



## DEMOGRAPHIC WINTER

### A Systematic Review and Conceptual Mapping of Contemporary Variables

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KEYWORDS	ABSTRACT
<i>Fertility Aging Family Birth rate Demographic Transition cultural values</i>	<i>This article presents a systematic and bibliometric review (2010–2025) of the “demographic winter,” defined by declining fertility and population aging. Using the PRISMA protocol and tools like VOSviewer, databases such as Scopus and Dimensions were analyzed. The review reveals a dominance of quantitative approaches and limited inclusion of cultural and gender perspectives. Traditional demographic theories fall short, highlighting the importance of individual autonomy, post-materialist values, and gender roles. Key themes include aging, family policy, and migration. The study concludes by emphasizing the need for interdisciplinary research and comprehensive public policies that address demographic challenges with regional and cultural sensitivity.</i>

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## 1. Introduction

In recent decades, population dynamics have undergone important structural changes marked by declining fertility rates, increasing life expectancy and the accelerated ageing of societies. This complex phenomenon, now widely known as the "demographic winter," has become a central concern in Europe and East Asia and is gradually spreading to Latin America and other regions (ECLAC, 2022; Livi-Bacci, 2017; United Nations Population Fund, 2024). While initial interpretations linked the decline in fertility to the socioeconomic advances of modernization and the increase in female participation in education and labor markets (Becker, 1991; Bongaarts & Sobotka, 2012). For example, in Europe, population decline is a reality in countries such as Germany and Italy, where a reduction of 11 and 5 million inhabitants, respectively, is projected by 2060. Eastern Europe has even more drastic figures: Bulgaria will go from 9 million in 1985 to 5 million; Romania from 23 million in 1990 to 17 million; and Russia could lose up to 27 million inhabitants in 1995, which was 147 million. This demographic phenomenon not only implies fewer births, but also an accelerated aging of the population. The OADR index that measures the ratio of retirees to active people will soar in Spain from 26% to 68% in 2050, in Italy from 33% to 67%, and in Portugal from 29% to 71%. If structural unemployment, especially among young people, is considered in countries such as Spain, the effective ratio could reach one retiree for every worker (Contreras, 2010).

From this perspective, the "first demographic theories", such as the demographic transition model Coleman et al. (2015), explained the correlation between industrialization and declining fertility and mortality. However, the emergence of the second theory of demographic transition emphasized a shift toward individual autonomy, changes in family structure, and the spread of post-materialist values (Inglehart & Norris, 2003; Lesthaeghe, 2010; Recaño & Chacón, 2021). In this framework, reproductive behavior is no longer primarily driven by economic necessity, but is framed in aspirations for self-realization and identity construction (Arnett, 2004; Hakim, 2000). These paradigms, while illuminating, fall short of explaining why fertility remains persistently low even in favorable policy environments. Contemporary critics argue that global fertility trends reflect not only material constraints, but also tensions in gender norms, precarious employment, and transformations in the symbolic meanings attributed to parenthood (Daly, 2020; Folbre, 1994; McDonald, 2006).

Welfare state models offer important insights into how institutional environments determine reproductive choices. According to the type of Esping-Andersen (1999), countries with universal childcare services, generous parental leave and flexible work arrangements. As Sweden or Norway maintain relatively high fertility compared to countries with fragmented or market-oriented systems (McDonald, 2006; Thévenon & Gauthier, 2011). However, even these advanced welfare regimes are showing signs of demographic contraction (Eurostat, 2023; OECD, 2023). Scholars such as Goldscheider *et al.* (2015) They point to the "gender revolution" as a variable of decisive importance: when institutional and cultural support for gender equality stagnates, fertility tends to fall. In addition, the COVID-19 pandemic has exacerbated these trends by increasing the burden of care on women and increasing economic insecurity (Campbel & Gillespie, 2016; United Nations Population Fund, 2024). As a result, the gap between desired and actual fertility continues to widen, posing challenges for public policy and intergenerational sustainability.

Biopolitical visions provide a critical perspective on how demographic processes are transformed into objects of political regulation. Michel Foucault (1998) He introduced the concept of biopolitics to analyze the way in which contemporary states control populations through delicate regulatory mechanisms, including health systems, reproduction, and social rules. The extensions also show that state-managed demographic strategies often involve the discipline of reproductive behavior through pronatalist policies, family stimuli and monitoring of migrant populations (Agamben, 1998; Rose, 2007).

