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Russian Generations: Sequencing the Transition to Adulthood

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Abstract This paper demonstrates how Russian men and women from different generations undertake their first demographic and socio-economic events. For the first attempt at understanding how these events are ordered, we used the descriptive techniques of Sequence Analysis, including chronograms, parallel coordinate plots, the durations of statuses, and the frequencies of subsequences on tables. The study was performed on a panel of the Russian part of the "Generations and Gender Survey" (GGS: 2004, 2007, and 2011). The subsample consists of 4,595 respondents of 1935-1984 years of birth.

Our analysis reveals the changes between sexes and generations. Men devote a significant part of their youth to achieving socio-economic events, while women much earlier and more actively initiate their demographic careers. Nevertheless, by the age of 35, there are more respondents among men who have children and relationships than among women. Young people, compared to older generations, much more actively enter into cohabitations and have children in them, but they delay the onset of all these events, especially childbearing, to later ages.

1 Introduction

The transition to adulthood (or adolescence, or early adulthood) is a stage of life course when person experience biological, emotional, cognitive, and societal maturation. As sociologists and demographers, we are interested in the last component of this complicated process.

Transition to adulthood is one of the important status passages in a life course, when many new roles and statuses come with occurring events in different spheres of life: leaving the parental house, finishing education, entrance into the job market, family formation. The sequence and timing of onset of these events are changing from generation to generation. It is conditioned by the demographic, cultural, economic, political transformations of societies (Buchmann 1989; Kaa 1987; Lesthaeghe 1995; Liefbroer 1999).

The behavior of Russians in socio-economic and demographic spheres has undergone many changes over the past decade (Frejka и Zakharov 2012; Mitrofanova 2013; Mitrofanova и Artamonova 2014; Zakharov 2008). It is visible especially in

terms of the transformation of life course starting events, as these changes appear in the biographies of young people most quickly and help to define the difference between generations before the completion of reproduction, marriage and other "careers".

In this paper, the biographies of Russians were studied through sequence analysis. We also promote the author's approach to data visualization using Lexis grids.

2 Database and methods

The study was performed on a panel of the Russian part of the "Generations and Gender Survey" (GGS: 2004, 2007, 2011). The subsample consists of 4,595 respondents (32% men and 68% women)[1]. It has been taken across five 10-year generations of 1935-1984 years of birth. Based on empirical data and existing classifications, we define the cohorts of 1935-1974 years of birth as "Soviet generations" (those who socialized in the Soviet Union), and cohorts of 1975-1984 years of birth as "modern generations".

The life course of an individual consists of a set of different events, which may happen sequentially or immediately. It is difficult to explore this multiplicity of "clocks"[2] (marriage, reproductive, labor, educational, etc.) by conventional methods, whereby the events are analyzed either individually or in small groups. The transition to the study of event chains makes it possible to achieve a new level of understanding of the structure of individuals' lives. An advanced method known as Sequence Analysis (SA) helps demographers and sociologists to achieve this aim (Abbott и Tsay 2000; Aisenbrey и Fasang 2007, 2010; F. C. Billari 2001; F. Billari и Piccarreta 2005). We used several descriptive techniques of SA: chronograms, parallel coordinate plots, the durations of statuses, and the frequencies of subsequences on tables.

3 Results

We analyzed starting life course events, which we grouped according to three dimensions (corresponding statuses are in parentheses)[3]: the presence of children (no children, first child), marital status (single, first cohabitation, first marriage),

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[1] The gender imbalance is due to the "rash" of the sample and the inability to correct the panel data by weights.

[2] "Multiple clocks" is a term of the Life Course concept which includes the notion of a life as a set of different spheres, each of which has its own timing (Mills 2000).

[3] We used the R package TraMineR (Gabadinho et al. 2011).

3

socio-economic status (no events, first separation from parents, first job, and completed education of the highest level). The number of combinations of statuses is very high, so in order to reduce their amount, we focused only on the first event in pairs of socio-economic events, and on the last one in the triple events. The list of determined statuses are specified and their codes are shown in Figure 1. Grey color indicates censored events which have not yet occurred at the time of the survey. The censoring is possible because the representatives of the youngest generation are 27-36 years old, so only two cohorts of ten (from this generation) can have events at the age of 35.

