

Living arrangements by gender and society

Albert Esteve & Rita Trias-Prats

Centre d'Estudis Demogràfics & Universitat Autònoma de Barcelona

Short abstract. This paper examines gender differences in living arrangements across societies, drawing on 405 samples from censuses and surveys from 107 countries conducted between 1970 and 2020. We propose a classification of living arrangements and analyze gender differences by age. Additionally, we develop and test a macro-level framework to explore global variations in the gender gap. The results reveal that gender disparities in living arrangements begin to emerge globally in the late teens / early twenties, driven by differences in union formation and childbearing. This gap widens further at older ages due to the cumulative effects of union dissolution and widowhood. The magnitude of this age-related pattern varies significantly depending on whether family coresidence is nuclear or extended in nature. Trends over time indicate that the gender gap is continuing to widen. Macro-level factors, such as kin availability and coresidence norms, account for a substantial part of the global variation in this gap and the change over time. These findings offer insights into how gender gaps in living arrangements may evolve in the future.

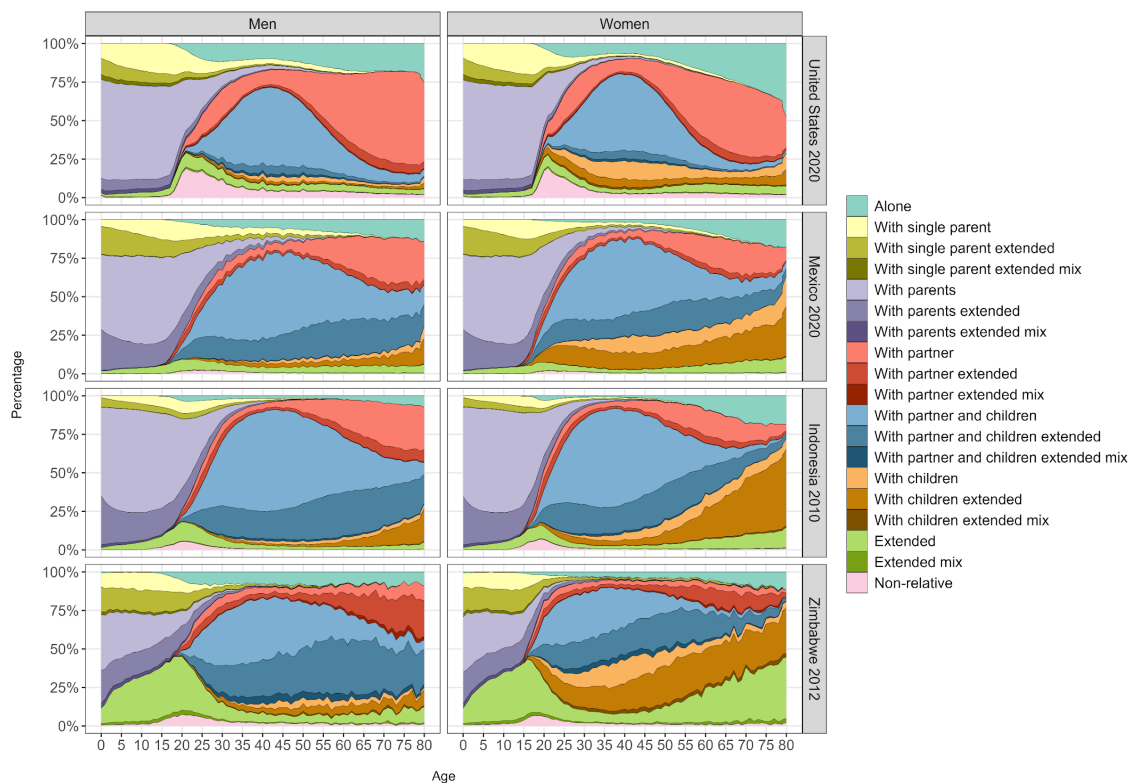
Paper overview. Living arrangements vary significantly by gender and across societies, yet we lack a systematic overview of these variations from a global perspective. While a substantial body of literature explores the various family processes underlying gender differences in living arrangements (e.g., union formation, widowhood, and re-partnering), we lack an analytical framework to understand their macro-level determinants. This paper fills these research gaps by offering the most comprehensive global view of living arrangements by sex and age, and by testing a macro-level framework to explain variations in the gender gap in living arrangements across societies and time. The analysis is structured in three stages. First, we propose a classification of living arrangements, a measurement of the gender gap and of the contribution of each living arrangement to the gap. Second, we develop a theoretical framework to investigate the proximate determinants that lead men and women to experience different living arrangements throughout their lives. Third, we empirically test the reliability of our framework at a global scale. To achieve these goals, we draw on nationally representative samples of census and survey data from 107 countries and 405 time points.

