

Aim of study

This paper presents a large-scale bibliometric analysis of migration research produced over the past 75 years. Its objective is to provide a quantitative overview of the field's geographic and thematic distribution, as well as the structure of its collaboration networks. The study is part of a broader project aimed at comprehensively cataloguing all research on international migration worldwide, drawing on large open-access bibliographic databases such as *OpenAlex*. It builds on two earlier pilot studies that established the methodological framework applied here: the first geographically and thematically mapped migration research published in seven leading demographic and population studies journals (Boujija et Pradier, 2024; $N = 2,388$), while the second did the same for a comprehensive corpus of research on international migration relating to Canada (Boujija et Canedo, 2025; $N = 16,588$). The proposed paper extends this project to a global scale. Here we outline the project's rationale, summarize our methodological approach, and present selected results from our Canadian case study to illustrate the type of findings expected in the full analysis.

Context

The study of migration, in all its forms, has witnessed remarkable growth worldwide (Pisarevskaya et al., 2020). For instance, to this day, nearly 10,000 peer-reviewed scientific articles addressing migration-related questions have been published in Canadian journals alone (Boujija & Canedo, 2025). In such a context, conventional approaches to reviewing and synthesizing the literature are becoming increasingly difficult to implement. Yet at the same time, reflecting on where the field of migration studies stands and where it is headed is more important than ever. Despite the exponential growth of research, the field faces mounting epistemological and political questions about its internal fragmentation, its limited policy impact, and its relationship to power and knowledge (Lacroix et al., 2021; Natter & Welfens, 2024).

Addressing these questions would benefit from a broader and more systematic understanding of how migration research has evolved, its dominant themes, geographical focus, and modes of knowledge production. However, a significant part of our broader understanding of any research field and its evolution often stems from the reflections and self-assessments of individual scholars, the historiographies of specific disciplines, or comprehensive literature reviews (Barry et al., 2022), whose conclusions can align with, or diverge according to, different schools of thought (Reale et al., 2018). These approaches can collectively shape what becomes the conventional or accepted knowledge within a field. In the case of migration studies, numerous observations have been made about the state of the literature (Amelina, 2021; Brown & Bean, 2016; Kraly et al., 2024; Pisarevskaya et al., 2020; Skeldon, 2021; Wimmer & Glick Schiller, 2002). While such works are essential to the field's development, they remain largely qualitative or small-scale, lacking tools that can situate migration research systematically and comprehensively on a global scale, both thematically and geographically. What is still missing, therefore, are analytical instruments capable of providing a comprehensive and comparative overview of the field's scientific production. Such a tool, ideally in the form of an open, well-structured database, would not only enable cross-regional secondary analyses and facilitate further literature reviews, but also deepen reflexive inquiry into the evolution of migration studies at a time when its epistemological boundaries and societal relevance are increasingly questioned (Acosta & Freier, 2023; Amelina, 2021; Lacroix et al., 2021; Natter & Welfens, 2024), and scientific production is growingly seen as excessive by academics and the media alike (Hanson et al., 2024; Larousserie, 2024; Sample, 2025).

Bibliometric approaches offer a particularly promising avenue to meet these needs (Chen & Song, 2019; Marzi et al., 2025). These methods aim to quantitatively analyze scientific production based on its metadata (authors, institutions, abstracts, citations, and so forth) to identify research trends,

networks, and dynamics. However, while bibliometric research on migration is growing,¹ it remains largely focused on narrow or thematically confined scopes—whether geographically restricted studies (Cuéllar-Sánchez et al., 2024; Kalaycı, 2025), analyses centered on a single journal (Lee et al., 2014), or limited samples drawn from a handful of selected journals (Boujija & Pradier, 2024; Lara-García, 2022) within strict temporal windows. Many studies have also concentrated on specific thematic areas such as health (Pernitez-Agan et al., 2020; Sweileh, 2024; Sweileh et al., 2018), the migration–environment nexus (Anuar et al., 2022; Milán-García et al., 2021; Priovashini & Mallick, 2022), immigrant entrepreneurship (Kassaye et al., 2025; Wiers & Chabaud, 2022), or integration (Djogbenou et al., 2024; Lara-García, 2022). One of the few studies to adopt a broader thematic and geographic lens, Pisarevskaya et al. (2020), still limits its sample to around forty journals. Globally, this research is also largely conducted on English-language corpora, which may overlook important portions of geographically specific scholarship.

