Affective-sexual and gender diversity in Spanish education: a systematic literature review

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Introduction: The aim of this present work is to systematically compile, map, and review the scientific literature concerning education on affective-sexual and gender diversity, produced within the Spanish geographical context over the past decade (2013–2023). To this end, this systematic review offers an unprecedented and updated synthesis of the most prominent challenges and areas for improvement in Spain, for the purpose of identifying existing research gaps, as well as curricular and training needs in this transdisciplinary field.

Methods: To achieve this objective, the PRISMA guidelines are applied in the extraction and selection of indexed materials from two of the principal internationally renowned databases, namely the Web of Science Core Collection and Scopus. The analysis was facilitated through the use of bibliographic management software, as well as quantitative and qualitative data analysis tools.

Results: The findings obtained address the research question pertaining to the factors influencing the construction of attitudes and representations concerning this type of diversity within formal educational settings. Furthermore, the benefits, limitations, and obstacles surrounding its curricular integration are examined. Various socio-demographic variables of both students and educators, such as age, gender, religious beliefs, teaching experience, personal and social experiences, school-driven initiatives, and the persistence of hegemonic gender representations emerge as explanatory factors linked to these attitudes and representations. Similarly, the visibility of diverse identities, social inclusion, and plurality are associated with the necessity for education geared toward democratic citizenship. The sensitivity of the content and its curricular invisibility, along with training deficiencies, lack of academic recognition, and the absence of specific protocols for preventing LGBTIQphobia are identified as the most prominent limitations or hurdles for the comprehensive promotion of education pertaining to affective-sexual and gender diversity across distinct educational stages.

Discussion: Instances of discrimination, harassment, and both physical and symbolic violence against non-heteronormative groups, grounded in the sex-gender system and cis-heteronormativity, continue to be recognized by educators. In this vein, scientific literature underscores the significance of education concerning affective-sexual and gender diversity as a means to eradicate stereotypes and negative attitudes toward LGBTIQ+ individuals, thereby striving toward genuine equity.

KEYWORDS

affective-sexual and gender diversity, LGBTIQ+, formal education, teacher training, systematic review

1 Introduction

Advancing toward a gender-equitable education grounded in the theoretical principles of social justice (Bittner et al., 2016) inherently leads to a greater democratization of the concept of gender within the school system. The necessity to transcend the pedagogical boundaries of heteronormativity and cisgender norms in schools (Martino and Cumming-Potvin, 2017) has been underscored by transgender and gender diverse students (non-binary or fluid, non-conforming gender, expansive gender, or agender; Mangin, 2019; Ullman, 2016). Similarly, the lack of training or teaching competence has constituted one of the fundamental explanatory elements for the challenges in addressing these types of identities (Payne and Smith, 2014). From this perspective, the study conducted by Meyer et al. (2016) aimed to identify and analyze the obstacles and supports for educators in creating affirmative learning environments for transgender and creatively gendered students. Among the well-established systemic barriers was the confirmation of the persistence of transphobic expressions, as well as training and support limitations, among other factors.

In this regard, certain areas demanding additional reinforcement have already been recognized, such as actions to counter stress related to the context and cisnormativity, overcoming school-related barriers, and advocating for increased institutional responsibility (Horton, 2020). This institutional responsibility aligns with the need to promote school policies capable of providing comprehensive safe and equitable environments (Kurt and Chenault, 2017) and furnishing the necessary tools and resources for comprehending the complexity of the conceptual framework of gender (Neary, 2021). This complexity should also involve questioning the normalizing categories of the binary gender concept and establishing schools that are more affirmative in relation to this type of diversity (Meyer and Keenan, 2018). Along these lines, noteworthy outcomes are connected to the active creation of inclusive educational and training environments aimed at minimizing the hegemony of cisnormativity (Blackburn, 2021), as well as the evaluation of educational innovation programs focused on developing and acquiring competencies related to affective-sexual diversity (Alfonso-Benlliure and Alonso-Sanz, 2023; Morales-Rodríguez, 2021).

The social representations and attitudes toward sexual diversity among university faculty have been explored by Soria-Barreto et al. (2022), whose findings emphasize the need for more specific training for teaching practices. These results align with those obtained in the study by Breull-Arancibia and Agud-Morell (2023), who argue that an increase in gender awareness is mediated by teacher training—an aspect of improvement similarly highlighted in the study by Coulter et al. (2020). In this context, Johnson (2023) underscores the persistent reproduction of heteronormativity in primary education, despite the existence of favorable discursive attitudes toward the integration of LGBTQ+ community-inclusive actions and a heightened awareness of this diversity (Tinoco-Giraldo et al., 2021).

The existence of subtle unfavorable attitudes toward affective-sexual and gender diversity underscores the relevance of teacher training and awareness for enhancing learning environments and the systematic implementation of specific strategies. The viability

of these actions and improvements has been confirmed in studies such as McQuillan and Leininger's (2020) for the North American context, Francis et al.'s (2019) for the African context, and Kwok and Kwok's (2021) for the Asian context.

The construct of the cultural cisgender concept indeed impacts the construction, self-perception, and societal perception of other gender identities (Kennedy, 2018). Thus, the school, understood as a cultural nucleus of socialization, leaves little room for transgressions of normative gender. In dealing with and surpassing this, educators emerge as crucial figures (Smith and Payne, 2015). From this perspective, it has been demonstrated that disrupting binary gender norms and constructing broader school cultures has implications for generating more inclusive and diverse environments (Mangin, 2019), and for distancing from restrictive social systems aligned with gender and sexuality norms. Therefore, the promotion of diverse gender identities and expressions, as a foundation for social anti-discrimination and eradicating school bullying (Feijóo and Rodríguez-Fernández, 2021), demands reflections on sexual and gender conformity (Frohard-Dourlent, 2015).

The assessment of curriculum inclusion of topics related to gender and sexuality diversity has been explored by researchers like Kwok and Kwok (2021) and Ferfolja and Ullman (2021), whose conclusions emphasize the need to enhance professional development for educators in this realm. In these inclusion processes, the conditioning effect of educators' sociodemographic characteristics and the influence of their disciplinary and academic affiliation have also been highlighted (Tabler et al., 2022). International scientific literature recommends, in this regard, the application of pedagogical principles associated with critical and queer pedagogies, as well as promoting discussions around the intricate gender concept as a key content of social justice in curriculum development, and instituting more structural changes to mitigate pressures of gender and sexual conformity (Frohard-Dourlent, 2017).