In scenarios of demographic decline, authorities often use reproduction as a strategic resource, using policy instruments that range from economic incentives to fertility awareness campaigns (Fiori et al., 2017; Foucault, 2007; Van-Dalen & Henkens, 2021). Feminist critics vindicate the gender characteristics of such interventions, questioning the conversion of women into biological reproducers of the nation-state (Boris & Salazar, 2010; Erel, 2018). In this context, the demographic winter must be analyzed not only from a classical statistical perspective, but also from the questioned biopolitical narratives.

From this perspective, motherhood according to Osorio, Calderón, and Noguera (2023) it has evolved from being a social norm to a personalized life decision, affected by identity, affection and duration. Beck and Beck-Gernsheim (2002) It denotes contemporary life as a procedure of "personalized biographies", where conventional life paths are replaced by reflective organization and the negotiation of emotions. In other words, the individualistic culture reinterprets the family structure, causing late marriages, non-marital cohabitation and the voluntary lack of a child (Giddens, 1992; Hakim, 2000). These tendencies are cemented by postmaterialist principles that value autonomy and self-actualization (Inglehart & Norris, 2003). As a result, reproductive decisions become more uncertain and symbolic, the demographic winter is presented as a reflection of broader social changes in values, temporal direction, and conceptions of care and interdependence (Haraway, 2016; Latour, 2017; Osorio et al., 2023).

Feminists have significantly enriched the understanding of demographic decline by highlighting the gendered nature of reproductive work and decision-making. From this perspective, the premise arises that the invisibilization of care work and the unequal distribution of domestic responsibilities limit women's reproductive autonomy (Campbel & Gillespie, 2016; Folbre, 1994). Economic instability, lack of supportive labor policies, and entrenched patriarchal norms continue to degenerate family formation, especially in younger generations (Bernardi & Nazio, 2005; Raymo & Lim, 2011). By focusing on structural barriers, feminist demography emphasizes a more critical view of the social determinants of fertility.

At the same time, emerging theoretical paradigms such as ecofeminism and posthumanism profoundly question the anthropocentric assumptions that have historically dominated population policy, inviting us to reconsider human centrality in debates about population and reproduction. These contemporary philosophical aspects propose an epistemic break with traditional conceptions, challenging hegemonic narratives about population growth and its implications. Allowing for the radical reimagining of reproduction beyond the reductive parameters of economic productivity and capitalist utility, theoretical approaches emphasize the construction of multispecies kinship relationships that transcend the boundaries of the human and highlight the complex networks of ecological interdependence that sustain life on the planet (Haraway, 2016; Latour, 2017). The ontological proposal invites us to rethink the boundaries between species and to recognize the multiple forms of non-human agency that coexist in ecosystems.

Demographic studies on the demographic winter increasingly use interdisciplinary approaches and mixed methods that transcend the limitations inherent in monodisciplinary perspectives, recognizing the multifactorial complexity of contemporary demographic phenomena sophisticated in quantitative techniques such as time series forecasting, which allows the identification of cyclical patterns and long-term trends, and multilevel regression models that establish correlations between macrostructural variables and individual behaviors (Goldstein et al., 2009; Kohler et al., 2002), are enriched dialogically with ethnographic methods that capture the experiential dimension of the phenomenon, narrative interviews that privilege the subjectivity of social actors, and discourse analysis that deconstructs media and political representations of fertility and its determinants (Bourdieu, 1997).

Methodological triangulation allows for a holistic understanding that integrates both the structural aspects and the subjective experiences that shape reproductive decisions in specific socio-historical contexts. Advanced bibliometric tools such as VOSviewer allow researchers to systematically identify emerging conceptual groups, visualize citation networks, and map

publication trends in the field, facilitating epistemological reflexivity on the construction of demographic knowledge and its intellectual genealogies, while rigorous PRISMA protocols (Moher et al., 2009; Van-Eck & Waltman, 2010) They ensure methodological transparency in systematic reviews, contributing to the replicability and intersubjective validation of scientific results in this constantly evolving multidisciplinary field.

This article builds on previous developments to provide a rigorous synthesis of theoretical and empirical work on demographic winter. Drawing on more than forty peer-reviewed sources, it constructs a multidimensional framework that classifies key statistical and categorical variables across demographic, political, cultural, and economic domains. The analytical matrix proposed here facilitates comparative research, informs the design of socially responsive policies, and enhances our understanding of demographic trends through a critical and interdisciplinary lens.

