



ISiD  
ISiD

Zeszyty naukowe

Working papers

## **Diverse Paths into Childlessness over the Life Course**

Monika Mynarska  
Anna Matysiak  
Anna Rybińska  
Valentina Tocchioni  
Daniele Vignoli

Zeszyty naukowe  
Instytut Statystyki i Demografii SGH



## **Diverse Paths into Childlessness over the Life Course**

**Monika Mynarska**

*Cardinal Stefan Wyszyński University in Warsaw, Institute of Psychology*

**Anna Matysiak & Anna Rybińska**

*Warsaw School of Economics, Institute of Demography and Statistics*

**Valentina Tocchioni & Daniele Vignoli**

*University of Florence, Department of Statistics “G. Parenti”*

### Abstract

Childlessness is rarely an outcome of a single decision or can be attributed to one particular reason. Remaining childless should rather be seen as a process influenced by continuously changing context and by many choices that individual makes in various life spheres over the life course. Previous studies focused on the effect of accumulated experience of life events on a probability to have no children. Such an approach does not allow for capturing a whole variety of different roads to childlessness that are postulated in the literature. Our paper aims at filling this gap by applying an exploratory approach of sequence analysis. We employ it on Polish and Italian data to reconstruct the major life course trajectories of childless women and to reveal the complexity of life paths leading to childlessness.

**Table of content**

1. Introduction: Childlessness over the life course .....	4
2. Case studies: Italy and Poland.....	5
3. Methodological approach: Sequence analysis .....	8
4. Data .....	9
5. Results .....	10
6. Summary & Conclusions.....	20
Acknowledgements.....	21
References: .....	22
Appendix .....	27

## **1. Introduction: Childlessness over the life course**

In a literature on childlessness, a dividing line is frequently drawn between those, who wanted no offspring (“child-free”, “childless by choice”) and those, who desired children, but faced some obstacles in having them (“child-less”, “childless by circumstances”; Basten, 2009; Carmichael & Whittaker, 2007; Connidis & McMullin, 1993; Koropecykj-Cox, 2002; Tanturri & Mencarini, 2008). In reality, a situation is much more complex. Childlessness is rarely an outcome of a single decision or can be attributed to one particular reason. Fertility intentions are not stable and may change over time (Heaton, Jacobson, & Holland, 1999; Heiland, Prskawetz, & Sanderson, 2008; Iacovou & Tavares, 2011). Even women, who made an early and explicit decision to remain childless (so-called "early articulators", Callan, 1983, 1984; Houseknecht, 1979) experience moments of doubts and ambivalence, which might make them reconsider once taken position (Letherby, 2002; Morell, 2000; Park, 2005). Similarly, those who initially planned to have offspring, might become accustomed to a childless life-style and abandon an idea of motherhood (Carmichael & Whittaker, 2007; Morgan, 1991). They might also face numerous obstacles in realizing their fertility intentions. An illness, a loss of a partner or a difficult economic situation are just a few examples here (Gillespie, 2003; Heaton et al., 1999; Lee & Gramotnev, 2006). Even a biological inability to have children is not necessarily a status that a woman gains once for a life-time. Assisted reproduction techniques may allow some individuals to become parents after they have experienced infertility (Letherby, 1999; van den Akker, 2001). On the other hand, postponement of childbearing (regardless of its reason) may cause some perfectly healthy and fecund women reach an age, when having offspring is no longer biologically possible for them (te Velde & Pearson, 2002).

Altogether, remaining childless is a process. It is a product of continuously changing context, of individual developments and life course pathways, influenced by many choices made by an individual in other life spheres (Campbell, 1985; Gillespie, 1999). As Keizer and colleagues (Keizer, Dykstra, & Jansen, 2008) phrased it: thinking about remaining childless should be informed by two principles: that of ‘cumulative contingencies’ (impact of previous experiences) and that of ‘linked lives’ (impact of events in different life dimensions). Instead of looking for one single reason of childlessness, we should ask what life course developments may lead to it (Hagestad & Call, 2007). Previous research has shown that

partnership, educational and employment histories are particularly important in this respect (e.g., Heaton et al., 1999; Keizer et al., 2008; Koropecj-Cox & Call, 2007; Lee & Gramotnev, 2006; Tanturri & Mencarini, 2008).

Although a necessity to look at a childlessness in a dynamic way, to treat it as a process and analyze it from the life course perspective has been already emphasized in the literature (González & Jurado-Guerrero, 2006; Hagestad & Call, 2007; Keizer et al., 2008), not many studies have adopted the life course approach so far. Moreover, those which employed a retrospective perspective usually relied on measures that cumulate information on individual experiences over the life course (such as time spent in a union or in employment) and looked how they affected a probability to have no children. Nevertheless, such an approach can be seen as simplistic as it does not pay attention to the sequence and spacing of experienced events and hence does not allow to capture a whole variety of different roads leading to childlessness that are postulated in the literature (Carmichael & Whittaker, 2007; Hagestad & Call, 2007; Keizer et al., 2008; Kemkes-Grottenthaler, 2003; Tanturri & Mencarini, 2008).

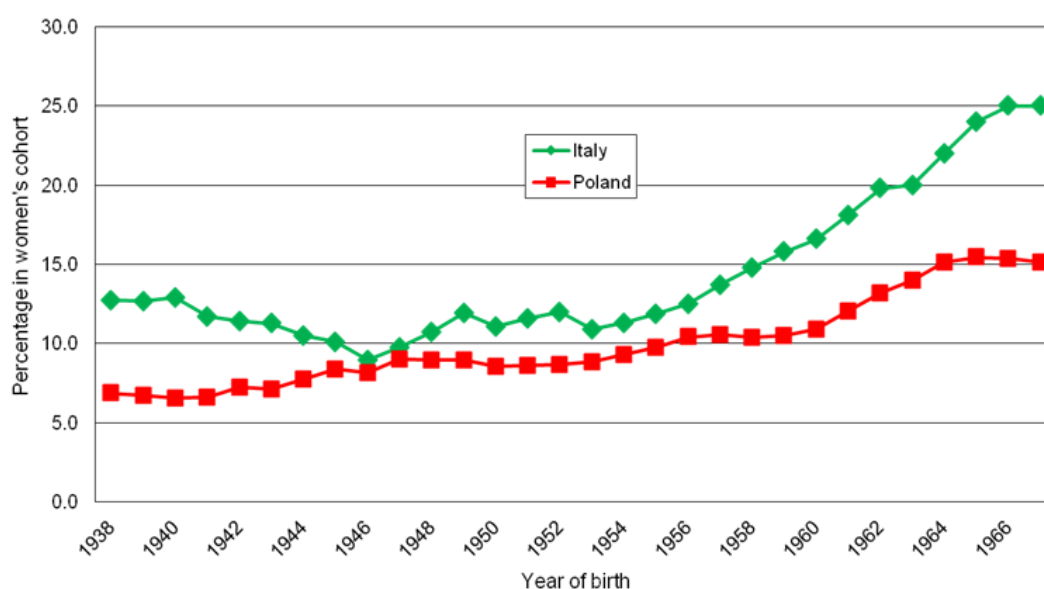
The life course approach to childlessness has inspired our study, too, but we employ a methodological perspective that allows for revealing the diversity of paths into childlessness. We propose an exploratory approach of sequence analysis to reconstruct distinct life course trajectories of childless women. Unlike previous studies, we do not focus on the effect of accumulated experience of life course events, but we consider sequence and duration of life stages in a sphere of partnership, education and employment of childless women. Such approach allows a holistic perspective on life course, and is based on a representation of lives as sequences of states. In this way we treat life courses as complex entities in their wholeness, instead of specific events or combinations of events, as dependent variables (Billari, 2001).

