Household size and composition around the world, 1970 - 2020

Abstract

Using data from 793 time points and 156 countries in the new CORESIDENCE database, this article provides a comprehensive analysis of global household size and composition trends. The findings reveal that despite significant international variations in household size, ranging from 1.8 in Denmark to 8.4 in Senegal, there is a widespread decline in household size. On average, households have decreased by approximately 0.5 persons per decade. Children contribute to over three-quarters of the observed variability and decline in household size in recent decades. In contrast, the number of other relatives in households has remained relatively stable or has only moderately decreased. While households are becoming more similar in size, their composition is not converging globally to the same extent. Further investigation is required to understand the underlying factors driving these dynamics.

Introduction

Households constitute the most basic unit of interaction among humans and have profound implications for the social and economic reproduction of their members (Becker, 1998; Esping-Andersen, 2016; Laslett, 1970; Le Play, 1871; Parsons, 1949). They are widely used as units of enumeration for data collection purposes and have significant implications for research on poverty, living conditions, family structure, or gender dynamics (Deaton, 1997; England & Farkas, 2017; Lanjouw & Ravallion, 1995). At the micro-level, studying households provides insight into the processes that shape societies, including decision-making, resource allocation, consumption, and socialization (Agarwal, 1997; Becker, 1998; Browning et al., 1994). At the macro-level, household change is often linked to broader social and economic processes such as urbanization, housing dynamics, aging, or family change (Buzar et al., 2005; Clark & Dieleman, 2017; Lesthaeghe, 2020; Mulder, 2006; Myers, 1990). Despite their importance, comparative research on households at a global level is relatively scarce. Most existing studies tend to focus on single countries/regions or age groups and rarely combine multiple data sources (Asis et al.,

1995; Bongaarts, 2001; Bongaarts & Zimmer, 2002; Burch, 1967; Dommaraju & Tan, 2014; Esteve et al., 2012; Salcedo et al., 2012; Thomson, 2014; van de Walle, 2006; Vos, 1990). While these studies provide valuable insights into the living arrangements existing in individual societies, they do not normally lead to a comprehensive understanding of variations in household size and composition on a more general scale. To address this knowledge gap, this study aims to answer the following question: How does the size and composition of households vary among countries and regions and how has it evolved in the relatively recent past?

We make use of diverse data sources derived primarily from population censuses and household surveys to comprehensively examine patterns of change for 156 countries and 792 data samples spanning from 1960 to 2021. These countries represent a broad range of demographic, social, and economic conditions and have undergone profound transformations in recent decades, including fertility decline, increases in life expectancy, educational expansion, and rises in per capita income. Modernization and demographic transition theories have relied on these transformations to predict a process of increasing individualization and rapid aging of societies which, according to these theories, will ultimately have an impact on the size and composition of households (Cherlin, 2012; Furstenberg, 2019; Goode, 1963; Lesthaeghe, 1989; Ruggles, 1994).

Background

Households have attracted the attention of several social science disciplines, including sociology, economics, anthropology, and demography. Sociological perspectives have primarily focused on gender roles, socialization, and family structure (Bales & Parsons, 2014; Forste & Fox, 2012; Goode, 1963), while economic views have examined household consumption and resource allocation (Becker, 1998; Browning et al., 2014; Mason, 1988). Anthropological perspectives have centered on kinship and different cultural dimensions (Goody, 1999; Murdock, 1967). Demographers have primarily investigated household size and composition and their determinants (Bongaarts, 2001; Ruggles & Brower, 2003). This current study, rooted

in the demography of households, will have implications for an array of social science disciplines.

Household size

Household size refers to the number of individuals living together in a household during the process of census or survey data collection. Defining what constitutes a household and who qualifies as a member, presents challenges when comparing across countries. The United Nations defines a household as "a small group of persons who share the same living accommodation, who pool some or all of their income and wealth, and who consume certain types of goods and services collectively, mainly housing and food" (United Nations, 1993), but specific practices can vary significantly across countries (Bongaarts, 2001). Household membership can be defined by *de jure* or *de facto* enumeration. The *de jure* criteria includes persons who normally live in the household, while the *de facto* criteria refer to those who spend the census night in the dwelling. In societies where there is a significant number of temporary displacements and absences, this distinction may have significant effects. Generally, however, existing evidence shows that differences between the two criteria with respect to their impact on average household size tends to be negligible at the aggregate level, even in Sub-Saharan Africa, which historically exhibits the most complex structure of household organization (Lesthaeghe, 1989; van de Walle, 2006).

The size of a household is mainly determined by the number of children and the type of coresident family group (Glick, 1976). In societies with high fertility rates, households tend to be larger than in those with low fertility rates and declines in fertility rates invariably lead to declines in household size. The coresident group is mainly determined by two factors: the number of adult members in the household and the nature of their kin or non-kin relationships. Most commonly, these relationships involve a certain degree of kinship. Family-based households can be broadly categorized into two main types: nuclear and extended (Laslett & Wall, 1972). A nuclear family household comprises a couple and their children, or any combination of them, whereas an extended household involves kin such as grandparents, aunts,

or uncles, and others. In societies where nuclear arrangements predominate, the average household size tends to be lower than in societies where extended households are more frequent (assuming similar levels of fertility and mortality). Among non-family households, we can distinguish two types. The first type is single-person households. The second type is multi-person households whose members are not related by any degree of kinship (Ruggles, 1988).

As an indicator for household size, we take the number of persons living in any given household. It is important to note, however, that different distributions of small and large households can produce similar average household sizes. In this study, we will examine trends in both average household size and in the distribution of households by size. Average household size provides the link between the total population and the total number of households (Mulder, 2006; Myers, 1990). These dynamics have both macro and micro implications. At the macro level, variations in household size have direct implications for the housing market and the economy in general (Bloom et al., 2003; Espenshade et al., 1983; Malmberg, 2012). When people live in small households, family members tend to be spread over different units. This has consequences for the share of private transfers that take place within or between households (Hammer & Prskawetz, 2022; Lee & Mason, 2011; Vargha et al., 2017). At the micro level, household size shapes interfamily relationships and, thus, the process of socialization. The size of a household can shape power dynamics within households and their distribution along gender and intergenerational axes.

Household composition

Household composition refers to the internal structure of households. In this study, we explore two interconnected dimensions of household composition: age structure and the relationship to the household head or reference person. First, by analyzing age structure, we aim to understand how the presence of children and adults within households varies across societies and how it has evolved. As fertility decreases, life expectancy increases, and populations subsequently age, a decline in households with children and an increase in households with older adults would be

expected to reflect these changes. Changes in the presence of children and/or elderly individuals in households have implications for intergenerational support, caregiving patterns, and expenditure dynamics, as households with children and older adults may have different consumption patterns and demand characteristics (Hammer & Prskawetz, 2022; McGarry & Schoeni, 2000; Vargha et al., 2017).

