

Mapping The Research Evolution Of Immigrant Minors Legislation And Its Relationship To Physical Education And Mental Health (In The Period 2001-2022)

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Abstract

Background: Migration is one of the major challenges Europe is facing, primarily due to the proliferation of the massive arrival of unaccompanied minors. This difficulty also affects the rest of the world and is considered one of the most prominent social issues of this new era (2) Methods: Hence, we conducted a bibliometric study of research published on immigrant minors in the period 2001-2022 to gain insights into and analyze the scientific perspectives on this topic. (3) Findings and (4) Conclusions: Our conclusion reveals that the United States and Spain are the countries with the highest production of research in this field, mainly because they have the largest number of immigrant minors in their countries, predominantly from Mexico and Morocco, respectively.

Keywords: Mental health, sport, wellbeing, psychological consequences, justice, unaccompanied minors (MENA - stands for "menores no acompañados" in Spanish), legislation, policies.

I Introduction

The term Unaccompanied Immigrant Minors (MENAS) is used to refer to underage migrants attempting to enter Spain through the border cities of Ceuta and Melilla. These cities are considered the border between Africa and Europe, making them the primary access points to the European Union (EU).

The acronym MENA is frequently used in politics, often with a negative connotation, as it becomes a tool in the political debate over the aid provided to these minors. It is also perceived negatively by society because many of them refuse

to live in designated centers and instead roam the cities in search of a livelihood, which, in many cases, leads to criminal activities. However, it is essential to raise awareness in society that these are minors, some as young as 8-12 years old, and according to the United Nations Convention on the Rights of the Child, these immigrant minors are "first and foremost children." This perspective is not universally understood in all EU member countries, leading to tensions between the need for migration control and the application of protective policies (Bravo de los Mozos 2013, UNICEF, 2007). The integration of immigrant minors is one of the priority areas within the framework of the Asylum,

Migration, and Integration Fund (AMIF) 2014-2020.

Regarding the term MENA, it is included in the Immigration Regulations, which approve the regulations of Organic Law 4/2000, and is part of RD 557/2011, currently in force (López de los Mozos, 2013). It focuses on the rights and freedoms of immigrants in Spain and their social integration. In the amendment to Organic Law 2/2009, Article 189 establishes that: "Foreign minors (under 18 years of age) who arrive in Spanish territory unaccompanied by a responsible adult, either legally or by established custom, shall receive appropriate attention to address relevant risks to the protection of childhood, as long as such responsible adult does not effectively take charge of the minor, similar to any other immigrant in the same situation once in Spain." (pp. 43956-43957).

The main goal of these immigrant minors is not to stay in Spain but to make their way to other European countries for employment opportunities. However, their dreams are often frustrated by endless administrative procedures, adaptation to specific centers with schedules and rules, and rejection by the host society (Delle and Galarraga, 2018).

The relationship between the health and well-being of immigrant minors and physical education is important and multifaceted. Physical education plays a crucial role in the holistic development of children and adolescents, regardless of their ethnic background or nationality. Here are some ways in which physical education can influence the health and well-being of immigrant minors:- Social Integration: Physical education provides an environment where immigrant minors can interact with their peers and build social relationships (Ventaja et al., 2023). This helps them feel a part of the school community (Luque et al., 2023) and overcome cultural or language barriers; Physical Health: Regular physical activity improves cardiovascular health, muscular strength, coordination, and physical endurance. This is

especially important for immigrant children who may have experienced malnutrition or lack of access to healthcare in their home countries.; Mental Health: Physical exercise releases endorphins, which can help reduce stress, anxiety, and depression. Immigrant minors often face emotional challenges related to adapting to a new environment, and physical education can be a means to alleviate these issues.; Cognitive Development: Physical activity is also linked to better academic performance and cognitive development. Children who participate in physical education classes tend to have better focus and problem-solving skills.; Healthy Lifestyle Habits: Physical education teaches children about the importance of maintaining an active and healthy lifestyle (Olmos et al., 2020). This can influence their eating and exercise habits throughout their lives.; Promotion of Cultural Diversity: Physical education can include activities that reflect cultural diversity, allowing immigrant minors to share their traditions and learn about those of others (Olmedo-Moreno et al., 2022; Olmos-Gómez et al., 2022). This fosters intercultural tolerance and respect.; Boosting Self-esteem: Success in physical activities can increase the self-esteem and confidence of immigrant minors, helping them feel more secure and capable in their new environment.