## **2. Case studies: Italy and Poland**

In this paper we aim to explore paths into childlessness over the life courses of Italian and Polish women. Italy and Poland have experienced a marked decline in childbearing and currently they both belong to the countries with the lowest fertility levels in Europe. Younger generations increasingly opt for late entry to parenthood and the proportion of the childless has increased substantially in both of these societies (Sobotka, 2004: 143-145). In recent years both countries have experienced a relatively large increase in childlessness (Figure 1). In Italy

the estimated proportion of women who remained ultimately childless rose from 10% among the 1955 cohort to 20% among the 1965 cohort. In Poland this process started slightly later, with the percentage of women who had no children jumping five percentage points from 1960 to 1965 cohort, to 15.4% for the latter one. Even though the increase is more rapid in Italy, both countries are characterized by particularly high levels of childlessness, compared to other countries in their respective regions (Frejka, 2008).

Figure 1 – Incidence of childlessness among women born between 1938 and 1967 in Italy and Poland.



Source: *Observatoire Démographique Européen*

Importantly, fertility decline and increasing childlessness occur in Italy and Poland despite their cultural heritage. First, Italy and Poland are characterized by exceptionally strong attachment to Catholic values. According to the International Social Survey Programme (2008), over 90 percent of citizens in both countries were raised in the Catholic religion (compared with an average of 49 percent in other EU member states). In addition, 87 percent of Poles and 76 percent of Italians stated that they believe in God and they always have, compared with less than 60% of respondents in 12 out of 19 EU countries. Second, Italians and Poles are also very strongly attached to family values (Dalla Zuanna & Micheli, 2004; Giza-Poleszczuk and Poleszczuk, 2004). Finally, both countries display a delayed pattern of diffusion of new family behaviors, including still low rates of non-marital cohabitation, non-

marital childbearing and marital disruption (Hantrais 2005, Hoem et al. 2010). In this context fertility decline in the two countries was often attributed to serious difficulties with combining paid work and care (Kotowska et al. 2008; De Rose et al. 2008). Both countries are characterized by low supply of public childcare, rigid working hours and dearth of part-time jobs as well as an asymmetric gender division of household tasks. Many studies addressed thus the role of work-family tensions for the postponement of first births and a decline in second or higher order fertility (Matysiak & Vignoli, 2010; Matysiak & Vignoli, forthcoming), but their impact on the decision to become childless has been hardly addressed.

Despite many similarities the two countries display also certain differences that make the study particularly informative. These differences lie, among others, in women's employment patterns and educational attainment, i.e. two life course careers which might be particularly important for a decision to become a mother.

First, Polish women have been more often active in the labor market than Italian women. The labor force participation rate of women aged 25–49 in Poland was as high as it is currently in Italy already in the 1960s (around 65%). It reached nearly 80 percent by the end of 1980s and remained at this level by today (ILO Laborsta Database). This difference in women's employment is present despite the strong tensions between paid work and care in the two countries.

Second, Polish women are much more often in education which they also widely combine with economic activity. As a result Polish women obtain university degree more often: in 2011 the proportion of women aged 25+ who obtained tertiary education amounted to 28.8% in Poland and 18.6% in Italy (Eurostat Statistics Database).

Against this background, Italy and Poland are ideal countries to explore paths to childlessness. First, they are especially information-rich cases due to a rapid increase in childlessness in both of them. Second, they have remarkably similar cultural legacy, but the Italian and Polish women display somewhat different patterns of behaviors related to education and employment. This combination gives us unique insights into the role of employment and educational histories for childlessness. Will we be able to capture different biographies – leading to life without children – for Polish and Italian women? Will we be able

to seize a different role of education and employment for women's childbearing? Or will the similar patterns of life course developments be revealed in different cultural contexts?

### **3. Methodological approach: Sequence analysis**

The study of life courses in demographic and sociological research has been dominated by an implementation of the event-based approach, aiming at investigating the causes behind the timing of an event. To this end, either single process hazard models were employed, which analyze how a certain process is determined by other processes (Mulder & Wagner, 2001), or multi-process hazard models were implemented to study the mutual interdependencies between parallel careers (e.g., Matysiak, 2009). However, focusing on time-to-event in our research would lead to focus on the transition (or non-transition) to first births only, failing to grasp the holistic view on the life-course and the variety of paths leading to childlessness.

Thus, in order to describe the different paths into childlessness we decided to use sequence analysis with optimal matching algorithm. This method, originally developed for the analysis of protein and DNA sequences in bio-molecular studies, is relatively new in social sciences (Abbott, 1995; Baizan, Michielin, & Billari, 2002; Baranowska, 2008; Billari, 2001). It was designed to provide a more holistic perspective on life courses, namely to illustrate the complexity of life courses, or at the construction of "ideal-types" of life trajectories (Billari 2005). It allows us to reconstruct distinct life course trajectories of childless women, taking into account sequence and duration of life stages in different life domains (e.g. partnership or employment).

The implementation of the method consists of two steps. First, for each woman in the sample we reconstructed individual sequences of states she can be in at time  $t$ . The sequences are based on stages in three life domains which in the previous studies were identified as important in the process of remaining childless: employment, education and partnership. The respondent could be either working (W1) or not (W0), could be in education (E0) or have completed education (E1) and could be in a union (cohabiting or married; U1) or not in a union (divorced, widowed, separated, single; U0). Altogether eight different states could occur in the sequence, namely:

E0W0U0 – in education, not working, single

E0W1U0 – in education, working, single



E0W0U1 – in education, not working, in a union

E0W1U1 – in education, working, in a union

E1W0U0 – completed education, not working, single

E1W1U0 – completed education, working, single

E1W0U1 – completed education, not working, in a union

E1W1U1 – completed education, working, in a union

The observation unit in the sequence is a month.