Socio-economic events	Demographic events					
	no children			1st child		
	single	1st cohabitation	1st marriage	single	1st cohabitation	1st marriage
no events or one event	SC00 (no events) / SC0L (separation from parents) / SC0J (job) / SC0E (education)	P1C01	M1C01	SC11	P1C11	M1C11
separation from parents > some event	SC0L+	P1C0L+	M1C0L+	SC1L+	P1C1L+	M1C1L+
job > some event	SC0J+	P1C0J+	M1C0J+	SC1J+	P1C1J+	M1C1J+
education > some event	SC0E+	P1C0E+	M1C0E+	SC1E+	P1C1E+	M1C1E+
2 events concurrently	SC02	P1C02	M1C02	SC12	P1C12	M1C12
2 events > separation from parents	SC0++L	P1C0++L	M1C0++L	SC1++L	P1C1++L	M1C1++L
2 events > job	SC0++J	P1C0++J	M1C0++J	SC1++J	P1C1++J	M1C1++J
2 events > education	SC0++E	P1C0++E	M1C0++E	SC1++E	P1C1++E	M1C1++E
3 events concurrently	SC03	P1C03	M1C03	SC13	P1C13	M1C13
censoring						

**Fig. 1:** Groups of statuses.

Using the information on the data occurrences, we reconstructed the segments of the respondents' biographies. We created statuses for each month from age 15 to age 35 for each respondent. We chose the age of 15 as the margin of childhood and capped the observation period at the age of 35 to equalize the chances of different generations in terms of the events occurring, and to exclude marginal cases (since the first events most likely occur in the first half of life).

We obtained the frequency distribution of occurrences of different statuses at any given time for each generation; this distribution became the framework for building chronograms representing these frequencies for men (Fig. 2) and for women (Fig. 3). Presented chronograms were placed on Lexis grids, thus allowing for comparison across the three time dimensions: the X-axis – the calendar date, the Y-axis – age, and the diagonal – generation. The X-axis represents the proportion of delayed

status at each particular time inside the corridors of each generation; the Y-axis depicts ages from 15 to 35 years.
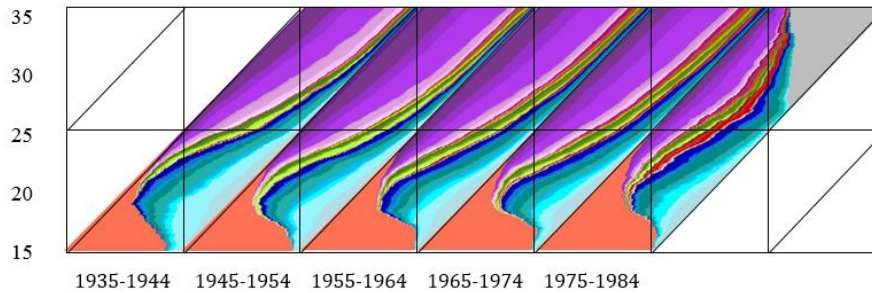
Fig. 2: Chronograms for men of 1935-1984 years of birth.
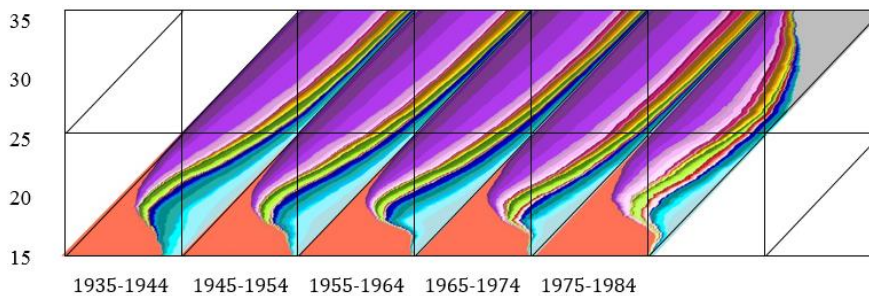
Fig. 3: Chronograms for women of 1935-1984 years of birth.