Therefore, in response to the issue outlined in the introduction and to better understand the characteristics of this study, our objective is to conduct a descriptive-explanatory study of research conducted in recent years on the topic of immigrant minors

2 Materials and methods

Interventionary studies involving animals or humans, and other studies that require ethical approval, must list the authority that provided approval and the corresponding ethical approval code. For this study, a quantitative-bibliometric methodology was employed, utilizing the Web of Science (WoS) database. The search in WoS was conducted within its "core collection," and filtering

was done using the "topic" feature that tracks keywords in both the titles and abstracts of scientific documents.

The search procedure in the database involved the use of Boolean operators "and" and "or," as well as truncations with the asterisk (*), question mark (?), and quotation marks (""). The search sequence was as follows: "immigrant minors AND ("justice" or "morality" or "policy" or "doctrine" or "norms" or "legal system" or "physical activity" or "mental health").

Once the database yielded a substantial number of results, the next step was to select the most relevant and impactful documents. To achieve this, we filtered the search using two options provided by WoS: "highly cited papers" and "hot papers." In the case of "Highly cited papers," these are scientific works that, since January/February 2022, have been highly cited, receiving enough citations to be included in the top 1% of the best articles in the academic field of the thematic category to which the article belongs, based on a threshold of highly cited articles for the field and publication year. In this case, a sample of 94 articles was obtained. On the other hand, "Hot papers" are articles that were

published in the last two years and received enough citations in January/February 2022 to be included in the top 0.1% of the best articles in the academic field to which they belong. In this instance, we obtained a sample of 2 articles. However, these 2 articles we consider as "Hot papers" are also "Highly cited papers," so the total sample of articles remains at 94 scientific works.

For the data analysis, sources of information such as academic journals, the countries producing the manuscripts, and the keywords from scientific articles were considered. The construction and visualization of graphs, network maps, and thematic maps were carried out using the Biblioshiny interface of RStudio v.4.0.4 (Aria and Cuccurullo, 2017) and the VOSviewer program v.1.6.16 (Van Eck and Waltman, 2010).

3 Results

Here is the main information about the data from the sample of scientific documents

Below is Table 1, which provides the key information regarding the sample of scientific documents.

Table 1. Key Information

| Description | Results |
|---|-----------|
| Main Information | |
| Temporal Range | 2001-2022 |
| Information's source (journals, books...) | 94 |
| Documents | 88 |
| Types of documents | |
| Articles | 81 |
| Articles (in press) | 3 |
| Proceedings | 2 |
| Reviews | 2 |
| Books chapters | 5 |
| Key Words | |
| Key words plus | 276 |
| Key words Authors | 339 |

Scientific Output

The following Figure 1 displays a graph depicting annual scientific growth within the temporal range from 2001 to 2022.