In the second step, we applied the optimal matching algorithm in order to discover regularities in the obtained individual sequences. To this end, we grouped sequences into clusters taking into account the level of similarity / dissimilarity between the sequences. Similarity was measured by quantifying the cost of transforming one sequence into another. If the cost is small the sequences are assessed as similar and are clustered together. The transformation can imply an insertion of a state into the sequence, a deletion and a substitution of one state by another. In this paper it was assumed that an insertion and a deletion produce a cost -1 and an insertion costs  $SC(x,y)=2-p(x,y)-p(y,x)$  where  $p(x,y)$  stands for the probability of replacing state  $x$  with  $y$ . Comparing a sequence for  $i$ -th individual with sequences for all remaining individuals yields a matrix of dissimilarity to which a Ward clustering algorithm is applied. This algorithm was selected as other algorithms (e.g. single linkage, complete linkage, centroid, median) tend to yield few very large clusters and many small clusters (Aassve et al., 2007). A 6-cluster solution for Poland and a 5-cluster solution for Italy were accepted. The decision on the final number of clusters was made iteratively by verifying whether increasing the number of clusters brings any additional substantial information and does not result simply in a decline in heterogeneity across clusters as well as in a small cluster size.

#### **4. Data**

In order to conduct our study we consulted recent representative surveys for both countries. More precisely, for Italy, we used data from the Household Multipurpose Survey on Family and Social Subjects, i.e. the national retrospective survey with 24,000 households for a total of almost 50,000 individuals. It was conducted in November 2009 by the Italian Institute of Statistics (ISTAT). For Poland, we referred to two surveys. One data source is the 2011 Generations and Gender Survey (GGS) which covered a representative sample of 20,000

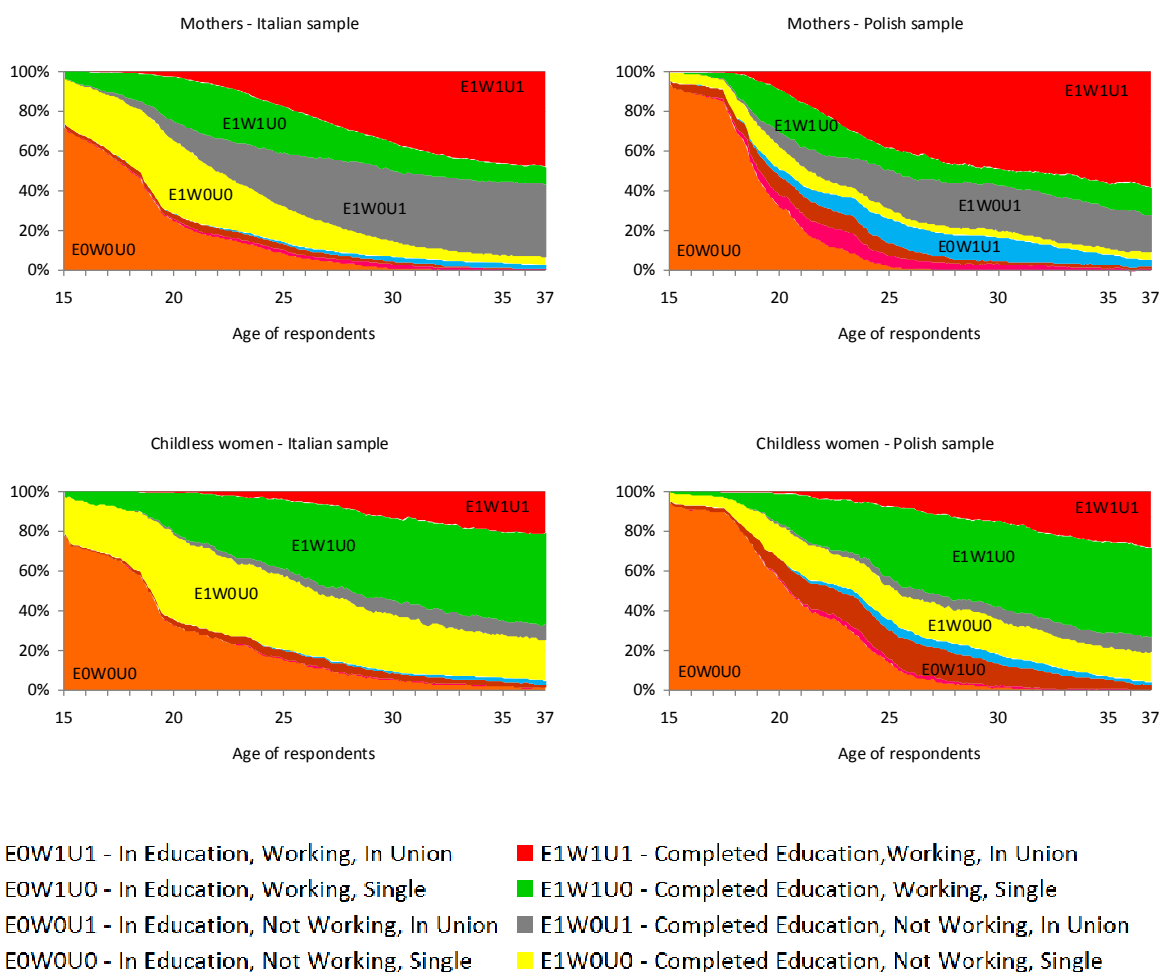
individuals aged 18-79. This survey gave us sufficient data on mothers but only very few childless women were in the sample. Thus, the data were complemented with those from another survey, the 2011 FAMWELL Survey on Childlessness. This survey was designed specifically to collect data on childless women but it covered only urban areas (childlessness is very rare in rural areas in Poland). Due to this limitation, we had to restrict our analyses to urban settings only. In the Italian case it was achieved by removing all respondents living in municipalities smaller than 10,000 citizens.

The Italian and Polish surveys contain data on partnership and employment histories. Unfortunately, the Polish surveys contain only limited information on education histories – namely only the date of reaching the highest level of education. This information can be successfully used to reconstruct educational histories (Zabel, 2006) as long as there are no breaks in schooling. To assure comparability of the Polish and Italian data sets, for both countries we used only the information about the date of completion the highest level of education (consequently – being in education is not a renewable state in our data). This will need to be considered when we interpret the results.

Using aforementioned data sources we selected subsamples of mothers and childless women aged 37-46 residing in urban areas. We assumed that a childless woman is one who did not have any biological, adopted or foster child and did not help raising children of her partner. A mother is a woman who gave birth to or adopted at least one child. Our data gave us samples of 471 childless and 1,756 mothers for Italy and 449 childless and 758 mothers for Poland. Each woman was observed from 15 years old until the age 37 for reasons of uniformity, so that we can look at life courses during their central fecundity period. In this way, all the sequences have a length of 264 months, corresponding to 22 years.

## **5. Results**

In the first step, we reconstructed life courses for mothers and childless women in Italy and Poland. The aim was to gain the first, general insight into how lives of childless women and mothers differ and to capture the key differences between the biographies of women in the two countries. In order to see some key characteristics of the groups of women more clearly, some basic characteristics are additionally presented in the appendix.