Second, we analyze the type of relationships existing between household members and the person of reference. Censuses and surveys most often define a reference person (also known as head of the household), to whom other members can be related. The relationship to the household head provides valuable insights into the family configurations of households (Bongaarts, 2001; Posel, 2001). The structure of intra-household relationships constitutes an indicator of the strength of family ties in any given society (Reher, 1998). To facilitate cross-national comparisons and maximize the number of countries included in the analysis, we consider four types of relationships to the person of reference: child, spouse/partner, other relative, and non-family. We take the presence of other relatives of the person of reference in the household as indicative of more complex or extended household structures that depart from the strictly nuclear household (Ruggles, 1994).

A central goal of this study is to assess the contribution of children and other relatives to variations in household size across societies and over time. This will allow us to elucidate the extent to which the distinctive characteristics of household configurations across societies persist during times of on-going reductions in the number of children. Fertility declines will reduce the number of children in society and, therefore, their presence in households, but this may not necessarily modify the type of families commonly found in households. However, if the decline in fertility is embedded within a broader process of social and economic modernization, a progressive simplification and nuclearization of households could also be a part of this very process (Cherlin, 2012; Lesthaeghe, 2010). Stated a bit differently, fertility decline can potentially be associated with increases in the importance of nuclear households and a decline in the presence of other relatives present in households.

Convergence in household size and composition

Embedded in the larger framework of development theory, the idea of convergence has always been present in demography, initially linked primarily to the core aspects of mortality and fertility and later extended to partnership dynamics (Cherlin, 2012; Furstenberg, 2019; Pesando & GFC team, 2019). However, theories of demographic change have paid little attention to convergence in household size and structure. To find theoretical references that contribute to this topic, we must turn to sociology, primarily drawing from the work of William Goode, who in the 1960s aimed to adapt the economic modernization theory to a systematic study of the family across different world regions (Goode, 1963). He predicted that societies undergoing the industrialization processes would witness an increase in conjugal families and a decline in extended households due to a reduction in the economic dependence on the family as a unit of social organization and reproduction. Goode's influential research on household and family change has emphasized the adaptive nature of families and households to the needs of society (Cherlin, 2012; Goode, 1963). Nonetheless, Goode failed to adequately predict further changes in society that would weaken conjugal life and present alternatives to the nuclear family model (Cherlin, 2012; Furstenberg, 2019), and his postulates could neither be empirically verified at a global scale nor countered by a theory of the same scope (Cherlin, 2012; Pesando, 2019).

Since Goode's seminal work, only Gören Therborn's 2004 book, "Between Sex and Power: Family in the World, 1900-2000," set out to offer a similarly comprehensive global analysis of shifts in family patterns (Therborn, 2004). Therborn, while endorsing the notion of worldwide transformations in family systems, diverged from Goode's convergence hypothesis (Cherlin, 2012). Instead, Therborn directed his attention to what he perceived as a growing complexity and heterogeneity within global family systems across three analytical dimensions: (1) shifts in the roles and authority of fathers and husbands; (2) changes in marriage, cohabitation, and non-marital relationships; and (3) population policies (Therborn, 2004). He proposed that, rather than converging, family systems on a global scale would continue to evolve and diverge. This implies that various regions across the world would witness the emergence of distinct family

patterns, notwithstanding shared underlying social dynamics such as declining fertility rates or alterations in union formation and types (Cherlin, 2012; Pesando, 2019; Pesando & GFC team, 2019; Therborn, 2004, 2006).

The debates around convergence of household composition initially centered on the structural and cultural forces promoting or hindering the nuclearization progress (Goode, 1963; Therborn, 2004). Limited theoretical consideration was given to the role of demographic change (Ruggles, 1987). Demographic shifts, particularly the decline in fertility, shape households, reducing their size not only through fewer children but also indirectly by thinning kinship networks. However, questions arise regarding whether the presence of other relatives in households will change and how household composition will evolve over time. Although the statistical and global scope of this study prevents a detailed examination of the underlying determinants of changes in household structure during periods of socioeconomic transformation, we can identify convergence or divergence among selected household indicators.

Data

The data used in this study is taken from the CORESIDENCE database (Galeano et al., *unpublished manuscript*), which provides household-level indicators at the national and subnational levels for 156 countries, comprising 793 data points over time. The CORESIDENCE database combines data from various sources, including population censuses obtained via the Integrated Public Use of Microdata Series - international (IPUMS-i) (Minnesota Population Center, 2020), Demographic Health Surveys (DHS), Multiple Indicator Cluster Surveys (MICS), European Labor Force Surveys (EU-LFS), and other miscellaneous sources.

The available indicators are grouped into four main categories: size, age composition, kinship structure, and household headship. Each category includes multiple indicators. In this study we focus on the average household size, the proportion of single-person households, the proportion of households with 5 people or more, the proportion of households with children aged 0 to 4, the

proportion of household with people aged 65 or more, the average number of children (offspring) of the reference person, and the average number of other relatives present in the household, irrespective of age. The data available for each country often comes from different sources. While there is a high level of consistency among the sources within the same country, we treat each source independently for graphical representations. Therefore, when plotting trends over time, lines will only connect data points taken from the same source. All the data used in this study are openly available in the CORESIDENCE database (https://zenodo.org/record/8142652). All analyses and graphical representations in this study are based on the 156 countries and 793 samples described here, with the sole exception of the map in Figure 1, which shows the average household size of 19 countries and territories for which there is no data after year 2000 in the CORESIDENCE database. Data for these cases come from the United Nations Database on Household Size and Composition 2022. These are Norway, Japan, Greenland, Iceland, New Zealand, Taiwan, Israel, French Guiana, Sri Lanka, Lebanon, United Arab Emirates, Equatorial Guinea, Central African Republic, Svalbard, Saudi Arabia, Libya, Kuwait, Djibouti, Eritrea, Iraq, and Oman.

Results

Changes in size

Figure 1 displays a global map illustrating average household size per country, based on the most recent data available since the year 2000. The 163 countries for which data is available are divided into 10 deciles of the distribution of household size. These categories are arranged from the smallest decile (depicted in the blue shade) to the largest decile of household sizes (represented by the red shade) worldwide. The legend incorporates an embedded histogram, providing a visual representation of the proportion of the world's population represented by each category. The average household size ranges from 1.83 individuals per household in Denmark 2021 to 8.42 individuals per household in Senegal 2019. The countries with the smallest households in the world (under 2.3) are located in Western and Northern Europe as well as

Japan. Together, these countries account for slightly over 5 percent of the global population. Denmark and Finland, with average household sizes below 2 individuals, have the smallest average household size worldwide.

Figure 1. Average household size by country, most recent year available since 2000 (see online Appendix for specific years). Histogram legend shows the percentage of the world's population in each category. Each category includes approximately 10% of the 163 countries represented in the map. Sources: CORESIDENCE database and UN Household database.

At the opposite extreme, 37 countries spread across Africa, Asia, and Oceania have average household sizes above 5 individuals. These countries collectively represent over 11 percent of the world's population. The regions with the largest households include Western Africa, Middle Central Africa, Eastern Africa, Western Asia, Southern and Central Asia, and Melanesia. The range of household size in these regions is quite broad, spanning from 5 persons per household in Tanzania to 8.42 persons per household in Senegal. Of the top 10 countries with the largest household sizes in the world, 5 are in Africa (Senegal, Gambia, Guinea, Guinea-Bissau, and Mauritania) and 5 in Asia (Afghanistan, Oman, Pakistan, Yemen, and Iraq).

