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The De-Standardization of the Life Course: Are Men and Women Equal?

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Abstract:

Various studies suggest that rather than being a general trend that concern all individuals and all life domains uniformly, the de-standardization of the life course has taken distinct shapes and has followed distinct paces in various countries and social groups. In that respect, the gender divide may play a key role in de-standardization processes. The paper empirically tests cohort and sex effects on quantified indexes of de-standardization based on data from the Swiss Household Panel. Optimal matching is used in order to uncover whether these trends and their gendering, if any, may be accounted for by the development of new types of trajectories. A strong impact of cohorts on indices of de-standardization was found for both family and occupational trajectories. Gender effects mainly concern occupational trajectories. The results are discussed in light of the master status hypothesis.

Following a secular trend, work and family trajectories achieved a high level of uniformity by the 1960s in most Western countries. At that time, a large majority of individuals went through an identified set of ordered and age-graded family and occupational stages with very few of them getting out of sequence or skipping transitions (Kohli, 1986; Modell, Furstenberg & Hershberg, 1976). This move towards standardization was supposedly replaced in the late sixties by an inverse tendency toward a pluralization of both occupational and family trajectories. This trend toward greater complexity and diversity of life paths was presented by individualization theory as overwhelming a majority of personal lives and as representing one of the most profound changes of societies in late modernity (Beck, 1986: Beck & Beck-Gernsheim, 1994; Sennett, 2000).

Is it really so? Recently, the hypothesis of a greater complexity of life courses in late modernity was critically examined in various empirical analyses (Brükner & Mayer, 2004; Elzinga & Liefbroer, 2007), which revealed that the trend toward pluralization of life courses has been less pervasive than their first supporters claimed. The hypothesized changes were more precisely defined as “de-standardization” processes, with life stages and transitions characterizing a smaller part of the population or occurring at increasingly dispersed chronological ages in younger cohorts than in older cohorts (Brükner & Mayer, 2004). Important national differences in levels of de-standardization were found, depending on historical and social policy continuities, with the contrast in union formation between Mediterranean and Northern Europe. Also, the impact of economic and social crises on specific cohorts created unequal opportunities for de-standardization (Monnier 2006). Finally, the amount of de-standardization varies according to life domains: clear signs of de-standardization exist for family trajectories, while the evidence for occupational trajectories is more ambiguous (Brükner & Mayer, 2004). Overall, the empirical evidence suggests that rather than being a general trend that concerned all individuals and all life domains uniformly, de-standardization took distinct shapes and followed distinct paces in various countries and social groups.

In that respect, the gender divide may play a key role in de-standardization processes, as a large number of studies have shown that the organization of families and the job market are structured by strong gender inequalities. Strikingly, however, the gender perspective has for a long time only played a marginal role in life course research (Heinz & Krüger, 2001; Krüger & Levy, 2001; Grunow, 2006) and to our knowledge gender has never

been considered a central issue of the de-standardization hypothesis. Contrastingly, there are various reasons to believe that de-standardization is indeed a gendered process. The *master status perspective* (Krüger & Levy, 2001; Levy, Widmer & Kellerhals, 2002) states that modernity is associated with a new normative and institutional framing of gender relationships in the division of paid work and family work. According to this perspective, institutions and social norms in late modernity define the family as the main responsibility area of women, their employment being legitimate only when subsidiary to it, and employment remains the master status of men, their involvement in family tasks being asked for only when their role as breadwinners is fulfilled. As the new spirit of capitalism requires a full investment in paid work in order to make a career, which is hardly reconcilable with a part-time job, we hypothesize that de-standardization processes in the family and occupational realms are gendered. In sum, this paper briefly reviews some evidence regarding the strength of de-standardization trends and their gendering. It proceeds in empirically testing cohort and sex effects on quantified indexes of de-standardization based on data from the Swiss Household Panel. Optimal matching is then used in order to uncover whether these trends and their gendering, if any, may be accounted for by the development of identified patterns of trajectories.

What De-Standardization of Family and Work Trajectories? Up to the early seventies, sociologists and demographers stressed the prevalence of a family cycle featuring a set of universal, ordered, and age-graded stages: establishment, preschool, school age, adolescence, launching of young adults, post-parental, and retirement years (Duval, 1957; Hill & Rodgers, 1964). Various sociodemographic changes that have occurred since the sixties cast doubt on this universal ordering and sequencing of family transitions. Research focusing on the transition to adulthood stressed that the tight set of transitions prevalent in the sixties, from leaving the parental home and becoming financially autonomous to marrying and becoming a parent (Modell et al. 1976) was progressively replaced by a set of less chronologized and less sequenced life changes. Young adults in most Western countries have postponed leaving the parental home, marriage, and parenthood (Lesthaeghe, 1995; Shanahan, 2000), with various complex living arrangements characterizing this prolonged transitional stage in younger cohorts. Research studies focusing on middle adulthood have stressed the impact of divorce and its aftermath on the pluralization of family life. Divorced

individuals enter for a second time an establishment phase when they remarry or a preschool stage if they have a child from a second union. Accordingly, the variance of occurrence of, and ages at, key transitions of family life has increased. As a result, family trajectories may not follow a developmental model of universal, chronologized and sequentialized stages characterized by the presence and ages of specific family members in the household (Furstenberg & Spanier, 1987).

To summarize, the universality of family transitions, their ordering, and their link with chronological ages have weakened since the sixties with a greater variety of life paths emerging in family formation and family recomposition. Therefore, we expect a tendency towards de-standardization of family transitions and therefore of family stages in younger cohorts. Although the unequal statuses and roles of men and women in family life in Switzerland have been acknowledged for quite a long time (see for instance, Levy, 1977; Levy et al., 1997), the consequences for their family trajectories were seldom stressed by life course researchers. The evidence concerning the transition to adulthood suggests that women experience on average a swifter transition to marriage and parenthood than men (Brückner & Mayer, 2004). Divorce may also deepen a gender divide. Women tend to remarry at a lower rate than men after divorce (De Graaf & Kalmijn, 2003). As divorce rates are larger for second marriages than for first marriages (Cherlin & Furstenberg, 1994), it is possible that men experienced greater changes in older adulthood than women, and therefore were the subject of a greater trend toward de-standardization in their family trajectory as well.

Another main line of scientific debate about the extent and shape of de-standardization trends has concerned paid work (Kohli 1986; Berger & Hradil, 1990). It is likely that the large-scale economic changes that have affected Switzerland in the three last decades have had consequences for individual life courses (Sapin, Spini & Widmer, 2007). From the seventies onwards, there has been in Switzerland a large increase in part-time work, with women strongly over-represented in it (Falter, Ferro Luzzi, & Flückiger, 2001). As a matter of fact, women have entered the labor market in large percentages in Switzerland as in other European countries since the sixties but they have done it mostly in part-time jobs (Baumgartner & Fux, 2004; Monnier, 2006; Widmer, Levy, Hammer, Pollien, & Gauthier, 2003). As part-time work is associated with more uncertainty and job instability, lower wages, less opportunity for a stable career path, and fewer fringe benefits than full-time

work (Kalleberg, 2000), it may be associated with a greater variety of situations within one's life trajectory and among individuals of a single cohort. As a matter of fact, in Switzerland as well as in a majority of Western countries, women significantly reduce their participation in the labor market during their transition to parenthood (Baumgartner & Fux, 2004), resulting in a diversity of job situations and occupational trajectories that is unknown in the male population (Widmer.Levy, Hammer, Pollien & Gauthier, 2003).