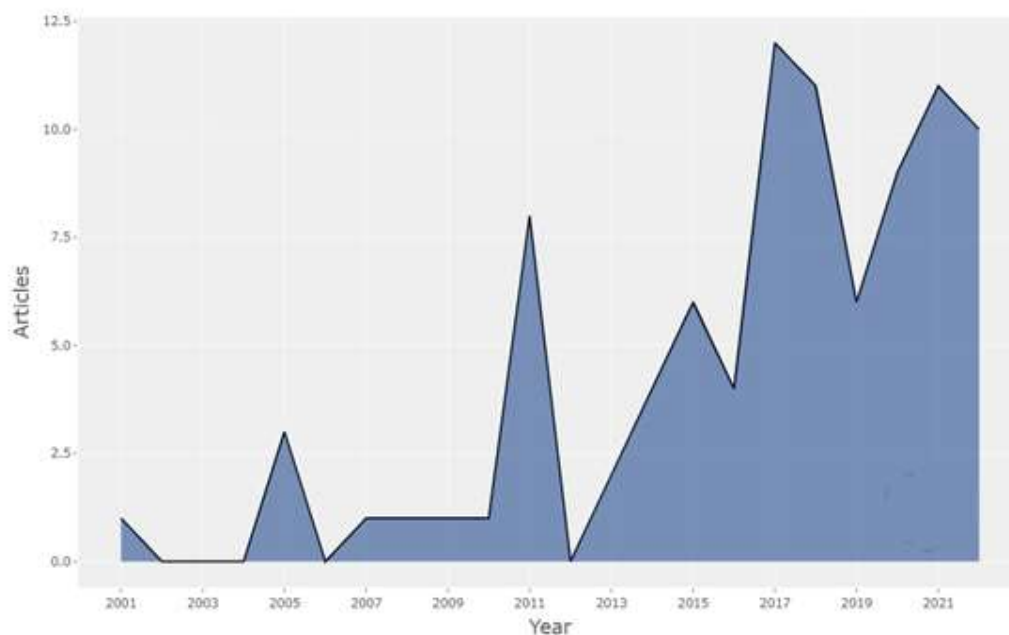


Figure 1. Annual Scientific Production

From the previous figure, and following Price's Logistic Growth Law of Science (1973), it can be observed that in the study's topic regarding immigrant minors and their primary relationship with justice, morality, policy, doctrine, and norms from 2001 to 2020, the production of articles showed nonlinear growth ranging between 10 and 12 manuscripts over a two-year period (2019-2021). Starting in 2021, with a production of 10 articles, there appears to be a period of exponential decline, which may be attributed to the impact of COVID-19 in recent years. For the year 2022, there is a significant decrease in growth with only a few

scientific works. However, it's important to note that as of the time of this study, the year 2022 is incomplete, and the production during that year is estimated to potentially increase. Therefore, it cannot be definitively stated that the topic has reached its level of logistic stabilization.

Main Sources of Information

Figure 2 presents a bar graph showing the top 10 most relevant sources of information in terms of scientific article production, with all sources being high-impact academic journals.