## 2. Methodology

The study employs a qualitative, hermeneutic-based systematic review complemented by bibliometric mapping. Its objective is to construct a conceptual and analytical framework comprising variables, indicators, and subcategories identified in scholarly literature on the demographic winter published between 2010 and 2025. The methodological design adheres to the PRISMA protocol, ensuring a transparent and rigorous selection process. Bibliometric tools were applied to visualize thematic trends, research clusters, and disciplinary approaches, enhancing the interpretative depth of the review.

### 2.1. Methodological design

The PRISMA protocol (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) was employed to ensure a transparent, rigorous, and replicable process for identifying and selecting relevant scientific literature (Moher et al., 2009). To enrich the analysis, a bibliometric approach was incorporated using VOSviewer version 1.6.19, which enabled the visualization of co-occurrence networks among keywords, authors, and countries. This dual-method strategy allowed for both a systematic synthesis of the literature and an exploration of structural patterns and thematic trends within the research field.

### 2.2. Sources and search criteria

The following databases were consulted: Scopus and Dimensions. The search period was limited between January 2010 and March 2025. Boolean operators were used by combining key terms in English and Spanish:

TITLE-ABS-KEY (public and politics and aging and birth) and PUBYEAR > 2013 AND PUBYEAR < 2026 AND (LIMIT-A (SUBJAREA, "SOC") OR LIMIT-A (SUBJAREA, "ARTS") OR LIMIT-A (SUBJAREA, "PSYC") OR LIMIT-A (SUBJAREA, "MULT")) AND (LIMIT-A (DOCTYPE, "ar")); TITLE-ABS-KEY (public AND politics AND fertility AND birth) AND PUBYEAR > 2014 AND PUBYEAR < 2025 AND (LIMITE-A (SUBAREA, "SOC") OR LIMIT-A (SUBAREA, "ARTS") OR LIMIT-A (SUBAREA, "PSYC") OR LIMIT-A (SUBAREA, "MULT")); TITLE-ABS-KEY (culture and family and reproduction) AND PUB YEAR > 2013 AND PUB YEAR < 2025 AND (LIMITS TO (SUBAREA, "SOC") OR LIMIT TO (SUBAREA, "PSYC") OR LIMIT TO (SUBAREA, "ARTS")) AND (LIMITS TO (EXACT KEYWORD, "Article")); aging AND natality.

The following inclusion criteria were established:

- Peer-reviewed scientific articles.
- Studies with analysis of demographic, political, cultural or social variables.
- And the following exclusion criteria:
- Opinions, editorials and articles without academic references.
- Publications prior to 2014.
- Documents without access to the full text.

