Introduction

International migration is a political issue on the public agenda. However, some experts have pointed out that analyzing international migration separately from the demographic dynamics of each country, especially internal migration patterns, may limit public policies to regulate migration movements and their urban and regional impacts in both origin and destination countries (CAÑALES, 2015; SKELDON, 2018). In addition, the sharp decline in fertility rates observed in all Latin American countries over the last few decades shows that, as in developed countries, measuring internal and international migration flows is a strategic matter for the national urban network and urban planning, especially in large urban agglomerations.

Despite the increase in international migration flows, internal migration is the most important form of human mobility in the world (IOM, 2019). As such, most migrants move within the borders of their own country. Finding a meaningful and consistent definition for a global estimate of the number of internal migrants is challenging because each country has its own territorial organization (SKELDON, 2018). Not only can the territorial units used to define and measure migration be problematic, but the questions asked in demographic censuses to determine migration trajectory and length of stay at destination also have unique features and limitations in each country (UN; ECLAC; CELADE, 2013). In addition, there is a link between the different types of spatial mobility of the population, as well as the emergence of new types of mobility (GRUPO DE FOZ, 2021). Thus, due to the advance of urbanization in Latin American countries, other forms of short-term and short-distance mobility are emerging from essentially urban cultures and economies (SKELDON, 2018; CHÁVEZ GALINDO et al., 2022).

According to Zelinsky (1971), urban transition took place through a redistribution of population, which resulted in a population concentration in metropolitan areas in countries such as Brazil, Chile, Costa Rica, Ecuador, Mexico, Panama, and Uruguay (RODRÍGUEZ-VIGNOLI; ROWE 2018; CHÁVEZ GALINDO et al., 2022). Even though this process has slowed since the 1980s, urban areas’ demographic relevance to the population of these

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1 Senior Researcher, Laboratório de análises geográficas, demográficas e da população (LAGEDEP) of Universidade Federal do Espírito Santo (Brazil).
2 Main Researcher, Laboratório de análises geográficas, demográficas e da população (LAGEDEP) of Universidade Federal do Espírito Santo (Brazil).
3 In Latin American migration studies, the term "population spatial mobility" is used because it is a broader concept than "migration". Under this designation, it is possible to consider other types of movements that may not be treated as migration according to mainstream migration studies. Examples include pendular mobility and residential mobility at the intraurban level (CUNHA, 2022).
countries has been maintained in recent decades. In 2010, for example, one-third of Brazil’s population lived in the federal metropolitan regions (CUNHA, 2018). In Mexico, a significant part of the population also lived in metropolitan regions that same year, with the three largest metropolitan areas accounting for 25% of the total population (INEGI, 2014).

The decline of the rural-to-urban migration, as well as changes in average household size, composition, and family patterns tend to change the migration scenario (BERNARD, 2022; CUNHA, 2022). The consolidation of the urbanization process in the late 20th and early 21st centuries has determined a new phase of urban expansion in Latin American metropolitan regions, characterized by short-distance urban migration. Thus, intrametropolitan migration and residential mobility have grown significantly, contributing more to urban sprawl than other types of spatial mobility (CUNHA, 2022).

An essential point of migration is the change in the place of usual residence (UN, 1970). The question is, of course, how can residential mobility be understood and measured? The canonical definition of migration involves a shift from one administrative unit to another, resulting in a change of usual residence (UN, 1970). This definition allows the census and surveys to capture individual movements. Thus, intrametropolitan migration refers to movement within a region and includes migration flows between the administrative units of the metropolitan region, crossing the boundaries of these units. Censuses in Latin American and Caribbean countries generally can measure residential mobility that involves crossing state borders, in the case of international migration. However, census questions do not measure residential mobility within administrative units that form a metropolitan area, such as changing usual residence in the same neighborhood, or to another neighborhood in the same area (NU; CEPAL; CELADE, 2013).

A short-distance movement that has been growing in metropolitan areas is residential mobility (BERNARD, 2022; CUNHA, 2022). This type of movement is not limited to intrametropolitan migration. This raises the question of measuring residential mobility as a key demographic and urban variable for understanding contemporary processes of migration and urban expansion in metropolitan regions.