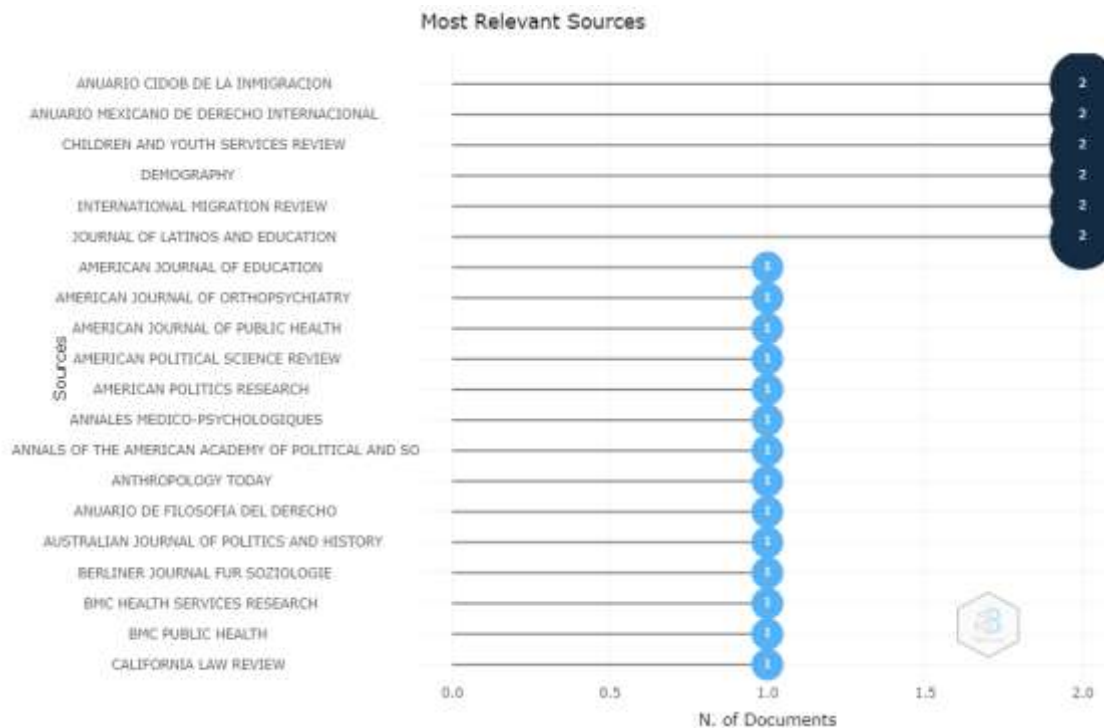


Figure 2. Most Relevant Sources of Information

The sources of information with a minimum production of four manuscripts have been selected, and they are considered the most relevant journals. These include the following journals:

- Anuario CIDOB de la Inmigración
- Anuario Mexicano de Derecho Internacional
- Children and Young Services
- Demography
- International Immigrant
- Journal of Latinos and Education

Each of these journals has produced 2 scientific articles. If we were to apply Lotka's Inverse Square Law of Productivity (1926), but instead of applying it to authors, we applied it to academic journals, these journals would be considered the major

producers as they have each produced 2 articles. The rest of the journals with only one contribution to the scientific field would be termed occasional producers.

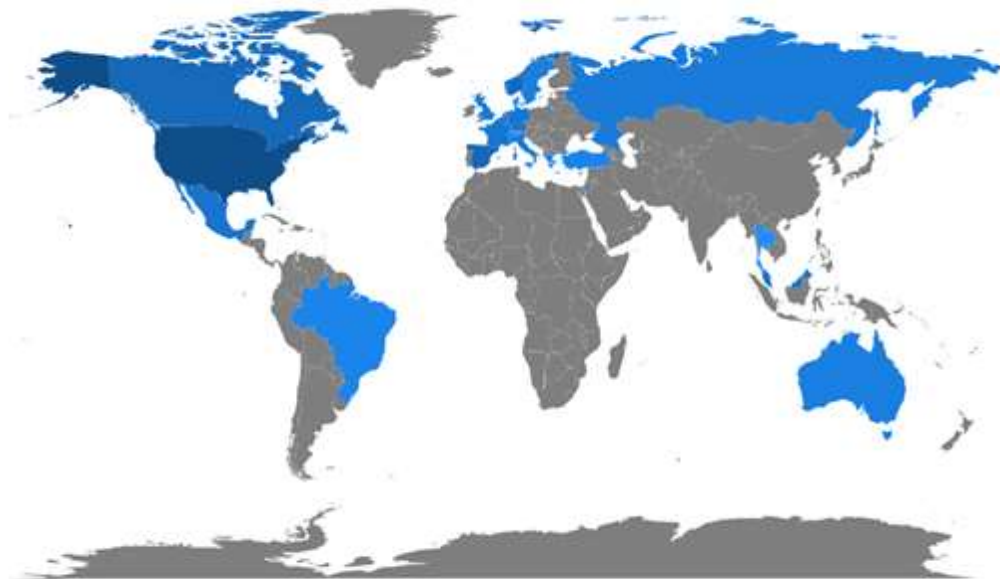
By examining the journal titles and their editorial focus, it can be inferred that a significant portion of the scientific production related to the studied topic focuses on aspects such as immigration and politics, resilience, or human rights.

Production and Collaboration Among Countries

Regarding countries, the production of the most productive countries is analyzed (Table 2), as well as the production originating from these productive countries (Figure 3).

