www.gi.sanu.ac.rs, www.doiserbia.nb.rs
J. Geogr. Inst. Cvijic. 2024, 74(3), pp. 383–398

*Review paper*

UDC: 316.356.2(4-12)
https://doi.org/10.2298/IJGI2403383G

Received: September 11, 2024
Reviewed: November 2, 2024
Accepted: December 3, 2024

# WHAT ARE THE KEY FACTORS INFLUENCING HOUSEHOLD FORMATION AND CO-RESIDENCE PATTERNS? LEARNING FROM SOUTHEASTERN EUROPE

*Siegfried Gruber*[1]*, *Daniel-Armin Đumić*[1]

[1]University of Graz, Institute of History, Graz, Austria; e-mails: si.gruber@uni-graz.at; daniel.dumic@uni-graz.at

**Abstract:** This paper revisits the mapping of household formation patterns and co-residence systems in Southeastern Europe (SEE) utilizing new historical microdata from censuses from Wallachia (1838), Bessarabia (1850), Serbia (1863), Montenegro (1879), and Albania (1918). While previous work has provided valuable insights, it was often based on a limited number of cases and focused primarily on joint families. It often excluded urban populations and did not utilize microdata or a life-course approach. This study presents updated maps that offer a more nuanced view of household structures in the region. The maps, based on individual-level data, reveal significant variation in marriage patterns, household formation, and co-residence across SEE, challenging earlier binary classifications of European household systems and highlighting the diversity within and beyond the Hajnal line. Nevertheless, major differences in household formation existed between Albania, Montenegro, and Serbia on the one hand and Wallachia and Bessarabia on the other hand. Marriage patterns did not have such clear spatial grouping.

**Keywords:** households; marriage; co-residence; Southeastern Europe

## 1. Introduction

Scholars like Frédéric Le Play, Karl Kaser, Maria Todorova, Jovan Cvijić and others were instrumental in mapping and understanding household formation patterns in Southeastern Europe (SEE) in the last century. They laid the groundwork for the study of joint families and the patriarchal regime in the region and contributed greatly to the field of Southeastern European Household Studies.

Frédéric Le Play's map of household types in Europe had the large area of Eastern Europe, SEE, the Near East, and Northern Africa combined into the "Eastern Region" and characterized by the patriarchal family. In addition, he had a "Northern Region" and a "Western Region", which were characterized by stem families and unstable families. He based his analysis for SEE on only two families: one from Hungary and one from Bulgaria (Le Play, 1855, 1877).

Jovan Cvijić published a much more detailed map about the zones of civilization of the Balkan Peninsula south of the rivers Sava and Danube (Figure 1). He defined most of the territory as the "Patriarchal regime", while most of Greece and Thrace belonged to the "Old

*Corresponding author, e-mail: si.gruber@uni-graz.at

Balkan (modified Byzantine) civilization", and Dobruja was partly under "Turco-Oriental influence". In addition, he indicated Italo-Mediterranean, Mediterranean, Central European, and Western European influences on the map. The *zadruga* existed in the western and central parts of the peninsula, among Serbs and Albanians, but not among Greeks, Bulgarians, and Turks (Cvijić, 1918). Vuk Stefanović Karadžić coined the term *zadruga* for a joint family in his dictionary a century earlier (Karadžić, 1818).

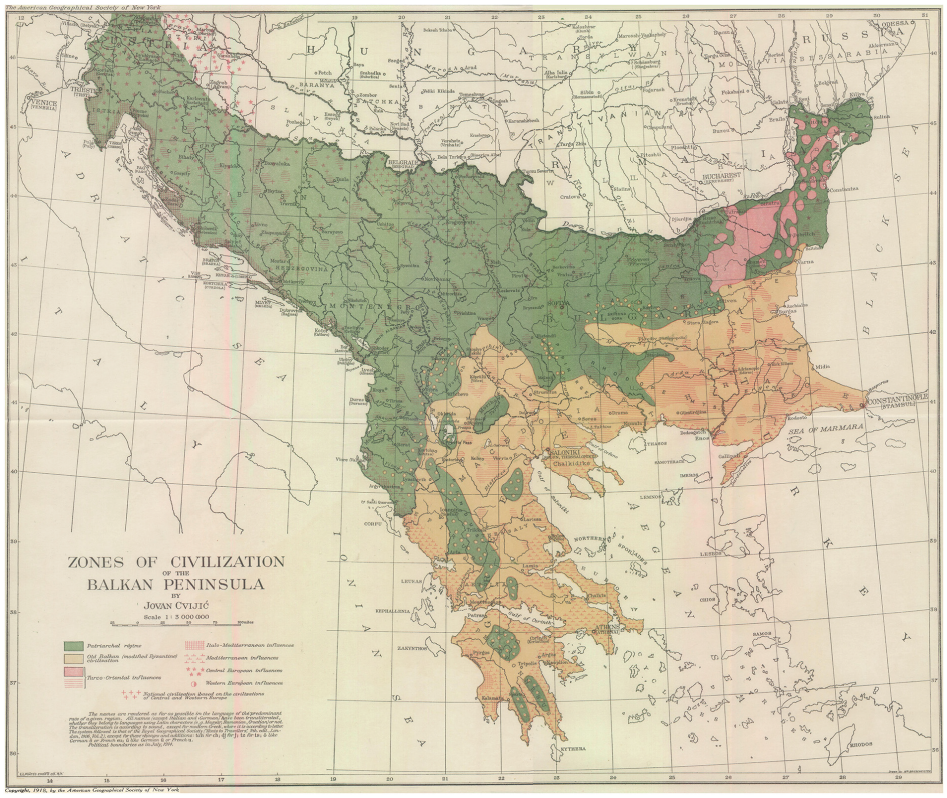


**Figure 1.** Zones of Civilization of the Balkan Peninsula.
*Note.* From "The Zones of Civilization of the Balkan Peninsula" by J. Cvijić, 1918, *Geographical Review, 5*(6), pp. 480–481 (https://www.jstor.org/stable/207806). Copyright 1918 by the American Geographical Society of New York.

## 2. Subsequent research

Philip Mosely distinguished three belts of the distribution of *zadrugas* at the end of the 1930s: first, the tribal territories of Montenegro and Northern and Central Albania; second, the mountainous regions of Bosnia-Herzegovina, Western Croatia, Northern Central Macedonia, and Central Albania; and third, the surrounding plains and valleys (Mosely, 1976). Vera St. Erlich made a large study with questionnaires in 300 Yugoslav villages just before the beginning of the Second World War (WWII) and ranked the regions within Yugoslavia according to the preservation of the *zadruga* from the lowest to the highest: Littoral, Croatia, Serbia, Bosnia Christians, Bosnia Muslims, Macedonia Christians, Macedonia Albanians (Erlich, 1966).