In this context, the objective of this study is to systematically compile, map, and review the scientific literature on education for affective-sexual and gender diversity, produced in the Spanish geographical context over the last decade (2013–2023), and indexed in two of the foremost international impact databases (Web of Science Core Collection and Scopus). Given the deficit in teacher training regarding education on this type of diversity (challenge 1), this research aims to analyze, for the first time in the Spanish context, the factors conditioning teachers' attitudes and representations in this domain (objective 1). Likewise, considering the limited curricular visibility of affective-sexual diversity in teacher training plans, curricula, and school textbooks (challenge 2), this study seeks to systematize the didactic strategies, methodologies, and teaching interventions that have proven most effective in formal contexts (objective 2).

2 Method

2.1 Design and procedure

The methodology employed corresponds to systematic literature review studies. Although a consensus regarding its proper application is lacking (Tricco et al., 2018), systematic

review necessitates a rigorous protocol, which distinguishes it from traditional narrative review by being less susceptible to bias and more objective, detailed, and explicit in study inclusion criteria (Higgins and Green, 2008). Through this form of inquiry, the aim is to provide a comprehensive and reliable perspective on a research topic, with the purpose of circumventing random error limitations by means of systematic and exhaustive retrieval of pertinent records, application of well-defined and reproducible criteria, description of their designs, assessment of the selected literature's quality, synthesis of obtained data, and interpretation of results (Sánchez-Serrano et al., 2022). The literature review method thus seeks to identify prior research advancements and challenges related to the formulated research question(s), facilitating result consolidation and knowledge construction regarding previous works, preventing duplication, and identifying omissions or gaps (Grant and Booth, 2009). The guiding questions for the search strategy were as follows: what factors contribute to the formation of attitudes and representations concerning affective-sexual and gender diversity within Spanish formal educational contexts? What are the benefits, limitations, and obstacles to their curricular or formative inclusion?

The databases were selected and the search was executed in accordance with the PRISMA guidelines for systematic reviews and meta-analyses (Moher et al., 2015), adopted to ensure transparency and rigor in the selection process (Moher et al., 2009). These guidelines stipulate a checklist of 27 items for verification and a flow diagram composed of four phases (Page et al., 2021; Rethlefsen et al., 2021). Studies included in this review were culled from two databases in August 2023: Clarivate Analytics' primary Web of Science (WoS) collection and Elsevier's Scopus. The five criteria for document inclusion were as follows:

1. The studies incorporate terms related to gender and affective-sexual diversity within the educational context in their titles, abstracts, and/or keywords, regardless of the educational/formative stage and didactic-disciplinary specialty.
2. The studies comprise scientific articles, book chapters, books, and conference proceedings published between 2013 and 2023.
3. The studies encompass scientific articles written in either english or spanish, irrespective of the mode of access to the full text (open or subscription-based).
4. The studies are conducted within the Spanish educational-geographical sphere.
5. The studies provide rigorous analyses of the impacts, effects, or influence of diagnostic or outcome-related aspects on teaching and/or specific learning processes pertaining to gender and affective-sexual diversity. They contribute educational conclusions and relevant theoretical-practical implications within the realm of formal education.

Theses for university degrees, state-of-the-art reports, theoretical reflections, conceptual reviews, systematic reviews, and narrative literature reviews, book chapters, books, conference proceedings, as well as scientific articles lacking in-depth exploration and substantive conclusions and implications related to gender and affective-sexual diversity were not included. Studies conducted outside the Spanish educational and geographical

context were also excluded, even if authored by individuals or groups from Spain. Additionally, studies written in languages other than English or Spanish, and those published before 2013, were excluded. Furthermore, works unrelated to educational contexts of formal teaching or those that, while situated within this sphere, fail to explicitly mention university degrees/faculties or the educational level of non-university teachings of interest were not considered.

The focus of the present research on the Spanish educational context stemmed from the need to analyze, in a situated manner, attitudes, representations, needs, and training processes surrounding gender and affective-sexual diversity. The selected time frame was determined by its recency, as such analysis was not previously available in other systematic literature reviews within the Spanish context. The inclusion of sources written in English or Spanish adhered to the methodological requirement of evaluating and synthesizing accessible studies typically subjected to quality editorial review in the globally and regionally most relevant scientific communication languages, respectively. Meanwhile, the exclusion of theses, theoretical reflections, or state-of-the-art reviews without empirical contributions was driven by the intention to include exclusively research with clear and applicable educational contributions. Similarly, the non-selection of studies conducted outside the Spanish educational-geographic context, despite potentially being authored by Spanish researchers, responded to the need to contextualize and coherently understand the dynamics effectively taking place in this country. A comprehensive record of excluded studies was compiled, rigorously adhering to exclusion criteria. Although some non-indexed works or those written in other languages might contain valuable information, consistency in quality and relevance to the study's objectives was prioritized.

The search was conducted using free terms based on their prevalence in the international scientific literature. The combination of words entered in the basic search option of each database was entered across four fields. In the first field, 'gender' was entered, in the second (AND), 'divers* OR equality OR egalitarian OR inequality OR unequal OR identit* OR inclus*', and in the third (AND), 'teaching OR learning OR curriculum OR education OR teacher OR training', and fourth (AND), 'lgbt* OR lgtb'. The asterisk (*) was added to capture various word forms. The requirement for inclusion of the latter term (LGBT+–LGTB and its derivatives or extensions) necessitated a comprehensive consideration of gender identities and affective-sexual orientations. Consequently, studies solely based on one or some of these dimensions were excluded.

The initial search conducted within the main WoS collection yielded a total of 2001 results. Subsequently, the dataset was refined by applying the chosen time range (2013–2023), resulting in 1961 documents returned by the database, with 40 excluded. The next filter applied pertained to the thematic area, restricted to the categories Education Educational Research, Education Scientific Disciplines, Psychology Educational, Education Special. This resulted in 482 records being retained and 1,479 excluded. The search was further refined by selecting the document type (scientific article), which produced a total

of 449 records and excluded 33. Next, records written in English and Spanish were chosen. This new search yielded a total of 441 documents that met the prior inclusion criteria, with eight documents failing to meet them. Finally, the search was limited to works produced within the Spanish geographical scope, resulting in 13 records being retained and 428 excluded.

The second search was carried out in the Scopus database, following the same parameters, Boolean operators, and terminological truncations in the order applied in the previous database. Initially, the general parameters were executed, yielding an initial total of 1,680 records. The search was narrowed to the 2013–2023-time range, resulting in 1,623 records retained and 57 excluded. Subsequently, filtering was done by thematic areas, with the selection of categories such as Social Sciences, Arts and Humanities, and, due to potential scientific proximity, Psychology. This yielded 973 documents and excluded 650. Then, the mentioned document types were selected, with 897 records retained and 76 excluded. Finally, filtering by language was performed, focusing on articles written in English and Spanish, resulting in 879 studies retained and 18 excluded, and by geographic origin, yielding 40 records retained and 839 excluded.