The new economics of labor migration proposes an alternative analytical approach to measuring migration (DE HAAS, 2010). By reflecting on the individual migration behavior in a social context, this approach considers that the family (or residential unit) is the most suitable analytical unit to understand migratory movements, since it integrates the structural, conjunctural, and agency elements of human mobility.

There is a new social context, marked by changes in the timing of family events identified by changes in the formation of households and families (BILAC, 2003; WAJNMAN, 2012) and the postponement of marriage and motherhood (OLIVEIRA; VIEIRA; MARCONDES, 2015). Changes in family structures have an influence on residential mobility and metropolitan expansion. These changes have an impact on family migration (BERNARD, 2022).

Analyzing migration as a process strongly related to age implies considering the decisive role played by population's age structure in the dynamics of internal migration, which is already evident in the Global North (COOKE, 2011; CHAMPION; COOKE; 2011).

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4 According to the canonical definition of migration, the territorial scale that census normally uses to identify migratory movements is the administrative unit (generally the smallest), known as a county, city, municipality, canton, commune or district, depending on the country (UN, 1970).
SHUTTLEWORTH, 2018). Rogers and Castro's (1981) migration modeling relies on the existence of age-specific propensities to migrate. This is a concept corroborated by international comparative analyzes by Bernard, Bell, and Charles-Edwards (2014) which show how the age pattern of migration is linked to individuals’ life course and families’ life cycle. According to individuals’ life course approach, there are key life events associated with family dynamics, known as life course transitions. Bernard (2022) suggests that the study of internal migration can be conducted through the analysis of life course transitions.

Individual migration flows are well-known for their age selectivity, which can be seen in the migration age pattern. In general, young working-age adults are most likely to migrate between ages 18 and 40, with lower intensity before age 18 and after age 40, although migration flows may occur at all ages (GRUPO DE FOZ, 2021). According to Bernard, Bell, and Charles-Edwards (2014), there is a relationship between migration intensity at each age and life course transition of individuals. Thus, there are incidents that function as turning points in individuals’ life courses, causing discontinuities and fostering residential mobility. These events are generally associated with family dynamics and the labor market. Family-related life course transitions (i.e., marriage, first childbearing, children leave home, divorce, widowhood, among others) trigger short-distance migration movements. However, it is not possible to analyze the relationship between migration events and their motivations since the Demographic Census does not gather data about residential mobility motivations. Censuses also do not permit migration examination with the family as the unit of analysis (UN; ECLAC; CELADE, 2013).

In general, census records allow comparisons between the sociodemographic characteristics of individual migrants in their various modalities and non-migrants. Thus, they permit identifying patterns in migration flows through a period analysis from census cross-sectional data (GRUPO DE FOZ, 2021; BERNARD, 2022). This approach leads to hypotheses that enable analyzing the contribution of migration modalities to urban and regional processes. A more in-depth investigation of the trajectory of internal migration and its motives, on the other hand, requires the use of longitudinal data or retrospective studies on migration trajectories and motivations.

In the current context, the analytical challenge is significant. Simultaneously, there are transformations in the age structure of the population due to demographic transition, as well as changes in families and households. These changes are related to the conclusion of demographic and urban transitions and the current metropolitan context.

In terms of census data, retrospective instruments on migration often gather relevant period information (rather than cohort-based) through one or more of three questions: birthplace; place of residence at a fixed time in the past, generally one year or five years ago; and last place of usual previous residence before coming to present place, generally asked in association with another question on length of time since moving from that last place of usual previous residence (SKELDON, 2018). According to a report by the United Nations Economic Commission for Latin America and the Caribbean (NU; CEPAL; CELADE, 2013), population censuses in Latin American and Caribbean countries in 1991, 2000, and 2010 asked these questions, with some variations by country. Simultaneously, there is a need to investigate new analytical approaches for measuring ongoing changes in international and internal migration periodically through longitudinal migration studies. The increased availability of longitudinal data and retrospective research on individuals and families’ migration trajectories has enabled comparative international analyses in the European Union. In Latin America, Mexico recently conducted the Encuesta Demográfica Retrospectiva.
(EDER), an innovative longitudinal study that summarizes the life histories of individuals aged 20 to 54, covering aspects such as fertility, mortality, migration, marriage, and living conditions. These new studies contribute to the emergence of a debate in international literature (BERNARD, 2022; CUNHA, 2022), validating the efforts to update currently used internal migration methodologies.