While a number of studies in sociology and social demography have stressed the impact of gender on participation in the labor market and family life, few research studies empirically have dealt with the issue of de-standardization of life courses from a gender perspective. Based on the reviewed evidence, we expect women to be the main objects of pluralization trends in the job market and men in the family. The inequality of de-standardization between men and women of younger cohorts may be more important for occupational trajectories, for which a clear gender divide is identified in the literature, than for family trajectories. The cohort effect might be stronger for family trajectories than for occupational trajectories, as changes associated with marriage, fertility, and divorce have been especially large in recent decades (Brükner & Mayer, 2004).

Overall, the literature provides various evidence that de-standardization trends may obey to logic of gendered master status (Krüger & Levy, 2001). This logic takes into account the fact that the oft-diagnosed modernisation of family structures turns out to be much less radical than often claimed (Born, Krüger, & Lorenz-Meyer, 1996; Fthenakis, Kalicki, & Peitz 2002; Pfau-Effinger, 2004). To cite just one prototypical study among many on the range of couples' work-family strategies, Becker & Moen (1999) showed that dual-earner couples, specifically in the phase of early childrearing, are mostly engaged in scaling-back strategies that reduce and restructure the couple's paid work activity, with women doing the scaling back disproportionately. An alternative to the gendered model would be that both parents reduce their paid workload to part time and share the family work in arrangements requiring some flexibility from both of them. A series of factors are working against this possibility, part of them on the male partner's side, including men's "patriarchal dividend" (Connell, 2002), part of them on the woman's side (e.g., acceptance of status dependence), and another part on a more institutional level such as availability of organizational and financial means to "outsource" part of family work and the requirement of working full-time to make a career (see Ernst et al., 2009). Therefore, we expect that more flexibility is required from women than from men in younger cohorts in order for them to adapt to the requirements of their master status as persons in charge of the family. Alternatively, more flexibility is allowed to men in their

family trajectories, as their main socially defined responsibility concerns paid work. Conversely, the master status hypothesis predicts, less flexibility is allowed to men in employment trajectories, that is they have to get a full time job relatively early in the life course and keep it all the way through, and less flexibility is allowed to women in family trajectories, that is, they have to go into motherhood relatively early in the lifecourse and to some extent reduce their career prospects, or postpone motherhood for the sake of their career with the possibility of never experiencing it due to socio-biological constraints. As this arrangement constitutes a structural element of advanced capitalistic systems, trends of de-standardization of life transitions and life stages may be unequal for men and women in the realms of paid work and family life. In other words, the de-standardization of life trajectories of recent cohorts may be twisted by trends in the organization of paid work and family life in societies of late modernity, which has replaced the gender segregation typical of the nineteen-fifties with a logic of gendered master statuses.

Data

The empirical analyses are based on data from the 2002 retrospective biographical survey of the Swiss Household Panel (SHP). The respondents to this survey form a subset of those included in the third wave of the yearly panel survey. The SHP does not limit itself to couples but covers all members of the sampled households. 4139 household interviews were completed for the third wave, which represents a total of 8942 persons aged 14 or more eligible for individual interview. Of them, 4700 (52.5%) persons from 2736 (66.1%) distinct households filled in the biographical retrospective questionnaire[1]. The analyses only consider adults aged 45 or more at the time of the interview in 2002, without distinction between marital statuses or living arrangements. This leaves us with a total of 1503 individuals (751 women and 752 men) after eliminating a few cases with too many missing values. In order to focus on the main stages and transitions that characterize the first half of adult life, the life segment that life course pluralization most concerns, we focus on life trajectories between ages 20 and 45. Adults younger than 45 at the time of interview were excluded in order to get only complete sequences for higher reliability. The upper limit at age 45 should be kept in mind as it excludes from the study cohorts born in the seventies onwards, which have experienced de-standardization trends both for paid work and family life more thoroughly than the cohorts considered here (Sapin et al., 2007). More time, however, is needed before the trajectories of such cohorts can be taken into account.

[1] Further details regarding the participation at the SHP surveys can be found on http://www.swisspanel.ch/.

The cohabitational trajectory describes at each age between 20 and 45 the composition of the interviewed person's household. Living arrangement is a nominal variable that distinguishes 10 cohabitation categories: living with both biological parents, with one biological parent only, with one biological parent and her/his partner, alone, with a partner, with a partner and a child, with a partner and a non-biological child, alone with a biological child, with friends, and other[2]. Time granularity is the year. Thus, the trajectory of each individual is described by a sequence of states such that each state corresponds to the age of the person expressed in number of years. The time during which the person stays in each state is thus clearly accounted for. Likewise, the occupational trajectory describes the successive occupational statuses of the individual between ages 20 and 45, with seven occupational states or categories: full-time education, full-time paid work, part-time paid work, full-time at home, negative work break (unemployment, illness, or durable disability), and positive work break (trips abroad).

Measures

The proposed empirical approach is based on the assumption that a precise estimation of de-standardization of occupational and family trajectories can only be achieved through a fine-tuned investigation of observed trajectories using statistical approaches that are sensitive to variance issues in a longitudinal perspective (Billari, 2001; Elzinga & Liefbroer, 2007). Hence, statistical procedures enabling researchers to capture their complexity are needed. For that purpose, it is especially important to use methods that do not rely on a priori definitions of life stages but describe precisely and empirically the sequencing of life and its overall order or lack of it. To achieve this end, we consider on one hand sequences of statistics of the state observed transversally at each age, and on the other hand synthetic longitudinal indicators of the trajectory followed by each individual. The transversal standpoint provides information about the state distribution among individuals at each chronological age. The cohabitational and occupational states are categorical variables, and their distribution is characterized by the proportions $p_1,\ldots,p_j,\ldots,p_c$ of cases in each of the c possible states.

The entropy introduced in information theory (Shannon, 1948) is a useful heterogeneity indicator for such discrete distributions for which neither mean values nor variances make sense. Entropy was conceived as a measure of uncertainty regarding the predictability of the state (a signal) for a given case and reflects indeed the diversity of the states. It has been defined by Shannon (1948) as the mean number of yes/no questions necessary to determine the state exactly. This mean number is:

$$h(p_1 \ldots p_c) = \sum_{i=1}^{c} -p_i \log_2 p_i$$

[2] The likelihood of living with a partner and one's parents was so low that i twas not included as a category.