Next, duplicate documents between both databases were removed ($n = 8$ documents), followed by a thorough reading of the resulting full texts with two objectives: (1) Assess their quality based on the criteria for evaluating quantitative and qualitative studies by Kmet et al. (2004); and (2) Identify the relevance of impacts, effects, or influence of outcomes, along with contributions, conclusions, and theoretical-practical implications, specifically within formal education, for each study ($n = 25$ documents excluded). This process yielded a reliable volume of 20 valid documents for the current systematic review (Figure 1). Finally, the designs and research levels of the selected studies were described, and the main general results were synthesized and interpreted.

During the extraction process, researchers made individual contributions by inputting the included and excluded records independently, aiming to ensure and corroborate the absence of bias in the gathered information. This approach adhered to the evaluation of individual study bias risk outlined in the PRISMA protocol, and effect measures were employed to ensure the absence of geographical and full-text bias errors.

2.2 Data analysis

The acquired data underwent analysis based upon two categories of variables: substantive variables and methodological variables (Table 1). The substantive variables align with the intrinsic attributes of the chosen records. Their metrics materialized as follows:

Indicator 1: Authors and year.
Indicator 2: Sample and educational stage.
The methodological variables pertain to the fundamental aspects of the designs and methodologies employed within the selected records. Their metrics concretized as indicators 3–6:
Indicator 3: Objectives.

Indicator 4: Research design (non-experimental cross-sectional or longitudinal quantitative design; quantitative experimental design: pre-experimental, quasi-experimental, or pure experimental; qualitative design; mixed or multimethod methodological designs).
Indicator 5: Method (Quantitative: Exploratory, descriptive, relational, correlational, explanatory [causal], predictive, or applicative; Qualitative: Grounded theory, ethnographic, narrative, phenomenological, action research).
Indicator 6: Primary findings.

In order to guide the reading of the complete texts and streamline the information while preserving its essential content, a database (descriptive sheets) was established. This database contained the requisite informational synthesis dictated by the substantive and methodological variables/parameters of the documentary corpus under review (Appendix). The configuration of this database was underpinned by the PICoS strategy (population sample, phenomenon of interest, educational/formative context, and study design) as outlined by Pertegal-Vega et al. (2019). To facilitate its subsequent analysis, the discussion of the key findings was formulated in alignment with the research questions, with citations to the chosen studies.

The research team selected 20 studies that conformed to the selection criteria through two independent rounds of assessment, followed by a final consensus round. After the winnowing and selection process, the documentary corpus underwent content analysis through deductive coding and categorization procedures in accordance with the posed research questions. Initially, a predetermined list of codes was generated, and their segments were compiled into three categories: Category 1. "Factors Associated with Representations and Attitudes"; Category 2. "Limitations or Obstacles in Curricular or Formative Inclusion of Affectional-Sexual and Gender Diversity"; Category 3. "Benefits of Curricular or Formative Inclusion of Affectional-Sexual and Gender Diversity" (Figure 2). This process adhered to the overarching procedural phases outlined by Kuckartz (2014): delimitation of research purpose, definition of attributes of evaluated data (codes), data coding, method determination (deductive), assignment and description of pertinent defining dimensions (categories), and analysis and interpretation of results. The presentation of the deductive coding and categorization process is substantiated by qualitative evidence, exemplifying 1 to 3 textual segments per most recurrent code.

Furthermore, data analysis was approached from a mixed-methods perspective, aiming to triangulate potential results and reduce the impact of divergent approaches. In this way, the attributes of the ultimately included works were numerically encoded to facilitate descriptive (absolute and relative frequencies) and inferential analyses. This was achieved through the application of the $\chi 2$ test of independence, aimed at discerning statistically significant interdependency relationships among the study variables. Effect sizes of the identified associations were computed employing the CC statistic (coefficient of contingency).

The qualitative data obtained underwent analysis aided by MAXQDA 2020 software. Additionally, SPSS v29 software was employed for quantitative analysis, while JabRef 5.9 served as the bibliographic management tool.
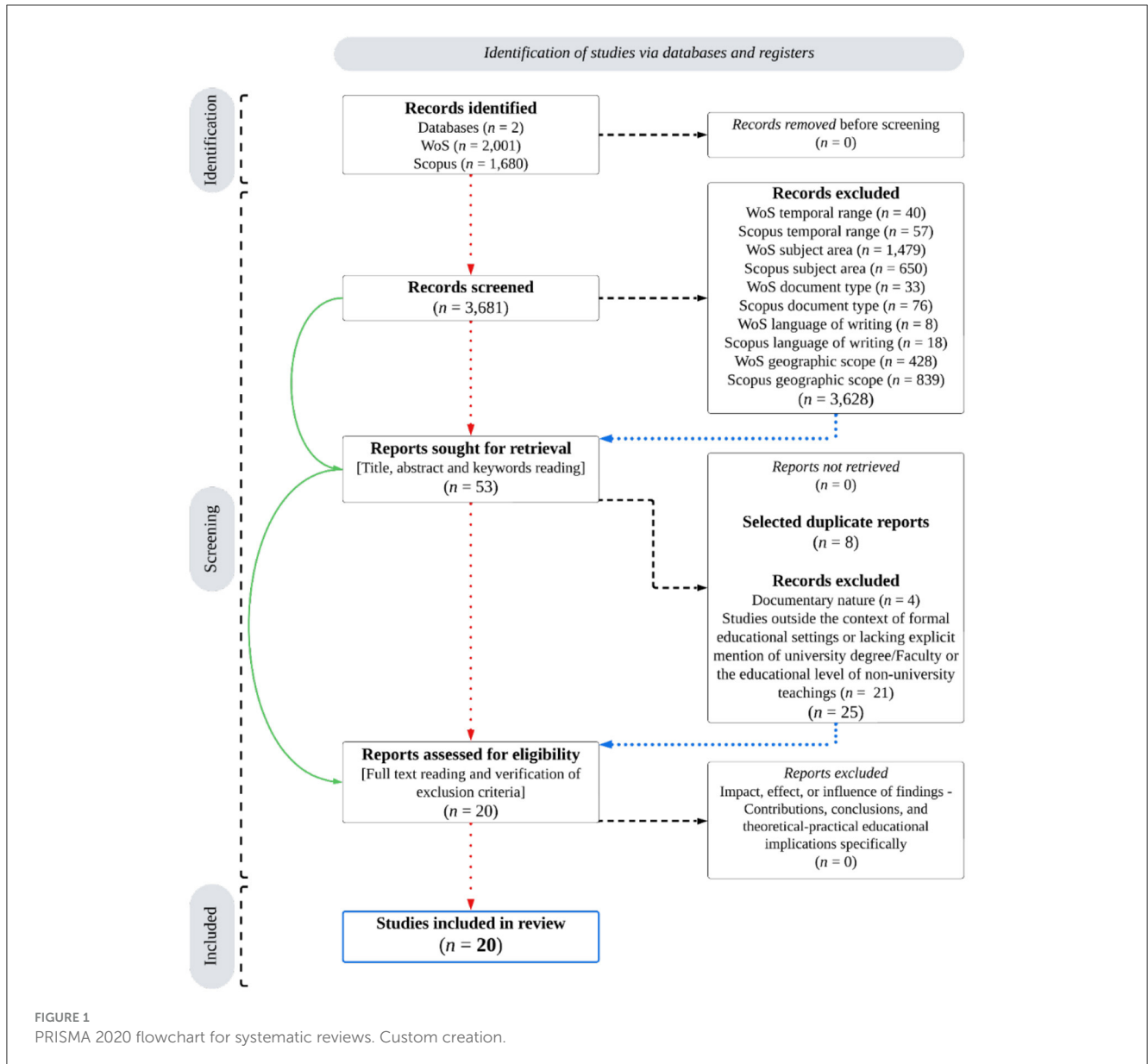
FIGURE 1
PRISMA 2020 flowchart for systematic reviews. Custom creation.