80% of the countries in the world have households with a size ranging from 2.3 to 5 persons per household. These countries represent 83 percent of the world's population. At the lower end of this range (2.3 to 2.6), we find the majority of European countries along with Canada and Australia. In the next tier (2.6 to 3.13), we have countries such as China, the United States, and countries from the southern part of Latin America (Argentina, Chile, and Uruguay). These countries represent 25 percent of the world's population. With values between 3.13 and 4.63 persons per household, we find a mix of countries spread across all continents. Finally, between 4.63 and 5 persons per household, we find India, the world's most populous country, along with countries in Southeastern Asia (e.g., Laos), Northern Africa (e.g., Algeria), and two countries in Central America (e.g., Nicaragua).

Figure 2. Trends in average household size. Source: CORESIDENCE database

Figure 2 shows time trends of average household size for 156 countries around the world. Labels have been used to denote those countries with longer data series and those exhibiting values deviating significantly from the central trends. Specific data points represent different observations, totaling 792 entries derived from surveys and censuses. Trend lines connect observations from the same country, as well as from the same source. Household size shows a generalized decline over time in most countries. In absolute terms, this decline is most pronounced in countries with the largest households. In most countries, household size diminishes monotonically over time. African countries exhibit the greatest disparities in this regard. The diversity of data sources used for African countries in this study may explain a part of this pattern. When census data alone are available, as in the case of Latin America, trends over time are more consistent. As countries approach an average of two individuals per household, the rate of decline slows.

Figure 3 provides a summary of the observed trends. It shows the variation over time in the average household size by country, considering the time elapsed between the most recent observation since the year 2000 and the earliest available observation, always comparing observations from the same source. Countries are identified by their labels. We have added trend lines for major regions to facilitate the analysis. The color indicates the continent of origin. Out of the 128 represented countries, the average household size has decreased in 113 of them. Generally, the longer the observation period, the greater the decline.

In the Americas, we observe an average decrease of approximately one person per household every two decades. As an exception, Haiti maintains a relatively stable average household size around 4.7, while the United States experienced a decline of around half a person over four decades between 1960 to 2015. Across Europe, a widespread decline in household size is evident, occurring at an average rate of one person per household every five decades. Ireland stands out as an exception, exhibiting relative stability around 2.8 persons per household over a period of 45 years.

In Asia and Oceania, household size decline is widespread, with exceptions visible in Pakistan, Papua Guinea, Yemen, and Australia. Notably, South Korean households have experienced a substantial decline of 2.7 persons per household over four decades. Thailand's households have experienced a similar decrease (2.9) over five decades. Africa exhibits the greatest heterogeneity, with several countries experiencing virtually no change in average household size. Countries such as Ethiopia, Guinea, Benin, and Cameroon have maintained a consistent household size for about three decades. Conversely, Botswana has seen a decrease of 3.3 persons per household over three decades. Kenya's average household size has declined by 1.1 persons over 40 years.

Figure 3. Variation in average household size by country and time elapsed between the most recent observation since the year 2000 and the earliest observation, always within the same data source. Countries weighted by total population. Color indicates the world region. Source: CORESIDENCE database.

The decline in the average household size implies a redistribution of the households by size. In general terms, a decrease in household size should lead to a decline in the importance of the largest households, together with an increase in the importance of smaller households. Figure 4 serves to illustrate this point. It represents the ratio between single-person households and households with 5 or more people. This ratio equals 1 when the number of single-person households is equal to the number of households with 5 or more people. In recent decades, in the majority of European countries and in the United States, South Korea, and Australia, single-person households outnumber households with 5 or more people by a factor of 3 or more. At the extremes, we find countries like Italy, Germany, Denmark, Czech Republic, Greece, and Netherlands, where the ratio between the two is greater than 7. On the contrary, in most African, Latin American, and Asian countries, households with 5 or more people continue to be more numerous than single-person households though this ratio is changing gradually in favor of single-person households.

A simple correlation analysis suggests that the ratio between small and large households is only weakly associated with household size (-0.65). The proportion of single-person households exhibits significant variability, even between countries with similar household sizes (e.g., Portugal and Slovenia in 2021 had similar average household size (2.48) but very different proportions of single-person households (21% in Portugal, 16% in Slovenia)). Single-person households are extremely rare in Africa and most Asian countries, quite widespread in Europe, and are growing rapidly across Latin America. This points to a considerable heterogeneity in household structures and underscores the need to analyze household composition to understand how and under what conditions the general decline in household size is occurring.

Figure 4. Country level trends of the ratio between single-personal and large households (5+). Source: CORESIDENCE database.

Changes in household composition

Figure 5 illustrates the ratio between households with children aged 0 to 4 and households with individuals aged 65 or older. This figure aims to demonstrate the decline in the presence of children within households and, at the same time, the increase in the number of older individuals. In most African countries, households with children 0-4 outnumber those with older individuals aged 65 or more. With few exceptions (e.g., Botswana, Morocco), this ratio has not substantially changed in most of Africa. In the rest of the world, the situation is quite different. Across the Americas, the ratio of households with 0-4 years old to households with older individuals is decreasing. In countries like the United States and Uruguay, households comprising older adults exceed those with children. A similar trend is observed across Asia and Oceania. In the majority of European countries households with older adults outnumber those with children aged 0 to 4 by a wide margin.

Figure 5. Country level trends of the ratio between households with children 0-4 years old and households with 65 years old or older. Source: CORESIDENCE database.

Figure 6 provides an alternative perspective on this trend. This figure illustrates trends in the average number of children of the person of reference (all ages) per household (upper panel) and the average number of other non-primary kin (all ages) per household (bottom panel). Both groups are a large part of the total number of coresident kin and constitute important components in changing household size. This figure shows convincingly that the average number of children of the reference person in the household is declining in all countries worldwide, including Africa. The variations in levels are significant and reflect dynamic fertility conditions, mortality rates, and children's patterns of transitions to adulthood. In most European countries, the average number of children per household is less than 1. In Africa, the average number of individuals who are reported as children of the reference person is at least two.

The bottom panel provides information on the time trends of the average number of other relatives in the household. Generally, other kin are less frequent in households than children. There are, however, large variations across countries both within and across continental regions. The countries with the highest number of other relatives are found in Africa and Asia. Most African and Asian countries have values above 0.5 regarding other relatives per household. In Europe, the United States, Australia, and South Korea, the number of other relatives is comparatively lower than in the rest of the world. There are no significant declines in the numbers of other relatives in the household over time. Thus, as households are shrinking in size, the stability over time in the number of other relatives in the household implies a relative increase in their weight within households.

Figure 6. Country level time trends of the average number of children (top panel) and other relatives (bottom panel) within the household. Source: CORESIDENCE database.