First of all, when we compare mothers and childless women, the clear difference between them – in both Italy and Poland – relates to the union status. Being single is an obviously dominant state for childless women (green and yellow color) – while being in union is a prevailing option among mothers (grey and red). In fact, among childless women as many as 56%, in both Italy and Poland, have never been in a union. The second meaningful difference between women with and without children relates to education. Childless women in both countries seem to be more into education than their counterparts with offspring, although the difference seems more profound in the Polish samples. This is confirmed by looking at the share of women, who have completed some tertiary education (by the age of 37): in Poland 43% of childless women got a university degree compared to 26% of mothers, in Italy the shares are 19.5% and 15% respectively.

Secondly, there are also apparent differences between biographies of Italian and Polish women, regardless whether they have offspring or not. The main difference relates to economic activity. In both Italian samples we see a relatively large share of not working women (yellow and grey color). Moreover, it seems that Italian women (mothers as well as their childless counterparts) experience some non-employment period after they finish education (the yellow stripes are rather large early in the life course). It is not the case for the Polish samples. The share of not working women is much smaller and we do not see this non-employment period after having completed schooling. Quite contrary, in the Polish samples we see women, who start working before they finish their education (blue and brown color). This is virtually absent in the Italian samples.

Already this simple overview indicates that childless women are by no means a homogenous group. Naturally, it would be possible to reconstruct one, most typical life course of childless women and of mothers, highlighting the differences between the two, but as a result the whole diversity of biographies, leading to childlessness, would be lost. Therefore, instead of collapsing this variety into some average, standard pattern, we have taken an opposite direction. We tried to disentangle the picture into the smaller pieces and to analyze them closer.

We have conducted cluster analysis on individual life sequences of childless women to see whether there are any types or categories within this sample. Indeed, the method revealed five different clusters of Italian childless women and six of the Polish ones. Each cluster is characterized by a distinct pattern of how women's life course developed. Each displays a different pathway leading to childlessness.

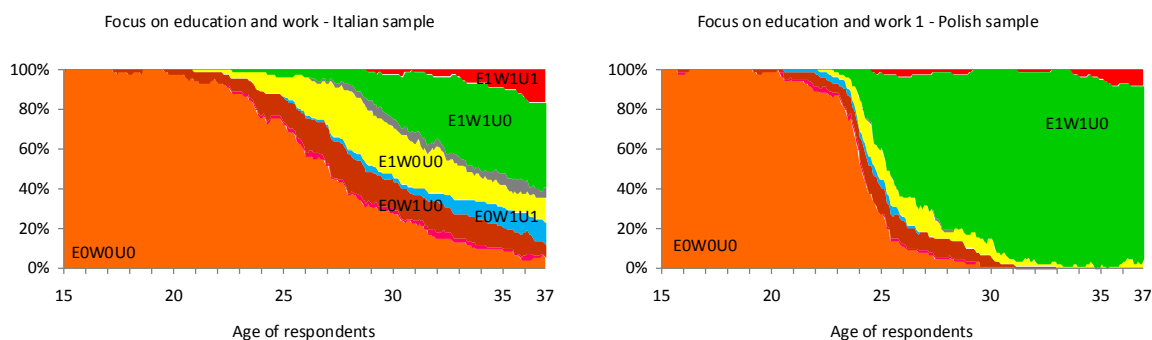
Interestingly, four clusters were very similar for both Italy and Poland. The table below shows how many childless women belong to each cluster in each country. Noteworthy, in the Polish samples the six clusters are of a similar size, while in Italy one cluster is clearly dominant and also one is of marginal size.

Cluster	Share of childless women in Italy	Share of childless women in Poland
Focus on education and work	19.5%	18.2%
Continuous education	-	16.2%
Working single women	42.3%	17.3%
Working married women	12.5%	17.3%
Disadvantages women	21.9%	15.8%
Unstable economic situation	-	15.0%
Stay-at-home wives	3.8%	-

We will present the clusters one by one (or in pairs – whenever possible), showing their specificity and indicating similarities and differences between the countries. For each category of women some basic descriptive statistics have been additionally calculated to gain some more insights into their specificity. Most of these statistics have been calculated to illustrate women's situation by the age of 37 (i.e. union, education and employment are analyzed only until the respondents' 37th birthday). These are presented in the appendix and will be recalled as we describe the clusters.

#### *Focus on education and work*

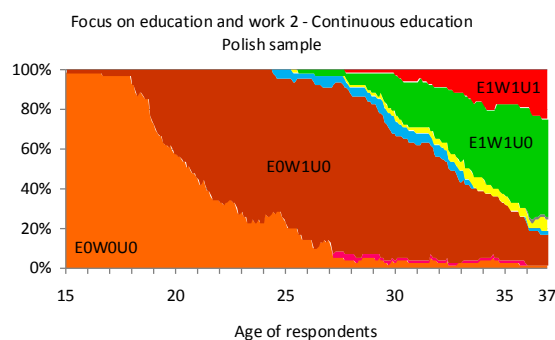
The first cluster, identified in both countries, consists mostly of single, working and well educated women. In both countries, the women in this category stayed in education relatively long and an exceptionally big share of them have obtained some university degree (63% in Italy, 94% in Poland). They have worked for the majority of their adult life, although in the Italian sample we see the non-employment period after education (yellow color) – typical for our Italian respondents. By and large, the women in this cluster remained single throughout the observation period.



- EOW1U1 - In Education, Working, In Union
- EOW1U0 - In Education, Working, Single
- EOW0U1 - In Education, Not Working, In Union
- EOW0U0 - In Education, Not Working, Single
- E1W1U1 - Completed Education, Working, In Union
- E1W1U0 - Completed Education, Working, Single
- E1W0U1 - Completed Education, Not Working, In Union
- E1W0U0 - Completed Education, Not Working, Single

There are also apparent differences between Italian and Polish clusters. Italian women are evidently more diverse. The vast majority of women in the Polish cluster finished education around the age of 25, which is a standard age to complete Master's degree. Next, they entered the labor market and never formed a union. Quite a big share of Italian respondents in the cluster stayed in education much longer and some of them even had started working before they finished schooling (color brown and blue), which is very rare in Italy and occurs essentially in this cluster only.

In Poland, combining schooling with paid work is more common: these women are absent here because they form a cluster of their own. In fact, it seems like the Italian cluster is divided into two in the Polish sample. The second Polish cluster is presented at the graph below.