TABLE 1 Systematic depiction of results by indicator and variable type.

ID	Substantive variable		Methodological variable			
	I1	I2	I3	I4	I5	I6
[Num.]	[...]	[...]	[...]	[...]	[...]	[...]

I1, authors and year; I2, university degree/faculty or non-university educational stage, and sample; I3, objective/s; I4, research design; I5, method; I6, primary results.

2.3 Reliability

In order to obtain evidence of inter-rater reliability, reproducibility, and stability among operators in the final selection of the study corpus, we assessed the degree of selective agreement between two evaluators—a representative from the research team and an external evaluator. This assessment was accomplished through the calculation of Cohen's kappa coefficient

(K), a measure applied in other systematic reviews (Lee et al., 2020). This statistic stands as one of the most commonly used indices for measuring inter-rater reliability, derived from the utilization of a harmonized probability based on the coincidental classification of data into the same category by researchers. The results of this metric range between -1 and $+1$, wherein 1 signifies agreement between evaluators and 0 indicates that the agreement corresponds to chance (Figure 3). Although uncommon, negative values denote opposing viewpoints among evaluators. Interpretation of the kappa statistic is based on the following classification: poor (below 0), slight (0 to 0.20), fair (0.21 to 0.40), moderate (0.41 to 0.60), substantial (0.61 to 0.80), and almost perfect (0.81 to 1). The K value obtained in the current study was 0.78 in the initial evaluation/selection phase. This value was subsequently improved through a second and third round of cross-review and subsequent discussion, resulting in values of 0.83 and 0.91, respectively.
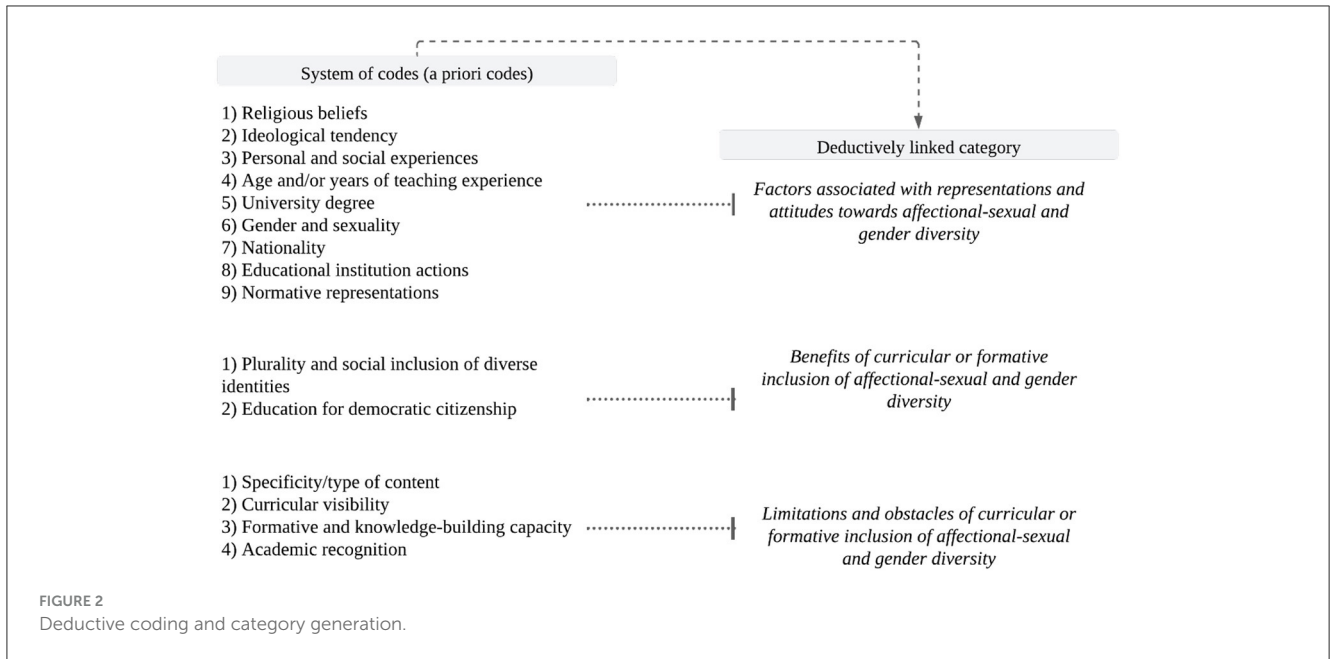
FIGURE 2
Deductive coding and category generation.

FIGURE 3
Cohen's Kappa statistical formula (K).

TABLE 2 Absolute and relative frequencies by time frame.

Time frame	n_i ($f_i = n_i/n$)	$f_i = n_i/n$ cumulative
2019–2023	18 (90)	90
2013–2018	2 (10)	100
Total	20 (100)	

3 Results

The obtained results reveal a pronounced concentration of publications in the most recent time frame (90%) (Table 2) and a predominant focus on educational stages within secondary and higher education (teacher training; 65%; Table 3). In line with these levels, 50% of the sample is distributed among teacher education and secondary education students (Table 4).