In this paper, we draw on recent methodological and technological advances in bibliometric and computational text-analysis methods to map the global production of migration research. Over the past few years, particularly the last five, these approaches have benefited from remarkable progress, driven by the expanding availability of open-access bibliographic databases (e.g., *OpenAlex*, *semantic scholar*) and by the development of Large Language Models (LLMs), which enable more nuanced semantic analyses and help overcome the limitations of traditional keyword-based techniques. Building on these innovations, our objectives are twofold: first, to produce a large-scale bibliometric analysis and thematic overview of migration research; and second, to contribute to the field by releasing an open, well-structured database that can be freely used, extended, and refined by others; for instance, to conduct more targeted analyses of specific themes, regions, or methodological trends, or to enhance future systematic and critical literature reviews.

Data and methods

Metadata collection:

We used the *OpenAlex* database (Priem et al., 2022), accessing its API through the dedicated R package *openalexR* (Aria et al., 2024) to extract our bibliometric sample following the steps illustrated in Figure 1 **Erreur ! Source du renvoi introuvable.** and discussed below. *Openalex* provides a wide range of metadata, including author information, titles, abstracts, journal names and identifiers, citation counts and ties (both incoming and outgoing), and more.

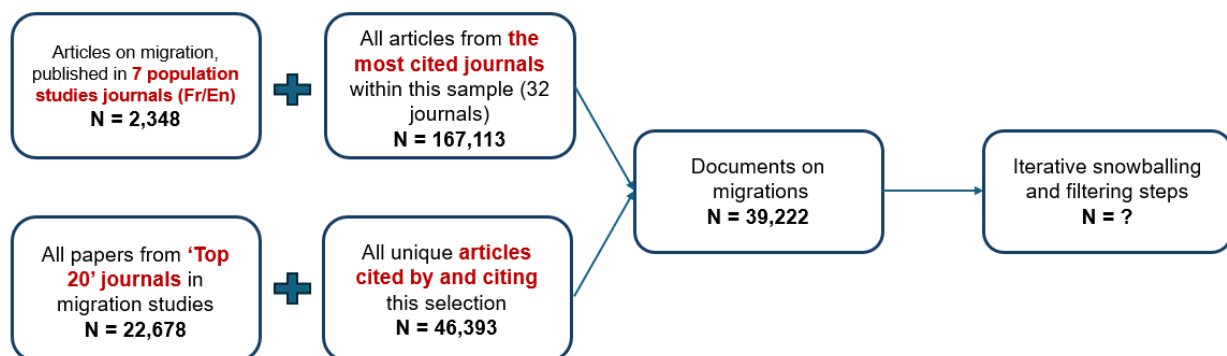


Figure 1. Sample selection procedure

¹ In a preliminary review of the literature, we identified 17 articles adopting a bibliometric approach to migration, 13 of which were published after 2020 and 6 within the past year.

We began with two core samples from previous pilot studies, which we expanded using snowballing approaches, either by tracking journals that are recurrently cited or by direct paper to paper citation tracking. From there, we identified articles on migration using a classification procedure described below. This yielded an initial corpus of migration-related papers, from which we iteratively repeated the snowballing process to collect citing and cited documents (also called *backward* and *forward* expansion; Chen & Song, 2019). Newly retrieved papers not previously classified were again assessed to determine whether they addressed migration or not. This iterative process will be repeated until reaching saturation or clear diminishing returns. Although the initial seed sample may introduce selection bias, the iterative snowballing procedure progressively reduces and ultimately mitigates this bias.