We can make the following observations according to the data depicted on the chronograms. The form of the start of biographies (the "neck", from which the colors appear) indicates that, at the age of 15, the older generations had a much larger number of events than the younger generations; for older generations, such events were mainly socio-economic, while young generations face more demographic ones. Almost 90% of men of the older generations experience exclusively socio-economic events (blue palette) by the age of 20. By about the same age, men of other generations begin to acquire demographic events, but only 70-80% of them have socio-economic ones. Women begin demographic careers two years earlier and have approximately 35-65% of socio-economic events by this age.

At the age of 35, 70-95% of men born in 1935-1974 are married and have at least one child (purple palette), while among women from similar generations there are less than 80% with such statuses, and 8% are in cohabitation with a child (pink palette). There are 10-20% of women who have a child and are not married or cohabiting (yellow colors). In contrast, a man with a child is almost always a man in a relationship. Among the men and women of the younger generations, there are only 10% of those who are married and have a child, but these representatives have had very few other events, because only a small portion of the respondents have reached the age of 35. For both sexes, when we move to younger generations, there

5

is tendency towards reduction in the share of those who are married and an increase in the share of those who are in cohabitation.

All generations include respondents who do not have any demographic event by the age of 35, but their share does not exceed 5%. The most popular final socio-demographic event men achieve at the age of 35 is the first separation from their parents; a bit less popular is education. The first job started to compete with education only for the generation of 1965-1974 years of birth. For Soviet women, there is an identical structure to the final socio-economic events, but, starting from the generation of 1955-1964 years of birth, the shares of each event will turn out to be equal. To clarify these statements, we placed the chronograms of the individual biographies of respondents, sorted "from the end", in Appendix 1.

There are the mean durations of states in Table 1. We included in this table only the events which lasted three or more months. The demographic events are indicated by bold print.
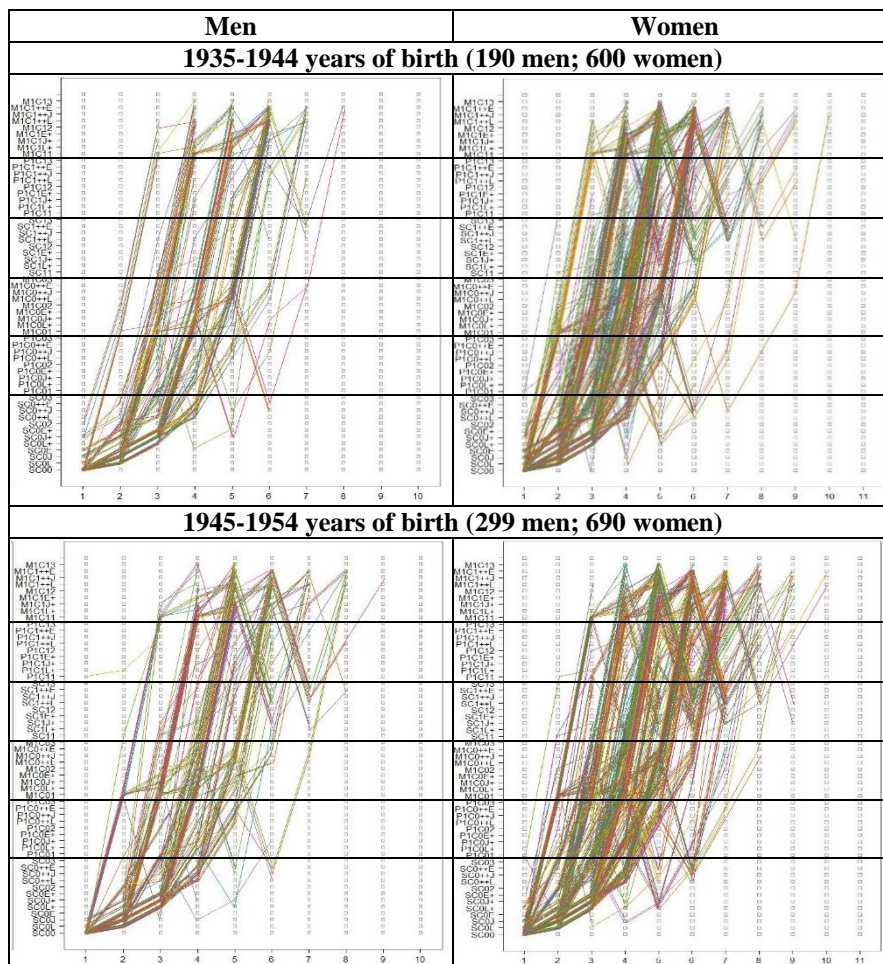
Table 1. Mean durations of states for both sexes, men, women.