The applied research designs and methods exhibit a prevailing affiliation with non-mixed designs, augmented by supplementary applications of cross-sectional quantitative relational and qualitative approaches (75%; Tables 5, 6). Within this distribution, mixed-method studies constitute 25% (Table 5).

Despite the widespread absence of statistically significant relationships among the study variables, an interdependent association can, nonetheless, be identified between the participating or documentary sample and the employed research method ($\chi^2_{(63,n=20)} = 83.333$, $p = 0.044$). Indeed, the applied methods exhibit statistically significant relationships with the type of participant or curricular document under analysis. In this regard, investigations conducted with secondary education students tend to employ quantitative methods of an *ex post facto* relational

nature, whereas research-action is selected when the participating sample encompasses students and faculty from diverse university specialties (Table 7).

With similar frequencies, levels of relational-correlational research are preferred for application among students from other professions or university specialties, whereas descriptive and content analysis methods tend to be chosen for participants linked to teacher education. Other relationships, however, are to be expected due to their inherent methodological association, such as the one established between documentary samples and content analysis. Nevertheless, their effect size remains low (<0.1, CC = 0.044).

4 Discussion

In this section, the key findings are deliberated upon in accordance with the research questions: what factors influence the formation of attitudes and representations regarding affective-sexual and gender diversity in formal Spanish educational contexts? What are the benefits, limitations, and obstacles to their curricular or formative inclusion?

TABLE 3 Absolute and relative frequencies by educational stage.

Educational stage	n_i ($f_i = n_i/n$)	$f_i = n_i/n$ cumulative
Secondary education	8 (40)	40
University (teacher training)	5 (25)	65
Other university professionals or specialties	5 (25)	90
University (teacher training) and non-university	1 (5)	95
Inter-level	1 (5)	100
Total	20 (100)	

TABLE 4 Absolute and relative frequencies by sample.

Sample	n_i ($f_i = n_i/n$)	$f_i = n_i/n$ cumulative
Teacher education students	5 (25)	25
Secondary education students	5 (25)	50
Students and faculty from other university specialties	3 (15)	65
Students from other professions or university specialties	2 (10)	75
documentary	2 (10)	85
Teacher education students and active faculty	1 (5)	90
Teacher education students and professionals from other fields	1 (5)	95
Active faculty from basic, secondary, and higher education	1 (5)	100
Total	20 (100)	

TABLE 5 Absolute and relative frequencies by research design.

Research design	n_i ($f_i = n_i/n$)	$f_i = n_i/n$ cumulative
Qualitative	8 (40)	40
Non-experimental cross-sectional quantitative	7 (35)	75
Mixed or multimethod	5 (25)	100
Total	20 (100)	

4.1 Factors associated with representations and attitudes toward affective-sexual and gender diversity

A significant 87.51% of the factors influencing the construction of representations and the shaping of attitudes toward affective-sexual and gender diversity are rooted in the gender identity and affective-sexual orientation of the participating students and/or faculty, the impact of hegemonic representations, specific actions undertaken by the educational institution in this sphere, religious beliefs, personal and social experiences, as well as age or years of teaching experience (Table 8).

TABLE 6 Absolute and relative frequencies by research method.

Research method	n_i ($f_i = n_i/n$)	$f_i = n_i/n$ cumulative
Ex post facto relational	4 (20)	20
Narrative	3 (15)	35
Content analysis	2 (10)	45
Case study	2 (10)	55
Action research	2 (10)	65
Relational-correlational	2 (10)	75
Descriptive and content analysis	2 (10)	85
Ex post facto relational and narrative	1 (5)	90
Ex post facto relational and case study	1 (5)	95
Ex post facto explanatory relational and phenomenological	1 (5)	100
Total	20 (100)	

The selected studies reveal gender identity and affective-sexual orientation (Cantos et al., 2023; Garrido-Hernansaiz et al., 2017; Huerta and Alfonso-Benlliure, 2023; Huertas-Abril and Palacios-Hidalgo, 2022; Lara-Garrido et al., 2022) as one of the primary explanatory factors for the representations and attitudes of secondary education students, prospective teachers, and non-teaching university students toward this diversity. The research by Huertas-Abril and Palacios-Hidalgo (2022), focused on perceptions of pre-service teachers regarding the inclusion of LGBTIQ+ topics in their teaching practice, highlights the influence of gender identity and affective-sexual orientation on their inclusive perceptions. Their study suggests explicit reflection on the perceptions, experiences, and attitudes of future teachers to enhance their competencies and skills for attending to LGBTIQ+ students and fostering safe and inclusive educational environments. Cisgender male identities (Ramírez-Díaz and Cabeza-Ruiz, 2020) and internalized homonegativity unfavorably influence perceptions among both secondary education students (Ojeda et al., 2023) and those in higher education (Álvarez-Bernardo et al., 2022) (Figure 4).

The hegemony of heteronormativity and gender-related stereotypes underlies unequal gender relations, both in curriculum development and interpersonal social interactions within secondary education (Wilson-Daily et al., 2022). Indeed, the gathered evidence reveals the continued reproduction of naturalized heterosexual male/female identities in textbooks (Ruiz-Cecilia et al., 2020) and the absence of pertinent LGBTQ+ content in subjects (Wilson-Daily et al., 2022), along with a lack of representation for this community (López, 2022). Furthermore, cis-centrism, gender binarism, and monosexuality are identifiable in affective-sexual education practices in secondary education (Granero, 2021). In this vein, the cognitive, attitudinal, and relational acceptance of affective-sexual and gender diversity is still mediated by hegemonic heteronormative representations (Liscano Rivera and Jurado de los Santos, 2016).

TABLE 7 Cross-tabulation of participant-documentary sample and research method variables.

| Group | Research method | | | | | | | | | | Total |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
	n_i (f_i)	n_i (f_i)	n_i (f_i)	n_i (f_i)	n_i (f_i)	n_i (f_i)	n_i (f_i)	n_i (f_i)	n_i (f_i)	n_i (f_i)	n_i (f_i)
G1			1 (33.3)	1 (50)			1 (100)			2 (100)	5 (25)
G2						2 (100)					2 (10)
G3	2 (50)		1 (33.3)	1 (50)					1 (100)		5 (25)
G4	1 (25)										1 (5)
G5	1 (25)										1 (5)
G6			1 (33.3)								1 (5)
G7					2 (100)			1 (100)			3 (15)
G8		2 (100)									2 (10)
Total	4 (100)	2 (100)	3 (100)	2 (100)	2 (100)	2 (100)	1 (100)	1 (100)	1 (100)	2 (100)	20 (100)

G1, teacher education students; G2, students from other professions or university specialties; G3, secondary education students; G4, teacher education students and active faculty; G5, teacher education students and professionals from other fields; G6, active faculty from basic, secondary, and higher education; G7, students and faculty from other university specialties; G8, documentary.