Identifying research on migration:

Each selection step also involves a thorough data cleaning process, including the removal of duplicates, book reviews, comments, incoherent records, and misclassified documents. While the initial dataset was limited to journal articles and research papers, subsequent snowballing steps also captured other document types (e.g., theses, reports, working papers, and preprints). This inclusion was intentional, reflecting our objective to comprehensively map the body of knowledge on migration research. Subsequent analyses, however, can be restricted to specific document types if desired.²

We used the ChatGPT API (via the *ellmer* package; Wickham et al., 2025) to assist classification, which was subsequently validated manually on a stratified sample. The model classified papers into five categories: international migration, internal migration, both, migration (unspecified type), unclear or unrelated. Manual validation was conducted on a sample of 500 papers (100 per category). The classifier achieved high reliability, with fewer than 1% false negatives and error rates of around 2–8% when distinguishing between migration types. Accuracy for simply identifying whether a paper addressed migration, regardless of type, was, however, very high (> 95%).

This process identified a core sample of 39,222 migration-related papers. As previously mentioned, from this step further iterative snowballing steps can be achieved for expanding the sample. However, in our previous work, from which the preliminary results presented in this abstract are taken, we have identified and selected papers related to Canadian migration only (where Canada is either a mentioned origin or destination) to which the snowballing expansion was applied to identify a Canada specific sample. Future iterations will continue the process on a global scale and until near-saturation or clear diminishing returns are reached, with the goal of producing an exhaustive mapping of global migration research.

Geographic and Topical Mapping:

For the geographical dimension, we again used the *OpenAI* API to extract and standardize location references appearing in titles and abstracts, and, when identifiable, flag named origins and destinations. This enabled the construction of structured variables capturing migration flows and study contexts across multiple spatial scales, and to focus our analysis on specific regions (as we have done for Canada).

Next, to classify the corpus by thematic focus, we applied *BERTopic* (Grootendorst, 2022), a novel state-of-the-art topic modeling framework leveraging Bidirectional Encoder Representations from Transformers (BERT). This approach captures semantic relationships using pretrained Large Language

² It should be noted that *OpenAlex* provides document-type metadata, but its accuracy is generally higher for academic journal articles than for other document types. Document type can, however, be inferred using other available metadata variables (such as the publication source).

Models, beyond keyword co-occurrence, making it particularly suitable for multidisciplinary and multilingual scientific corpora.

Although *BERTopic* is highly modular and customizable, we adopted the default five-step procedure which is well adapted for large-scale scientific text analysis. First, titles and abstracts were embedded into numerical vectors using a sentence transformer optimized for capturing semantic similarity and that supports multilingual content, allowing the adequate processing of international literature. Second, to overcome issues of high dimensionality, data was reduced to 5 dimensions using the UMAP algorithm which preserves well the structure underlying the data. This allowed us to classify our corpus into clusters based on semantic similarity using HDBSCAN, which does not require assumptions on the number of clusters or their shape (only their minimal size). Then to facilitate visualizations into an orthogonal space, a fourth step involved further dimensionality reduction to 2 variables using PCA. This step enables the projection of clusters and the overall semantic map into a two-dimensional space, facilitating data visualization. Finally, *BERTopic* automatically generates topic labels using the class-based TF-IDF (c-TF-IDF) method, which can then be refined, through BERT-based contextualization first, and then through further manual adjustments, by examining the most salient keywords and representative papers within each cluster.

The resulting model, applied to the Canadian sample, produced 44 topical clusters of varying sizes (ranging from 97 to 1,151 documents), each representing a distinct research theme within migration studies in/on Canada. These clusters were subsequently validated through manual inspection.

Pilot results and expected future results

While the proposed paper aims to analyze research on international migration using a substantially larger corpus and at a strictly global scale, the results presented here derive from a recent pilot study on Canada and serve as illustration of the global analytical framework to be expected. In this pilot study, we identified within the core international migration corpus (N = 39,222) all papers about Canada, which we complemented with all research published on migration in Canadian-based journals. From this subset, we applied a snowballing procedure to collect additional works citing or cited by these papers, allowing us to further identify documents simultaneously addressing migration and Canadian contexts. The geographic localization of this research (by origins and destinations/contexts of study) enabled a complementary analysis of the geographic distribution of migration research limiting the sample to the core international one, to avoid introducing bias from the Canada-specific snowballing expansion.