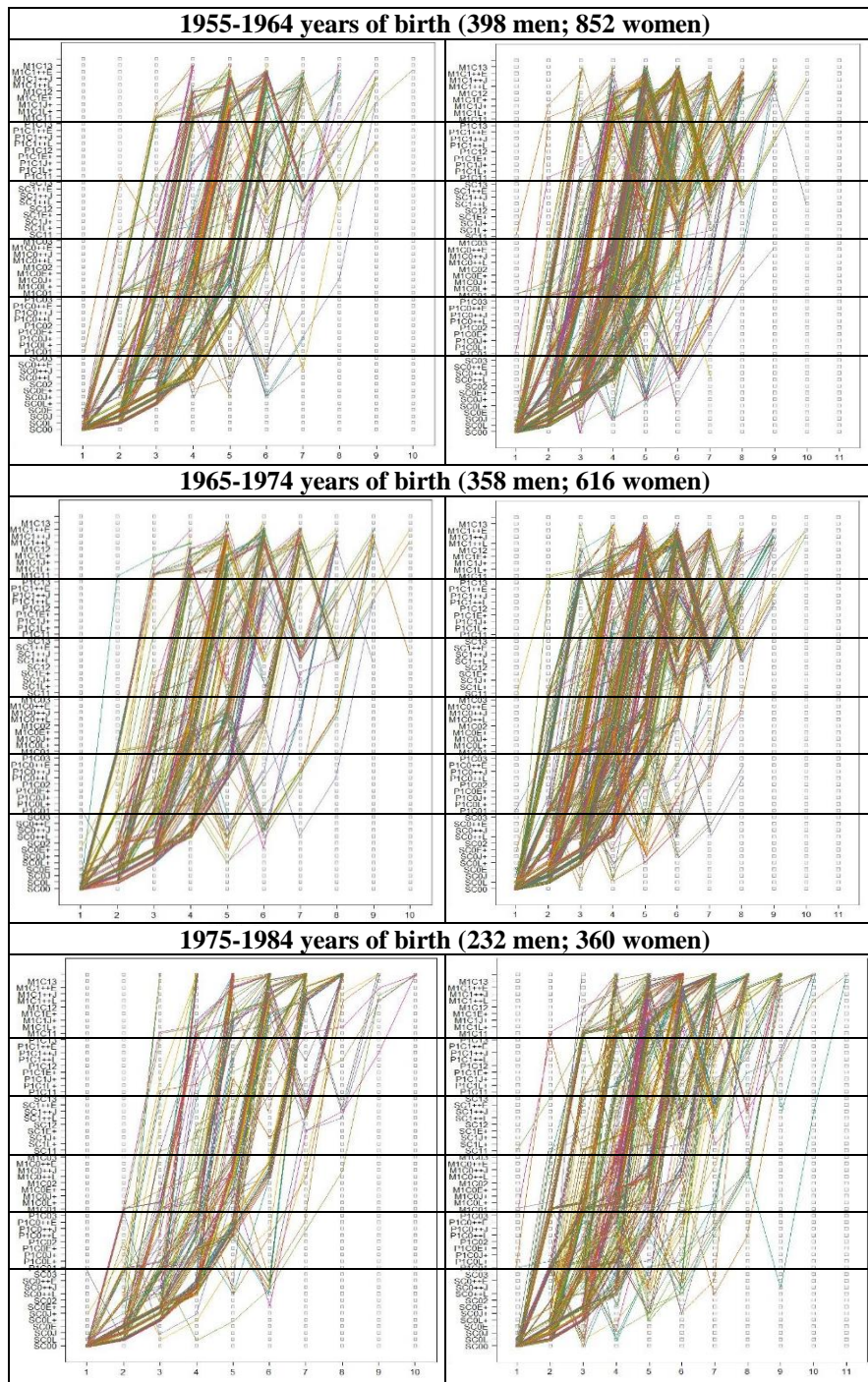| #	Both sexes		Men		Women	
	Status	Duration, months	Status	Duration, months	Status	Duration, months
1	SC00	34.0	SC00	36.2	**M1C1++L**	33.6
2	**M1C1++L**	33.7	**M1C1++L**	34.1	SC00	33.0
3	**M1C1++J**	23.5	**M1C1++E**	19.5	**M1C1++J**	26.0
4	**M1C1++E**	20.5	**M1C1++J**	18.1	**M1C1++E**	21.0
5	SC0J	10.0	SC0J	12.1	**M1C1J+**	9.5
6	**M1C1J+**	9.3	SC0J+	11.7	SC0J	9.0
7	SC0L	8.8	SC0E+	10.4	SC0L	8.5
8	SC0J+	8.6	SC0L	9.5	SC0J+	7.1
9	SC0E+	8.1	**M1C1J+**	9.0	SC0E+	7.0
10	**M1C13**	5.9	SC0++J	6.7	**M1C13**	6.8
11	**M1C1L+**	5.8	SC0++L	6.1	**M1C1L+**	6.2
12	SC0++J	5.6	SC0E	5.5	SC0++J	5.0
13	**M1C1E+**	4.4	SC0L+	4.9	**M1C1E+**	4.8
14	**M1C0++L**	4.1	**M1C1L+**	4.8	SC1++L	4.7
15	SC0L+	4.0	**M1C0++L**	4.4	**M1C0++L**	4.0
16	SC0++L	3.9	SC0++E	4.0	SC0L+	3.5
17	SC0E	3.8	**M1C13**	3.9	SC1++E	3.5
18	SC1++L	3.7	**M1C1E+**	3.7	**M1C11**	3.5
19	SC0++E	3.5	**M1C0++J**	3.4	SC0++E	3.3
20	**M1C11**	3.3	SC02	3.2	SC1++J	3.2
21	**M1C0++J**	3.0			SC0E	3.0