1, ex post facto relational; 2, content analysis; 3, narrative; 4, case study; 5, action research; 6, relational-correlational; 7, ex post facto relational and narrative; 8, ex post facto relational and case study; 9, explanatory relational-ex post facto and phenomenological; 10, descriptive and content analysis.

P_i within the research method variable.

$\chi^2_{(63, n=20)} = 83.333$, $p = 0.044$.

TABLE 8 Volume of coded text segments and relative frequencies.

A priori codes	Coded segments	$f_i = n_i/n$	$f_i = n_i/n$ cumulative
Gender and sexuality	280	29.17	29.17
Normative representations	160	16.67	45.84
Educational institution actions	120	12.50	58.34
Religious beliefs	100	10.42	68.76
Personal and social experiences	100	10.42	79.18
Age and/or years of teaching experience	80	8.33	87.51
Ideological orientation	60	6.25	93.76
University degree	40	4.17	97.93
Nationality	20	2.08	100
Total	960	100	

In the presence of higher levels of homonegativity and transphobia, individuals with religious beliefs emerge as a recurrent explanatory sociodemographic characteristic in studies involving university students (Álvarez-Bernardo et al., 2022; Lara-Garrido et al., 2022) as well as research encompassing both teachers and secondary education students (Garrido-Hernansaiz et al., 2017; Huerta and Alfonso-Benlliure, 2023). With similar relative frequencies (10.42%), the influence of personal and social experiences on the evaluation of these levels is confirmed in the studies by Garrido-Hernansaiz et al. (2017) and Lara-Garrido et al. (2022).

Positive impacts of school initiatives on affective-sexual diversity topics are identified in relation to levels of diversity

acceptance (Garrido-Hernansaiz et al., 2017). Institutional efforts to integrate gender and LGBTQ perspectives are equally recognized in the higher education context (Villarroya and Boté-Vericad, 2023; Villarroya et al., 2022) and teacher education. In this perspective, the implementation of educational initiatives, specifically focusing on addressing sexual and gender diversity, yields substantial evidence regarding the elimination of stereotypes and biases in this domain, as well as the fostering of inclusive teacher training (Huerta, 2021).

Additionally, age, years of teaching experience, or academic year significantly influence tolerance levels among active primary school teachers (Amigo-Ventureira et al., 2022), teacher education students (Cantos et al., 2023), non-teaching university specialty students (Lara-Garrido et al., 2022), as well as secondary education students (Garrido-Hernansaiz et al., 2017) and teachers (Huerta and Alfonso-Benlliure, 2023).

Finally, political inclination, university degree, and, to a lesser extent, nationality are suggested as intervening factors in the acceptance of this diversity within educational contexts. Political trend or affiliation is exemplified in studies by Álvarez-Bernardo et al. (2022) and Lara-Garrido et al. (2022), while the influence of university degree is underscored in research by both Lara-Garrido et al. (2022) and Amigo-Ventureira et al. (2022). Lastly, nationality is tangentially mentioned as the final associated factor with representations and attitudes toward affective-sexual and gender diversity (Garrido-Hernansaiz et al., 2017).

4.2 Benefits of curricular or formative inclusion of affective-sexual and gender diversity

With a frequency of 68.75% of the coded text segments, plurality and social inclusion, along with the visibility of diverse
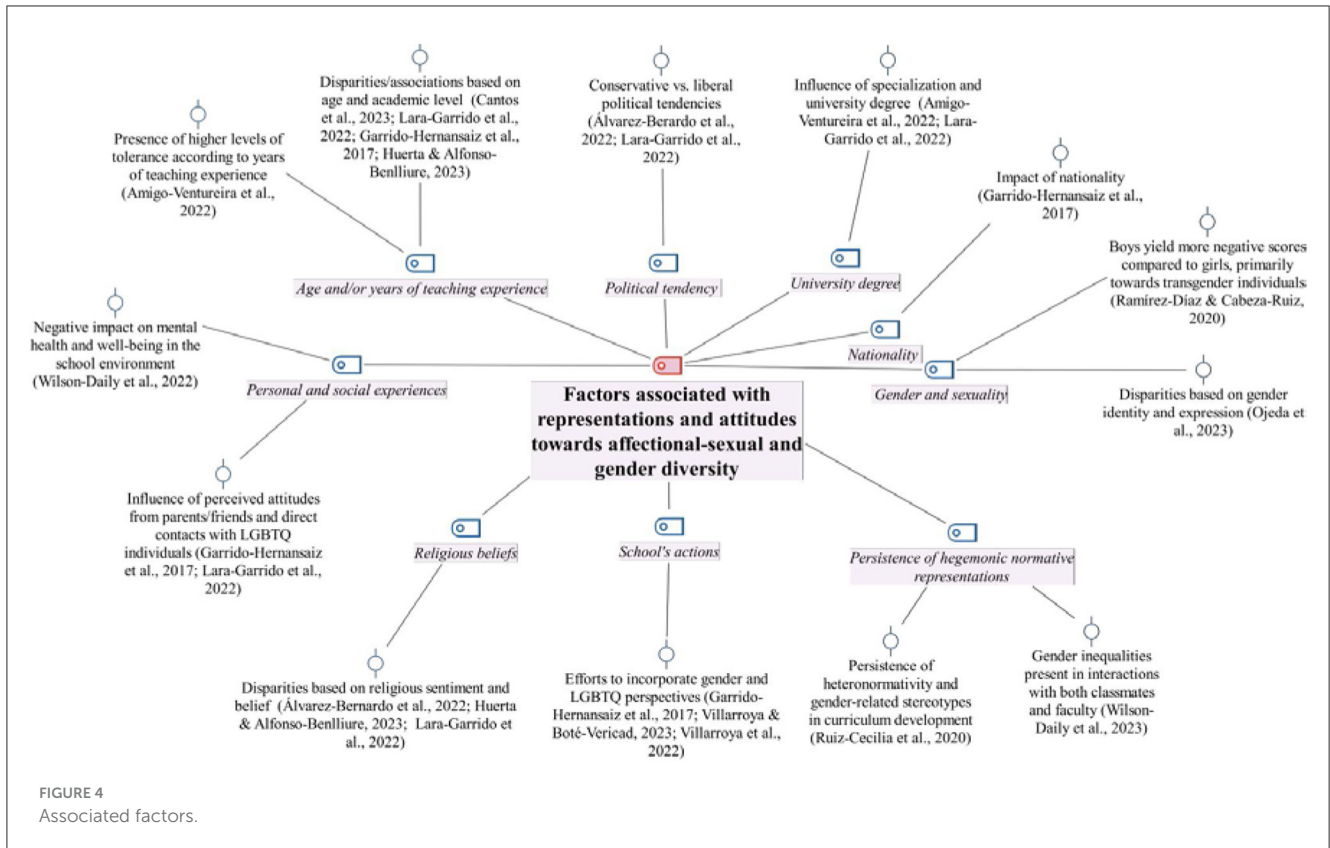
FIGURE 4
Associated factors.

