals. But male and female trajectories are interdependent. So an approach centred on the couple, which deals with the interaction between the trajectories of spouses, is necessary. Such studies are quite rare. We analyse the evolution of the division of labour within couples between market activities and domestic tasks in the life-cycle, from the couple's formation. First, we examine jointly males and females' familial and occupational life histories of more than 3000 couples, gathered in the 2004-2005 Family and Employers Survey, to establish a typology of the spouses' career profiles, by means of sequence analysis (OMA). Then we study what characterize and determine the couples belonging to the defined profiles.

Extended summary

Childbirths are a crucial step in the resetting of gender relationships within the family. Childbirths clearly create a gap in spouses' career profiles (Pailhé & Solaz, 2007). Indeed, adjustments following childbirths rest mainly on women, and this more and more as more children are born. Mothers more often quit their job, adapt or reduce their working time (taking part-time for instance). If fathers' careers are reoriented after childbirths it is more in the sense of work intensification and in most cases, these changes are not declared as linked to childbirths. These differences widen as children are born as shown table 1.

Table 1: Types of couples according to the parity.

	At the couple formation	At First birth	At Second birth	At Third birth
Two earners	52.6	65.1	59.9	43.6
Only the man work	31.0	26.9	35.7	51.4
Only the woman work	7.9	3.5	1.6	1.5
Nobody work	8.5	4.5	2.9	3.6

Source : enquête Familles et Employeurs, INED.

Usually, studies linking professional careers and family history adopt an individual point of view, and often only the female one. But male and female behaviours and trajectories are interdependent, and more and more with the generalisation of the dual earners couples.

The share of dual earners couples tends to decrease along the life-cycle and more crudely after each birth. The childbirths are the moment of new trade-offs for spouses between career and family life. The gender division of labour within and outside the family is modified. So an approach centred on the couple, which deals with the interaction between the trajectories of spouses is necessary. Such studies are quite rare, with the exception of Courgeau & Guerin-Pace (1998), Courgeau & Meron (1996), Han & Moen (1999) or Blossfeld *et al. (*1998).

We analyse the evolution of the division of labour within couples between market activities and domestic tasks in the life-cycle, from the couple's formation. This article aims to describe deeply this phenomenon by taking into account simultaneously both partners history.

In order to first establish the typology of the spouses' career profiles, we characterise and sum up the diversity of career profiles by implementing the new methods of sequence analysis. Which type of careers do men and women in couple accomplish? When does the gap in male and female career profiles deepen? Who are the egalitarian couples in terms of career ? Who are those whose spouses do specialize? These adjustments within the couple differ with the relative male and female endowments. What explains the belonging to one type of couple? How the initial relative endowments of each partner, such as education or characteristics at the couple formation (homogamy, job status) influence the profile?

Data

We use the 2004-2005 Family Employers Survey conducted by INED and INSEE. It involved 9,745 men and women aged 20-49 and presents the great advantage of interviewing the two couple's members. The studied sample is composed of more than 3 000 couples. It contains also detailed information on their family (couple formation, births, separation) and professional history. The following professional situations are detailed: full-time and part-time long-term job, short-term jobs, unemployment spells, parental leave periods, inactivity and studies. Furthermore more information are available around the demographic events, such as the public or private sector, the job status (self-employment or employee), and the type of contract.

Method: The sequence analysis.

IOptimal Matching Analysis is based on a set of dynamic algorithms mainly used in molecular biology to analyse similarities of DNA strings. It was introduced into the field of social sciences by Andrew Abbott in the 1980's (Abbott & Forrest, 1986). Its principle is based on the notion of similarities between pairs of sequences. The main idea consists in measuring the dissimilarity between two sequences by calculating the cost of the transformation of one sequence into the other. The transformation is carried out by means of three elementary

operations: insertion (one element is inserted into the sequence), deletion (one element is deleted from the sequence) and substitution (one element is substituted to another). Each elementary operation can be assigned a specific cost. A series of operations costs the equivalent of the sum of the elementary operations involved. Then the distance between two sequences is equal to the minimal cost of transformation of one sequence into the other. Specific dynamic algorithms guarantee that the minimal cost is reached (Sankoff & Kruskal, 1983). Optimal matching of each pair of sequences leads to the creation of a distance matrix, that can be used afterwards to put together sequences according to their degree of similarity, using clustering methods for example, and to obtain a typology.