The mean duration of an average event for both sexes is 5.7 months: for men it is 7.6 months, and for women it is 4.8 months. The ranking shows that the longest state for men (more than 3 years) is an absence of events of all types. The second one (less than 3 years) is first marriage, first child and all the three events, the third of which is leaving the parental home. For women, we have the opposite situation, but the difference between the duration of the events is less than a month.

The next two events are also the same for men and women, but they appear in opposite succession. Men have all the events, with the last one – education – for more than a year and a half and the last one – the first job – for a period of a month shorter. Women are staying longer in the same statuses, but the longest one ends with the first job (more than 2 years), the next one – with education (less than 2 years). Other statuses are incomplete (respondents do not have the events of all the types) and the duration of events is less than a year. Nevertheless, we revealed that women stay in demographic statuses longer than men.

In Figure 4, there are so called "parallel coordinates" which indicate the transitions of respondents from one status to another. The X-axis represents the number of transitions, the Y-axis depicts each possible status from SC00 (no events) to M1C13 (1st marriage, 1st child, all socio-economic events). The horizontal lines are dividing different groups of statuses from each other.

7

1955-1964 years of birth (398 men; 852 women)

1965-1974 years of birth (358 men; 616 women)

1975-1984 years of birth (232 men; 360 women)

8

Fig. 4: "Parallel coordinates" for men and women of each generation.

Due to the imbalance between the number of men and women, there is much more information for women than for men, though this does not affect the results: the typical transitions are seen in both cases. The first transition (from status one to status two) is often from the position with no statuses to some socio-economic positions. Sometimes we can see individuals gaining a marriage or a partnership. The trend of all the graphs is a sharp rise, so people are achieving demographic statuses relatively rapidly. The "speed" is slowing in modern generations, especially among men: they are entering their marriage "careers" only after third step.

The most frequent subsequences are listed in Table 2. We have information for both sexes, men and women. We excluded the subsequences with a support (the amount of people of a group, who have the subsequent) of less than 10%.