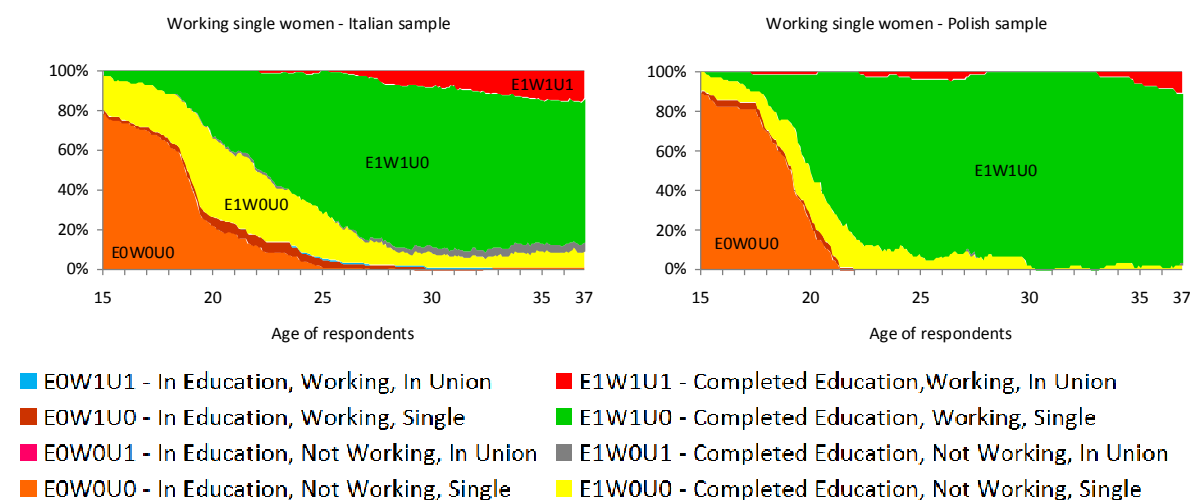
- |  |   |
|--|---|
| ■ E0W1U1 - In Education, Working, In Union     | ■ E1W1U1 - Completed Education, Working, In Union     |
| ■ E0W1U0 - In Education, Working, Single       | ■ E1W1U0 - Completed Education, Working, Single       |
| ■ E0W0U1 - In Education, Not Working, In Union | ■ E1W0U1 - Completed Education, Not Working, In Union |
| ■ E0W0U0 - In Education, Not Working, Single   | ■ E1W0U0 - Completed Education, Not Working, Single   |

In the second Polish cluster there is also a high share of women with tertiary education (64%). However, women in this category started working relatively early – in their early twenties – while they completed their education much later. A situation that was only marginally present in the Italian case.

A share of women, who combined education and paid employment is indeed remarkable in the cluster – the brown color clearly dominates the graph. Nevertheless, given the way the variable related to schooling was constructed (age at completing the highest level of education – compare: Data), it does not necessarily mean that the respondents remained in education all the time. They might have experienced some (voluntary or involuntary) breaks or returned to education after a longer while to improve their qualifications. Consequently, in this category we find women that have been strongly oriented towards education and work since their young age. But there are also women with less successful educational history, who have never obtained any university degree (36%) even though they stayed in education even after they turned 30. These types of women were all combined into one (the first) cluster in the Italian case.

### *Working single women*

The next cluster – identified in both countries – comprises of women, who finished schooling relatively early and have worked for the vast majority of their adult life. Again, also in this cluster the respondents rarely entered any union.



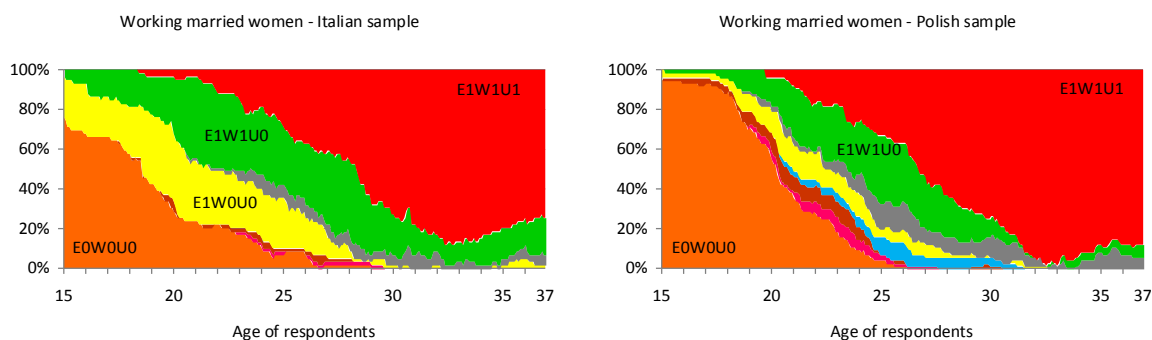
The clusters are very similar in both countries with an exception of a more visible non-employment period (yellow color) in the Italian sample. As it has been already mentioned, this is a general difference between the Italian and Polish women (with and without children).

Noteworthy, this cluster is the biggest one in the Italian case. Over 40% of childless women belong to this category.

### *Working married women*

The most distinct feature of the women in this cluster is that the vast majority of them have entered a stable union – usually a marriage. The differences between the Italian and the Polish clusters are – again – related to the general disparity between the two countries: Polish women are more into education, Italian women experience the non-employment period after having completed schooling. Otherwise, in both sample we see very similar patterns of employment and union formation.





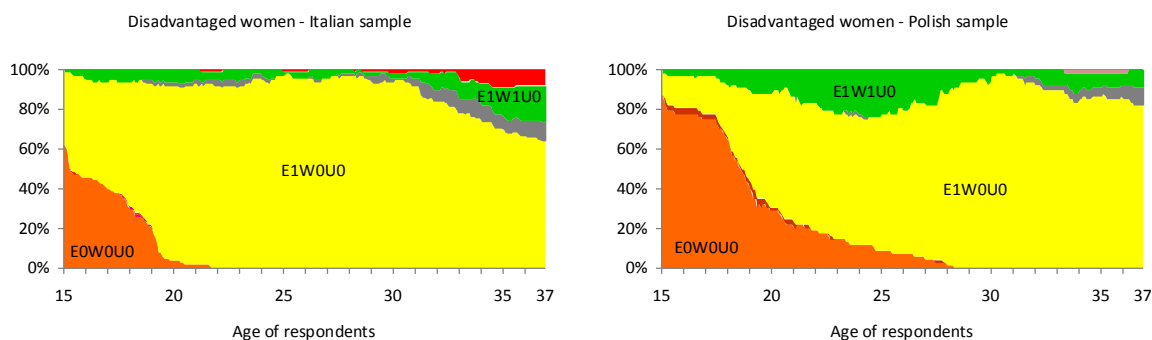
- E0W1U1 - In Education, Working, In Union
- E0W1U0 - In Education, Working, Single
- E0W0U1 - In Education, Not Working, In Union
- E0W0U0 - In Education, Not Working, Single
- E1W1U1 - Completed Education, Working, In Union
- E1W1U0 - Completed Education, Working, Single
- E1W0U1 - Completed Education, Not Working, In Union
- E1W0U0 - Completed Education, Not Working, Single

As, at the very beginning, we compared all childless women versus mothers, the most apparent difference between them related to the partnership histories. Childless is commonly linked to being single. In this cluster, all women have entered a stable union at some point of their life-course, although it is apparent that they did later than their counterparts with children (being married becomes a clearly dominant state only in late twenties). Moreover, some share of these unions dissolved: the number of women in a union decreases towards the end of the observation period.

#### *Disadvantaged women*

This is the fourth and last cluster identified in both, Italy and Poland. The women included here are characterized by a relatively low level of education and they also did not work for the vast majority of their life course.