Alternative measures of entropy have been proposed. The best known of them besides Shannon's index is the quadratic entropy, known also as the Gini impurity index (Breiman, Friedman, Holshen & Stone, 1984). Generalized entropy formulas that include the Shannon and Gini indexes as special cases have been proposed by Daroczy (1970) and Rényi (1965). These measures have similar behaviors. We keep Shannon's entropy index, which like any other entropy measure takes its maximal value for a uniform distribution, i.e. when the proportions are the same, i.e. $p_j = 1/c$, for all j, and is zero when only one state is observed, i.e. when there is a j such that $p_j = 1$ and all other proportions are zero. Thus, when analyzing states observed at a given age, low entropy indicates a low diversity of states among individuals, while strong entropy corresponds to a large diversity of states. The transversal approach of entropy for measuring the heterogeneity of the state distribution at each chronological age was used by Billari (2001) to highlight gender differences in the heterogeneity of patterns of transitional events to adulthood and by Fussell (2005) in her analysis of synthetic longitudinal data on early adult life courses in Mexico.

The concept of entropy can also be applied longitudinally to the sequence of successive states that define the trajectory of an individual. In that case, entropy provides a measure of the within-sequence diversity. Zero entropy is representative of an individual staying in the same state such as single, at home, or working full-time, for example, during the whole sequence, while high entropy characterizes individuals living in various situations throughout their trajectories. The entropy is maximal when the trajectory goes through all possible states and when the same time is spent in each state. It is worth mentioning, however, that the entropy measure does not take into account the sequencing of states, i.e. the order in which the states are met. For example, the two sequences AAABBBC and ABCABAB have the same entropy. The entropy computed longitudinally is related to the turbulence index recently introduced by Elzinga and Liefbroer (2007). Unlike the entropy index, the turbulence index varies with the order of the states in the sequence. Nevertheless, the turbulence index is a composite measure of two aspects: variability in the time spent in the successive states and the number of distinct subsequences that can be extracted from the sequence. This mix makes it less readily interpretable than the entropy index, which we therefore prefer[3].

[3] Turbulence depends only indirectly on the state sequencing through the number of subsequences of distinct states that the sequence admits. Furthermore, though the turbulence of the analyzed cohabitational and occupational trajectories is not strictly correlated with the longitudinal entropy, the changes in its distribution among birth cohorts and sex are very similar to those reported in the next pages for entropy. As a matter of fact, results are almost identical regarding occupational trajectories while for cohabitational trajectories we get slightly less important effects with turbulence than with entropy.

Results

We first present results concerning the distribution of entropy across sex and cohorts. We then proceed to show that entropies of cohabitational and occupational sequences relate to distinct patterns of life trajectories, using optimal matching and cluster analysis.

Entropy, Cohorts and Sex Effects

Figure 1 presents for each chronological age the average entropy of cohabitation and occupation according to the respondents' cohorts. Note that cohorts were defined using a classification tree so as to maximize discrimination between entropies. The cohorts are 1910-1924 (71 cases, 5%), 1925-1945 (659, 44%), and 1946-1957 (773, 51%).

Overall, entropies vary differently across the life course for cohabitation and occupation. Cohabitational trajectories show a strong increase of entropy between 20 and 25 and stabilize later on. Occupational trajectories are much flatter: no chronological age is more strongly associated than another with entropy. There is however a slow and regular increase of occupational entropy across the life course. Overall, younger cohorts have higher levels of entropy for both cohabitation and occupation than older cohorts, despite interesting exceptions such as cohabitation between 29 and 40 and occupation before 25, which have higher entropies in the older cohorts.

Figure 1. Transversal entropy along ages by birth cohort

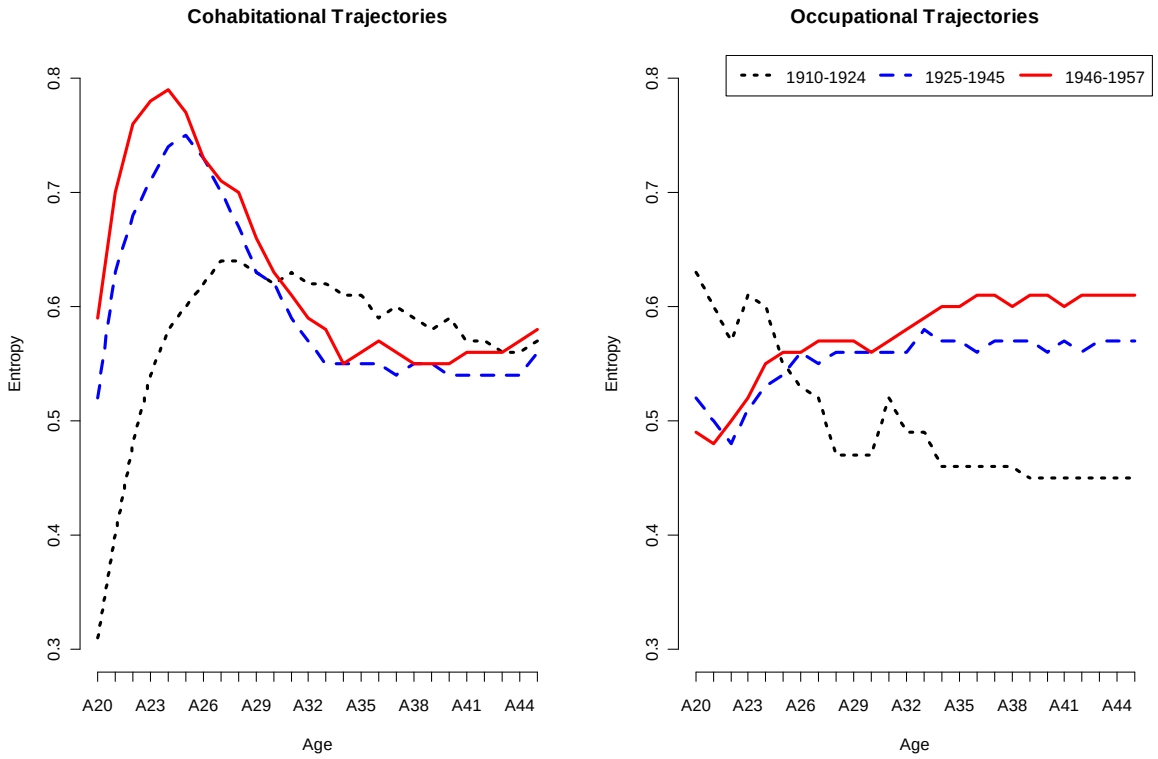


Figure 2 presents the transversal entropy for cohabitation by birth cohort and sex. Younger cohorts feature a higher level of entropy than older cohorts while showing patterns very similar for men and women. There are, however, greater differences across cohorts for men than for women. In particular, men of younger cohorts have much larger entropy in the years of transition to adulthood than men of older cohorts. Strikingly, women of all cohorts have identical levels of transversal entropy after age 30 (median age of the transition to parenthood for women in Switzerland). Therefore, the increase of de-standardization from older to younger cohorts of women for cohabitation mostly concerns the young adult age.