An imaginary line between St. Petersburg and Trieste divided the marriage patterns within Europe until WWII into a Western and an Eastern variant. West of this line, the marriage pattern was characterized by a high age at marriage and a high proportion of people who never married. According to Hajnal (1965), the Eastern European pattern was characterized by lower ages at marriage and almost no people remaining unmarried. He calculated a maximum age at marriage at 26 years for men and 21 years for women in this Eastern European pattern. In his second publication Hajnal (1982) added household formation systems to these marriage patterns: the Northwest European simple household systems (late marriage, after marriage being household head, servants) and joint household systems (early marriage, patrivirilocal residence, households with several married couples may split to form new households). This dichotomy has provoked a lot of criticism (Sovič, 2008).

Laslett (1983) divided Europe into four zones according to household formation, household composition, and other criteria: West, West/Central or Middle, Mediterranean, and East. SEE was not clearly defined as being part of the Mediterranean or Eastern zone. Stoianovich (1992) distinguished three belts of distribution of *zadrugas*, too. Maps were not used for showing these areas or zones in any of these publications.

Nikolai Botev published a map about the spread of *zadruga*-type familial organization in the Balkans during the 19th century (Figure 2). The areas of primary spread were in the core of Yugoslavia, while areas of rare cases were in Northern Albania, Kosovo, and the border area between Yugoslavia and Bulgaria (Botev, 1990).

Maria Todorova published a map about the distribution of *zadrugas* in SEE with three different zones (Figure 3). These were mountainous stock breeding zone (in the Dalmatian hinterland and the border area between Yugoslavia and Bulgaria), the tribal


**Figure 2.** Spread of *zadruga*-type familial organization in the Balkans during the 19th century. *Note.* From "Nuptiality in the Course of the Demographic Transition: The Experience of the Balkan Countries" by N. Botev, 1990, *Population Studies, 44,* p. 113, (http://www.jstor.org/stable/2174306).


**Figure 3.** Distribution of *zadrugas* in SEE. *Note.* From *Balkan Family Structure and the European Pattern. Demographic Developments in Ottoman Bulgaria* by M. N. Todorova, 1993, p. 148, American University Press.

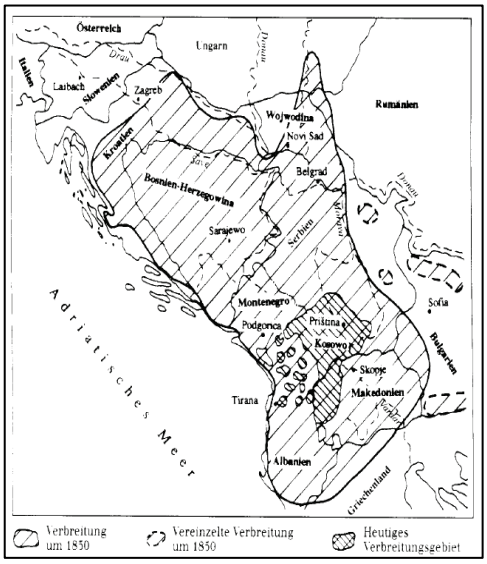


**Figure 4.** Distribution of the Balkan family households in 1850 and today.
*Note.* From *Familie und Verwandtschaft auf dem Balkan. Analyse einer untergehenden Kultur* [Family and Kinship in the Balkans. Analysis of a Declining Culture] by K. Kaser, 1995, p. 268, Böhlau.

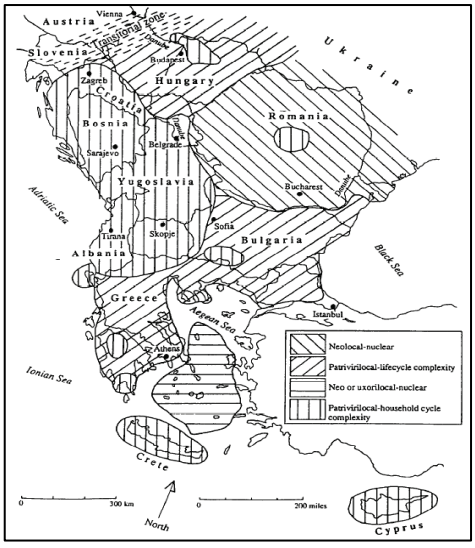


**Figure 5.** Traditional household formation patterns in SEE.
*Note.* From "Introduction: Household and family contexts in the Balkans" by K. Kaser, 1996, *The History of the Family*, *1*(4), p. 380, (https://doi.org/10.1016/S1081-602X(96)90008-1).

region of Montenegro and Northern Albania, and a valley belt (in Yugoslavia).

Karl Kaser published a map about the distribution of the Balkan family households in 1850 (Figure 4). This was the largest part of what was later designated as the Yugoslav territory (Croatia, Bosnia and Herzegovina, Serbia (including the present-day autonomous provinces of Vojvodina and Kosovo and Metohija), Montenegro, (North) Macedonia, as well as Albania (Northern Albania)).

Additionally, Karl Kaser published a map of household formation patterns in historical SEE with four areas (Figure 5). These were the following: Neolocal-nuclear (Romania), Patrivirilocal-lifecycle complexity (Hungary, Bulgaria, and Greece), Neo or Uxorilocal-nuclear (Aegean islands), and Patrivirilocal-household cycle complexity (most of Yugoslavia, Albania, Crete, and Cyprus).

However, all these maps have several significant limitations that undermine their ability to apply their conclusions broadly, highlighting the need for refinement and updates. They do not incorporate microdata or a life-course approach and are based on a limited number of cases with a primary focus on joint families. They often represent only dominant characteristics, frequently excluding urban populations. The emergence of published digitized microdata for the region provides an opportunity to address these limitations.

## 3. Recent developments

In a later period, publications without maps dealt with household structures in Europe (Wall, 1998), SEE (Brunnbauer, 2004, 2012), or individual countries (Čapo Žmegač, 1996; Mateescu, 2018; Todorova, 1996). More recent research conducted by Gruber (2017) and Vuletić (2012a), using the published results of the Serbian censuses up to the First World War

(WWI), shows much variation within Serbia. The mean household size differed to some extent, while the mean number of married couples in some districts was twice as high as in other districts. Generally, higher household complexity is observed in Western and Southern Serbia, though very high or very low household complexity is sometimes found in the two neighboring districts, respectively. During the 19th century no signs of the alleged dissolution of the *zadruga* could be found: average household size and complexity did not decrease, but even increased in parts of Serbia.

Pan-European comparisons based on the existing North Atlantic Population Project (NAPP) and Mosaic data collections have shown a more detailed picture of European household formation systems and co-residence patterns than postulated earlier. They reveal a great deal of variation on both sides of the Hajnal-line: A simple black-and-white scheme is not sufficient for capturing the whole picture (Szołtysek & Ogórek, 2020; Szołtysek et al., 2021; Szołtysek et al., 2024; Szołtysek et al., 2019; Szołtysek et al., 2020).