We see that the yellow color dominates at the graphs – the women were unemployed and single throughout the observation period. In fact, in this cluster, 59% of Italian women and 53% of the Polish ones have not entered labor market. And as for a union formation, 74% of Italian respondents in this cluster and 88% of the Polish ones have not entered a stable union until the age of 37.

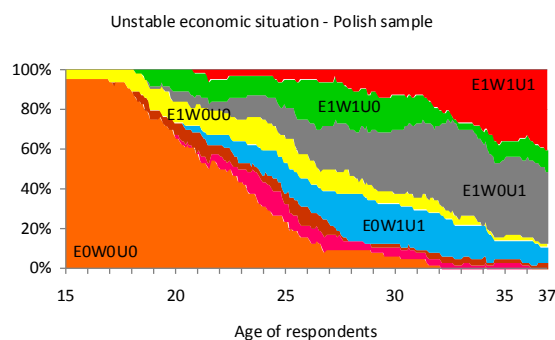


- |  |   |
|--|---|
| ■ E0W1U1 - In Education, Working, In Union     | ■ E1W1U1 - Completed Education, Working, In Union     |
| ■ E0W1U0 - In Education, Working, Single       | ■ E1W1U0 - Completed Education, Working, Single       |
| ■ E0W0U1 - In Education, Not Working, In Union | ■ E1W0U1 - Completed Education, Not Working, In Union |
| ■ E0W0U0 - In Education, Not Working, Single   | ■ E1W0U0 - Completed Education, Not Working, Single   |

The peculiarity of this cluster made us take a closer look into the reasons for which these women might be single and unemployed. In both countries, a big share of women in this category suffers from economic hardship, which adds to a disadvantaged position of women in this category. In the Italian sample, 57% respondents declared their family had low or insufficient economic resources, while in the Polish case, 66% said that with an income of their household it is difficult to make ends meet. In the Polish case, it seems that health problems or disability are primary factors, shaping the women's life-course. As many as 65% of respondents in the cluster declared in the survey that they are handicapped or suffer from a long term health condition (and their health problems started before the age of 37). This was not the case for Italy, where interpretation of this cluster poses a larger challenge.

#### *Unstable economic situation – Polish sample*

This cluster was found in the Polish sample only. When we look at the graph that depicts the biographies of women in this category, we do not see any clear pattern at the first glance. On the contrary, the group displays a large variety of different states. The pattern becomes more apparent if we realize that not necessarily the same women remain in any given state in the subsequent points in time (i.e. the 10% of women, who have finished education are single and not working at age 20 are not necessarily the same 10% that are in this state at age 21 or 22).

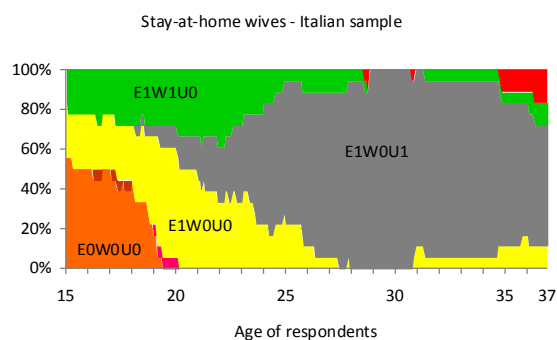


- |  |   |
|--|---|
| <span style="color: blue;">■</span> E0W1U1 - In Education, Working, In Union     | <span style="color: red;">■</span> E1W1U1 - Completed Education, Working, In Union      |
| <span style="color: orange;">■</span> E0W1U0 - In Education, Working, Single     | <span style="color: green;">■</span> E1W1U0 - Completed Education, Working, Single      |
| <span style="color: pink;">■</span> E0W0U1 - In Education, Not Working, In Union | <span style="color: grey;">■</span> E1W0U1 - Completed Education, Not Working, In Union |
| <span style="color: orange;">■</span> E0W0U0 - In Education, Not Working, Single | <span style="color: yellow;">■</span> E1W0U0 - Completed Education, Not Working, Single |

Indeed, in this cluster there is a relatively large number of transfers between the states and they concern labor market activity most of all. Women in this category experienced also the longest breaks between the employment spells. The respondents that ever entered the labor market spent on average 3,35 years “in-between-jobs”, while for other categories the mean varied between 1,14 and 2,07 years. Given these long disruptions in work, “not working” was a dominant state through the whole observation period here (orange, gray and green color combines), even though women in this cluster are relatively well-educated and 85% of them entered labor market at some point of the time.

#### *Stay-at-home wives – Italian sample*

The last cluster has been identified in the Italian sample only and only a very small fraction of Italian childless women belong here (3.8%). Still, it appeared as a very distinct one in the sample. The women in this category finished education very early in the life course (almost half of them – even before the age of 15) and work was never an important part of these women’s lives. Even though some of them entered labor market after having completed schooling – all of them became economically inactive at some point of their life course. All of them have also entered a union. We can see that around the age 30 virtually all of them were in union and not working. This state has not changed much towards the end of the observation period.



- |  |   |
|--|---|
| ■ E0W1U1 - In Education, Working, In Union     | ■ E1W1U1 - Completed Education, Working, In Union     |
| ■ E0W1U0 - In Education, Working, Single       | ■ E1W1U0 - Completed Education, Working, Single       |
| ■ E0W0U1 - In Education, Not Working, In Union | ■ E1W0U1 - Completed Education, Not Working, In Union |
| ■ E0W0U0 - In Education, Not Working, Single   | ■ E1W0U0 - Completed Education, Not Working, Single   |

## 6. Summary & Conclusions

Differently from many other papers, this paper is not focusing on predominant reasons for being childless, but instead it explores the process of remaining childless, acknowledging the complexity of different life course careers (i.e., education, partnership, and employment) that may lead to it. We applied sequence analysis techniques to two key case studies, where the incidence of childlessness has been dramatically increasing despite their traditional setting: Italy and Poland.

Our findings suggest that, on average, childlessness is related to being single most of all and also to a prolonged education to some extent. But there are distinct categories of women, who are not in line with this rule. This diversity calls for much more attention. Instead of collapsing all childless women into one category, our findings clearly illustrate diverse paths leading to childlessness according to various life course developments.

More research is necessary to fully comprehend how and why different biographies emerge. But even this exploratory study provides some interesting insights into the process of remaining childless. For instance, even though difficulties with combining work and care are an important barrier to fertility in both countries (Matysiak and Vignoli, forthcoming), we cannot see that women's employment is necessarily a reason for childlessness. It might be the case for some groups of women (e.g. those who focused on education and work), but certainly

not for the categories of “Disadvantaged” or “Stay-at-home wives”. In fact, for the last Polish cluster the opposite is observed: a lack of stable employment seems to be an important factor, shaping a pathway to childlessness. This rich diversity should not be overlooked or simplified.