Methodology for Analyzing Residential Mobility at the Metropolitan Scale

The MigraFamília Research, conducted in 2022 and 2023 by the Federal University of Espírito Santo (Brazil), developed a new quantitative and qualitative methodology for studying residential mobility at the metropolitan scale. The researchers developed a methodology not only based on demographic studies, but also on population geography studies. Residential mobility stands for permanent displacement for housing purposes that occurs in a known area for the individual or family, regardless of crossing an administrative division.

The research was carried out in areas of urban expansion within the Metropolitan Region of Grande Vitória (RMGV). Throughout the 2010s, the RMGV established itself as a national metropolis in terms of its region of influence in the Brazilian urban network. In 2022, the RMGV accounted for 49.1% of the population and 57.6% of the state of Espírito Santo's Gross Domestic Product (GDP) (LIRA, 2023). Thus, the RMGV is an intriguing case study for understanding residential mobility processes.

Family and residential mobility are well-documented topics in international literature (MYERS, 1990; DE HAAS, 2010; CUNHA, 2018). The MigraFamília Research is distinctive in that it proposes a discussion in the context of transformations in both family dynamics and population spatial mobility at the metropolitan scale. It employs new quantitative (BECCENERI; BRUSSE; APARICIO, 2021; DOTA; APARICIO, 2021; BERNARD, 2022; CUNHA, 2022) and qualitative (CARLING; COLLINS, 2018; CARLING; SCHEWEL, 2019) research methodologies applied to the analysis of residential mobility in a Global South country. These transformations add new dimensions to the debate over internal migration, and the study of primary data from retrospective research allows for a deeper understanding of the spatial mobility of the population in Latin American metropolitan areas.

The research methodology considered the family, as defined by residential unit (housing unit), was used as the unit of analysis. The areas chosen for urban expansion had high rates of intrametropolitan migration and were stratified into two groups: neighborhoods with high social vulnerability and neighborhoods with low social vulnerability. The research investigated the order of residential mobility movements for families and the motives behind these movements. The motives were classified into five categories: labor-related, family-related, environmental, housing-related, among others.

Results

The preliminary findings of the MigraFamília Research support the hypothesis that there is social selectivity in family profiles of residential mobility in areas of urban expansion in the metropolitan region according to the level of social vulnerability. These disparities are attributed to the contrasting levels of poverty that mark not only Brazilian but also various Latin American urban areas (VILLAÇA, 2000; RODRÍGUEZ-VIGNOLI, 2001; TORRES et al., 2003; CUNHA, 2022). Consequently, the processes of urban expansion with residential segregation appear to result in distinct family profiles in the metropolitan space.
While the developed world is experiencing advanced aging processes and a higher prevalence of single-person household, (CHAMPION, 2001; CHÁVEZ GALINDO et al., 2022), the Latin American urban reality demonstrates the coexistence of various family structures and households (ARIZA, OLIVEIRA, 2008). This indicates that there are significant differences in the degree of progress of the demographic transition and levels of socio-demographic development in Latin American countries. On the one hand, in the RMGV, areas of urban expansion with low social vulnerability concentrate couple household, with or without children. In these areas of low vulnerability, the proportion of couples without children is double that in the most vulnerable areas. Some studies of the Brazilian metropolitan reality indicate that this is explained because they are young couples who are still in the initial phase of the life cycle of a nuclear family (APARICIO; FARIAS, 2019; BECCENERI; BRUSSE; APARICIO, 2021). Areas of urban expansion with high social vulnerability, on the other hand, tend to concentrate extended families and single-parent families (Graph 1).

**Graph 1.** Distribution (%) of population by household type – Areas of high and low social vulnerability (%) – RMGV, 2022.