Distribution of Migration Research within the International Sample

A first look at the international dataset reveals the evolution of the relative proportions of publications addressing internal migration, international migration, both, or unspecified forms (Figure 2). Over time, international migration has clearly dominated, accounting for the vast majority of publications. Internal migration, by contrast, represented a more substantial share in earlier decades, confirming a well-documented trend that the 1950s–1960s marked internal migration’s “golden age” (Brown & Bean, 2016;

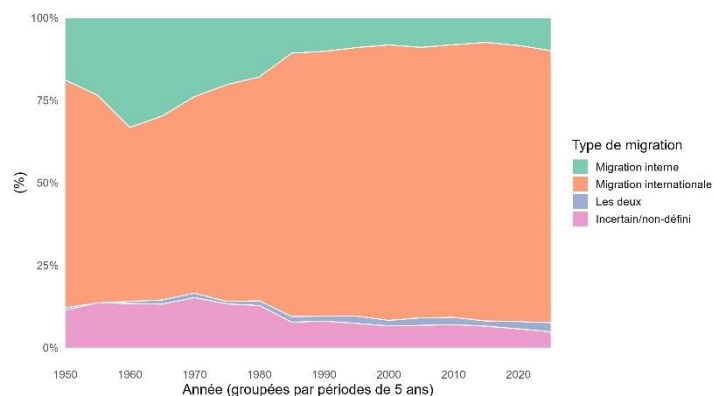


Figure 2. Share of documents addressing different types of migration

Skeldon, 2021). Since then, its prominence has gradually declined as scholarly attention shifted toward international mobility, particularly from the 1980s onward. The share of publications addressing both internal and international migration concurrently has remained marginal throughout the period, regardless of calls for to increasingly analyze both simultaneously (King & Skeldon, 2010; Nestorowicz & Anacka, 2019; Tagliacozzo et al., 2024). Overall, these results confirm the predominance and persistence of international migration as the central focus of migration scholarship, with only limited engagement with internal or cross-type comparative analyses.

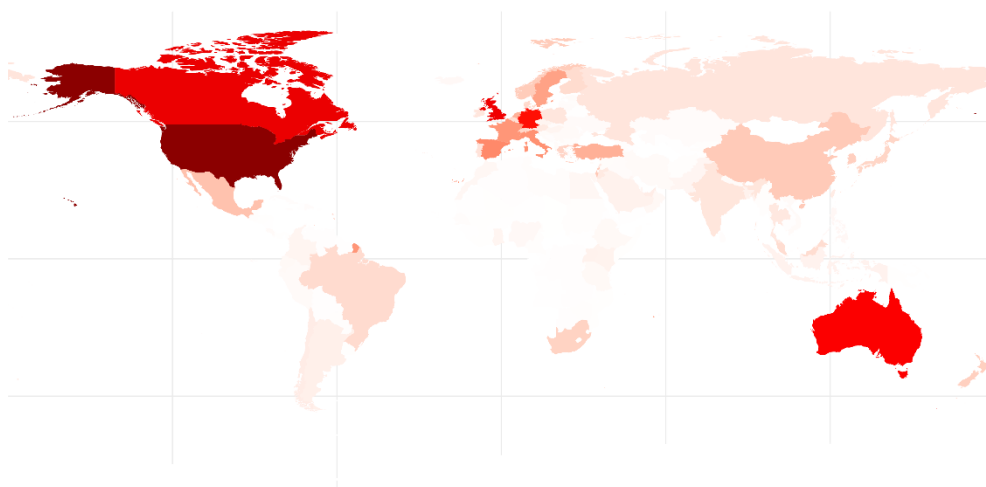


Figure 3. Countries Most Frequently Studied as a Destination Place or as the Context Where Migration is Studied