Figure 7 summarizes the data displayed in Figure 6 and contributes additional information. We use box plots to summarize the variability in household size using the most recent data since

2000 (right panel) and to illustrate the variability of change in household size between the earliest and latest observation, adjusted to a decade of change (left panel). In both cases, we examine the variability in space and time, considering all household members (A). Furthermore, we explore the variability in size by considering different sets of household members. Each time, we subtract one type of member from the household to analyze the impact on the overall variation. We start with all members (A), and then systematically subtract members in an incremental manner: first non-family members (B), then other relatives (C), followed by children (D), and finally spouses/partners (E). This exercise provides insights into the contribution of each type of member to the observed variability.

At a global scale, 75 percent of countries exhibit household sizes ranging between 2.9 (first quartile) and 4.8 (third quartile) individuals per household, with a median of 3.9 and inter quartile range (IQR) of 1.9. If we subtract the individuals who are not related to the reference person in the household (B scenario), the median value will decrease to 3.8 (a decrease of less than 3 percent) and the IQR would hardly vary. If we eliminate the other relatives in the household (C), the median value falls to 3.2, and the resulting IQR is reduced to 1.5, a 21% decrease compared to the original IQR. By far, the most significant impact on reducing the median and the variation of the interquartile range (IQR) is observed when children are excluded from the household (D). In this scenario, the median value decreases to 1.6, and the IQR shrinks to 0.2, which corresponds to 87% reduction from the previous IQR. In summary, children and other relatives account for more than 90% of the variation between countries in the average household size, though the importance of children is much greater. The presence of spouses/partners of the reference person has little effect on variation between countries (E). In all households, regardless of the country, there is only one reference person.

Figure 7. Cross-national variations in average household size (right panel) and decadal change in average household size (left panel) considering different types of members. Global and regional variations using most recent data since 2000. Source: CORESIDENCE database.

The right panel replicates the same structure of the left panel, but it summarizes cross-national variations in change over time in terms of the average household size. This graph addresses the question which type of member has contributed the most to the decline in household size in recent decades. Change over time has been standardized to account for a decade of change. This approach involves dividing the observed change between the earliest and most recent observations by the number of years between the two observations and multiplying it by 10. By applying this method, we ensure that the observed changes in household size across different decades are comparable, reducing the likelihood of biases due to varying observation periods. In most countries, the size of households has decreased. In 75% of cases, the rate of decline falls between 0.16 (Q3) and 0.53 (Q1). The median value stands at 0.34 individuals less per household in a decade of change and the IQR at 0.37 when all members are considered (A). If we remove individuals who are not related to the reference person within the household (scenario B), decline in household size would have been virtually the same. When we exclude other relatives from the household (scenario C), the median value of change declines to 0.28, and the resulting IQR is reduced to 0.29. Children make the most significant contribution to the decrease in household size (D). In this case, the median value drops to -0.04, and the IQR shrinks to 0.04, representing a 90 percent reduction from the original IQR. Spouses/partners make the least significant contribution to the decrease in household size (E).

Conclusions

Households play a crucial role in people's lives. The structure of households and the way it changes over time is the focal point of broad transformations in society, including demographic dynamics, changes in values, and economic changes that have implications in areas such as poverty, the division of labor, or gender dynamics. Despite this, there are no studies that document the global transformation of households in two of their most basic dimensions: size and composition. This study has filled this gap by analyzing household level data from 792 censuses and surveys conducted in 156 countries. While we have not delved into the underlying

factors driving household formation, our study analyzes the diversity of household configurations and examines change over time. The idea of convergence has historically been of great relevance for family demographers and sociologists, yet to date it has remained unanswered due to data limitations (Furstenberg, 2019; Pesando & GFC team, 2019). Our analysis yields clear findings on the basic components of household change around the world over the past few decades.

Firstly, the world population is clustered in increasingly smaller households and large households are disappearing. On average across countries, households have declined by about 0.5 persons per decade. The reduction in household size is more significant in countries that initially had larger household sizes, contributing to a gradual convergence on a global scale. The decrease in household size is primarily related to the decline in the number of children in the household. Children account for more than two thirds of the decline observed in recent decades. By contrast, the number of other relatives in the household has remained relatively stable or has declined only moderately. As households become smaller, their age structure also undergoes changes. Across the world, we observe an increase in households with elderly individuals and a decrease in households with young children. Households are shrinking in size, but their composition might not be converging globally to the same extent as their size.

Secondly, despite common trends, there is great diversity of sizes and types of households across countries. Two countries in this study, Denmark, and Finland, have an average household size below 2, while two others, Senegal, and Gambia, have average values above 8. All other countries lie between these extremes. When observed on a map, the regional patterns formed by countries based on their average household size provide insight into the geographical distribution of family systems. European countries stand out distinctly from the rest of the world due to their notable characteristics such as smaller household sizes, a higher prevalence of single-person households, and of households with older adults. These features are consistent with a lower presence of children and of other relatives in European households compared to the

rest of the world. Despite the differences that may exist within most of the developed world, households are distinct in size and structure compared to those in the rest of the world.

The roots of the uniqueness of these family patterns are still debated among academics. Some authors attribute them to advanced stages of economic and demographic processes, while others attribute them to cultural legacies (Lesthaeghe, 2020; Reher, 1998; Therborn, 2004, 2006). Countries in Africa, Latin America, and Asia exhibit greater internal diversity while also showing systematic differences with respect to Europe and other developed countries. Generally, households in these regions tend to be larger, with a higher proportion of children and other relatives. Yet on-going declines in household size are considerably faster here than in the more developed world. At least on the surface, our results point to a possible global convergence in household size that to date seems far from complete. It is important, however, to point out that this study did not focus on underlying drivers of convergence such as kinship structures and specific relationship types among household members. Future research will be needed to address these aspects on a global scale as well.

Based on the results observed here, both in terms of spatial and temporal variations, we can draw some considerations for the future. If fertility rates and the number of births continue to decline, household size will be reduced even further. Over the medium and long term, the decline in fertility will also impact the availability of living relatives (such as siblings, cousins, brothers-in-law, and uncles) within households (Furstenberg et al., 2015; Murphy, 2011). With fewer children and kin, the ability to maintain complex and large households based on traditional models will be significantly reduced. Conversely, increased life expectancy will lead to a longer overlap of generations between parents and their children, potentially favoring intergenerational co-residence (Esteve & Reher, 2021). A comprehensive study of coresidence patterns offers a major challenge for researchers in this field.

Bibliography

Agarwal, B. (1997). «“Bargaining”» and Gender Relations: Within and Beyond the Household. *Feminist Economics*, *3*(1), 1-51. https://doi.org/10.1080/135457097338799

Asis, M. M. B., Domingo, L., Knodel, J., & Mehta, K. (1995). Living arrangements in four Asian countries: A comparative perspective. *Journal of Cross-Cultural Gerontology*, *10*(1-2), 145-162. https://doi.org/10.1007/BF00972034

Bales, R. F., & Parsons, T. (2014). *Family: Socialization and Interaction Process* (0 ed.). Routledge. https://doi.org/10.4324/9781315824307

Becker, G. S. (1998). *A treatise on the family* (Enl. ed., 1. paperback ed., 4. print). Harvard Univ. Press.