Figure 2. Transversal entropy for cohabitation along chronological age by birth cohort and sex

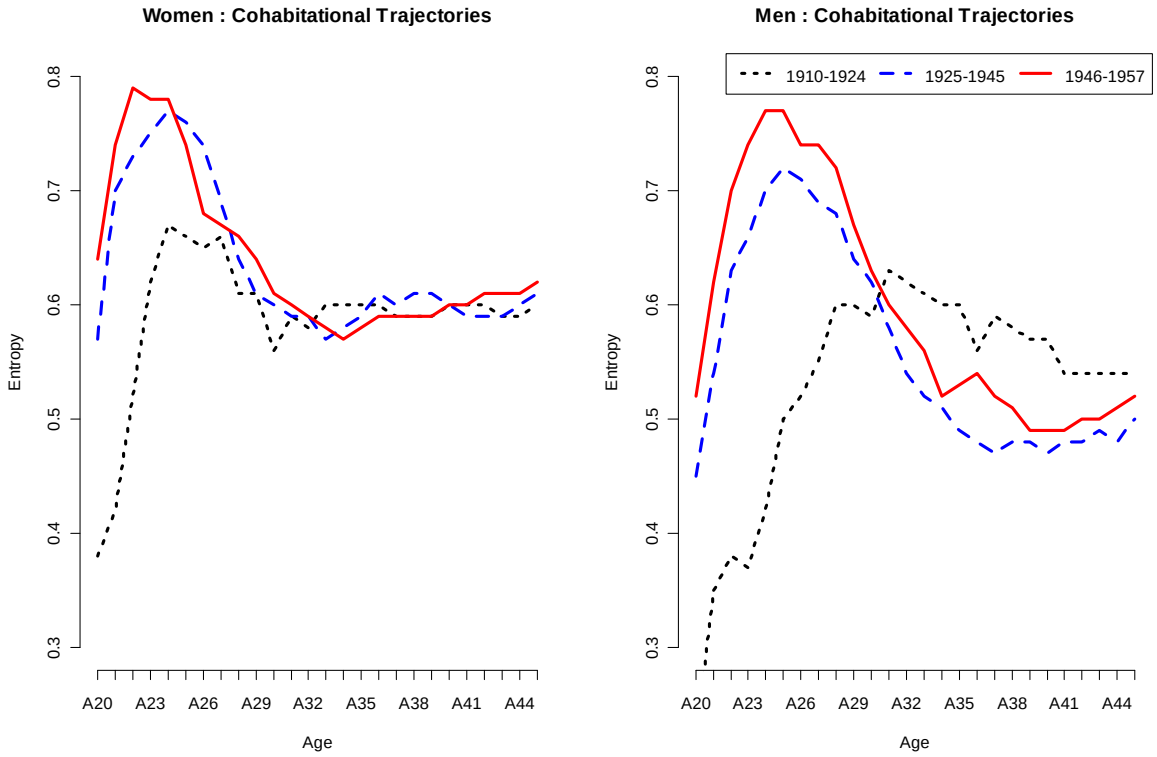


Figure 3. Transversal entropy for occupation along chronological age by birth cohort and sex

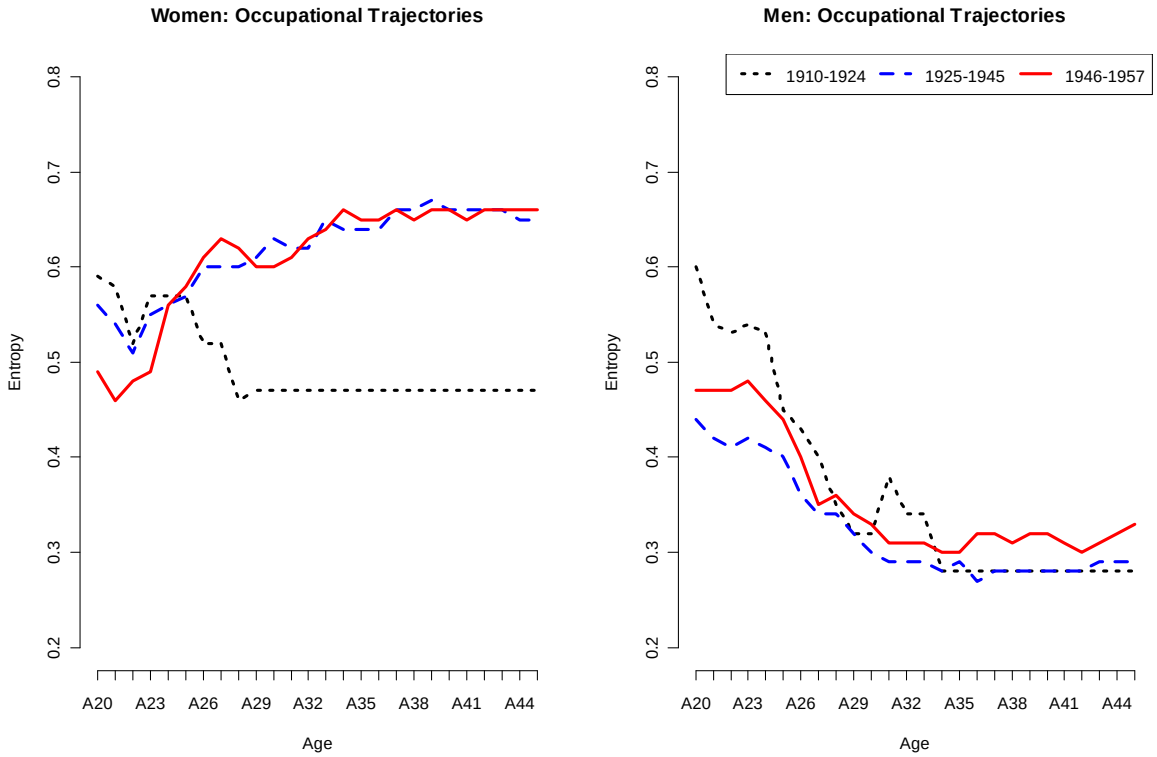
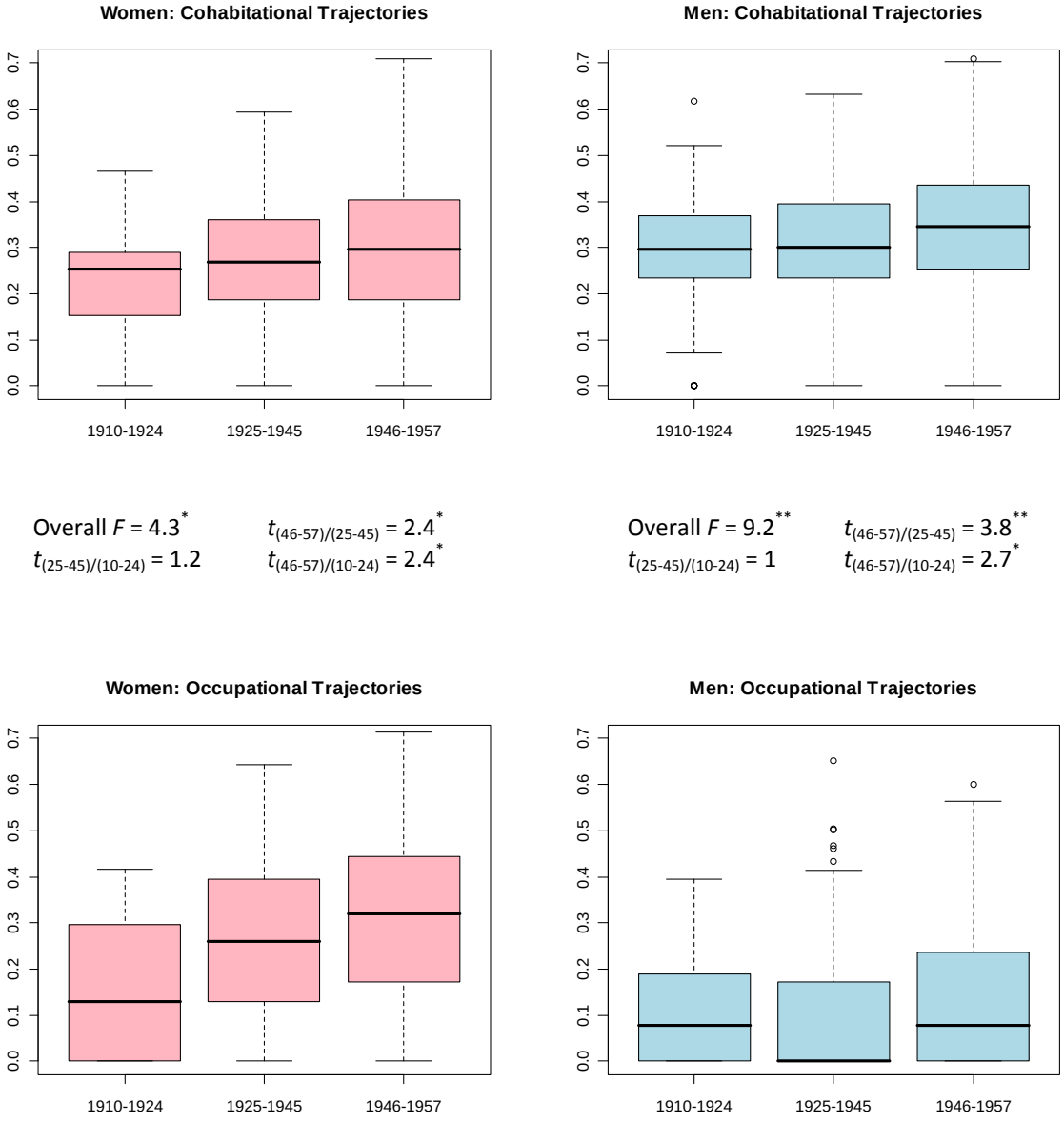