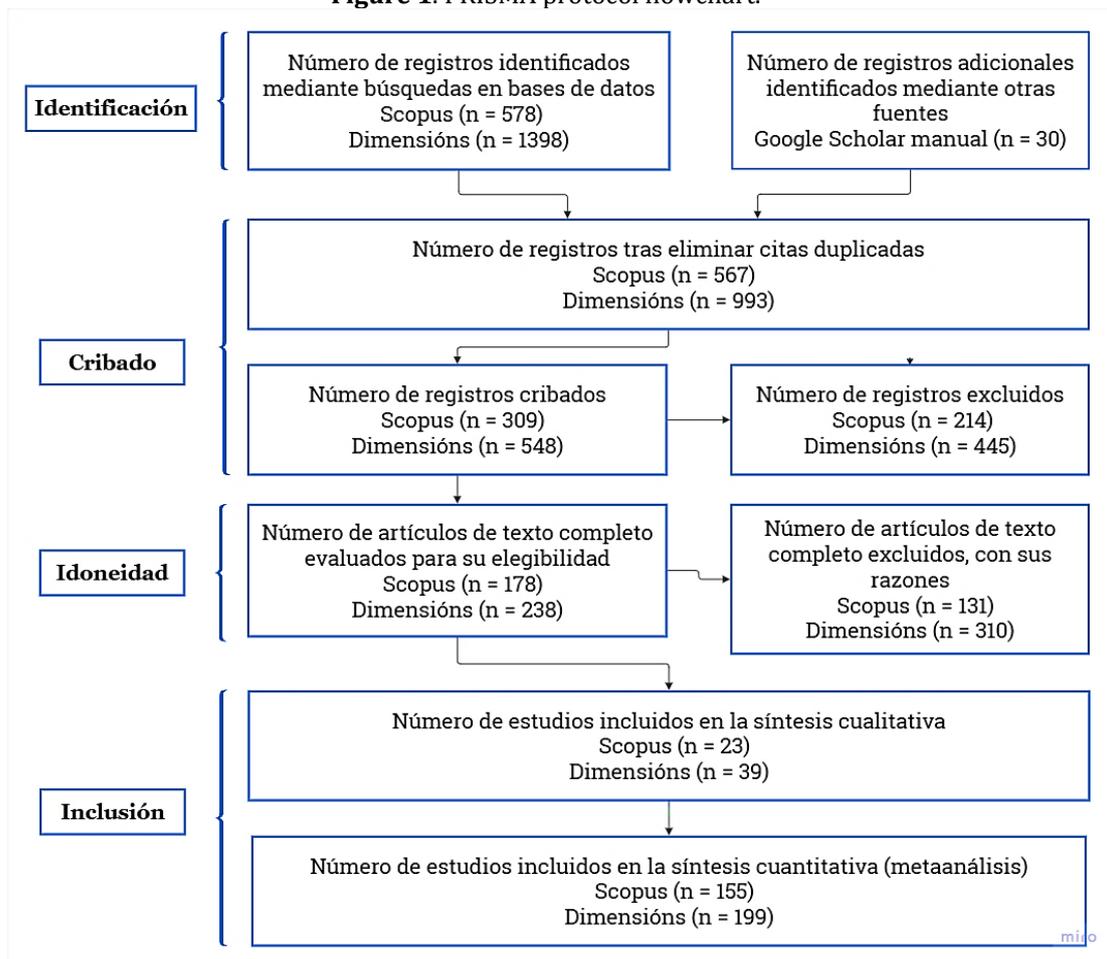
- Documents not related to the subject areas "social sciences", "human health sciences", "psychology", "economics".

### 2.3. Stages of the systematic review

The systematic review was developed in four stages according to the PRISMA protocol:

- Identification: Initial search yielding 1,274 documents.
- Screening: Elimination of duplicates and documents with no summary available.
- Eligibility: Reading the full text to assess its quality and relevance.
- Inclusion: Final selection of 83 documents for qualitative analysis and 42 for bibliometric analysis.

Figure 1. PRISMA protocol flowchart.



Source: Own elaboration, 2025.

### 2.4. Data analysis

The analysis was structured on two levels:

- Bibliometric: co-occurrence of keywords, joint citation of countries and bibliographic coupling of key documents using VOSviewer.
- Categorical and conceptual: Matrices were developed with statistical and qualitative variables, organized according to thematic dimensions: demographic, economic, political and cultural.

The results were integrated into a double-entry model, which presents quantitative and qualitative variables depending on its dimensions, frequency of use and possibilities of future operationalization.



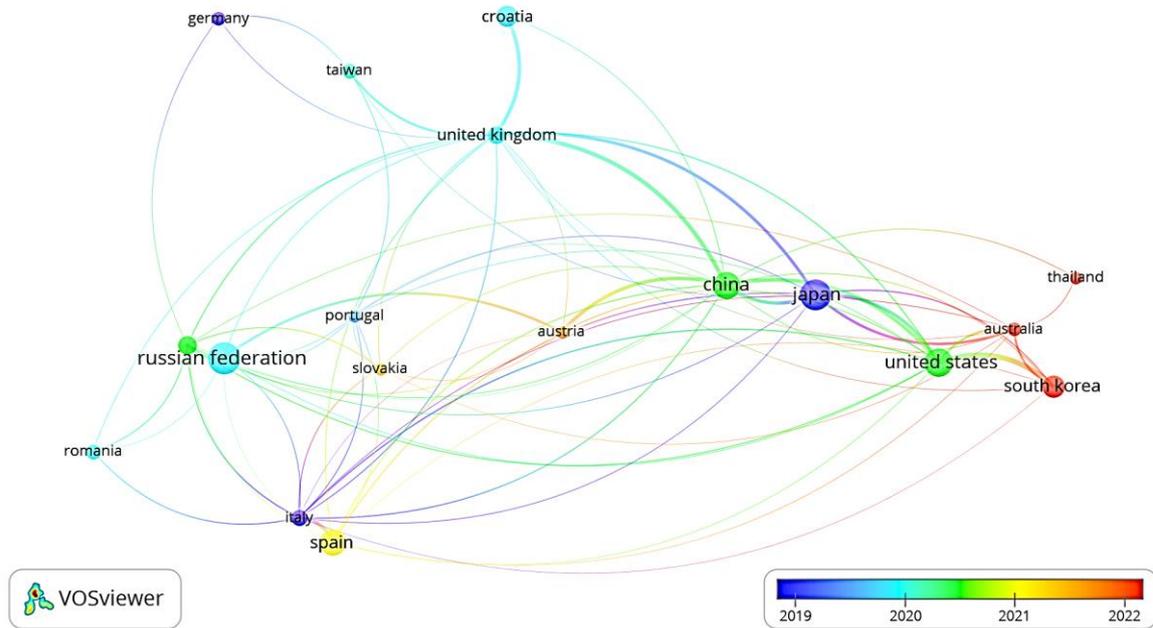
occupational factors that hinder long-term reproduction. Family policy is approached both from its limitations and from its capacity to intervene in this scenario. And migration appears as a complex variable that can compensate for population imbalances, but also generate tensions in the receiving countries. This thematic configuration allows us to observe not only the predominant themes, but also the way in which the academic community establishes relationships between them. The map, therefore, does not represent a simple word cloud, but a cognitive structure that reflects the general orientation of ongoing research.