Bloom, D. E., Canning, D., & Sevilla, J. (2003). *The demographic dividend: A new perspective on the economic consequences of population change*. Rand.

Bongaarts, J. (2001). Household size and composition in the developing world in the 1990s. *Population Studies*, *55*(3), 263-279. https://doi.org/10.1080/00324720127697

Bongaarts, J., & Zimmer, Z. (2002). Living Arrangements of Older Adults in the Developing World: An Analysis of Demographic and Health Survey Household Surveys. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, *57*(3), S145-S157. https://doi.org/10.1093/geronb/57.3.S145

Browning, M., Bourguignon, F., Chiappori, P.-A., & Lechene, V. (1994). Income and Outcomes: A Structural Model of Intrahousehold Allocation. *Journal of Political Economy*, *102*(6), 1067-1096. https://doi.org/10.1086/261964

Browning, M., Chiappori, P.-A., & Weiss, Y. (2014). *Economics of the Family* (1.ª ed.). Cambridge University Press. https://doi.org/10.1017/CBO9781139015882

Burch, T. K. (1967). The Size and Structure of Families: A Comparative Analysis of Census Data. *American Sociological Review*, *32*(3), 347. https://doi.org/10.2307/2091083

Buzar, S., Ogden, P. E., & Hall, R. (2005). Households matter: The quiet demography of urban transformation. *Progress in Human Geography*, *29*(4), 413-436. https://doi.org/10.1191/0309132505ph558oa

Cherlin, A. J. (2012). Goode's «World Revolution and Family Patterns»: A Reconsideration at Fifty Years. *Population and Development Review*, *38*(4), 577-607.

Clark, W. A. V., & Dieleman, F. M. (2017). *Households and Housing* (1.ª ed.). Routledge. https://doi.org/10.4324/9780203789773

Deaton, A. (1997). *The analysis of household surveys: A microeconometric approach to development policy*. The World Bank. https://doi.org/10.1596/0-8018-5254-4

Dommaraju, P., & Tan, J. (2014). Households in Contemporary Southeast Asia. *Journal of Comparative Family Studies*, *45*(4), 559-580. https://doi.org/10.3138/jcfs.45.4.559

England, P., & Farkas, G. (2017). *Households, Employment, and Gender: A Social, Economic, and Demographic View* (1.ª ed.). Routledge. https://doi.org/10.4324/9780203789766

Espenshade, T. J., Kamenske, G., & Turchi, B. A. (1983). Family Size and Economic Welfare. *Family Planning Perspectives*, *15*(6), 289. https://doi.org/10.2307/2135299

Esping-Andersen, G. (2016). *Families in the 21st Century*. SNS Förlag.

Esteve, A., Lesthaeghe, R., & López-Gay, A. (2012). The Latin American Cohabitation Boom, 1970-2007. *Population and Development Review*, *38*(1), 55-81. https://doi.org/10.1111/j.1728-4457.2012.00472.x

Esteve, A., & Reher, D. S. (2021). Rising Global Levels of Intergenerational Coresidence Among Young Adults. *Population and Development Review*, *47*(3), 691-717. https://doi.org/10.1111/padr.12427

Forste, R., & Fox, K. (2012). Household Labor, Gender Roles, and Family Satisfaction: A Cross-National Comparison. *Journal of Comparative Family Studies*, *43*(5), 613-631. https://doi.org/10.3138/jcfs.43.5.613

Furstenberg, F. F. (2019). Family Change in Global Perspective: How and Why Family Systems Change. *Family Relations*, *68*(3), 326-341. https://doi.org/10.1111/fare.12361

Furstenberg, F. F., Hartnett, C. S., Kohli, M., & Zissimopoulos, J. M. (2015). The Future of Intergenerational Relations in Aging Societies. *Daedalus*, *144*(2), 31-40. https://doi.org/10.1162/DAED_a_00328

Galeano, J. Esteve, A., Turu, A., García-Roman, J., Becca, F., Fang, H., Pohl, M.L.C., Trias-Prats, R. (Unpublished manuscript). The CORESIDENCE Database: National and Subnational Data on Household Size and 2 Composition Around the World, 1964-2021.

Glick, P. C. (1976). *American families*. Russell & Russell.

Goode, W. J. (1963). *World Revolution and Family Patterns*. The Free Press.

Goody, J. (1999). *Production and reproduction: A comparative study of the domestic domain* (Transferred to digital reprinting). Univ. Pr.

Hammer, B., & Prskawetz, A. (2022). Measuring private transfers between generations and gender: An application of national transfer accounts for Austria 2015. *Empirica*, *49*(3), 573-599. https://doi.org/10.1007/s10663-022-09542-z

Lanjouw, P., & Ravallion, M. (1995). Poverty and Household Size. *The Economic Journal*, *105*(433), 1415. https://doi.org/10.2307/2235108

Laslett, P. (1970). The comparative history of household and family. *Journal of Social History*, *4*(1), 75-87.

Laslett, P., & Wall, R. (1972). *Household and Family in Past Times* (1.ª ed.). Cambridge University Press. https://doi.org/10.1017/CBO9780511561207

Le Play, F. (1871). *L'Organisation de la famille* (10 septembre 2010). Kessinger Publishing.

Lee, R. D., & Mason, A. (2011). *Population aging and the generational economy: A global perspective*. Edward Elgar.

Lesthaeghe, R. (1989). *Reproduction and Social Organization in Sub-Saharan Africa*. University of California Press.

Lesthaeghe, R. (2010). The Unfolding Story of the Second Demographic Transition. *Population and Development Review*, *36*(2), 211-251. https://doi.org/10.1111/j.1728-4457.2010.00328.x

Lesthaeghe, R. (2020). The second demographic transition, 1986–2020: Sub-replacement fertility and rising cohabitation—a global update. *Genus*, *76*(1), 10. https://doi.org/10.1186/s41118-020-00077-4

Malmberg, B. (2012). Fertility Cycles, Age Structure and Housing Demand. *Scottish Journal of Political Economy*, *59*(5), 467-482. https://doi.org/10.1111/j.1467-9485.2012.00590.x

Mason, A. (1988). Saving, Economic Growth, and Demographic Change. *Population and Development Review*, *14*(1), 113. https://doi.org/10.2307/1972502

McGarry, K., & Schoeni, R. F. (2000). Social security, economic growth, and the rise in elderly widows' independence in the twentieth century. *Demography*, *37*(2), 221-236. https://doi.org/10.2307/2648124

Minnesota Population Center. (2020). Integrated Public Use Microdata Series, International: Version 7.3 [dataset]. Minneapolis, MN: IPUMS. https://doi.org/10.18128/D020.V7.3

Mulder, C. H. (2006). Population and housing: A two-sided relationship. *Demographic Research*, *15*, 401-412. https://doi.org/10.4054/DemRes.2006.15.13

Murdock, G. P. (1967). Ethnographic Atlas: A Summary. *Ethnology*, *6*(2), 109. https://doi.org/10.2307/3772751

Murphy, M. (2011). Long-Term Effects of the Demographic Transition on Family and Kinship Networks in Britain. *Population and Development Review*, *37*(s1), 55-80.