Figure 3 presents transversal entropy for occupation by sex. Overall, women's occupational entropy is higher than that of men at all ages. In addition, men's entropy regularly decreases along chronological age, while women's entropy increases until age 45. There are cohort differences for

women in this regard: entropy regularly increases across the life course only for the two younger cohorts. Therefore, women of younger cohorts face in their occupational trajectories a much more varied set of situations and more transitions than men, who at every chronological age keep fairly stable patterns of participation in the labor market and succeed in decreasing their level of uncertainty. As it was the case of cohabitational entropy for women, men's occupational entropy is flat after age 30 and no cohort differences can be found.

This impact of sex and cohorts on entropy is confirmed by the overall within-trajectory entropy, which is an index of the longitudinal entropy associated with each individual (see previous section). Figure 4 shows that on average, individuals of younger cohorts have larger values of entropy than individuals of older cohorts for both occupation and cohabitation. Women have larger values of entropy for occupation than men, as men in each cohort show larger values of entropy for cohabitation than women in each cohort.

Figure 4. Longitudinal entropy along ages by birth cohort and sex



Overall $F = 4.3^{*}$ $t_{(46\text{-}57)/(25\text{-}45)} = 2.4^{*}$ $t_{(25\text{-}45)/(10\text{-}24)} = 1.2$ $t_{(46\text{-}57)/(10\text{-}24)} = 2.4^{*}$

Overall $F = 9.2^{**}$ $t_{(46\text{-}57)/(25\text{-}45)} = 3.8^{**}$ $t_{(25\text{-}45)/(10\text{-}24)} = 1$ $t_{(46\text{-}57)/(10\text{-}24)} = 2.7^{*}$

Overall $F = 12.6^{**}$ $t_{(46\text{-}57)/(25\text{-}45)} = 5.4^{**}$ $t_{(25\text{-}45)/(10\text{-}24)} = 3.9^{**}$ $t_{(46\text{-}57)/(10\text{-}24)} = 3.0^{**}$

Overall $F = 4.1^{**}$ $t_{(46\text{-}57)/(25\text{-}45)} = 2.9^{**}$ $t_{(25\text{-}45)/(10\text{-}24)} = -0.5$ $t_{(46\text{-}57)/(10\text{-}24)} = 0.9$

**=p<.01, *=p<.05

Cohort differences are not identical for men and women. Strikingly occupation entropy shows a curvilinear effect of cohorts with the cohort of men born between 1925 and 1945 facing the least longitudinal entropy, which may be due to the optimal work conditions of the labor market in Switzerland between 1945 and 1975 (Sapin et al., 2007). For women, longitudinal entropy for occupation regularly increases across cohorts, with a larger gap