The density and size of the nodes in this type of representations indicate the intensity of interest that certain topics receive within demographic studies. The areas with the highest concentration correspond, in general, to well-established topics such as social aging and low fertility. This majority presence reflects a widespread concern among researchers about the economic, social and cultural consequences of the transformation in the population pyramid. On the other hand, the concepts located on the periphery of the map – less connected and smaller in size – tend to correspond to lines of research that have not yet received the same attention. This includes, for example, migration policies integrated into demographic planning, intergenerational solidarity or the effects of ageing in contexts of inequality. The underrepresentation of variables such as gender, social class or ecological sustainability suggests that there is still significant scope to broaden the focus. The thematic segmentation observed in the map invites us to question the homogeneity of the treatment of the phenomena and to explore crossovers that allow a more complex understanding of the demographic reality. It also points out that, despite technical advances in data visualization, research agendas do not always actively incorporate social tensions or the differential effects that these processes generate. The usefulness of this type of tool, therefore, lies not only in what they show explicitly, but also in what they leave out of the academic visual field.

### ***3.2. Luminosities and shadows of the geopolitics of academic knowledge on the demographic winter***

Demographic winter cannot be understood in isolation within the borders of a single country, as academic exchange and knowledge production operate within increasingly interdependent global networks. Observing the circulation of knowledge from an international perspective allows us to identify which countries generate the greatest influence, which occupy central positions in the debate and how the relations between academic actors are configured. Through co-citation maps developed with the VOSviewer software, links between nations that share theoretical references, lines of research and common concerns about aging and the fall in fertility are visualized. Some countries appear as active nuclei due to the seriousness of their own demographic processes, while others do so because of their ability to formulate interpretative frameworks or public policy proposals. These networks show imbalances: not all countries participate with the same intensity or from the same material conditions in studies on demographic winter. The uneven presence in these networks reflects asymmetries in resources, access to data and editorial visibility. Therefore, studying and lack of interest in the subject of study.

**Figure 3.** Joint Citation Network of Countries in Winter Demographic Research



Source: Based on articles from Scopus and Dimensions. Visualization generated with VOSviewer using the functions: Co-citation / Countries.

The network visualization in Figure 3, generated from bibliometric data using VOSviewer, illustrates the interconnectedness between countries actively participating in population winter research, based on co-citation patterns. Prominent "luminousness" nodes such as Spain, the United States, China, Japan, and the Russian Federation significantly shape the global discourse through their frequently cited contributions. The thickness of the connecting lines indicates the strength of co-citation relationships, revealing influential bilateral academic interactions. In particular, Spain and the United States appear as nerve centers, which indicates their fundamental role in theoretical and empirical research on population aging and fertility dynamics. Asian countries, particularly Japan and China, form another important group, reflecting their extensive research and the critical demographic challenges associated with rapid population ageing.