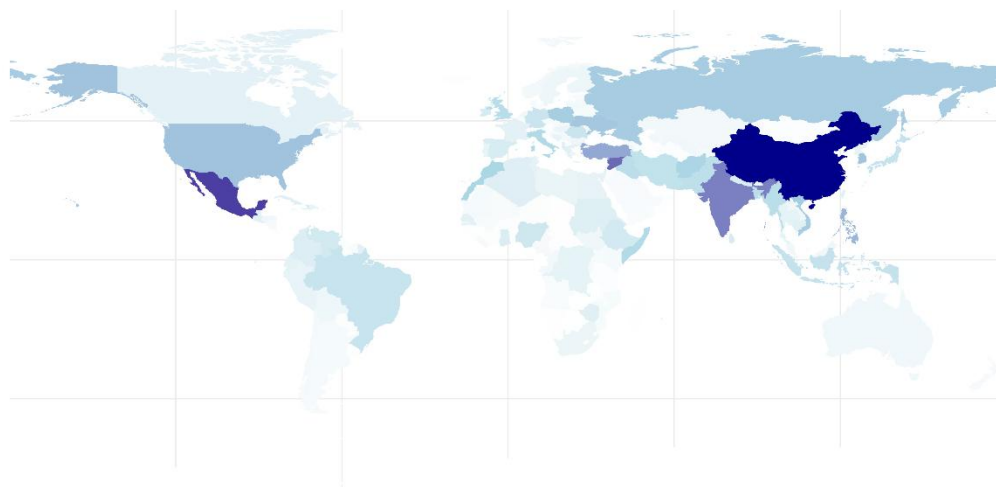


Figure 4. Countries Most Frequently Identified as the Origin Place of the Migrant Group Under Study

We further examined the main destinations and origins represented in the literature. Notably, destinations or study contexts could be identified in 73% of the corpus, whereas origins were identifiable in only 45% of cases. This asymmetry is expected, as many studies approach migration primarily as a phenomenon unfolding in destination settings. Nevertheless, it also reflects the well-documented critique of methodological nationalism in migration studies (Wimmer & Glick Schiller, 2002) and the field's persistent tendency to focus disproportionately on destination contexts, potentially offering a distorted understanding of migration processes as a whole.

When both origins and destinations could be clearly identified from titles and abstracts, it was also possible to map the main migration flows and migrant groups addressed in the literature. Table 1 presents the top 20 most frequently studied migrant corridors identified in our corpus. The results reveal the dominance of research on flows toward the United States, and, most notably, on the Mexico–U.S. corridor, which remains the most studied migration pathway worldwide. Although this is also the largest migration corridor numerically, according to UN migrant stock data, it is still overrepresented in research relative to its demographic weight. Similar patterns emerge for the China–U.S. and Syria–Turkey corridors. The importance of the latter is particularly notable given that most research on Syrian immigrants in Turkey has been conducted during the past decade.

Geographic and thematic distribution of research on Canada

Thanks to the ability to localize research based on its subject of study rather than the place of publication, we were able to extend our analysis to the Canadian context. As mentioned before, through successive rounds of snowballing, we compiled a comprehensive sample of over 16,500 research documents related to migration in Canada. This dataset made it possible to examine the regional distribution of migration research, which, not surprisingly, is concentrated in the country's most populous provinces, Quebec, Ontario, and British Columbia. The analysis also reveals a strong focus on the three main metropolitan areas that serve as Canada's principal gateways for immigrants.