Motivation. Living arrangements refer to the various ways in which individuals or groups organize and manage their residential living situations. These can include living alone, with family, with flat mates, in communal living settings, or in institutional environments. They are influenced by multiple demographic, economic and cultural factors. Due to the influence of these factors and interactions, men and women experience different living arrangements throughout their lives. For instance, it is widely known that women tend to marry and have children earlier than men, take on childcare responsibilities following divorce, become widowed earlier in life, are less likely to re-partner after union dissolution, and are more likely to live alone in later life. Such differences affect the social and economic reproduction of societies and reinforce gender roles. Even when living arrangements appear symmetrical between men and women (e.g., heterosexual marriage), gender roles within this type of arrangements tend to be asymmetrical.

Despite the scientific and social relevance of gender differences in living arrangements, we are not aware of any work that has conducted a systematic study of these differences on a global scale. First, living arrangements are rarely treated as primary variables of study. Family research tends to focus on specific types of arrangements (e.g., single mothers, elderly women living alone) or their determinants (e.g. divorce rates, union formation, or childbearing) (Hogendoorn & Härkönen, 2023; Kulu & Steele, 2013; Varley & Blasco, 2003). Reviewing the current

literature, some fundamental questions remain unanswered. Are gender differences in living arrangements universal? How do they vary by age? Which factors contribute to these differences? Second, cross-national studies on living arrangements are rarely conducted. Limited by the availability of data and scholarly interest, research often focus on individual countries (Dommaraju, 2015; Park & Choi, 2015; Stone et al., 2011; Wiemers et al., 2017). Comparative studies highlight the importance of structural factors specific to each country's context, rather than focusing solely on socio-economic disparities or gradients within a single population. By broadening the scope, the analytical perspective becomes more comprehensive. In this article, we will demonstrate that living arrangements vary considerably across societies, and while gender differences in living arrangements are universal, the ways in which they manifest are not. As we will further elaborate, the interaction between societal norms and living arrangements leads to a wide variety of outcomes that single-country studies or even regional analyses cannot fully capture.

Figure 1. Distribution of living arrangements by age and sex in selected countries