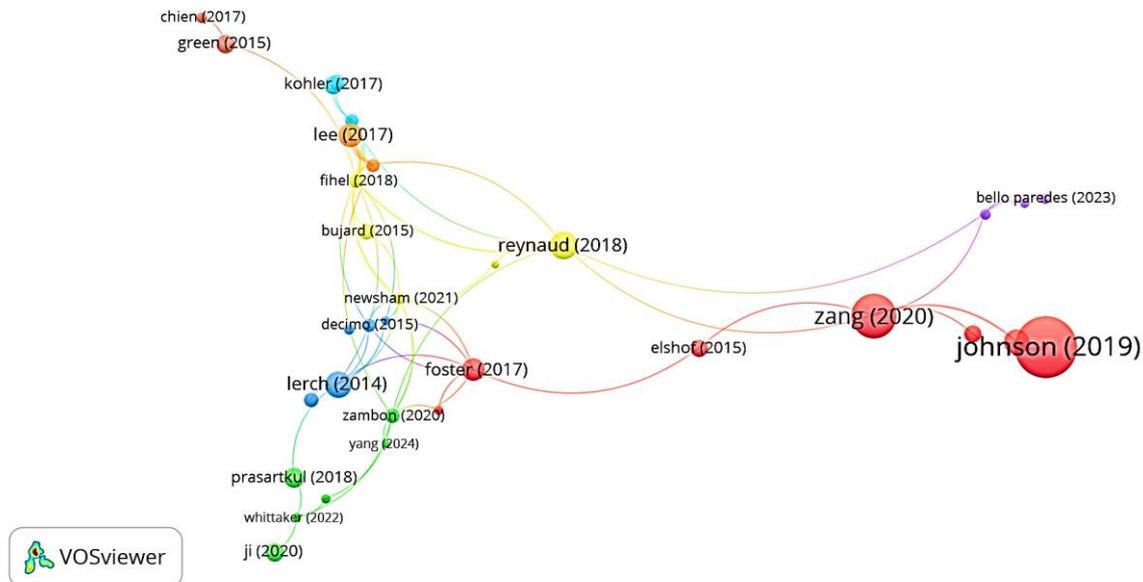
The visualization also uncovers smaller but meaningful connections to countries such as South Korea, Australia, and European nations such as Croatia, Portugal, and Slovakia, highlighting more specialized regional studies. This nuanced international network of academic relationships mentions both the collaborative and competitive dimensions of demographic studies. From a critical point of view, the absence of "shadows" of countries raises concerns about representation biases and underscores the opportunities for greater inclusion and diversity in future research efforts. Thus, this joint citation network not only reveals the current structure of academic influence, but also suggests possible ways to foster a more balanced global dialogue on demographic issues.

### ***3.3. Theoretical echoes through bibliographic coupling: Luminosities and shadows of academic studies***

To understand the theoretical underpinnings underpinning research on the demographic winter, it is necessary to identify the central documents that serve as intellectual anchors within the field. Through bibliographic coupling, scholars can discern how key works share foundational references, illuminating groups of theoretical congruence and intellectual alliances. Employing VOSviewer for this bibliometric exploration, the present analysis delineates the

interconnectedness between influential scholarly texts, offering insight into dominant narratives, emerging critiques, and evolving theoretical directions. In this way, bibliographic coupling is not limited to capturing the frequencies of citations, but also highlights conceptual proximities and academic dialogues, providing an essential perspective on how knowledge is constructed and disseminated around the demographic winter. This section further underscores the importance of these theoretical interactions, critically assessing their implications for the advancement of demographic scholarship, guiding policy debates, and shaping future research trajectories.

**Figure 4.** Bibliographic Coupling Network of Key Documents on the Demographic Winter



Source: Based on articles from Scopus and Dimensions. Visualization created using VOSviewer with the functions: Bibliographic Coupling / Documents, 2025.

The visualization presented in Figure 4, created with VOSviewer, illustrates a bibliographic coupling network derived from the Scopus and Dimensions databases, which effectively captures the intellectual relationships between fundamental scholarly papers addressing the demographic winter. Prominent nodes, representing foundational documents by authors such as Johnson et al. (2019) and Zang et al. (2020), demonstrate substantial scholarly influence through frequently shared citations. These documents denote conceptual cores, significantly shaping the theoretical landscape and guiding academic discourses on fertility, aging, and population policy. Smaller groups, including the works of Lerch (2017), Foster et al. (2019), and Reynaud & Miccoli (2018), illustrate the specialized contributions and emerging theoretical viewpoints that enrich academic diversity within demographic studies.