The Patriarchy Index has been developed as a kind of "master variable" to have a tool to compare household structures and especially household patriarchy within Europe across time and space. A set of eleven variables are used to calculate four sub-indices (domination of men over women, domination of the older generation over the younger one, patrilocal bias, and son preference), which finally make up the Patriarchy Index (Gruber & Szołtysek, 2016). An analysis of microdata for SEE yielded six clusters of variants of household patriarchy or even different systems of household patriarchy within SEE in pre-modern times (Figure 6). In addition, the heritage of the ideal of the *zadruga* was analysed (Božić & Gelez, 2020).

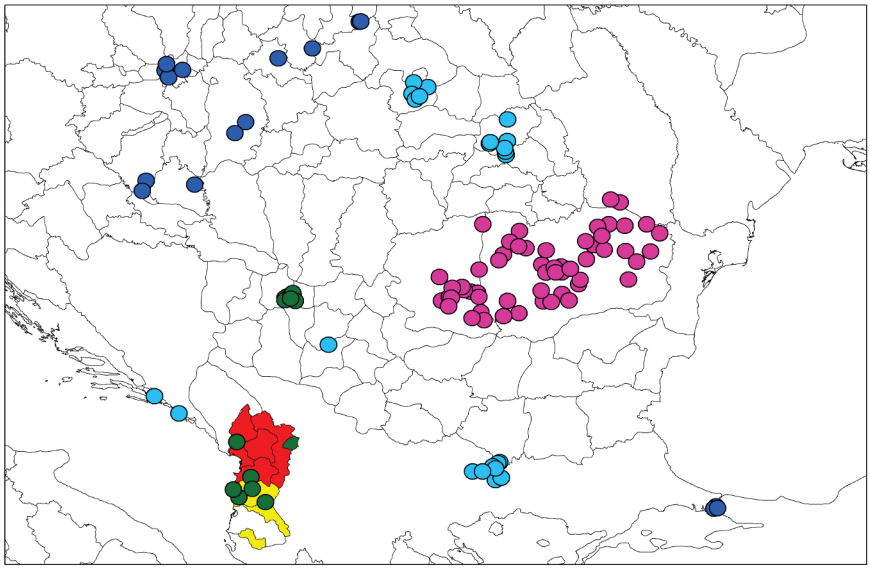

**Figure 6.** Six clusters of patriarchal features in SEE.
*Note.* Adapted from "The Patriarchy Index: A Comparative Study of Power Relations Within Southeastern Europe and Turkey" by S. Gruber, in D. Mujadžević (Ed.), *Digital Historical Research on Southeast Europe and the Ottoman Space* (p. 164), 2021, Peter Lang (https://doi.org/10.3726/b17129).
*Note:* The six clusters of similar patriarchal features are displayed in different colors and show three regional clusters/polygons (North Albania, Central Albania, Wallachia) and three dispersed clusters (circles).

These recent developments and the availability of new historical microdata from SEE allow us to refine and update earlier maps and address aforementioned limitations of earlier scholarly work. This contribution should be a step forward towards better maps for displaying household structures and marriage patterns in SEE, although we concentrate only on rural populations in this contribution because of the limitations in the length of the contribution.

## 4. Data

Recent research has enabled the creation of the largest database of census microdata for SEE (University of Graz, 2024). The analysed data refer to the earliest census of each country still available in large quantities in the archives in the respective country. In this way, the samples could be drawn with a claim to representativeness. The selected censuses must also individually account for the entire population, including children, women, and servants (Table 1).

- *Romania:* The oldest data used is the 1838 census of Wallachia, which is the first census taken in Romania and one of the oldest of all SEE (Mateescu, 2013, 2020). The majority of the material has been preserved (about 72%, Szołtysek & Gruber, 2016).
- *Moldova:* This country was part of the Russian Empire most of the 19th century and largely coincided with the administrative unit called "Bessarabia". In Russia, so-called "revision lists" were created at irregular intervals to update the taxable population. The ninth revision took place in 1850/51, and a large portion of the manuscripts for Bessarabia has been preserved, allowing the creation of a sample from them.

**Table 1.** Population data according to the censuses

| Source | Year | Sample size |
|---|---|---|
| Wallachia | 1838 | 21,546 |
| Bessarabia | 1850 | 21,099 |
| Serbia | 1863 | 57,001 |
| Montenegro | 1879 | 51,558 |
| Albania | 1918 | 82,646 |
| Overall | | 233,850 |

*Note*. Data of Wallachia, Serbia, and Albania can already be downloaded at https://mosaic.ipums.org/mosaic-data-files

- *Serbia:* The census of 1863 was the first Serbian census which listed women individually—before that, they were listed only numerically (e.g., "and three women"). The majority of the census manuscripts of this census have been preserved: 84 census books containing data for 18 towns and 54 districts of the total of 61 districts (Vuletić, 2012b). The publication of the census results includes only the population figures and the value of property at village level (Ministarstvo finansija, 1865).
- *Montenegro:* The census of 1879 was the first census of Montenegro and part of the census manuscripts has been preserved. These manuscripts have been published in two volumes (Pejović & Kapisoda, 2009), which have been the basis of the sample used for this analysis.
- *Albania:* During WWI, the Austro-Hungarian Army made a census in Albania and almost all manuscripts of the census of 1918 have been preserved. The census covered the north and centre of Albania, while the south was not under Austro-Hungarian control (Gruber, 2007; Nicholson, 1999). Results have been published only at village level (Seiner, 1922).

## 5. New maps

### *5.1. Age at marriage*

The first topic for new maps is the age at first marriage, which is not only important for the analysis of marriage patterns, but also for household formation patterns. Census materials

generally do not provide information on the age at marriage, necessitating the use of an indirect measure to determine it: the Singulate Mean Age at Marriage (Hajnal, 1953).