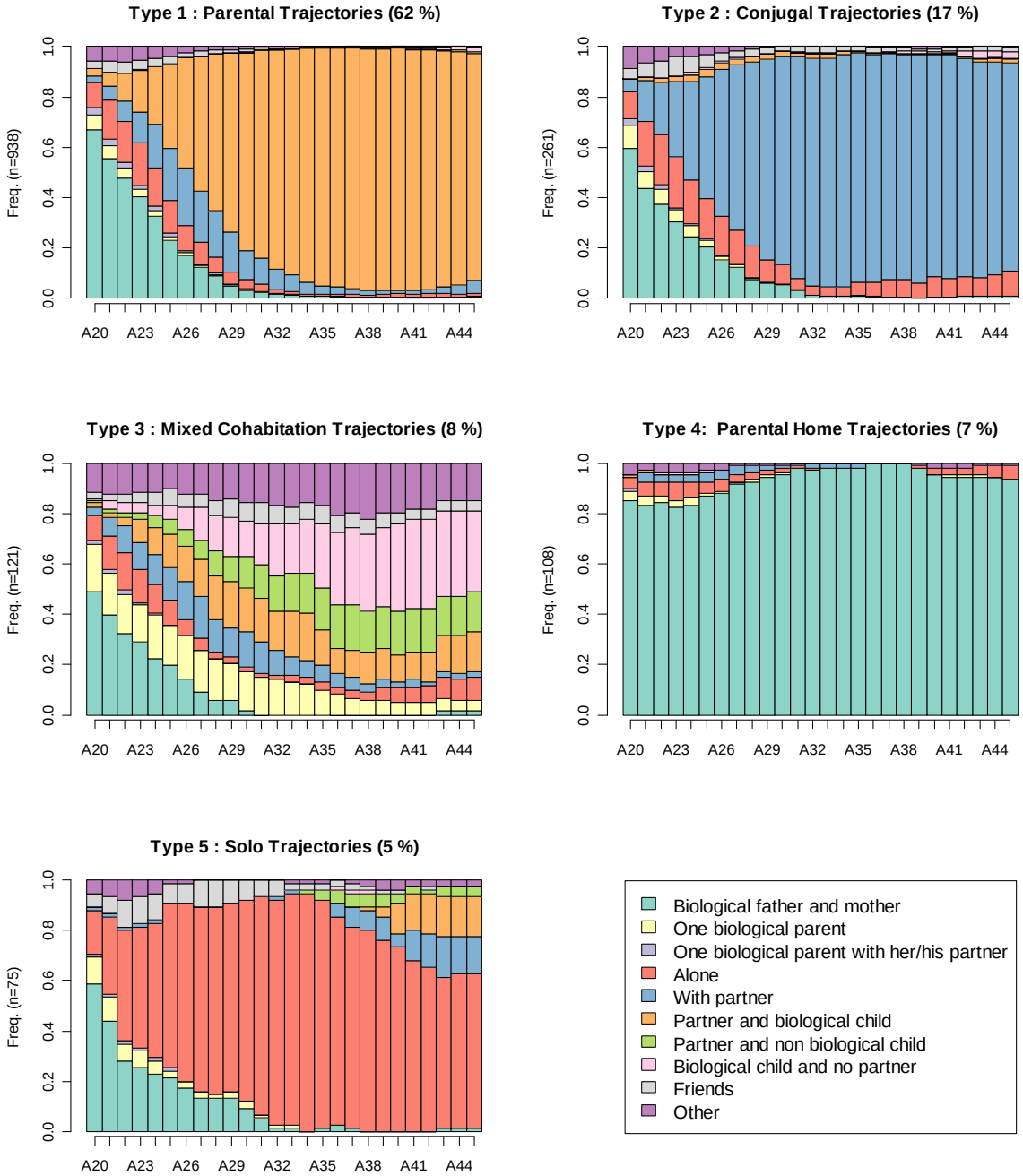
between the 1910-1924 cohort and the 1925-1945 cohort than between the 1925-1945 cohort and the 1946-1957 cohort. For cohabitational entropy, there is a split between the younger cohort and the two older cohorts for both men and women. Overall, statistical testing shows that there is no significant difference for cohabitational entropy between the first and second cohorts (1910-1924, 1925-1945), but there was a significant difference between them and the third cohort (1946-1957) for both men and women. Occupational entropy causes distinct results for men and women; for women, it increases across all three cohorts. For men, the statistical test confirms that cohorts one and three are not different. Only the difference between cohort two (1925-1945) and three (1946-1957) is significant. The paces of de-standardization are therefore varied for men and women in family and work.

Trajectory Types

The distribution of entropies across cohorts and sexes may be partly explained by the spread of new trajectory types in younger cohorts. In order to uncover models of trajectories, a distance matrix was constructed using optimal matching (Abbott & Hrycak, 1990; Abbott & Tsay, 2000; Needleman & Wunsch, 1970). We retained unit *indel costs* and *substitution costs* estimated from the transition rates[4], except for substitution with a missing value for which we fixed a low cost of 0.4. The distance matrix was then used to perform a hierarchical cluster analysis with the Ward criterion, which indicated that five types best described the variety of existing alternatives in cohabitation trajectories. An aggregated view of the state distribution at each chronological age inside each of the five groups is shown in Figure 5.

[4] The estimated substitution cost between *i* and *j* is obtained by means of the formula $2 - p(i|j) - p(j|i)$, where $p(i|j)$ stands for the estimated transition rate, that is the estimated probability to be in state *i* at age *t* when we are in state *j* in $t - 1$. The estimates of the probabilities are computed as the relative frequencies observed for the whole set of sequences. The idea behind this formula is to reduce the cost when we often observe a transition from *i* to *j* or from *j* to *i*. When both transition rates are zero, the cost is maximal and equivalent to that of an insert plus a delete operation.