Table 1. Most Frequently Studied Migrant Corridors

Rang	Origine	Destination	Nbr. d'articles identifiés
1	MEX	USA	2815
2	CHN	USA	1303
3	SYR	TUR	943
4	IND	USA	713
5	KOR	USA	706
6	TUR	DEU	603
7	CHN	CAN	579
8	CHN	AUS	423
9	POL	GBR	419
10	VNM	USA	361
11	ex-USSR	ISR	332
12	CUB	USA	322
13	IND	GBR	321
14	SYR	LBN	314
15	PHL	USA	304
16	SYR	JOR	298
17	GTM	USA	285
18	TUR	NLD	282
19	JPN	USA	280
20	SLV	USA	280

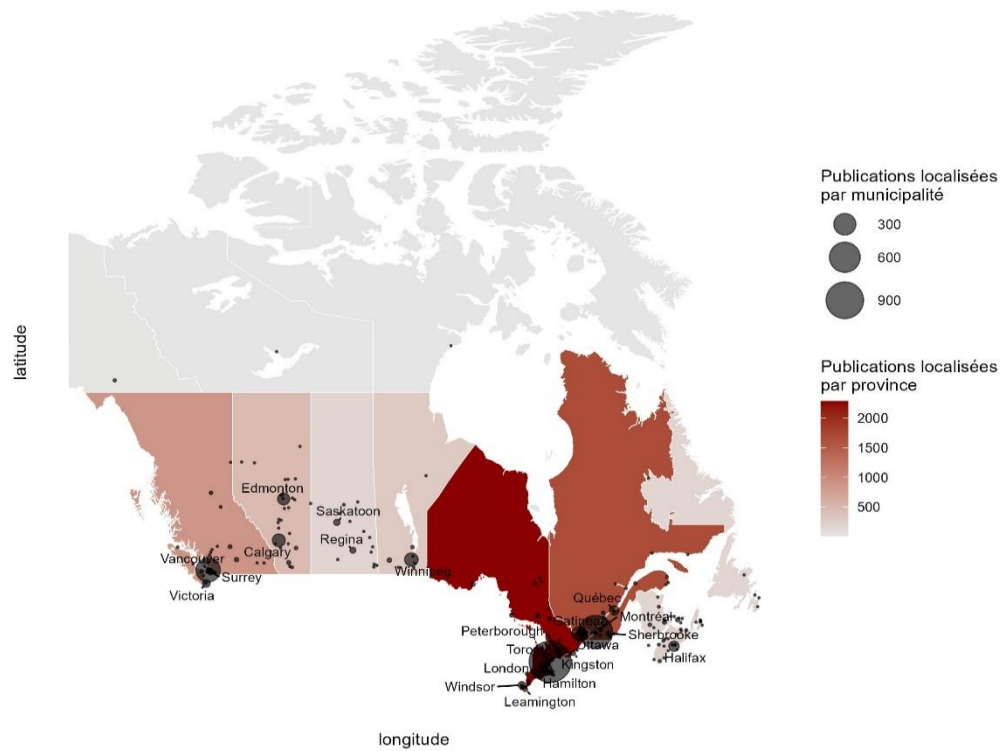


Figure 5. Localization of Migration Research Related to Canada, When a Specific Province and Municipality Are Identifiable as the Context Under Study

Finally, *BERTopic* enabled the semantic mapping of our corpus, allowing us to identify key thematic hubs and clusters of research. The results are presented in Figure 6. In addition, although not presented here for parsimony, such topical maps can be used as a canvas for further analysis, when overlaid with other variables using centroids, or color legends applied to the cluster nodes or individual papers.