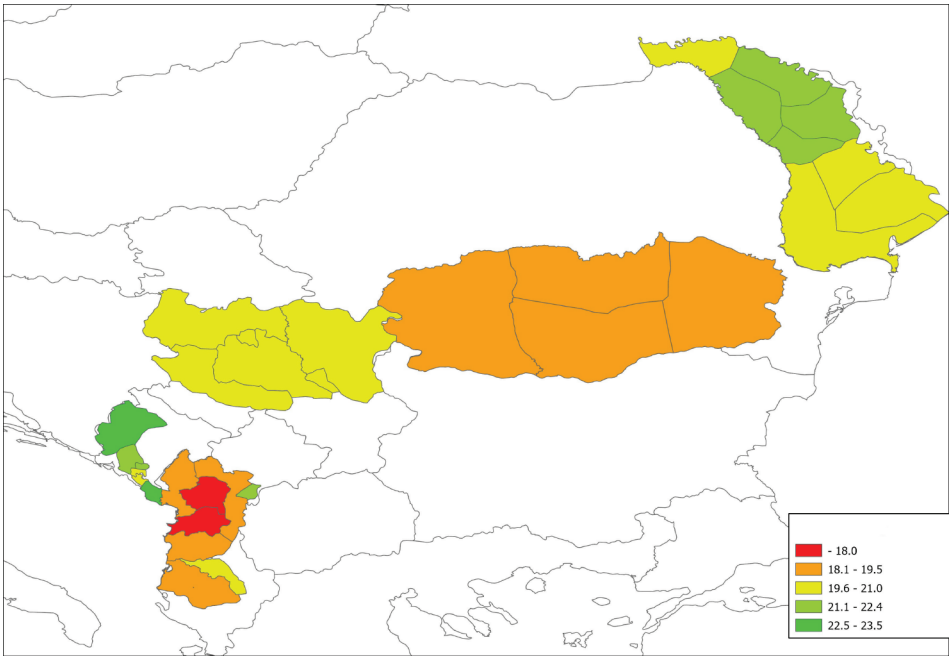


**Figure 7.** Singulate Mean Age at Marriage of females.

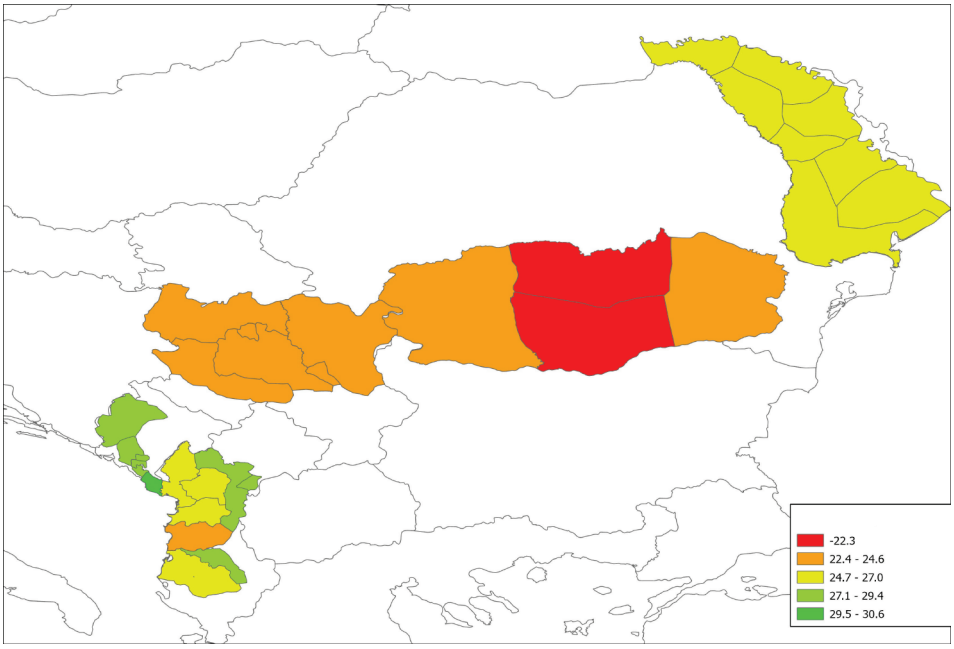


**Figure 8.** Singulate Mean Age at Marriage of males.

Generally, ages at first marriage were quite low for women in pre-modern SEE (Figure 7). Our analysis is based on regions within countries in order to see possible differences within countries. The lowest average ages at marriage were to be found in Northern Albania (17.8 years) and historical Albania displayed the largest variations in female ages at marriage (about 3.6 years between the lowest and the highest averages), while especially Serbia and Wallachia showed no regional differences with about 20 and 19 years, respectively. The highest ages at marriage were calculated for Montenegrin women (23.5 years in the Littoral region).

Men married generally a few years later than women and the lowest ages at marriage could be found in Wallachia (22 to 23 years) and Serbia. Albania was again the most diverse country with the highest ages at marriage in the eastern regions. Montenegro, had on average, the highest ages at marriage for men. Husbands were generally older than their wives, but a small minority of wives was older than their husbands (5.9%). Even lower proportions were in Wallachia, southern Bessarabia, and Central Albania. The highest percentages were reported for Serbia east of the river Morava (14.9%, Figure 8).

### *5.2. Household heads*

Household heads were generally men, but once again a small minority of households was headed by women (4.0%). The lowest proportions were reported for Old Herzegovina with only 1.0%. There were some variations within all five countries with the highest percentage in Iaşi County in Bessarabia (8.0%). The reason for female household heads was in most cases the lack of an adult man in the respective household (Figure 9).

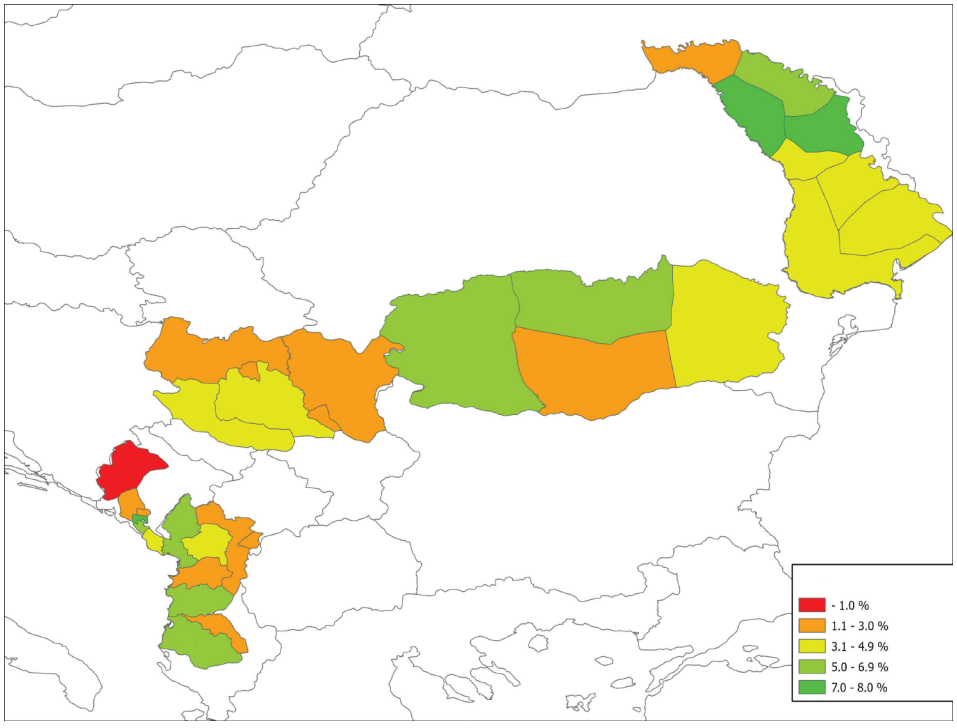


**Figure 9.** Proportion of female household heads.

Marriage did not always mean that the husband became the head of the household, because in many SEE historical societies young couples started their married life as members of the household of an older couple. About three quarters of married men in the age group 30 to 34 years were already heads of their household. Serbian regions were generally quite close to this average, while in Bessarabia and Wallachia almost all married men of this age group headed their own households. In contrast to this, the lowest percentages were recorded in Northern Albania (prefecture of Kruja with only 31%). Albania showed again the most variation, followed by Montenegro.