Figure 5. Types of cohabitational trajectories

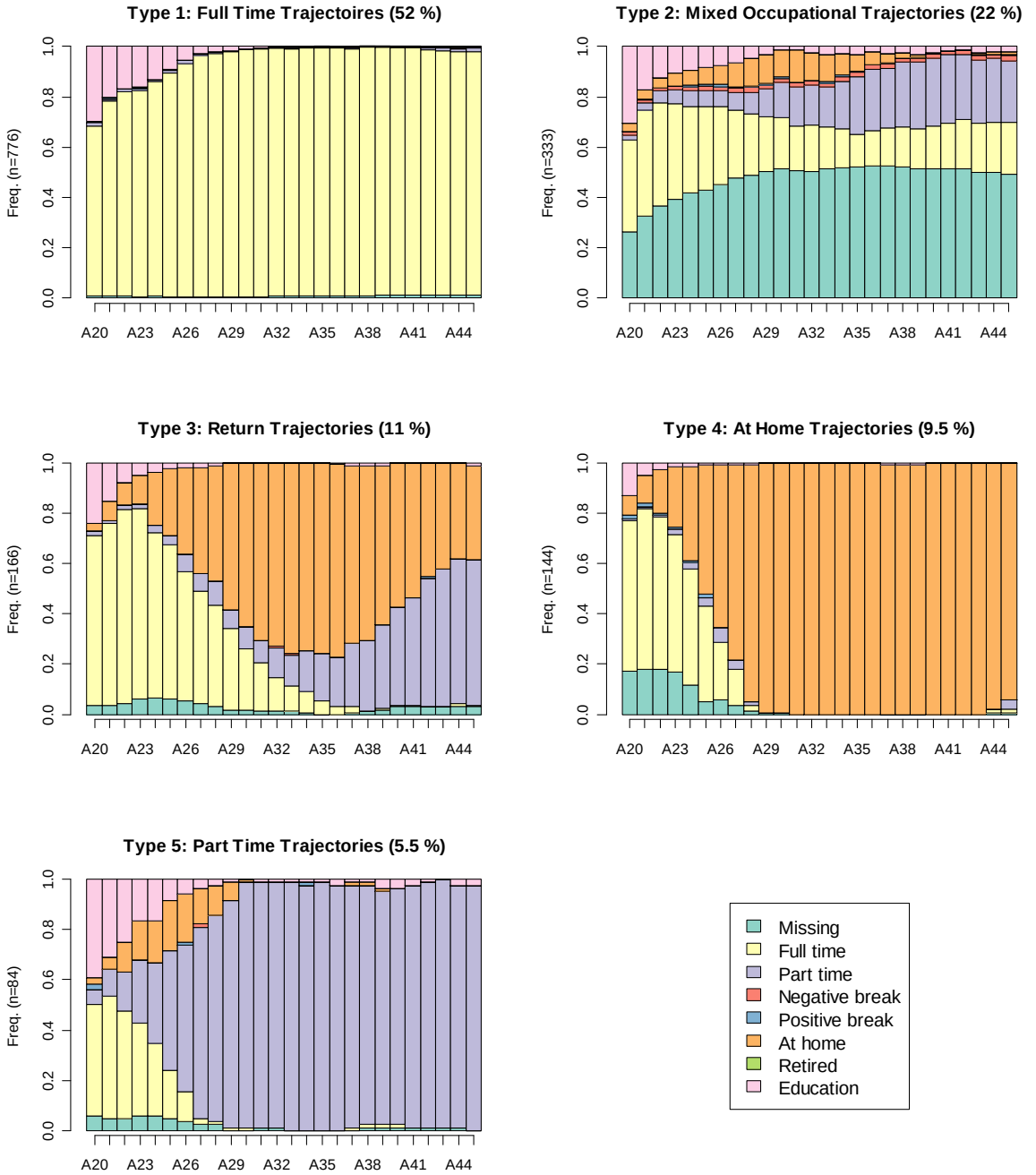


A parental type is overly dominant (62% of the sample). It is in line with the developmental model of the family, as it features an ordered sequence of stages from leaving the parental nest to creating a couple and having children. A second type (17% of the sample) includes trajectories centered on partnership. Individuals belonging to this type have spent most of their adult life (19.2 years over the 25 years considered) living with a

partner but without children at home. The second and third types both include a transition to parenthood. The three remaining types are quantitatively less prominent. 7% of individuals have not yet left the parental home at age 45 (parental home). Another type (8% of cases) includes a variety of sequences stemming from life as a single, living with a partner without children, living with a partner and the partner's children or without a partner but with biological children (mixed cohabitation trajectories). Finally, 5% of individuals have not yet formed a stable cohabitation with a partner during their adult life.

Optimal matching and cluster analysis were used on occupational trajectories as well (Figure 6). A first type (52% of sample) includes full-time occupational trajectories. The second type (22%) features a mix of full-time employment, part-time employment, and home-focused periods. A third type (11%) includes individuals who centered their life on home between ages 25 and 35 and turned to part-time employment later on (return to the job market). Another type (10%) corresponds to home-focused trajectories: on average, individuals of this cluster stay home for 17 of the 25 years considered in the sequence. A final type (only 6% of the sample) includes trajectories centered on part-time work. Overall, the types found in this analysis were very similar to those found in another research on occupational trajectories in Switzerland with a larger age span and the possibility of having incomplete sequences (Widmer et al., 2003).

Figure 6. Types of occupational trajectories



A set of logistic regression analyses (see Tables 3 and 4 in Appendix) revealed that trajectory types are significantly associated with cohorts and sex. Individuals belonging to younger cohorts have a greater likelihood of developing a slow transition to parenthood and a mixed occupational trajectory. Other cohorts, on the other hand, are more likely to develop a quick transition to parenthood or to continue living with their parents. In terms of occupational trajectories, they were less likely to develop a mixed or part-time trajectory.

Sex only has marginal effects on cohabitational trajectories: women are more likely to experience mixed cohabitational trajectories and less likely to go through a slow transition to parenthood than men are. The impact of sex on occupational trajectories is stronger. Women have a much lower chance than men to go through a full-time trajectory and much higher chance to experience either a mixed, at-home, or part-time occupational trajectory.

Accounting for Entropies

We proceed by examining the relationship between longitudinal entropies for occupation and cohabitation and the changing distribution of trajectory types across cohorts and sex. Using a set of linear regressions, we refer entropy in each of the two domains first to cohort and sex only (Model 1a), to which we add an interaction term between sex and cohorts (Model 1b) and trajectory types (Model 1c). In adding trajectory types in this third model, we intend to make the coefficients associated with cohorts and sex decrease. Indeed, we hypothesize that the cohort and sex effects found in the previous sections may be accounted for by the uneven distribution of identified types of trajectories across cohorts and sex.

Table 1. Regression models for entropy of cohabitational trajectories (n = 1503)

	Model 1a	***Model 1b***	***Model 1c***
(Intercept)	0.281 **	0.280 **	0.280 **
Woman	0.027	-0.047	-0.047
Cohort 1910-1924	0 Ref	0 ref	0 ref
Cohort 1925-1945	0.027	0.024	0.014
Cohort 1946-1957	0.059 **	0.063 **	0.035
Woman*(coh 1925-1945)		0.005	0.001
Woman*(coh 1946-1957)		-0.008	0.009
C-type Parental			0.037 **
C-type Conjugal			0 ref
C-type Mixed			0.087 **
C-type Parental home			-0.200 **
C-type Solo			0.017
O-type Full-Time			0 ref
O-type Mixed			0.009
O-type Return			0.035 **
O-type At Home			-0.027 *
O-type Part-Time			-0.004
Adjusted R^2	0.04	0.04	0.24
Residual standard error	0.141	0.142	0.126
F statistic	22.0 **	13.3 **	37.3 **

**=p<.01, *=p<.05

Cohorts indeed have an impact on cohabitational entropy (Model a in Table 1). Younger cohorts have larger cohabitational entropies than older cohorts. However, there is no significant gender effect for cohabitation as the interaction between sex and cohorts presented in Model 1b is not statistically significant. The inclusion of trajectory types makes the cohort effect non-significant (Model 1c). Trajectories characterized by the transition to parenthood or by a mix of states create higher levels of entropy, while trajectories focused on the parental home create lower levels of entropy. Because younger cohorts are associated with a decrease of trajectories focused on the parental home and an increase of mixed cohabitational trajectories, they have higher levels of entropy. Interestingly, there is also a spillover effect from the occupational trajectory on the cohabitational entropy. Return occupational trajectories create a higher level of cohabitational entropy, while at-home occupational trajectories create a lower level of cohabitational entropy.