identities, are explicitly highlighted as positive factors in curricular or formative approaches to affective-sexual and gender diversity. This frequency is further augmented by the promotion of transversal democratic citizenship as an educational objective (Table 9).

The selected studies reveal a widespread interest and identification of positive attitudes among secondary education students (Ramírez-Díaz and Cabeza-Ruiz, 2020), university students and faculty members (Villarroya and Boté-Vericad, 2023), prospective teachers (Huertas-Abril and Palacios-Hidalgo, 2022; Palacios-Hidalgo, 2020; Pérez-Jorge et al., 2020), and active teachers in both non-university and university settings (Huertas-Abril and Palacios-Hidalgo, 2023) toward the significance of affective-sexual diversity and its thematic inclusion (Figure 5). However, studies such as those conducted by Huerta and Alfonso-Benlliure (2023) and Amigo-Ventureira et al. (2022) qualify these findings with nuanced observations between active teachers and prospective teachers, with the latter demonstrating more favorable attitudes (Amigo-Ventureira et al., 2022), and in the case of secondary education teachers, their self-perceived creativity and commitment to innovative and unique initiatives result in a more dynamic and positive disposition toward diversity.

In this context, the need to expand the concept of hidden gender curriculum to that of hidden cis-heterosexist curriculum in textbooks is recommended (López, 2022), along with the resolute and integrated treatment of these contents within the realm of higher education (Villarroya et al., 2022). Promoting the values of respect, tolerance, and empathy, while facilitating the process of personal discovery and self-acceptance for LGBT+ students

TABLE 9 Volume of coded text segments and relative frequencies.

A priori codes	Coded segments	$f_i = n_i/n$	$f_i = n_i/n$ cumulative
Plurality and social inclusion, and visibility of diverse identities.	120	37.50	68.75
Education for transversal democratic citizenship	100	31.25	100
Total	320	100	

alongside addressing the reduction of school bullying, stand out as notable advantages (Palacios-Hidalgo, 2020).

4.3 Limitations or obstacles of curricular or formative inclusion of affective-sexual and gender diversity

With an 80% prevalence in textual frequencies, the reviewed studies point out the educational and knowledge deficits of teachers, as well as the invisibility of content related to affective-sexual and gender diversity as evident explanatory factors for limitations in educational inclusion (Table 10). The absence of institutional recognition and the sensitive and controversial nature of these topics contribute to the observed obstacles.

The selected studies point to specific educational deficiencies in addressing affective-sexual and gender diversity, which also
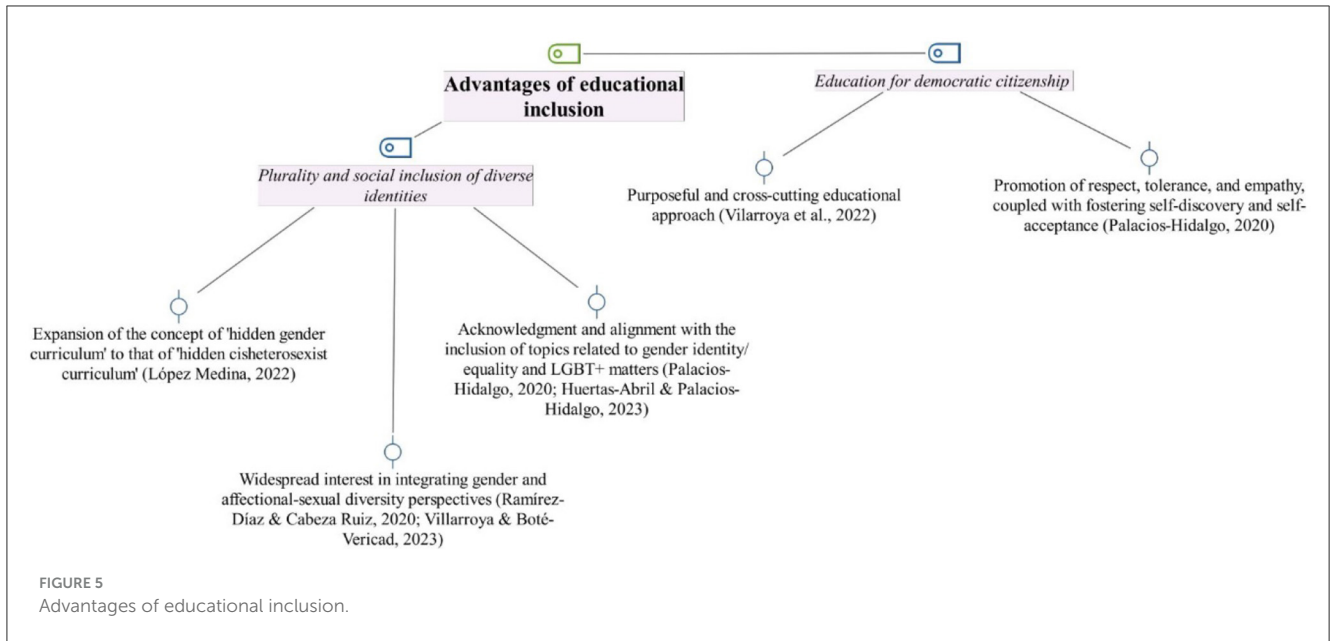
FIGURE 5
Advantages of educational inclusion.

extend to the legislative realm (Álvarez-Bernardo et al., 2022; Lara-Garrido et al., 2022), hindering the effective integration of teaching practices (Huertas-Abril and Palacios-Hidalgo, 2023; Pérez-Jorge et al., 2020). These deficiencies are inadequately acknowledged within the university academic sphere (Villarroya and Boté-Vericad, 2023; Villarroya et al., 2022). The preparation to confront societal challenges and the provision of access to these contents are proposed as educational justifications for their inclusion in the school curriculum (Palacios-Hidalgo, 2020) (Figure 6).