The proximity and density of the nodes indicate strong theoretical affinities, highlighting the conceptual frameworks that underpin current debates and policy considerations. In addition, the peripheral positions occupied by more recent studies suggest new theoretical orientations and methodological innovations, marking possible changes or broadening of research perspectives. Critical reflection on this mating network highlights both established and evolving theoretical dialogues, revealing opportunities for integrative scholarship and underscoring the need for broader methodological inclusion to comprehensively address the complexities of the demographic winter.

### 3.4. Integrated indicators for understanding the demographic winter: Quantitative and qualitative

Understanding the demographic winter in its full breadth requires the integration of quantitative and qualitative indicators to capture both measurable dynamics and nuanced perceptions of society. Quantitative indicators such as fertility rates, life expectancy and proportion of elderly population provide an empirical basis for demographic analyses, providing robust frameworks for international comparisons and longitudinal assessments. Conversely, qualitative indicators, such as perceptions of motherhood, reproductive values, and narratives about aging, clarify the cultural and symbolic dimensions that shape societal attitudes toward demographic trends. The integration of these two sets of indicators enriches demographic research, facilitating multidimensional analyses that are crucial for developing global policy responses and academic discourses. The following matrices systematically categorize these indicators, underlining their analytical value and fostering a deeper understanding of demographic phenomena.

**Table 1.** Matrix of statistical variables (quantitative)

Variable	Indicator	Dimension
<b>Fertility rate</b>	Average number of children per woman	Demographic
<b>Life expectancy</b>	Average years of life at birth	Bless you
<b>Average age of maternity</b>	Average age at first child	Demographic
<b>Proportion of older adults</b>	Percentage of population over 65 years of age	Age structure
<b>Dependency Ratio</b>	Relationship between dependent and active population	Age structure
<b>Crude birth rate</b>	Births per 1,000 population	Demographic
<b>Replacement rate</b>	Average number of children per woman to maintain population	Demographic
<b>Natural growth rate</b>	Difference between births and deaths	Demographic
<b>Average age of the population</b>	Average age in the population pyramid	Demographic

Source: Own elaboration from selected articles indexed in Scopus and Dimensions (2010-2024), 2025.

The statistical variables presented in Table 2 consistently highlight the critical quantitative measures frequently employed in research on the demographic winter. The fertility rate, life expectancy, maternal age, proportion of elderly population and dependency ratio exemplify the basic metrics that quantify demographic transitions and population aging. These indicators allow for rigorous empirical analysis and allow policymakers and researchers to monitor demographic developments over time. Fertility rates and replacement levels are critical to understanding reproductive behaviors and their implications for population sustainability. Life expectancy and elderly population ratios provide important information on health and ageing trends, and influence social and health policies. Dependency ratios also illustrate demographic pressures on economic and social structures, guiding resource allocation and long-term planning. Thus, the analysis and interpretation of these quantitative measures provide critical data for demographic research and policy-making, improving predictive capacity and supporting targeted interventions.

**Table 2.** Matrix of categorical variables (qualitative)

Variable	Qualitative indicator	Analytical dimension
<b>Perception of motherhood</b>	Discourses on being a mother today	Cultural
<b>Reproductive values</b>	Importance of reproduction for identity	Symbolic
<b>Work-life balance</b>	Flexible Schedules and License Availability	Public policy
<b>Narratives of aging</b>	Perceptions of aging as a burden or value	Cultural
<b>Gender and Family Roles</b>	Roles attributed to women and men in the household	Gender
<b>Preference by number of children</b>	Ideal for the number of children in interviews or surveys	Cultural-demographic

<b>Attitudes towards migration</b>	Acceptance of migration policies to compensate population	Political and cultural
<b>Institutional discourses</b>	Public Policy Papers on Demographic Decline	Institutional
<b>Representations of demographic crisis</b>	Images, metaphors and rhetoric of the “demographic winter”	Cultural-discursive

Source: Own elaboration derived from selected articles indexed in Scopus and Dimensions (2010-2024), 2025.