Importantly, the very similar categories of pathways to childlessness were revealed in both analyzed contexts. There were some marked differences between the biographies of Italian and Polish women, but despite these differences – some were identified in both countries. Does it indicate that there are life pathways leading to childlessness, which are universal across countries? On the other hand, some other categories were country-specific, indicating that some patterns of behavior might be related to a given cultural and institutional context. Finally, an example of “Disadvantaged” category teaches us that seemingly identical biographies may have different meanings in different settings.

An important limitation of the study is that we were not able to include fertility and fecundity problems into our analyses. Unfortunately, this data is not available for Italy. For the Polish sample, we were able to establish that the highest share of women with fertility problems was in the “Working married” category (45%). However, in the remaining categories women might be largely unaware of their difficulties in this respect, as many of them have never been in a stable union and quite likely they have never been trying to conceive. Moreover, complete histories of fertility problems would be necessary to properly incorporate this variable into our process-oriented life-course approach. This kind of data is simply impossible to collect in the large scale, representative surveys. An important challenge for future studies is to overcome this limitation.

## **Acknowledgements**

This paper was prepared as part of the project “Family Change in Italy and Poland” (FamChIP), financed by the Polish Ministry of Science and Tertiary Education

## References:

- Abbott, A. (1995). Sequence Analysis: New Methods for Old Ideas. *Annu Rev Sociol*, 21, 93-113.
- Aassve, A., Billari, F., & Piccarreta, R. (2007). Strings of Adulthood: A Sequence Analysis of Young British Women's Work-Family Trajectories. *European Journal of Population*, 23(3-4), 369-388.
- Baizan, P., Michielin, F., & Billari, F. (2002). Political Economy and Life Course Patterns: The Heterogeneity of Occupational, Family and Household Trajectories of Young Spaniards. *Demographic Research*, 6(8), 191-240.
- Baranowska, A. (2008). *Changing patterns of entry into employment and motherhood in Poland – a cross cohort comparison*. Social Sciences TransEurope Working Paper. European Science Foundation.
- Basten, S. (2009). Voluntary childlessness and being Childfree. *The Future of Human Reproduction. Working Paper, No. 5*.
- Billari, F. C. (2001). Sequence Analysis in Demographic Research. *Canadian Studies in Population*, 28(2), 439-458.
- Callan, V. J. (1983). Childlessness and Partner Selection. *Journal of Marriage and the Family*, 45(1), 181-186.
- Callan, V. J. (1984). Voluntary childlessness: early articulator and postponing couples. *Journal of Biosocial Science*, 16(04), 501-509.
- Campbell, E. (1985). *The childless marriage : an exploratory study of couples who do not want children*. London; New York: Tavistock.
- Carmichael, G., & Whittaker, A. (2007). Choice and circumstance: Qualitative insights into contemporary childlessness in Australia. *European Journal of Population/Revue européenne de Démographie*, 23(2), 111-143.

Connidis, I. A., & McMullin, J. A. (1993). To Have or Have Not: Parent Status and the Subjective Well-being of Older Men and Women. *The Gerontologist*, 33(5), 630-636.

Dalla Zuanna, G & Micheli, G. A. (2004). Introduction – New perspectives in interpreting contemporary family and reproductive behaviour of Mediterranean Europe. In: G. Dalla Zuanna & G. A. Micheli, (Eds.). *Strong family and low fertility: a paradox? New perspectives in interpreting contemporary family and reproductive behaviour* (pp. 7-21). Series: European Studies of Population, 14. Springer.

De Rose, A., Racioppi, F., Zanatta, A. L. (2008). Italy: Delayed adaptation of social institutions to changes in family behaviour. *Demographic Research*, Special Collection, 7, 665–704.

Frejka, T. (2008). Parity distribution and completed family size in Europe: Incipient decline of the two-child family model. *Demographic Research*, 19(4), 47-72.

Gillespie, R. (1999). Voluntary childlessness in the United Kingdom. *Reprod Health Matters*, 7(13), 43-53.

Gillespie, R. (2003). Childfree And Feminine. *Gender & Society*, 17(1), 122-136.

Giza-Poleszczuk, A., Poleszczuk, J., (2004). Partnership, marriage, and children - cultural differentiation of attitudes, in: Jasińska-Kania, A., Marody, M. (Eds.), *Poles among Europeans*. Scholar, Warsaw.

González, M.-J., & Jurado-Guerrero, T. (2006). Remaining childless in affluent economies: a comparison of France, West Germany, Italy and Spain, 1994-2001. *European Journal of Population*, 22(4), 317-352.

Hagestad, G. O., & Call, V. R. A. (2007). Pathways to Childlessness. *J Fam Issues*, 28(10), 1338-1361.

Hantrais, L. (2005). Living as a family in Europe. In L. Hantrais, D. Philipov & F. C. Billari (Eds.), *Policy Implications of Changing Family Formation* (pp.117–181). Strasburg: Council of Europe Publishing.

- Heaton, T. B., Jacobson, C. K., & Holland, K. (1999). Persistence and changes in decisions to remain childless. *Journal of Marriage and the Family* 61, 531–539.
- Heiland, F., Prskawetz, A., & Sanderson, W. C. (2008). Are Individuals' Desired Family Sizes Stable? Evidence from West German Panel Data. *European Journal of Population / Revue européenne de Démographie*, 24(2), 129-156.
- Houseknecht, S. K. (1979). Timing of the Decision To Remain Voluntarily Childless: Evidence for Continuous Socialization. *Psychol Women Q*, 4(1), 81-96.
- Hoem, J., Kostova, D., Gabrielli, G., Matysiak, A. & Jasilioniene A. (2010). Levels of recent union formation: Six European countries compared. *Demographic Research*, 22, 199-2010.
- Iacovou, M., & Tavares, L. P. (2011). Yearning, learning, and conceding: reasons men and women change their childbearing intentions. *Population and Development Review*, 37(1), 89-123.
- Keizer, R., Dykstra, P. A., & Jansen, M. D. (2008). Pathways into childlessness: Evidence of gendered life course dynamics *Journal of Biosocial Science*, 40(06), 863-878.
- Kemkes-Grottenthaler, A. (2003). Postponing or rejecting parenthood? Results of a survey among female academic professionals. *Journal of Biosocial Science*, 35(02), 213-226.
- Koropecykj-Cox, T. (2002). Beyond Parental Status: Psychological Well-Being in Middle and Old Age. *Journal of Marriage and Family*, 64(4), 957-971.
- Koropecykj-Cox, T., & Call, V. R. A. (2007). Characteristics of Older Childless Persons and Parents. *J Fam Issues*, 28(10), 1362-1414.
- Kotowska, I. E., Józwiak, J., Matysiak, A., Baranowska, A. (2008). Poland: Fertility decline - a response to profound societal change and transformations in the labour market? *Demographic Research*, 19, 795–854.
- Lee, C., & Gramotnev, H. (2006). Motherhood Plans among Young Australian Women. *J Health Psychol*, 11(1), 5-20.



Letherby, G. (1999). Other than mother and mothers as others: The experience of motherhood and non-motherhood in relation to 'infertility' and 'involuntary childlessness'. *Women's Studies International Forum*, 22(3), 359-372.