Table 2. Frequencies of appearances of subsequences for both sexes, men and women.

#	Both sexes			Men			Women		
	Subsequence	Support	Count	Subsequence	Support	Count	Subsequence	Support	Count
1	(SC00)	91%	4438	(SC00)	93%	1441	(SC00)	90%	2997
2	(SC00>SC0J)	27%	1306	(SC00>SC0J)	29%	453	(SC00>SC0J)	26%	853
3	(SC00>SC0L)	25%	1208	(SC00>SC0E)	27%	415	(SC00>SC0L)	25%	828
4	(SC00>SC0E)	23%	1120	(SC00>SC0L)	25%	380	(SC00>SC0E)	21%	705
5	(SC0E>SC0E+)	20%	956	(SC00)-(SC0E>SC0E+)	23%	357	(SC0L>SC0L+)	19%	632
6	(SC0L>SC0L+)	19%	946	(SC0J>SC0J+)	23%	354	(SC0E>SC0E+)	18%	590
7	(SC0J>SC0J+)	19%	929	(SC0L>SC0L+)	20%	314	(SC0J>SC0J+)	17%	575
8	(SC00)-(SC0E>SC0E+)	18%	886	(SC00)-(SC0J>SC0J+)	20%	313	(SC00)-(SC0L>SC0L+)	17%	548
9	(SC00)-(SC0L>SC0L+)	17%	835	**(M1C0++L>M1C1++L)**	19%	295	**(M1C0++L>M1C1++L)**	16%	532
10	**(M1C0++L>M1C1++L)**	17%	827	(SC00)-(SC0L>SC0L+)	19%	287	(SC00)-(SC0E>SC0E+)	16%	529
11	(SC00)-(SC0J>SC0J+)	17%	826	**(SC00)-(M1C0++L>M1C1++L)**	17%	269	(SC00)-(SC0J>SC0J+)	15%	513
12	**(SC00)-(M1C0++L>M1C1++L)**	15%	726	**(SC00)-(M1C0++J>M1C1++J)**	10%	152	**(SC00)-(M1C0++L>M1C1++L)**	14%	457
13	**(SC00)-(M1C0++J>M1C1++J)**	11%	511				**(SC00)-(M1C0++J>M1C1++J)**	11%	359
14	**(M1C0J+>M1C1J+)**	10%	464				(SC0L>SC0L+)-(SC0L+>SC0++J)	10%	323
15							**(M1C01>M1C11)**	10%	318

The table shows that women have more events with a support of more than 10%, but the percentage of people in socio-economic statuses is more common among men than women. The majority of respondents (90%) have the subsequence when there are no events. This means that 10% of people have some events at the age of

9

15. The next popular subsequences (more than 20% each) are transitions from no-events status to the first job, education and leaving parents. 19% of men and 16% of women have a subsequence, which includes demographic events: it is a transition from "the first marriage without children, but with all the socio-economic events (last is leaving parents)" to "the first marriage with the first child, and with all the socio-economic events (last is leaving parents)".

4 Conclusion

This paper illuminates how men and women from different generations gaining their first demographic and socio-economic events. We represented the individual biographies on chronograms, the status transitions on parallel coordinate plots and the durations of statuses and the frequencies of subsequences on tables.

Our analysis reveals the changes between sexes and generations. Men devote a significant part of their youth to achieving socio-economic events, while women much earlier and more actively initiate their demographic careers. Nevertheless, by the age of 35, there are more respondents among men who have children and relationships than men who do not face such events. Young people, compared to older generations, much more actively enter into cohabitations and have children in them, but they delay the onset of all these events, especially childbearing, to later ages.

Acknowledgements

10

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11

Appendix

Appendix 1. Individual biographies of the respondents sorted "from the end".

The biographies of all the respondents, who were sorted "from the end" (i.e. from the last event in the segment of the biography), are displayed below. We chose this medium of presentation to fix the sets of the first events, which people of different sexes and generations experienced at the age of 35. In addition, we can trace the individual tracks to the final events.

12

1955-1964 years of birth (398 men; 852 women)

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