### *5.3. Patrilocality*

Those couples, who started their married life as part of another household, did this generally in the household of a relative of the husband, most often his father. The portion of 45.6% of all ever-married women in the age range of 15 to 30 years resided patrilocally, i.e., in a household containing at least one adult male relative of their husband or his mother. In addition, this household did not contain any adult male relative of the wife or her widowed mother. The proportions were generally lower or much lower in Wallachia or Bessarabia, reaching even 2.0% in Iaşi County in Bessarabia. In Western Serbia, parts of Montenegro, and most of Albania, the proportions were higher and reached even 78.3% in the prefecture of Kruja in Northern Albania (Figure 10).

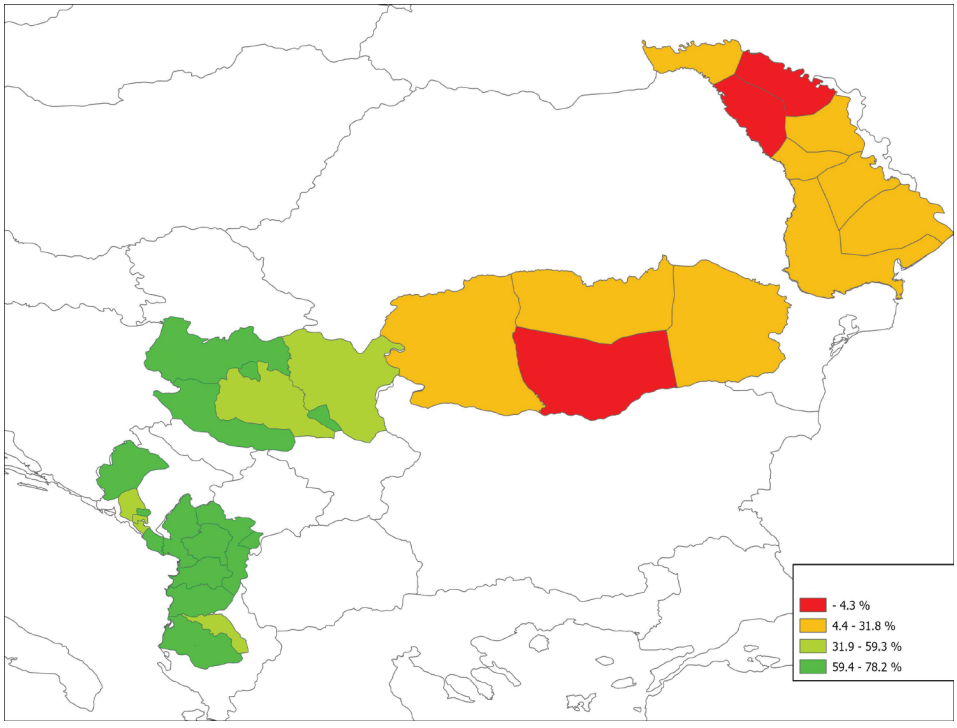


**Figure 10.** Married women residing patrilocally.

### *5.4. Elderly and their kin*

Household-level measures of family structures have been used for a long time, but they are highly sensitive to demographic conditions. In populations with high mortality only few people are available for co-residence with their children and grandchildren. But even "in populations where few households have the potential to include elderly kin, the great majority of elderly persons have the demographic potential to reside with offspring" (Ruggles, 2009, p. 252). Therefore, individual-level measures from the perspective of the elderly (65 years and older) are being applied here.

At first, the proportions of elderly persons co-residing with at least one married child will be examined. About half of the elderly (47.5%) lived with at least one married child in the same household. In Wallachia and Bessarabia proportions were generally much lower and reached even as low as of 1.0% in Iaşi County in Bessarabia. In Serbia, Northern Albania (except the sub-prefecture of Gora), and Old Herzegovina percentages were higher and reached even 81.0% in the Serbian region of Aleksinac–Ražanj (Figure 11).

Approximately 11.3% of the elderly lived with at least two married children in the same household, which is considerably low. In nine regions of Wallachia and Bessarabia no single case of such a living arrangement was reported. In contrast, in Western Serbia almost one third of the elderly had two or more married children in the same household (Lowlands in the North with 32.1%). This was considerably higher than in Northern Albania or Montenegro.