Myers, D. (Ed.). (1990). *Housing demography: Linking demographic structure and housing markets*. University of Wisconsin Press.

Parsons, T. (1949). The social structure of the family. En R. N. Anshen (Ed.), *The family: Its function and destiny* (pp. 173-201). Harper.

Pesando, L. M. (2019). Rethinking and Revising Goode's Contribution to Global Family Change. *Marriage & Family Review*, *55*(7), 619-630. https://doi.org/10.1080/01494929.2019.1589619

Pesando, L. M. & GFC team. (2019). Global Family Change: Persistent Diversity with Development. *Population and Development Review*, *45*(1), 133-168. https://doi.org/10.1111/padr.12209

Posel, D. R. (2001). Who are the heads of household, what do they do, and is the concept of headship useful? An analysis of headship in South Africa. *Development Southern Africa*, *18*(5), 651-670. https://doi.org/10.1080/03768350120097487

Reher, D. S. (1998). Family Ties in Western Europe: Persistent Contrasts. *Population and Development Review*, *24*(2), 203. https://doi.org/10.2307/2807972

Ruggles, S. (1987). *Prolonged connections: The rise of the extended family in nineteenth-century England and America*. The University of Wisconsin Press.

Ruggles, S. (1988). The demography of the unrelated individual: 1900-1950. *Demography*, *25*(4), 521-536.

Ruggles, S. (1994). The Transformation of American Family Structure. *The American Historical Review*, *99*(1), 103. https://doi.org/10.2307/2166164

Ruggles, S., & Brower, S. (2003). Measurement of Household and Family Composition in the United States, 1850-2000. *Population and Development Review*, *29*(1), 73-101. https://doi.org/10.1111/j.1728-4457.2003.00073.x

Salcedo, A., Schoellman, T., & Tertilt, M. (2012). Families as roommates: Changes in U.S. household size from 1850 to 2000: Families as roommates. *Quantitative Economics*, *3*(1), 133-175. https://doi.org/10.3982/QE76

Therborn, G. (2004). *Between sex and power: Family in the world, 1900 - 2000* (Reprinted). Routledge.

Therborn, G. (2006). Families in Today's World—And Tomorrow's. *International Journal of Health Services*, *36*(3), 593-603. https://doi.org/10.2190/64UN-12LK-43HP-JXY3

Thomson, E. (2014). Family Complexity in Europe. *The ANNALS of the American Academy of Political and Social Science*, *654*(1), 245-258. https://doi.org/10.1177/0002716214531384

van de Walle, E. (2006). *African Households. Census and Surveys*. African Census Analysis Project.

Vargha, L., Gál, R. I., & Crosby-Nagy, M. O. (2017). Household production and consumption over the lifecycle: National Time Transfer Accounts in 14 European countries. *Demographic Research*, *36*, 905-944. https://doi.org/10.4054/DemRes.2017.36.32

Vos, S. D. (1990). Extended Family Living Among Older People in Six Latin American Countries. *Journal of Gerontology*, *45*(3), S87-S94. https://doi.org/10.1093/geronj/45.3.S87

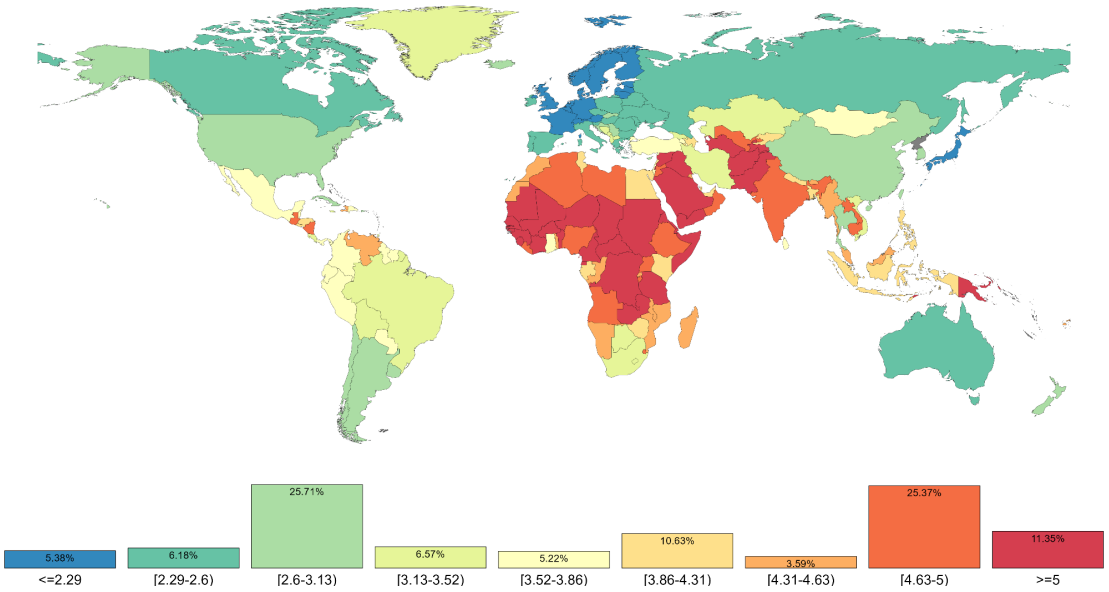

Figure 1. Average household size by country, most recent year available since 2023 (see online Appendix for specific years). Histogram legend shows the percentage of world's population in each category. Each category represents 10% of the 156 countries represented in the map. Sources: CORESIDENCE database and UN Household database.

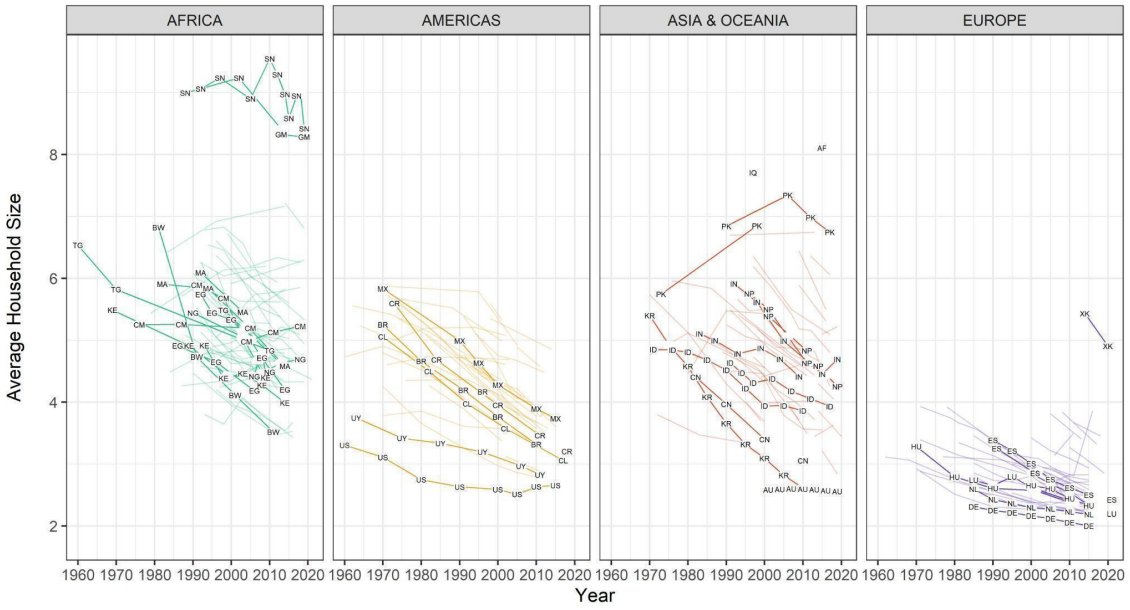

Figure 2. Trends in average household size. Source: CORESIDENCE database.