Letherby, G. (2002). Childless and Bereft?: Stereotypes and Realities in Relation to 'Voluntary' and 'Involuntary' Childlessness and Womanhood. *Sociological Inquiry*, 72(1), 7-20.

Mariański, J. (2007). New dimensions of religiosity differentials in Poland. In A. Kojder (Ed.), *One Poland? Old and New Social Differences* (pp. 177–204). Cracow: Polish Academy of Sciences.

Matysiak, A. (2009). Employment first, then childbearing: women's strategy in post-socialist Poland. *Population Studies*, 63(3), 253-276.

Matysiak, A., & Vignoli, D. (2010). Employment around first birth in two adverse institutional settings: evidence from Italy and Poland. *Journal of Family Research*, 3/2010, 331-349.

Matysiak, A., & Vignoli, D. (forthcoming). Diverse effects of women's employment on fertility. Insights from Italy and Poland. *European Journal of Population*.

Morell, C. (2000). Saying No: Women's Experiences with Reproductive Refusal. *Feminism & Psychology*, 10(3), 313-322.

Morgan, S. P. (1991). Late nineteenth- and early twentieth-century childlessness. [Historical Article]. *AJS*, 97(3), 779-807.

Mulder, C. H., & Wagner, M. (2001). The Connections between Family Formation and First-time Home Ownership in the Context of West Germany and the Netherlands. *European Journal of Population*, 17(2), 137-164.

Park, K. (2005). Choosing Childlessness: Weber's Typology of Action and Motives of the Voluntarily Childless. *Sociological Inquiry*, 75(3), 372-402.

Sobotka, T. (2004). *Postponement of Childbearing and Low Fertility in Europe*. Amsterdam: Dutch University Press.

Tanturri, M. L., & Mencarini, L. (2008). Childless or Childfree? Paths to Voluntary Childlessness in Italy. *Popul Dev Rev*, 34(1), 51-77.

te Velde, E. R., & Pearson, P. L. (2002). The variability of female reproductive ageing. *Human Reproduction Update*, 8(2), 141-154.

van den Akker, O. (2001). The acceptable face of parenthood. *Psychology, Evolution & Gender*, 3(2), 137.

Vignoli, D., Drefhal, S., De Santis, G. (2011). Whose job instability affects the likelihood of becoming a parent in Italy? A tale of two partners. *Demographic Research*, 26(2): 41–62.

Zabel, C. (2006). Employment Experience and First Birth in Great Britain. *Max Planck Institute for Demographic Research Working Paper 2006-029*.

**Appendix**

Basic characteristics of mothers and childless women – Italy and Poland.

	Italy		Poland	
	Mothers	Childless	Mothers	Childless
% of women who have not entered a union	3.30	56.26	3.56	55.90
Average time (years) spent in a union – all sample  (only women who have been in a union)	10.63  (10.99)	2.89  (6.61)	12.93  (13.41)	3.93  (8.91)
Age of entering a first union – median	25.8	-	22	-
Age of entering a first union – first quartile	21.8	29.7	19	26
% of women who experienced a union disruption (among those ever in a union)	13.95	15.92	27.22	31.82
% of women with tertiary education	15.26	19.53	26.25	43.43
% of women with a maximum vocational degree	46.3	37.15	28.36	17.37
Age at completing education – median	18.5	19	20	23
% of women who have never worked	23.75	17.41	2.77	10.24
Average time (years) in employment – all sample  (only women who have ever worked)	8.97  (11.76)	9.89  (11.38)	12.28  (12.63)	11.49  (12.80)

\*Unless stated differently, the statistics are calculated for the period until the age of 37

## Italy – childless women – clusters

	Focus on and work	Working single	Working married	Disadvantaged	Stay-at-home wives
% of women who have not entered a union	57.61	68.34	0.00	73.79	0.00
Average time (years) spent in a union – all sample (only women who have been in a union)	1.78 (4.21)	1.50 (4.73)	9.58 (9.58)	1.05 (4.01)	12.56 (12.56)
Age of entering a first union – median	/	/	26.33	/	23.63
Age of entering a first union – first quartile	32.71	33.58	23.17	36.58	21.33
% of women who experienced a union disruption (among those ever in a union)	30.77	55.56	23.73	37.04	22.22
% of women with tertiary education	63.04	11.56	18.64	0.00	0.00
% of women with a maximum vocational degree	1.09	36.18	35.59	68.93	55.56
Age at completing education – median	29.29	18.92	18.58	15.33	16.33
% of women who have never worked	13.04	1.01	0.00	59.22	38.89
Average time (years) in employment – all sample (only women who have ever worked)	6.25 (7.19)	13.99 (14.14)	14.01 (14.01)	1.68 (4.11)	3.69 (6.04)
% of women with chronic health problem ( <i>at the time of the interview</i> )	8.70	9.55	15.25	16.50	16.67
% of women who declare their family has low or insufficient economic resources ( <i>at the time of the interview</i> )	23.91	35.68	28.81	57.28	33.33
% of women who still plan on having children ( <i>at the time of the interview</i> )	50.00	43.22	38.98	36.89	5.56

\*Unless stated differently, the statistics are calculated for the period until the age of 37

## Poland – childless women – clusters

	Focus on educ. and work	Cont. Educ.	Working single	Working married	Disadvantaged	Unstable econom.
% of women who have not entered a union	80.46	63.77	84.71	0.00	88.24	7.81
Average time (years) spent in a union – all sample (only women who have been in a union)	0.59 (3.02)	1.60 (4.42)	0.41 (2.70)	11.98 (11.98)	0.32 (2.72)	9.92 (10.76)
Age of entering a first union – median	/	/	/	24	/	26
Age of entering a first union – first quartile	/	34	/	21	/	22
% of women who experienced a union disruption (among those ever in a union)	76.47	28.00	53.85	19.74	50.00	28.81
% of women with tertiary education	94.25	63.77	1.18	35.53	13.24	50.63
% of women with a maximum vocational degree	0.00	0.00	29.41	15.79	45.59	15.63
Age at completing education – median	24	32	19	21	18	25
% of women who have never worked	0.00	0.00	0.00	0.00	52.94	15.63
Average time (years) in employment – all sample (only women who have ever worked)	11.70 (11.70)	14.64 (14.64)	16.48 (16.48)	13.97 (13.97)	2.52 (5.35)	7.78 (9.22)
% of women with fertility problems – aware of infertility or underwent infertility treatment (data not available for Italy)	12.64	26.09	7.06	44.74	14.70	26.69
% of women who have been disabled or experienced chronic health problem	18.39	15.97	15.29	19.73	64.71	15.63
% of women who declare that with an income of their household it is difficult to make ends meet (with great diff., with diff. or with some diff.) (at the time of the interview)	22,99	28,99	56,47	30,26	66,18	37,5
% of women who still plan on having children (at the time of interview)	22.99	28.99	21.18	28.95	20.59	34.38

\*Unless stated differently, the statistics are calculated for the period until the age of 37