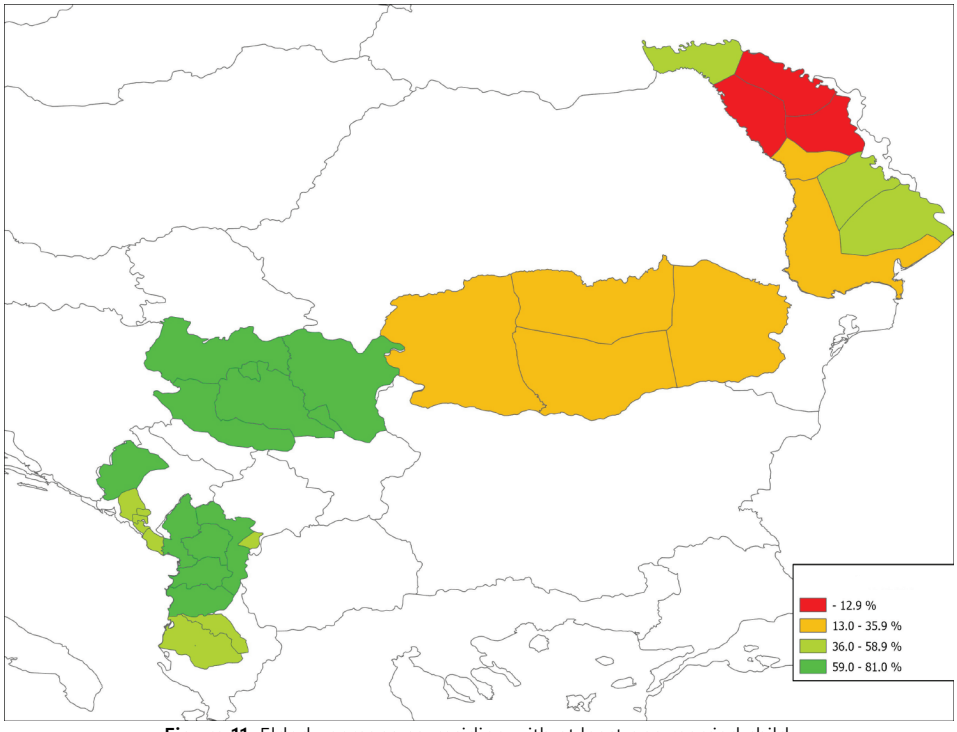


**Figure 11.** Elderly persons co-residing with at least one married child.

Finally, the proportions of elderly people co-residing with at least one lateral relative will be examined. Lateral relatives are defined as siblings, uncles/aunts, nephews/nieces, great-nephews/nieces, cousins and other distant relatives (including in-laws). In addition, two married relatives of the same generation form a lateral extension (this applies to lineal relatives: children, parents, grandchildren and grandparents) (Gruber & Szołtysek, 2016). The portion of 30.3% of all elderly persons in our samples lived with such a lateral relative in the same household. All of the regions in Wallachia and Bessarabia had much lower percentages, reaching as low as of 1% in Iaşi County in Bessarabia. In Northern Albania, proportions were as high as 73.2% in the prefecture of Puka. Western Serbia had higher percentages than Eastern Serbia and Montenegro.

### *5.5. Co-resident married men*

In the final section of the new maps, even smaller units will be compared: 619 villages as enumerated in the censuses. We shall have a look at co-residence of ever-married men of three different ages (20, 35, and 50 years) with at least one other ever-married man in the same household. About half of ever-married men with about 20 years of age (18 to 22 years) lived with another ever-married man in the same household (54.2%). Most villages in Wallachia and Bessarabia reported much lower percentages, but there were a few villages with percentages higher than average proportions. In contrast, much higher percentages were reported in many villages in Serbia, Montenegro, and Albania: in about 100 villages, all ever-married men of 20 years co-resided with at least one other ever-married man.

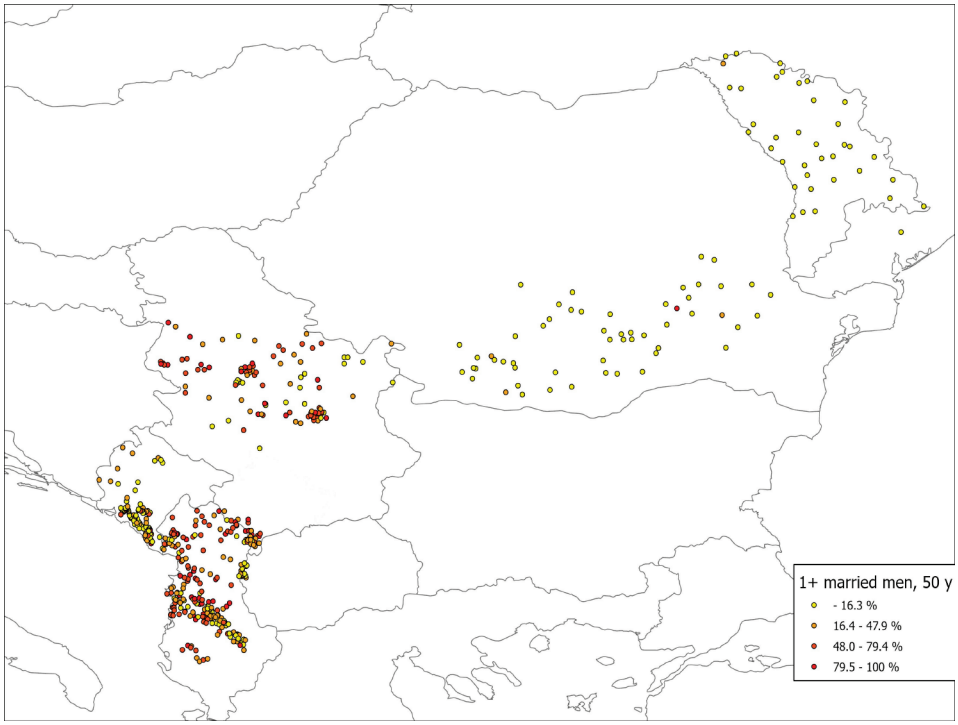


**Figure 12.** 50-year-old ever-married men co-residing with at least one ever-married man.

If we look at the same co-residence patterns at the age of 35, the average drops to 36.2%—an effect of mortality or household divisions. Once again, almost all villages in Wallachia and Bessarabia reported very low percentages or no such cases at all. In contrast, in Western Serbia and Northern Albania in many villages percentages were much higher than the average.

About a third of all ever-married men at the age of 50 (32.5%) lived with another ever-married man in the same household. This proportion is almost the same as with the age of 35, which can be attributed to sons or nephews being already married. The map shows a pattern, very similar to the ones with the ages 20 or 35 (Figure 12).

When looking at these data, we should not forget that co-residence of married men was for many not a life-long arrangement. Most ever-married men co-resided during only a part of their life-course. High mortality and household divisions would be the usual reasons for the end of co-residence. However, household divisions were not a sign of decreasing general household complexity in themselves, because increases and decreases of household complexity occurred in each generation.

## 6. Comparison of countries

The information from the maps has been organized into Table 2, allowing provisional conclusions to be drawn. Wallachia in 1838 and Bessarabia in 1850 showed much similarity in terms of household formation and household structure, while there were some differences concerning ages at marriage. Albania in 1918, Montenegro in 1879, and Serbia in 1863 had a lot of common characteristics in terms of household formation and household structure.

**Table 2.** Comparison of countries

| Characteristic | Albania (1918) | Montenegro (1879) | Serbia (1863) | Wallachia (1838) | Bessarabia (1850) |
|---|---|---|---|---|---|
| Age at marriage (f/m/wife older) | Low/med-high/low-med | High/high/high | Med/low/ med-high | Low/low/low | Med-high/med/ low-med |
| Household heads (f/married men) | Low-med-high/low | Low-med-high/low-med | Low-med/med | Low-med-high/high | Med-high/high |
| Patrilocality | High | Med-high | Med-high | Low | Low |
| Elderly with kin (1+ child/2+child/lateral) | Med-high/high/high | Med-high/low-med-high/med | High/high/high | Low/low/low | Low-med/low/low |
| Co-resident men (20/35/50 years) | Low-med-high/low-med-high/low-med-high | Low-med-high/ low-med-high/ low-med-high | Low-med-high/ low-med-high/ low-med-high | Low/low/low | Low/low/low |

*Note:* medium (med).

Age at marriage showed similarities only between two out of three countries in each category, with different pairs showing alignment across categories. The final step would be the creation of a system out of the different variables, either by creating a "master variable" as with the Patriarchy Index (see above) or by combining them in a cluster analysis.