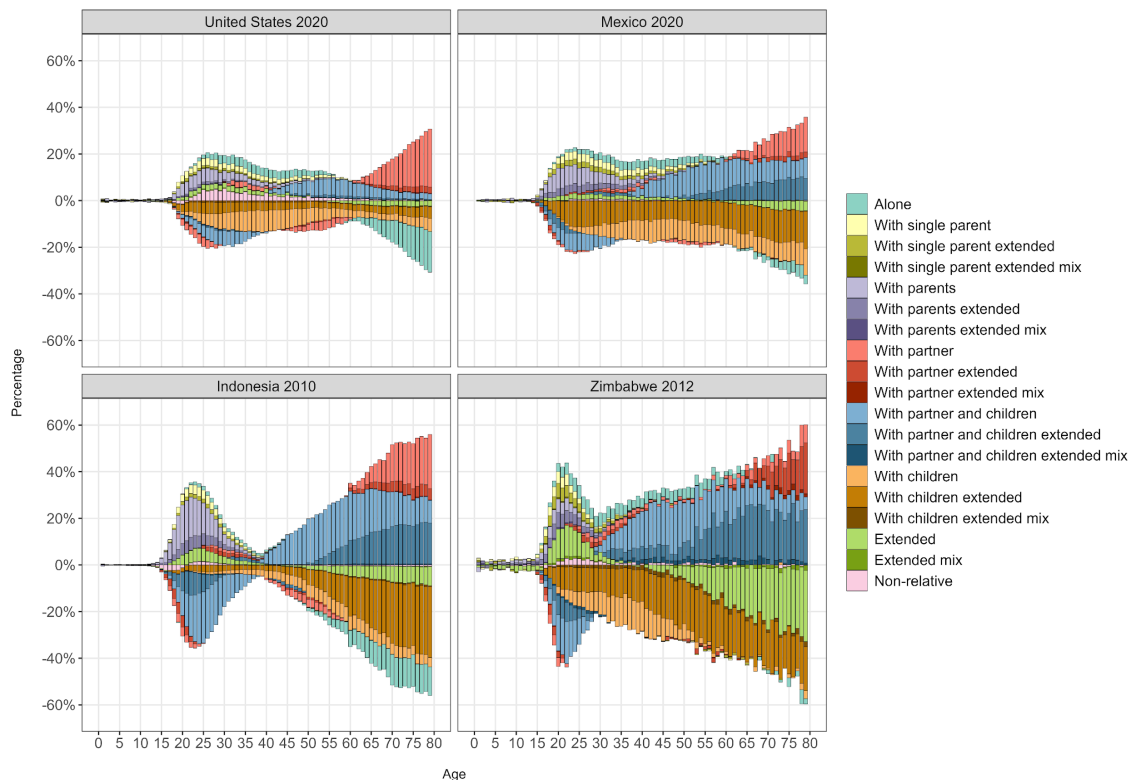


Source: CoLADB based on IPUMS-International and EUROSTAT's Labor Force Survey microdata.

Measuring the gender gap in living arrangements. To measure the gender gap in living arrangements, we use harmonized individual-level data from the *CORESIDENT Living Arrangements Database* (CoLADB), which draws on data from IPUMS-International and European Labor Force Surveys. CoLADB has been developed using an algorithm that reconstructs kinship relationships between household members, assigning a living arrangement value to each individual. This algorithm functions as a numerical encoding system, detecting kinship based on nine possible relationships to a reference individual, or "ego": father, mother, child, partner, sibling, grandparent, grandchild, other relative, or non-relative. These relationships are encoded using powers of two for calculation. The living arrangement index ranges from 0 (indicating that a person lives alone) to 511, representing all possible combinations of these relationships. This index is further categorized into 8 broad groups and 11 sub-categories (see legend in Figure 1) that answer the question "With whom does a given ego

live?". Although the definition of a household varies across data sources and countries and harmonization is limited, this inconsistency is less problematic for our purposes, as our primary focus is on gender differences rather than household structures. To measure the gender gap, we first calculate the distribution of living arrangements by sex at each age (see Figure 1 for selected countries). We then subtract the distribution for women from men (see result in Figure 2 for selected countries). Figure 2 is, by definition, symmetrical, showing positive values when a particular living arrangement is more common among men and negative when it is more common among women. The absolute height of the bar, in either direction, corresponds exactly to the dissimilarity index (see Figure 3). The dissimilarity index represents the percentage of men and women at a given age who would need to change their living arrangements to achieve gender equality.