Source: MigraFamília Research. Special tabulations from the Center for Population, Geographical and Demographic Studies - Lagedep/UFES.

Bilac (2003) illustrates that changes in family arrangements in situations of poverty can be caused by social and economic constraints such as unemployment, insufficient income, food insecurity, and housing needs. These processes are associated with the formation and dissolution of extended families (BILAC, 2014; WAJNMAN, 2012). The formation of these extended families can be a strategy for social support through family and community networks. In the RMGV, the higher presence of extended families and single-parent families in areas of high social vulnerability in urban expansion seems to be an
indicator of poverty situations resulting from difficulties in acquiring and maintaining one's own home or covering family expenses (APARICIO, 2017).

Although labor and housing-related motives are relevant for family residential mobility, the sequence of residential mobility movements in the metropolitan space, their primary and secondary motivations indicate that family events are a dimension present in all migratory trajectories, with different nuances in urban expansion areas depending on the level of social vulnerability (DOTA; APARICIO, 2021). This finding highlights the importance of identifying and analyzing types of urban migration motive.

Cunha (2022) distinguishes two types of place effects that can influence the behavior of individuals and families in urban areas. The objective elements present in these expansion areas, such as environmental access and service quality, particularly public services (i.e., health, education, security, and so on), urban infrastructure, and labor-related factors, shape one effect. The other effect is influenced by subjective spatial variations, mainly represented by existing social networks, especially kinship and community support networks. These place effects offer analytical perspectives for formulating public policies aimed at improving services and their impacts on residents and their families.

According to the analysis of the residential mobility order, environmental motivations related to objective place effects appear to be a relatively important motivation for decision-making in the most recent migration flow of families in neighborhoods with low social vulnerability. There are income-related constraints that prevent the environmental motivations of neighborhood quality from being relevant in places of greater social vulnerability. In this context, public authorities should prioritize housing and urban infrastructure needs in areas of urban expansion with high social vulnerability, so as to meet the demands of the community and contribute to the creation of an environment that promotes the well-being of residents and their families.

Finally, the results of the survey suggest that, when compared to previous movements, labor-related motivations have less weight in determining residential mobility relocation in the last migratory movement. The expansion of the service sector in the regional metropolitan economy may have an impact in RMGV. It is also possible that this indicates the advancement of remote work arrangements following the pandemic for families in higher social strata, but this is a hypothesis to be further explored in future retrospective survey studies or longitudinal research.

**Final Considerations**

The study of family dynamics contributes to understanding internal migratory movements and their relationship to the production of metropolitan space. There is an interaction among internal migration, residential mobility, and urban area expansion in Latin American metropolitan regions. Some evidence of such interaction can be found in the following trends: (1) intensification of short-distance migration modalities leading to increased stages of residential mobility; (2) metropolitan-scale urban expansion in peripheries related to motivations associated with the labor market and family formation dynamics; and (3) different family formation profiles based on the level of social vulnerability. This interaction needs to be studied in the new migration data from the 2020 censuses.

Recent migration studies indicate that there is an insufficient quality of data in the demographic censuses of Latin American and Caribbean countries concerning the spatial mobility of the population, particularly in terms of (1) identifying internal migration
trajectories, (2) identifying residential mobility trajectories, and (3) identifying the motivations for residential mobility.

The discussion of the research results leads us to make some recommendations to improve information on internal migration and residential mobility in Latin America and the Caribbean. A first recommendation would be to include questions about internal and international migration in the census questionnaire to obtain more detailed information on the exact number of migrations of individuals and families. The second recommendation is to develop new questions to identify individuals' migratory trajectory as well as the motivations for their movements, especially on residential mobility in the metropolitan peripheries. It is critical to collect regular longitudinal data for major urban agglomerations, whether through administrative records or retrospective surveys like the MigraFamília Research. Due to the complexity of collecting data in the demographic censuses, it is suggested to include these topics in the questionnaires of periodic household sample surveys conducted by national statistical agencies. These technical recommendations are essential for further studies on short-distance urban migration, as well as the design of urban policies in metropolitan areas.

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