Table 2. Production of the Most Relevant Countries

| Countries | Production |
|----------------|------------|
| EE.UU | 88 |
| SPAIN | 14 |
| CANADA | 13 |
| NORWAY | 12 |
| BELGIUM | 8 |
| HOLLAND | 7 |
| MALAYSIA | 6 |
| MEXICO | 6 |
| FRANCE | 5 |
| GERMANY | 5 |
| ISRAEL | 4 |
| ITALY | 4 |
| RUSSIA | 4 |
| UNITED KINGDOM | 4 |
| AUSTRALIA | 3 |
| SWEDEN | 3 |
| BRAZIL | 2 |
| GREECE | 2 |
| TURKEY | 2 |
| DENMARK | 1 |

**Figure 3.** Map of the Most Productive Countries

At a general level, a significant number of countries worldwide are involved, which explains the

universal nature and the high importance of the studied topic, as it arouses great interest from the international scientific community.

Analysis of Conceptual Structure

The following analyses aim to determine the main thematic trends and specific issues within the topic of immigrant minors and their relationship with other keywords related to law used in the search. To

achieve this, the most relevant keywords are identified based on their level of growth over the years, i.e., by obtaining their occurrence value. Initially, a distinction is made between author's keywords (Table 3), which are the keywords that authors themselves have freely chosen or terms subject to various thesauri to summarize the content of their research studies, and keywords plus (Table 4), which are terms assigned more automatically and standardized by the WoS database itself.

Table 3. Annual Occurrence Values of the Main Author's Keywords

| Author's Words | Occurrence |
|--------------------------------|------------|
| Inmigrant | 36 |
| Justice | 21 |
| Unaccompanied refugee minors | 20 |
| Unaccompanied immigrant minors | 19 |
| Rights | 8 |
| Ethics | 7 |
| Human rights | 7 |
| Politics | 7 |
| Education | 6 |
| Delinquency | 5 |
| Resilience | 5 |
| Punishment | 5 |
| Separation | 5 |
| Physical Education | 4 |
| Impact | 4 |
| Legal | 4 |
| Morality | 4 |

Table 4. Annual Occurrence Values of the Main Keywords Plus

| Keywords plus | Ocurrencias |
|------------------------------|-------------|
| Justice | 32 |
| Inmigration | 28 |
| Resilience | 23 |
| Unaccompanied foreing minors | 19 |
| Mental health | 17 |
| Immigrant integration | 15 |
| Morality | 10 |
| Human Right | 5 |
| Depressive symptoms | 4 |
| Freedom | 2 |
| Educational policy | 2 |

| | |
|-----------------|---|
| Trauma | 1 |
| Policy | 1 |
| Religion | 1 |
| Jurisprudence | 1 |
| State | 1 |
| Law | 1 |
| Central America | 1 |
| Higer Education | 1 |
| Right | 1 |

Based on the obtained results, we find that six of the keywords are present in both typologies: Immigrant, justice, unaccompanied immigrant minors, human rights, policy, and education. The growth of these six keywords is ascending, with a significant difference compared to the rest of the occurrences.

If we focus on the author's keywords, it is clear that the five most relevant terms that form the core of the research are Immigrant, Justice, Unaccompanied Immigrant Minors, Unaccompanied Refugee Minors, and Rights. These five keywords share a high occurrence value, with the first two being particularly relevant compared to the others.

In the case of keywords plus, the data would indicate a second research area with a more social and philosophical focus, with the words justice, immigration, resilience, unaccompanied immigrant minors, and mental health being the most relevant and cited in all the studied articles.

We conclude the analysis of the conceptual structure by performing a co-occurrence analysis, this time unifying both typologies of keywords. To do this, we set a minimum occurrence value of 5 for a keyword. From the sample of 94 articles, we obtain a total of 276 keywords, of which 46 reach this threshold. Figure 4 shows the network map of all the keywords.