## 7. Conclusion

The maps displayed a wealth of information not known before, especially regarding Bessarabia where this is one of the first analyses of this sort conducted until now. Using microdata, we can still find some general distinctions between certain areas in SEE. Large regions differing in the magnitude of multiple demographic characteristics can be distinguished, like Albania, Montenegro, and Serbia on one side and Wallachia and Bessarabia on the other.

However, further analysis can also be done to find the patterns and distinctions between the areas within the countries themselves. Previous maps are not able to show these variations because of overgeneralizations happening due to lack of widely available microdata at the time. Consequently, parts of demographics in these areas are misrepresented or not accounted for at all. This study shows that the use of microdata should be the benchmark for future historical demographic research in SEE now that it is readily available. Modern theorists need to implement microdata analysis together with their respective methodologies to increase the representativeness and accuracy of their conclusions.

Apart from the final step as defined above, there are still some desiderata. The first is the still limited coverage of SEE. There are good chances to add appropriate data for the countries to the north of the already covered territory in the future, while there are much lower chances for the countries south of it, because of the lack of appropriate sources (most of surviving sources from this period do not account for women in the households). The possible solutions would be either to use aggregate data (published results of censuses) and/or to use data after WWI. The second desideratum is the analysis of the urban population. For the five countries in this study, the urban data are being made available for analysis in the near future. We hope this will be possible with other countries in the region as well. The third step involves the analysis of change over time. Efforts are being made to make comparative data available for Serbia (1831/34 and 1884) and Montenegro (1899) in the future, but for the other countries, the prospects are not promising.

### Acknowledgements

This research was funded in whole or in part by the Austrian Science Fund (FWF) [P 38285-G]. For Open Access, the authors have applied a CC BY public copyright license to any Author Accepted Manuscript (AAM) version arising from this submission.

### References

Botev, N. (1990). Nuptiality in the Course of the Demographic Transition: The Experience of the Balkan Countries. *Population Studies, 44*(1), 107–126. https://doi.org/10.1080/0032472031000144406

Božić, M., & Gelez, P. (2020). Une collectivité idéale. L'heritage politique de la zadruga dans les Balkans [An ideal community. The political legacy of zadruga in the Balkans]. *Revue des études slaves, 91*(3), 293–305. https://www.jstor.org/stable/e26978012

Brunnbauer, U. (2004). Descent or territoriality. Inheritance and family forms in the late Ottoman and early post-Ottoman Balkans. In H. Grandits & P. Heady (Eds.), *Distinct inheritances. Property, family and community in a changing Europe* (293–321). Lit.

Brunnbauer, U. (2012). Unity in Diversity? Historic Family Forms in Southeastern Europe. *Historijski zbornik, 64(1)*, 95–148. https://hrcak.srce.hr/117733

Cvijić, J. (1918). The Zones of Civilization of the Balkan Peninsula. *Geographical Review, 5*(6), 470–482. https://doi.org/10.2307/207806

Čapo Žmegač, J. (1996). New Evidence and Old Theories: Multiple Family Households in Northern Croatia. *Continuity and Change, 11(3),* 375–398. https://doi.org/10.1017/S0268416000003465

Erlich, V. St. (1966). *Family in Transition: A Study of 300 Yugoslav Villages*. Princeton University Press.

Gruber, S. (2007). Die albanische Volkszählung von 1918 und ihre Bedeutung für die Wissenschaft [The Albanian census of 1918 and its significance for science]. In H. Kostka (Ed.), *SeinerZeit Redakteur Franz Seiner und seine Zeit (1874 bis 1929*) [Editor Franz Seiner and his time (1874 to 1929)] (pp. 253–265). Academic Publishers.

Gruber, S. (2017). Increase in Household Size and Complexity in Serbian Villages During the 19th Century. In S. Rudić & S. Ćaldović-Šijaković (Eds.), *The Balkan Village. Continuities and Changes Through History* (Collection of Works, Vol. 34, pp. 123–138). Institute of History Belgrade & Open-Air Museum „Old Village" Sirogojno.

Gruber, S. (2021). The Patriarchy Index: A Comparative Study of Power Relations Within Southeastern Europe and Turkey. In D. Mujadžević (Ed.), *Digital Historical Research on Southeast Europe and the Ottoman Space* (Studies on Language and Culture in Central and Eastern Europe 35, pp. 141–165). Peter Lang. https://doi.org/10.3726/b17129

Gruber, S., & Đumić, D.-A. (2024). *1850 Revision List of Bessarabia* (Version 1.0) [Mosaic Historical Microdata File]. Mosaic.

Gruber, S., Đumić, D.-A., & Halpern, J. M. (2024). *1863 Census of Serbia* (Version 1.3) [Mosaic Historical Microdata File]. https://mosaic.ipums.org/mosaic-data-files

Gruber, S., Kaser, K., Kera, G., & Pandelejmoni, E. (2024). *1918 Census of Albania* (Version 1.1) [Mosaic Historical Microdata File]. https://mosaic.ipums.org/mosaic-data-files

Gruber, S., & Szołtysek M. (2016). The patriarchy index: a comparative study of power relations across historical Europe. *The History of the Family*, *21*(2), 133–174. https://doi.org/10.1080/1081602X.2014.1001769

Hajnal, J. (1953). Age at Marriage and Proportions Marrying. *Population Studies*, *7*(2), 111–136. https://doi.org/10.2307/2172028

Hajnal, J. (1965). European Marriage Patterns. In D. V. Glass & D. E. C. Eversley (Eds.), *Population in History: Essays in Historical Demography: General and Great Britain* (Vol. 1, pp. 101–143). Edward Arnold Publishers Ltd.

Hajnal, J. (1982). Two Kinds of Preindustrial Household Formation System. *Population and Development Review*, *8*(3), 449–494. https://doi.org/10.2307/1972376

Karadžić, V. S. (1818). *Lexicon serbico-germanico-latinum* [Serbian-Germanic-Latin Lexicon]. P. P. Armenier.

Kaser, K. (1995). *Familie und Verwandtschaft auf dem Balkan. Analyse einer untergehenden Kultur* [Family and Kinship in the Balkans. Analysis of a Declining Culture]. Böhlau.

Kaser, K. (1996). Introduction: Household and family contexts in the Balkans. *The History of the Family, 1*(4), 375–386. https://doi.org/10.1016/S1081-602X(96)90008-1

Laboratory of Historical Demography (MPIDR). (2024). *1838 Census of Wallachia* (Version 1.1) [Mosaic Historical Microdata File]. https://mosaic.ipums.org/mosaic-data-files

Laslett, P. (1983). Family and household as work group and kin group: areas of traditional Europe compared. In R. Wall (Ed.), *Family forms in historic Europe* (pp. 513–563). Cambridge University Press.

Le Play, F. (1855). *Les Ouvriers européens. Études sur les travaux, la vie domestique et la condition morale des populations ouvrières de l'Europe, précédées d'un exposé de la méthode d'observation*. [The European workers: Studies on the work, domestic life and moral condition of the working populations of Europe, preceded by an exposition of the method of observation]. Imprimerie impériale.