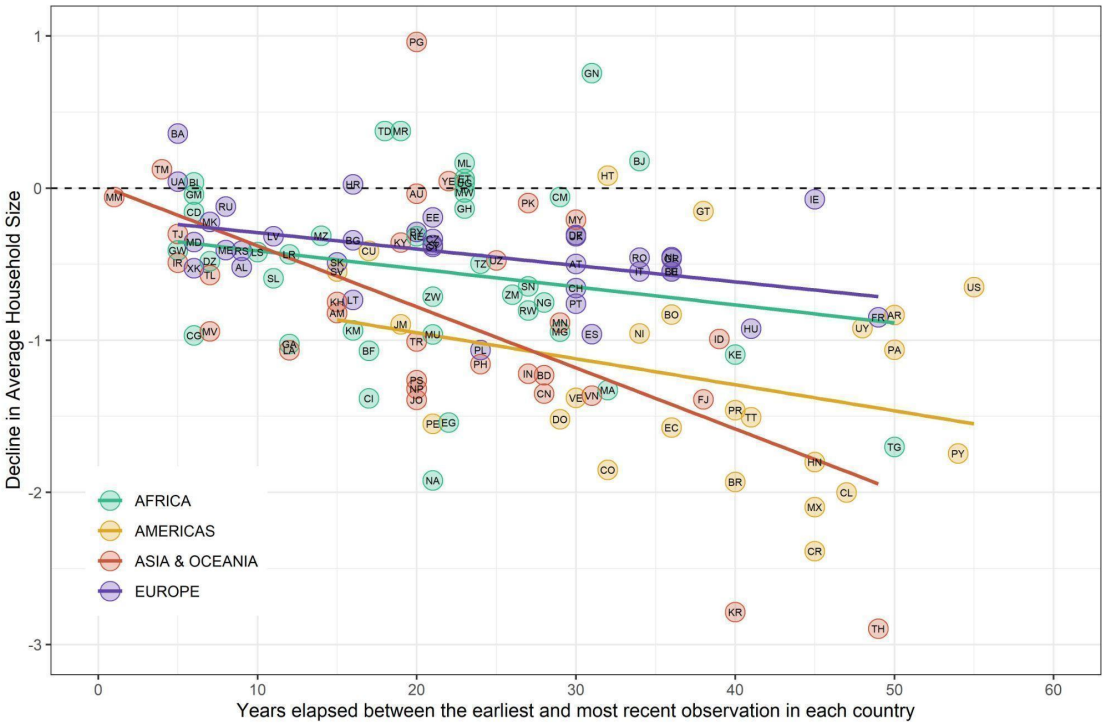

Figure 3. Variation in average household size by country and time elapsed between the most recent observation since the year 2000 and the earliest observation, always within the same data source. Countries weighted by total population. Color indicates continental region. Source: CORESIDENCE database.

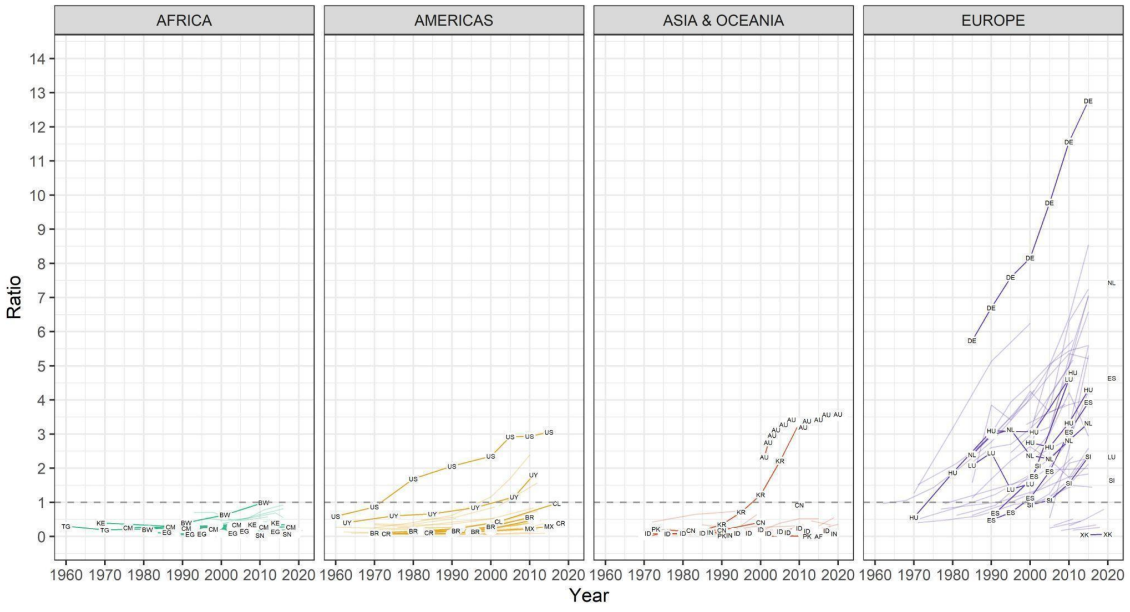

Figure 4. Country level trends of the ratio between unipersonal and large households (5+). Source: CORESIDENCE database.