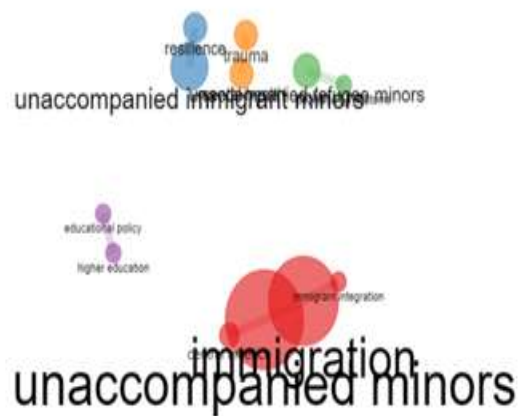


Figure 4. Co-occurrence Network Map of All Author Keywords

The network map is presented using the association strength method among its different keywords, minimizing the links present in the map to select only those stronger connections between terms, which can be observed by the size and thickness of both nodes and links. In the network map, up to five distinct "clusters" are differentiated by colors: red, green, dark blue, yellow, and purple.

Additionally, we have developed the co-occurrence network map based on keywords plus, which is presented in Figure 5.

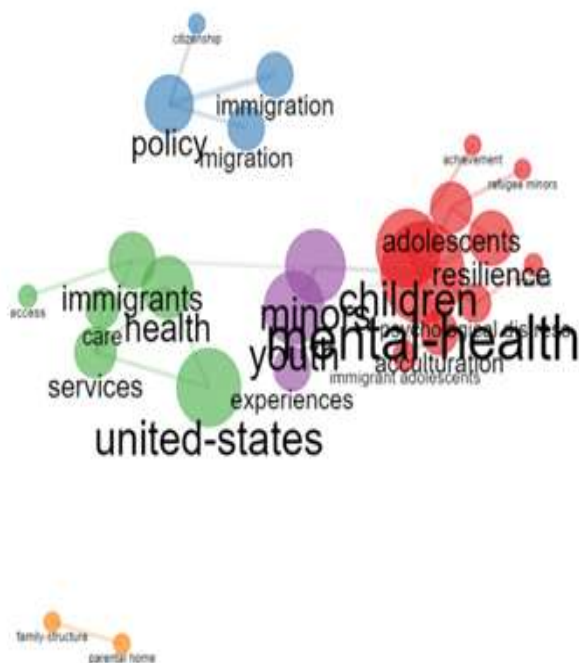


Figure 5. Co-occurrence Network Map of All Keywords Plus

As you can observe, different configurations have been created by interlinking the colored zones of the map, forming a more homogeneous cluster with increased interrelation among the words.

4 Discussion and conclusion

In the present study, we have investigated the topic of immigrant minors and their relationship with justice, morality, policy, doctrine, norms, and the legal system. We have worked with scientific literature that has generated significant interest and had a substantial impact in terms of citations. By refining our search in the WoS database to include highly cited papers and hot papers, we ensured that the results represented the main thematic trends of recent years.

As observed through the analysis of annual scientific production, the studied topic maintained a level of linear and constant production, focusing on aspects that could be considered "classic" in the social issue of unaccompanied immigrant minors.

In terms of the main themes, two major research fronts have been identified: justice and immigration, within the framework of the social issue of unaccompanied minors. Clear reasons for this include the consequences and aftermath of COVID-19. Notably, a large number of countries from all continents, except Africa, have collaborated on this topic. The United States and Spain have emerged at the forefront of this list in terms of production and collaboration frequency. One possible reason is the situation in the border cities of Ceuta and Melilla in Spain, which have the highest number of unaccompanied minors in the country, driving research in this area.

Finally, one of the obstacles or limitations that this research, as well as many other bibliometric studies retrieving their sample of scientific papers from various databases, might encounter is the lack of uniformity in these databases when it comes to indexing keywords. This is especially prominent when distinguishing between author's keywords and keywords plus. Despite refining the searches as much as possible using different truncation techniques, working with all keywords together can lead to errors due to differences in punctuation marks (such as hyphens between terms) or the number of words (singular or plural), etc. This results in the recognition of identical keywords as different and independent terms

In summary, physical education plays a vital role in the overall well-being of immigrant minors by addressing physical, emotional, and social aspects of their lives. By providing an inclusive space and promoting both physical and mental health, physical education can be an important tool in helping immigrant minors adapt and thrive in their new environment.

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