Le Play, F. (1877). *Les Ouvriers Européens: Les Ouvriers de l'Orient et leurs essaims de la Méditerranée populations soumises à la tradition dont le bien-être se conserve sous trois influences dominantes* (2e édition) [The European Workers: The Workers of the Orient and their Essays of the Mediterranean populations subject to tradition whose well-being is preserved under three dominant influences, 2nd ed.]. Alfred Mame et fils.

Mateescu, B. (2013). *Census like material preserved in the Romanian archives, for the former principalities of Moldavia, Wallachia and for Romania before 1914* [Mosaic Working Paper WP2013-001]. https://mosaic.ipums.org/publications

Mateescu, B. (2018). The Structure of Rural Households in 19th Century Moldavia and Wallachia: Approaching Old Censuses, Revisiting Paradigms. In I. Vainovski-Mihai (Ed.), *New Europe College Ştefan Odobleja Program Yearbook* 2018–2019 (pp. 167–196). New Europe College. https://shorturl.at/r3NUQ

Mateescu, B. (2020). Digitizing the Wallachian Census Forms of 1838. The First Population Samples of the Dem-Ist Database. *Studii şi materiale de Istorie Modernă, 33*, 19–83.

Ministarstvo finansija. (1865). *Državopis Srbije/Statistique de la Serbie* [Statistics of Serbia (Book 2)]. https://pretraziva.rs/show/drzavopis-srbije-2.pdf

Mosely, P. E. (1976). The Distribution of the Zadruga within Southeastern Europe. In R. F. Byrnes (Ed.), *Communal Families in the Balkans: The Zadruga* (pp. 58–69). University of Notre Dame Press.

Nicholson, B. (1999). *The Census of the Austro-Hungarian Occupied Districts of Albania in Spring 1918: A Preliminary Note on the Manuscript Census (*Centre for Scandinavian Studies, Papers 5*)*. Newcastle upon Tyne.

North Atlantic Population Project. (NAPP). *International Census Data for Social Science Research*. https://www.ipums.org/projects/ipums-napp

Pejović, S., & Kapisoda, M. (Eds.). (2009). *Popis svega stanovništva Crne Gore po okružjima, varošima i selima 1879: zbirka dokumenata* [Census of all the population of Montenegro by districts, towns and villages in 1879: collection of documents]. Državni arhiv Crne Gore & Zavod za statistiku Crne Gore.

Pejović, S., Kapisoda, M., Đuričković, V., Mašanović, M., Kaluđerović, V., Babić, Z., Kusovac, M. N., Pejović, A., Miranović, Ž., Popović, M., Pejović, N., & Perović, A. (2024). *1879 Census of Montenegro* (Version 1.0) [Mosaic Historical Microdata File]. https://mosaic.ipums.org/mosaic-data-files

Ruggles, S. (2009). Reconsidering the Northwest European Family System: Living Arrangements of the Aged in Comparative Historical Perspective. *Population and Development Review, 35*(2), 249–273. https://doi.org/10.1111/j.1728-4457.2009.00275.x

Seiner, F. (1922). *Ergebnisse der Volkszählung in Albanien in dem von den österr.-ungar. Truppen 1916–1918 besetzten Gebiete (Schriften der Balkankommission, Linguistische Abteilung XIII)* [Results of the census in Albania in the areas occupied by the Austro-Hungarian troops 1916–1918 (Publications of the Balkan Commission, Linguistic Department XIII)]. Hölder-Pichler-Tempsky.

Sovič, S. (2008). European Family History: Moving beyond Stereotypes of 'East' and 'West'. *Cultural and Social History, 5(2),* 141–164. https://doi.org/10.2752/147800408X299602

Stoianovich, T. (1992). *Between East and West. The Balkan and Mediterranean Worlds* (Vol. 1). Aristide D. Caratzas.

Szołtysek, M., & Gruber, S. (2016). Mosaic: recovering surviving census records and reconstructing the familial history of Europe. *The History of the Family, 21*(1), 38–60. https://doi.org/10.1080/1081602X.2015.1006655

Szołtysek, M., & Ogórek, B. (2020). How Many Household Formation Systems Were There in Historic Europe? A View Across 256 Regions Using Partitioning Clustering Methods. *Historical Methods: A Journal of Quantitative and Interdisciplinary History, 53*(1), 53–76. https://doi.org/10.1080/01615440.2019.1656591

Szołtysek, M., Ogórek, B., & Gruber, S. (2021). Global and local correlations of Hajnal's household formation markers in historical Europe: A cautionary tale. *Population Studies: A Journal of Demography*, *75*(1), 67–89. https://doi.org/10.1080/00324728.2020.1832252

Szołtysek, M., Ogórek, B., Gruber, S., & Poniat, R. (2024). Mosaic Database: Consolidation, Innovation, and Challenges in the Comparative Family Demography of Historical Europe. *Social Science History*. Advance online publication. https://doi.org/10.1017/ssh.2024.18

Szołtysek, M., Ogórek, B., Poniat, R., & Gruber, S. (2019). "One size does not fit all": Spatial nonstationarity in the determinants of elderly residential isolation in historical Europe. *Population, Space and Place, 25*(6), Article e2242. https://doi.org/10.1002/psp.2242

Szołtysek, M., Ogórek, B., Poniat, R., & Gruber, S. (2020). Making a Place for Space: A Demographic Spatial Perspective on Living Arrangements Among the Elderly in Historical Europe. *European Journal of Population, 36*(1), 85–117. https://doi.org/10.1007/s10680-019-09520-5

Todorova, M. N. (1993). *Balkan Family Structure and the European Pattern. Demographic Developments in Ottoman Bulgaria*. American University Press.

Todorova, M. N. (1996). Situating the family of Ottoman Bulgaria within the European pattern. *The History of the Family, 1*(4), 443–459. https://doi.org/10.1016/S1081-602X(96)90012-3

University of Graz. (2024). *Daten des Projekts* [Project data]. https://historical-demography.uni-graz.at/de/daten/

Vuletić, A. (2012a). Koliko duša živi u jednoj kući? Broj članova seoskog domaćinstva u Srbiji 1834–1910. [How many souls in a household? Number of village household members in Serbia 1834–1910]. *Serbian Studies*, *3*, 219–244. http://rih.iib.ac.rs/id/eprint/1034

Vuletić, A. (2012b). *Censuses in 19th Century Serbia. Inventory of Preserved Microdata* [Mosaic Working Paper WP-2012-004]. https://mosaic.ipums.org/publications

Wall, R. (1998). Characteristics of European Family and Household Systems. *Historical Social Research*, *23* (1–2), 44–66. https://doi.org/10.12759/hsr.23.1998.1/2.44-66