Table 2. Regression models for entropy of occupational trajectories (n = 1503)

	Model 2a		***Model 2b***		***Model 2c***	
(Intercept)	0.050	*	0.103	**	0.040	
Woman	0.166	**	0.044		-0.011	
Cohort 1910-1924	0	Ref	0	ref	0	ref
Cohort 1925-1945	0.043	*	-0.011		-0.006	
Cohort 1946-1957	0.078	**	0.019		0.028	
Woman*(coh 1925-1945)			0.122	**	0.058	
Woman*(coh 1946-1957)			0.133	**	0.065	*
C-type Parental					0.019	*
C-type Conjugal					0	ref
C-type Mixed					0.014	
C-type Parental home					-0.021	
C-type Solo					-0.003	
O-type Full-Time					0	ref
O-type Mixed					0.181	**
O-type Return					0.333	**
O-type At Home					0.130	**
O-type Part-Time					0.172	**
Adjusted R^2	0.22		0.23		0.52	
Residual standard error	0.162		0.161		0.128	
F statistic	145.6	**	90.0	**	123.8	**

**=p<.01, *=p<.05

Similar results were found for occupational entropy (Table 2). Model 2a shows a significant impact of cohorts and sex on occupational entropy, with younger cohorts having a higher level of entropy than older cohorts and women a higher level than men. The interaction between cohorts and sex, unlike for cohabitation, is significant: the increase of entropy in younger cohorts only concerns women, as the main effect of cohorts becomes insignificant when the interaction term is included (Model 2b). When trajectory types are included (Model 2c), the effect of the interaction term loses its significance. This stems from the fact that trajectory types have a significant impact on occupational entropy. For instance, compared with the full-time occupational trajectory, mixed occupational trajectories are associated with a higher level of entropy. As mixed occupational trajectories are over-represented in younger cohorts and in the women group, including their effects in the regression analysis makes the interaction term between sex and cohorts become insignificant.

Discussion

There are limits to this research that should be noted. The coding scheme of the sequences as well as the indexes measuring entropy assume that staying in a single occupation or cohabitation state within one's trajectory is synonymous to null de-standardization irrespective of what the state is. More detailed coding of work or family states might, however, produce more pronounced differences between cohorts and between men and women. For instance, part-time work is associated with more changes of employers than full-time work, and unmarried cohabitation is more unstable than married cohabitation. Further collection of biographical data should pay more attention to the various dimensions characterizing life sequences.

Nevertheless, the empirical analyzes reveal that individuals of younger cohorts indeed experienced both for cohabitation and occupation a greater diversity of situations throughout their adult lives than individuals of older cohorts. The data of the Swiss Household Panel thus confirms that processes of de-standardization took place from the late sixties onwards and made the life of the cohorts that have entered adulthood since then less sequenced and predictable.

There are, however, large differences in de-standardization trends between women and men that cast doubt on the validity of referring to de-standardization as a homogeneous reality. Men have maintained fairly stable and linear occupational trajectories throughout cohorts, from education and full-time work to retirement: The concept of career as a linear move through life with full participation in the labor market is relevant for men in younger cohorts as in the older ones. The greater diversification of women's occupational trajectories shows that the de-standardization of work has unequally concerned women and men, making the gender divide, which was so powerful in the sixties, persist. Women took on their shoulders most of the flexibilization of the economy that has happened since the seventies. The increase of mixed occupational trajectories between part-time employment and home in younger cohorts of women accounts for a significant share of their larger entropy: from this perspective, the de-standardization of women's occupational trajectories is not synonymous with unpatterned or random life sequences but rather stems from a life model that causes women to go back and forth between part-time and family work.

Another difference between men and women concerns the subsequences of adulthood concerned by de-standardization. The de-standardization of men's occupational trajectory mostly concerns the transition from education to paid work and comes to a halt at age 30 in the three cohorts considered. In comparison, women of younger cohorts are in increasingly variable states after age 30. In other words, uncertainty has become a permanent state in women's occupational trajectories, while it is only transitional in men's occupational trajectories[5]. In this respect, de-standardization follows the line of the master statuses of men and women: women show a higher level of occupational entropy throughout adulthood because some unpredictability in this social field does not question their role in the domestic realm but rather confirms it.

Contrary to our hypothesis, however, the family trajectories of men have not become significantly more de-standardized than those of women across cohorts. Interestingly, a large amount of entropy for cohabitation concerns the transition to adulthood. A delay or even a truncation of the parental stage characterized the young adulthood of a significant number of men in younger cohorts. The Swiss Household Panel data provided little proof of a de-standardization of later periods in adulthood, a result that may account for the lack of significance of the gender effect on cohabitational trajectories. Note, however, that the youngest cohort involved in this study was born between 1951 and 1957. It is possible, if not likely, that individuals born from the sixties onwards have developed a more diverse set of cohabitational trajectories. The upper limit at age 45 of individuals considered in this study is another limitation that may have blurred differences between women and men, as many divorces and family recomposition happen after age 40. Research on younger cohorts and on larger lifespan is necessary before rejecting the gendered dimension of de-standardization of family trajectories. Overall, the increase of entropy across cohorts is explained by the shifting distribution of identified types of trajectories in younger cohorts, which already existed in older cohorts, rather than by the development of new or unclassifiable trajectories to which pluralization theorists often refer.

Overall, the hypothesis of a gendered de-standardization received support. De-standardization, rather than being a general social trend impacting men and women

[5] In another research on occupational trajectories from age 16 to age 65, we found that the full-time employment pattern lasted for most men up to 65, the legal retirement age in Switzerland (Widmer et al., 2003). Pre-retirement schemes are indeed not widespread in Switzerland.

indistinctly and uniformly, is very much embedded in gender inequalities. The transition to parenthood, in particular, has an unequal impact on men's and women's occupational trajectories which create largely distinct opportunities for de-standardization. The results suggest that it concerns women more than men. De-standardization trends thus reshape the gender divide into a new scheme in which flexibility and adaptability is mostly required of women. They support the hypothesis that de-standardization has followed to a large extent the logic of gendered master statuses (Krüger & Levy, 2001).

Appendix

Table 3. Logistic regressions for cohabitation types (n = 1503). Odds ratios

	Parental Home	***Conjugal***	***Mixed Cohab***	***Solo***
(constant)	0.15 **	0.21 **	0.05 **	0.06 **
Woman	1.21	0.95	2.10 **	1.13
Cohort 1910-1924	1 ref	1 Ref	1 ref	1 ref
Cohort 1925-1945	0.67	1.03	0.88	0.69
Cohort 1946-1957	0.26	1.04	1.30	1.02
Chi-square	24.6*	0.2	19.5 **	3.2
Degrees of freedom	3	3	3	3

**=p<.01, *=p<.05

Table 4. Logistic regressions for occupational types (n = 1503). Odds ratios

	Full-Time	***Mixed Occup***	***Return***	**At home**	**Part-Time**
(constant)	3.89 **	0.30**	0.04**	0.003**	0.013**
Woman	0.09 **	1.33*	.	18.7**	5.22**
Cohort 1910-1924	1 ref	1 ref	1 ref	1 ref	1 ref
Cohort 1925-1945	0.99	0.77	2.52	0.64	.
Cohort 1926-1957	0.87	0.86	3.25*	0.37*	2.04**
Chi-square	454 **	6.9*	6.7*	213.57**	52.05**
Degrees of freedom	3	3	2	3	2

**=p<.01, *=p<.05

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