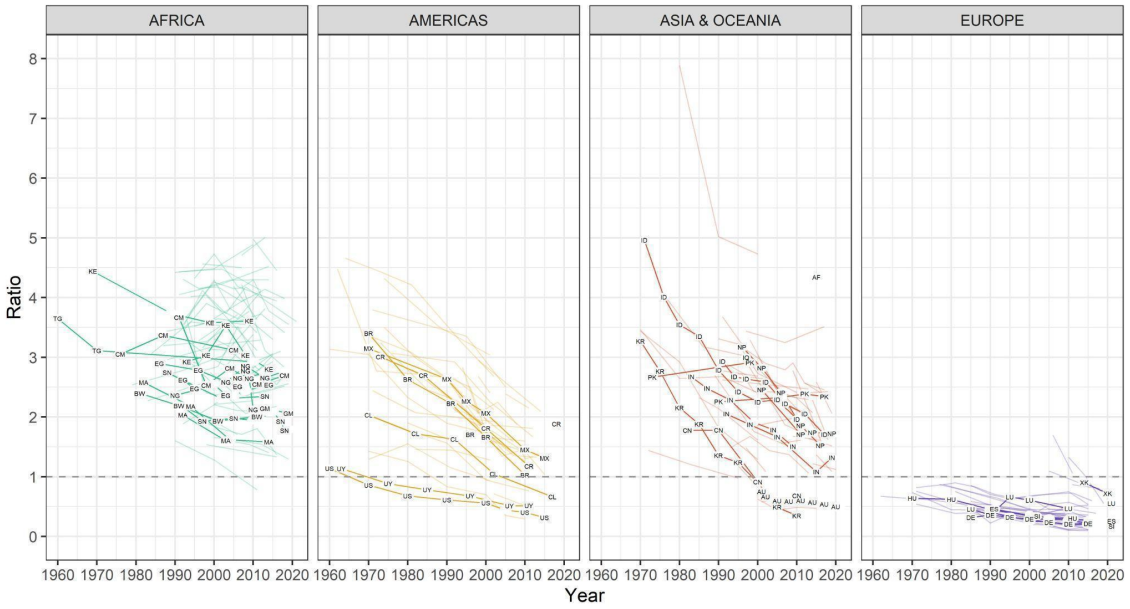

Figure 5. Country level trends of the ratio between households with 0-4 years old and households with 65 years old or older. Source: CORESIDENCE database.

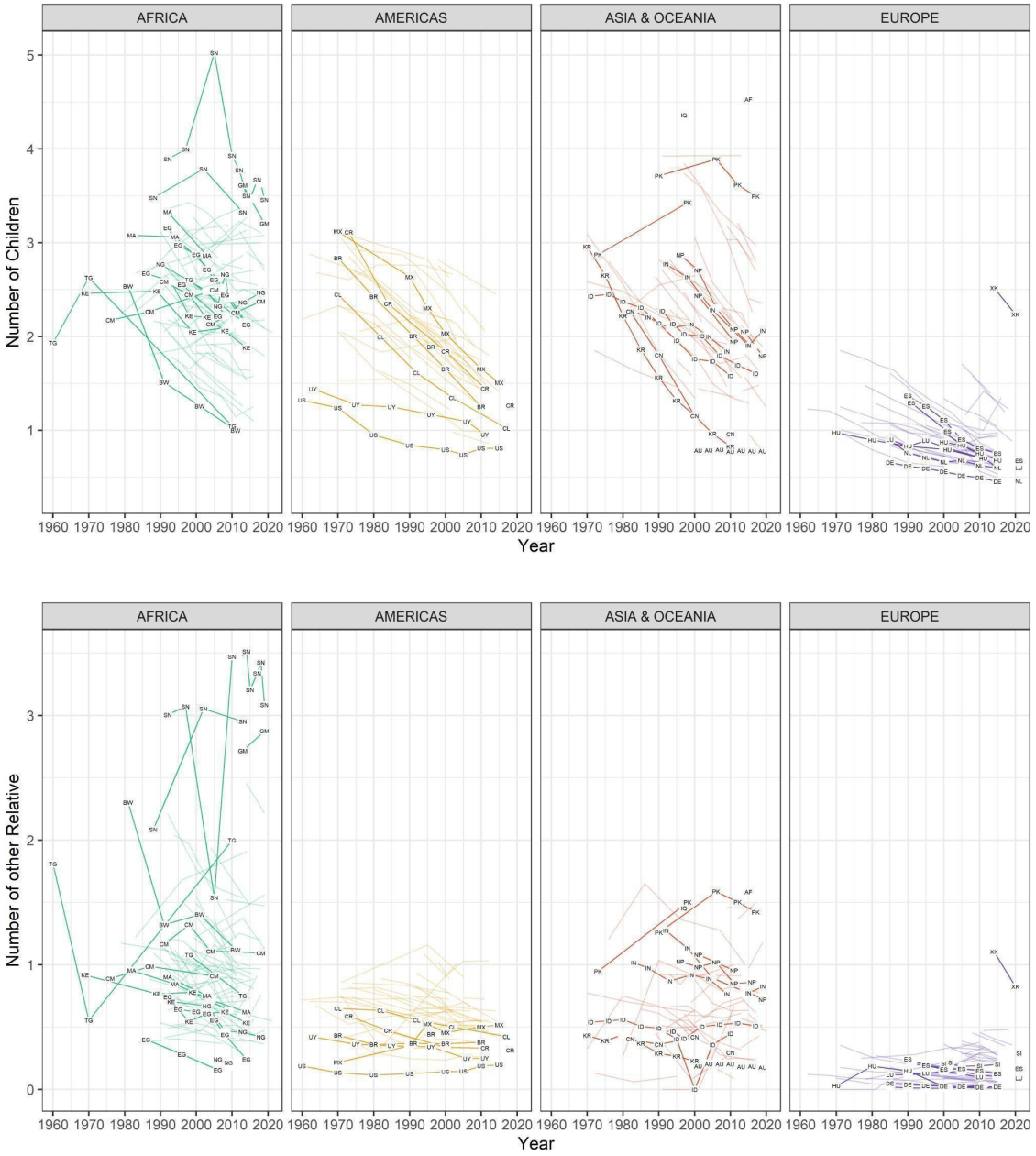

Figure 6. Country level time trends of the average number of children (top panel) and other relatives (bottom panel) within the household. Source: CORESIDENCE database.

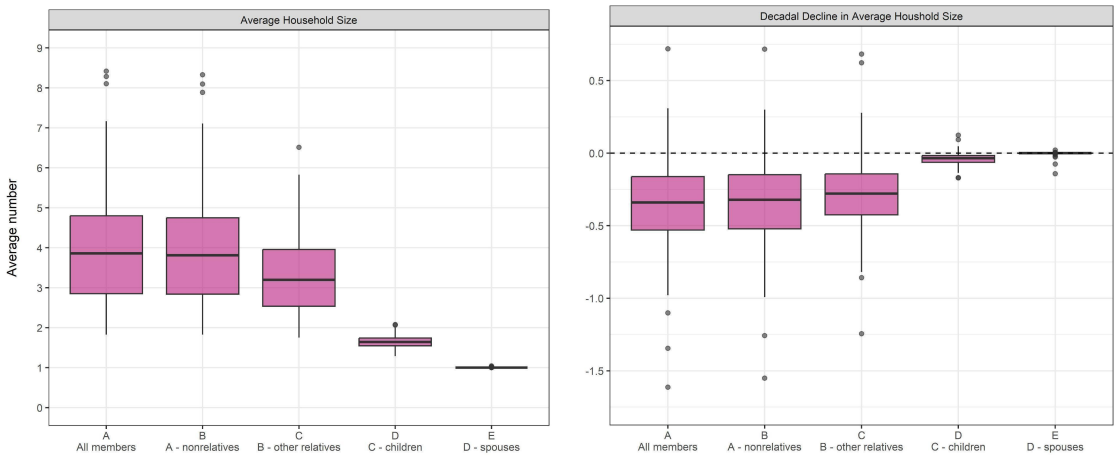

Figure 7. Cross-national variations in average household size (right panel) and decadal change in average household size (left panel) considering different types of members. Global and regional variations using most recent data since 2000. Source: CORESIDENCE database.