We are interested in multidimensional trajectories (woman's occupational dimension, man's occupational dimension, couple's parental dimension), which have received little attention in the existing life-course literature using a holistic approach (Elzinga, 2003; Aassve et al, 2007; Pollock, 2007). From a methodological point of view, there are two alternatives. A first strategy consists in first using optimal matching to calculate 3 distance matrices (one for each trajectory) and then combining these matrices into one by means of linear combination (Han & Moen, 1999; Blanchard, 2005). The second strategy consists in building a synthetic variable crossing the different characteristics (Abbott & Hrycak, 1990; Stovel et al, 1996; Blair-Loy, 1999; Aassve et al, 2007; Pollock, 2007). However, the variable created this way would potentially have 6*6*4=144 states[1], which raises two questions: the efficiency of optimal matching techniques which has rarely been tested with so many states; the harder characterization of the created typology. On the other side, this second strategy is more satisfying, theoretically speaking, as the crossing of the different dimensions of pathways in a single variable assumes the interdependency of these dimensions. As in addition to that our attempts showed quite distinct and interpretable clusters, the second strategy has been finally chosen.

The choice of substitution, insertion and deletion[2] costs is a crucial step in optimal matching analysis. Concerning the substitution costs, as there are no clear theoretical assumptions about the relative proximity between states, we let the data themselves drive their assignment, according to the transition likelihoods between the various states (Rohwer, Pötter, 2005). Then the *indel* cost was set to slightly more than a half the maximum substitution cost, which avoids an excessive use of indel operations and keeps the information about the time when transitions occur (MacIndoe, Abbott, 2004).

The duration of couples' histories in our sample varies greatly: from less than a year to 31 years with a median value of 11 years. While OMA can theoretically deal with trajectories of variable durations, it remains relatively complex to implement and it has seldom been tested with such a heterogeneity of lengths (Stovel et al., 1996). So we choose to set couples' histories to the same duration. Obviously, the longer we want to follow histories, the more we'll lose observations. On the other hand, a too short duration would prevent us from examining how the work-family balance occurs after the birth of several children. Finally, we choose to focus on the first 15 years of couples' histories: after 15 years, more than 90% of the fourth births already occurred, and more than a third of the couples entered in a union at least 15 years before the time of the survey. The final sample comprises 1006 couples.

Concerning men's and women's occupations, several states have been grouped together: studies and national service have been put together, and so do inactivity and parental leave. Then for stable jobs, part-time and full-time jobs are distinguished. So, for both men and women, we have six distinct occupational states: studies, inactivity, unemployment, short jobs, part-time stable jobs and full-time stable jobs. These states are not equally spread along the couples' histories (Table 2).

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[1] The women's and men's occupational dimensions have 6 states and the parental one has 4.
[2] As to match two sequences, inserting an element in one sequence is the same as deleting an element from the other, insertion and deletion have the same cost, that is called *indel* cost.

Table 2 – Percentage of time spent in the various occupational states during the union, for women and men

Occupation	Time spent (women)	Time spent (men)
Studies	2.9%	2.5%
Inactivity	23.8%	0.8%
Unemployment	4.2%	1.8%
short jobs	3.5%	2.8%
part-time stable jobs	15.9%	2.3%
full-time stable jobs	49.7%	89.8%

During the union, while men spend most time in a full-time stable job, the situation appears deeply different for women. Full-time stable jobs represent less than half of their time, inactivity more than 20% and part-time stable jobs about 13%.

Now concerning the parental trajectory, we can notice that, at the time of the survey, 21% of the couples have no child, 24% have one, 37% two, 14% three and only 4% four or more. Therefore the parental variable is coded in four states: 0 child; 1 child; 2 children; 3 children or more.

First results

A 6-cluster typology is built. Men's occupations don't seem very discriminant in determining the clusters. On the other hand, women's occupations and the number of children differentiate significantly the various types of couples (Table 3). In some clusters, women experience inactivity or part-time full jobs spells, more or less long and/or frequent, equally spread or mostly at the beginning or at the end of the the union. In other clusters, women stay inactive, or work full-time all time long. Moreover, the number of children after 15 years of unions and the rythm of births differs between clusters.

Table 3 – Typology of couples' histories

Cluster	Main characterictics		N	%
	Woman's occupation	**Nb of children**		
1	a little inact./PT at the end	from 0 to 2	147	14,6%
2	often PT/inact.	≥3	176	17,5%
3	a little inact./PT at the beginning	2	173	17,2%
4	only stable jobs	1	98	9,7%
5	a lot of PT/inact.	1 or 2	276	27,4%
6	Inactivity	≥2	136	13,5%
			1006	*100,0%*

In a first time, theses clusters have to be characterized more precisely, for instance by means of indicators such as average duration in inactivity or part-time, number of spells, frequency of come back to work after a period of inactivity or mean age at the various births, or graphs. This would allow going deeper in the understanding of what underlies the building of the clusters of the typology.

Then, hypothesis can be tested, using models, about the factors and causes that determine the belonging of a couple to a specific cluster.