Table 2 shows the qualitative variables that are fundamental to understanding the sociocultural dimensions of the demographic winter. Categories such as perceptions of motherhood, reproductive values, work-life balance, narratives about aging, and gender roles significantly inform social attitudes and political discourses around population decline. These variables shed light on the underlying cultural assumptions, symbolic interpretations, and institutional narratives that shape demographic behaviors and policies. For example, social perceptions of motherhood and reproductive values profoundly influence reproductive decisions and fertility rates. Similarly, work-life balance policies reflect the institutional response to demographic changes, which has an impact on family planning and labor participation. Narratives about ageing and gender roles further reveal societal attitudes towards elder care and family responsibilities, shaping broader cultural responses to demographic changes. The qualitative analysis of these indicators provides essential context, deepening the understanding of demographic phenomena beyond statistical trends and fostering culturally sensitive policy-making and academic discourse.

#### 4. Discussion of results

The bibliometric analyses presented reaffirm the key theoretical ideas highlighted in the introduction, in particular those related to declining fertility and ageing societies. In line with the traditional models of demographic transition proposed by Coleman *et al.* (2015), our keyword co-occurrence analysis highlights the current academic attention to modernization-driven demographic changes. However, emerging issues such as migration and family politics highlight complexities that were previously overlooked by linear economic theories, in close line with the critiques of Frejka (2008) and Goldscheider *et al.* (2015). Therefore, the need for a more nuanced and intersectional approach to the analysis of demographic evolution, which incorporates socioeconomic and cultural factors, is evident.

The geopolitical analysis of co-citation reinforces the centrality of the institutional contexts described by Esping-Andersen (1999). The nations identified as major contributors to research, particularly those with large welfare states, reflect institutional conditions favorable to demographic research. These observations validate theories emphasizing institutional influences on reproductive behaviors and gender equality frameworks analyzed by Goldscheider *et al.* (2015). By contrast, the limited representation of Latin American and African research indicates theoretical biases, supporting criticisms that advocate for broader geographic inclusion in the development of demographic theory and highlighting the importance of diverse institutional contexts.

The analysis of the bibliographic coupling further corroborates the theoretical debates around cultural and symbolic influences on reproductive behavior. The prominence of literature emphasizing individual autonomy, postmaterialist values, and personal identity, as articulated Beck y Beck-Gernsheim (2002), confirms the shifts toward subjectively driven reproductive decisions. In this sense, these results support the theoretical argument that contemporary fertility decisions increasingly reflect personal aspirations and symbolic meanings rather than strictly economic or structural factors. Consequently, our results support the integration of cultural and symbolic frameworks in demographic theories to fully understand complex reproductive patterns.

Finally, the integration of quantitative and qualitative indicators enriches the theoretical dialogue between feminist and biopolitical perspectives. Quantitative indicators validate the

structural influences described by traditional demographic theories Becker (1991), Bongaarts y Sobotka (2012); while qualitative indicators that address perceptions of motherhood and gender roles align with feminist and biopolitical critiques (Agamben, 1998; Foucault, 1998). This dual analysis demonstrates that demographic winter is a complex interaction between empirical demographic realities and symbolic, cultural and political dimensions. Therefore, our findings advocate for a holistic theoretical perspective that bridges quantitative and qualitative methodologies, addressing demographic challenges holistically.

## 5. Conclusions

The bibliometric approach adopted in this study effectively reveals critical issues and theoretical connections essential to understanding the demographic winter. Our findings confirm the current importance of traditional theories of demographic transition, while highlighting the need to incorporate broader cultural, institutional, and symbolic perspectives into demographic analysis. Notably, the study underscores the increasing complexity of population dynamics, which requires multidimensional and intersectional research approaches to address contemporary demographic challenges.

In addition, the geographic analysis of scholarly contributions emphasizes the need to expand demographic research beyond the predominantly studied regions, promoting theoretical inclusivity and global applicability. This geographic dimension highlights critical knowledge gaps and potential biases, urging future studies to diversify their research focus and incorporate comprehensive cross-regional analyses to improve global understanding of demographic phenomena.

On the other hand, the integration of quantitative and qualitative indicators underscores the importance of holistic methodologies in demographic research. By linking empirical realities with symbolic and cultural dimensions, the study emphasizes demographic winter as a statistical trend and a culturally rooted phenomenon. This integrative approach provides valuable information for developing informed and nuanced policy interventions that effectively address underlying structural and cultural determinants.

In short, this research contributes to a richer interdisciplinary theoretical framework, which promotes inclusive demographic research that addresses both the empirical and symbolic dimensions of population dynamics. Future studies are encouraged to explore these intersections, promoting comprehensive and culturally sensitive approaches to demographic research and policymaking.

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