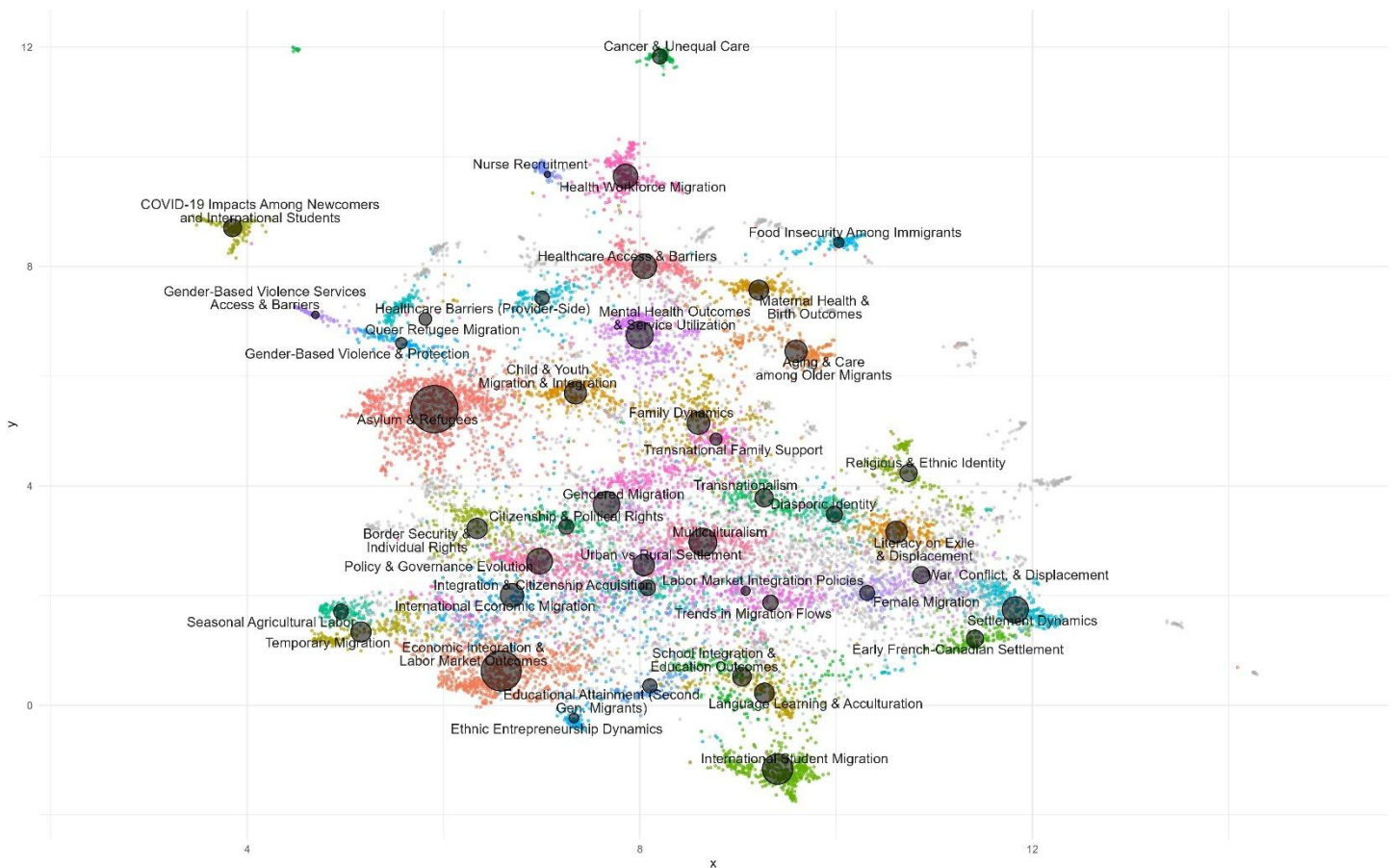


Figure 6. Semantic Map of Studies on Migration in Canada and Topical Structure

We further examined the relationships between these clusters by analyzing citation dynamics among them and by overlaying nodes with additional metadata to explore the structural composition of the field—its hubs, cores, and thematic communities. In Figure 7, for instance, we present the inter-topic citation network, where edges represent the number of directional citations from one cluster to another. To account for differences in cluster size, edge weights were normalized, and only edges with citation frequencies exceeding expected values were retained to construct an affinity network between clusters.

On top of this citation structure, we overlaid the distribution of methodological orientations—the proportions of qualitative, quantitative, and mixed-methods studies within each cluster. These classifications were generated using a GenAI-based approach and subsequently validated through manual inspection.

Such visualizations help uncover structural regularities in the field. In this case, migration research appears to be predominantly qualitative, with numerous clusters strongly dominated by qualitative approaches. Quantitative dominance, by contrast, is rare and mostly confined to clusters associated with economics and health-related research

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