Figure 2. Gender differences in living arrangements by age in selected countries



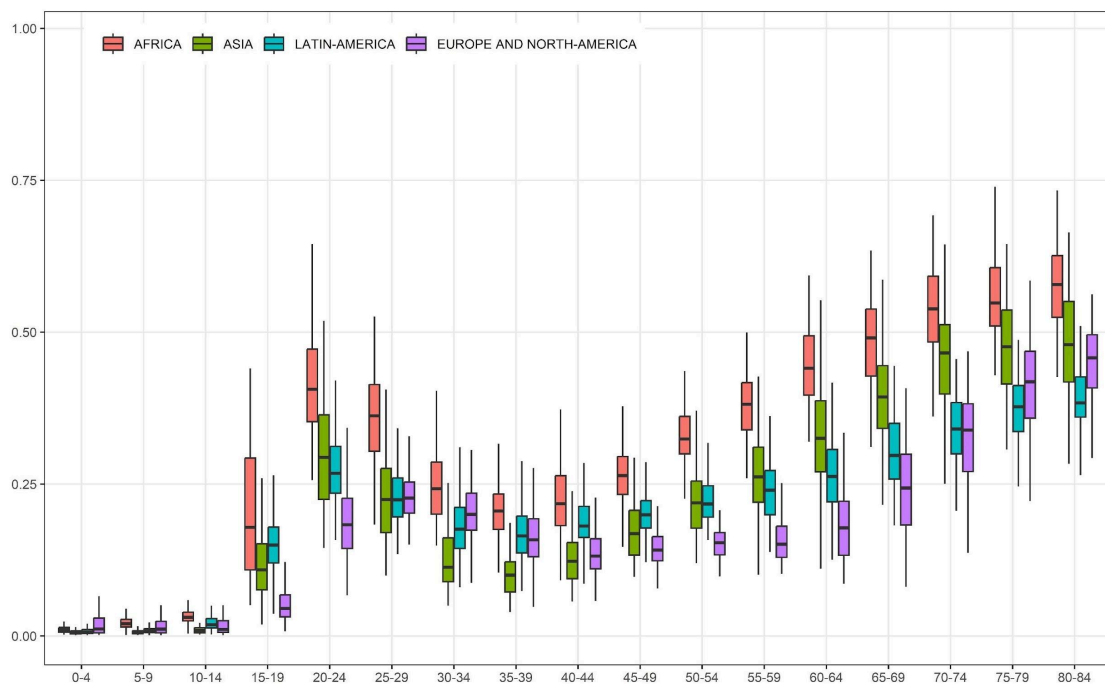
Source: CoLADB based on IPUMS-International and EUROSTAT's Labor Force Survey microdata.

Preliminary results. As an example of the type of analysis we will carry out, Figure 1 presents the distribution of living arrangements by age for men and women in four countries across different years. The selected countries include the United States, Mexico, Indonesia and Zimbabwe and represent the variety observed on a global scale. Broadly speaking, coresidence with parents is universal in the early stages of individuals' life course. The formation of partnerships and coresidence with children characterizes the middle stages. In later life, a wide variety of arrangements emerge, ranging from living alone, living with a partner, or living with children.

Figure 2 shows the age-related differences in living arrangements between men and women, as depicted in Figure 1. Clear differences in the four countries emerge in the late teens and early twenties, primarily due to age differences in entering unions and having children. These differences tend to stabilize, or even diminish (see the case of Indonesia), during the middle stages of life, but increase significantly in older age due to the unequal impact of post-separation

trajectories, whether through divorce or separation (e.g., single motherhood) or widowhood. The shape of these differences is strongly influenced by the nuclear or extended nature of coresidence arrangements. For instance, in countries with a tradition of nuclear families (e.g., the United States), gender differences in living arrangements manifest as a greater number of women living alone and more men living with a partner at the same age. Conversely, in countries like Indonesia or Zimbabwe, where extended households are more common, older adults tend to reside in extended family households, and the main difference lies in whether the partner is present or not.

Figure 3. Dissimilarity values between men and women in living arrangements by age in the samples selected for this study by continent



Source: CoLADB based on IPUMS-International and EUROSTAT's Labor Force Survey microdata.

For each age group, we can calculate a dissimilarity index. We have carried out this exercise for all the 405 samples that will be used in our analysis, and the results are displayed using boxplots in Figure 3. The samples are grouped by continent. African societies exhibit the highest levels of inequality at all ages, followed by Asian and Latin American countries. In Europe and North America, the differences between men and women are less pronounced. Regardless of the levels of inequality, the age-related pattern is consistent across all regions. Childhood years are relatively symmetrical for boys and girls, the differences widen during young adulthood, and they become more pronounced again in old age.

Next steps. Now that the differences have been well-established, the analysis will proceed in two directions. First, we will conduct a decomposition exercise to assess which types of living arrangements account for most of the differences at each age. While this is already evident in the exploratory analysis shown here, we aim to measure it with greater precision. The next step will be to build a model to understand the differences between countries. To this end, we will use linear regression, using the gap in living arrangements as the dependent variable. We will use two types of factors as independent variables: demographic factors related to union formation, fertility, and survival, and factors related to coresidence patterns to capture the nuclear or extended nature of family units. With these factors, we expect to explain a significant

portion of the variability in gender differences. To the extent that these models can account for the observed variability, we will be able to assess the implications that demographic and economic changes in contemporary societies may have on the future of gender differences in living arrangements.

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