Additionally, the curricular invisibility and superficial treatment of the transgender community in affective-sexual education practices are emphasized (Granero, 2021), as well as in textbooks (López, 2022; Ruiz-Cecilia et al., 2020). Ultimately, the contentious and sensitive nature of this type of content (Huertas-Abril and Palacios-Hidalgo, 2023) is put forward as one of the notable challenges faced by both active non-university and university-level educators.

## 4.4 Contextualization of findings and practical implementation strategies in policies, training, and curriculum

Based on the findings, it is recommended to offer teacher training programs on affective-sexual diversity, periodic sensitization workshops for active teachers, and the (re)elaboration of school manuals aimed at increasing the visibility of non-hegemonic identities. Collaboration with LGBTIQ+ associations and the implementation of institutional protocols against homophobia and transphobia are proposed as central pillars for improving coexistence in educational environments. These results find solid support in the most recent literature. Along these lines, Amigo-Ventureira et al. (2022) highlight the persistence of significant challenges related to the lack of specific training in the field of affective-sexual and gender diversity. Similarly,

TABLE 10 Volume of coded text segments and relative frequencies.

A priori codes	Coded segments	$f_i = n_i/n$	$f_i = n_i/n$ cumulative
Formative and knowledge capacity	180	60	60
Curricular visibility	60	20	80
Academic recognition	40	13.33	93.33
Content peculiarity/type	20	6.67	100
Total	300	100	

Aguirre et al. (2020) emphasize that, although teachers are aware of the presence of LGBTphobic attitudes in classrooms, they lack practical and methodological tools to intervene effectively. Likewise, Huertas-Abril and Palacios-Hidalgo (2023) point out that teachers recognize the importance of addressing these contents but warn about the lack of concrete strategies to do so effectively. This evidence reinforces the importance of periodic sensitization workshops as practical spaces for reflection and the acquisition of inclusive pedagogical competencies.

On the other hand, Martínez-Merino et al. (2024) document that teachers who work closely with LGBTIQ+ associations tend to feel more supported and empowered to address situations of discrimination in the classroom. This collaborative approach facilitates access to specialized resources and enables the establishment of support networks in institutional interventions. Furthermore, the literature agrees that the mere existence of protocols against homophobia and transphobia does not guarantee their effectiveness unless they are accompanied by rigorous implementation and constant monitoring. In this regard, Bradbury-Jones et al. (2019) indicate that teacher training must include both the theoretical foundations of sexual diversity and the practical exercises necessary to address real classroom situations.

FIGURE 6
Limitations and obstacles of educational inclusion.
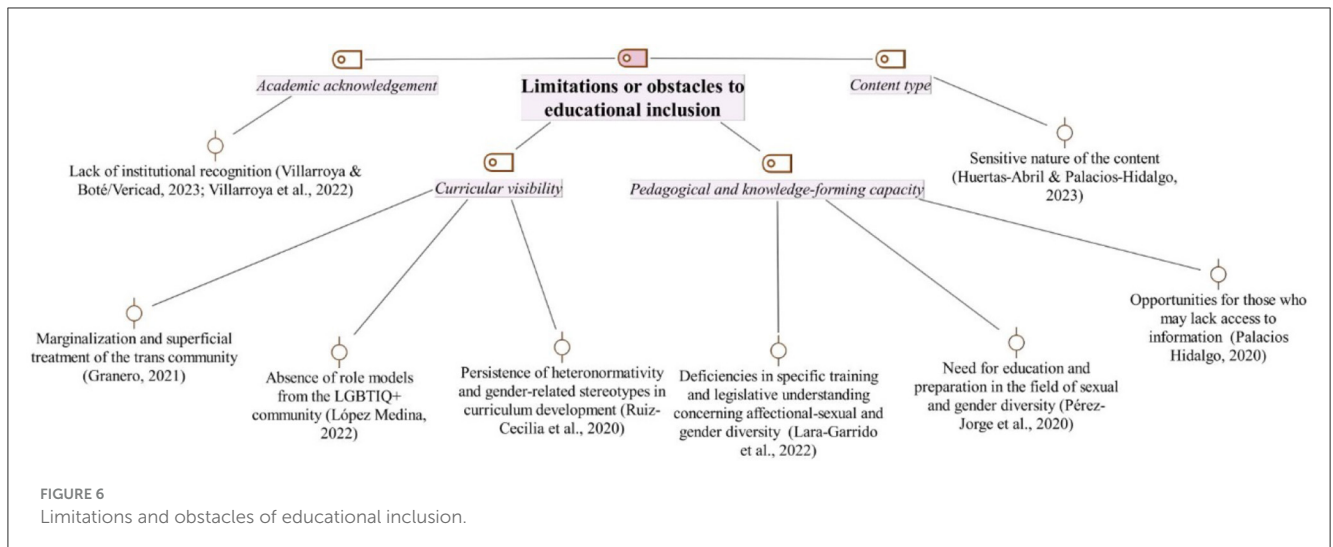
Effective strategies in this field, informed by international literature, indeed consider continuous teacher training, inter-institutional collaboration, the implementation of critical and participatory methodologies, and the curricular inclusion of sexual and gender diversity. In this way, Keuroghlian et al. (2022) reported the success of the Harvard Medical School initiative, which integrated specific competency training, community participation from the LGBTQIA+ collective, and continuous teacher education in creating inclusive and safe educational spaces for both students and teaching staff. On the other hand, Hamidaturrohmah (2023) proposed a strategic approach to sex education in primary school students, with actions aimed at implementing specific regulations in school policies, cooperating with local health institutions, and actively involving families. These strategies sought to prevent sexual violence and foster a culture of respect for diversity. In this regard, Rarieya et al. (2024) emphasize the importance of gender-sensitive pedagogy in primary teacher training. Strategies such as mentoring, structured reflective practice, and collaborative teaching are proposed as core actions to accelerate outcomes in adopting inclusive pedagogies.

Likewise, Breull-Arancibia and Agud-Morell (2023) presented the case of a program in Chile that combined feminist critical pedagogies and queer theory to address education on gender, affectivity, and sexuality. Teacher training emerged as a key element in reducing gender-based violence in school environments. Finally, García-Rojas et al. (2022) emphasized the need to incorporate official affective-sexual education programs into university curricula, both in virtual and face-to-face formats. The results showed a significant improvement in university students' knowledge and attitudes toward sexual and gender education.

5 Conclusions

Scientific literature underscores the significance of education on affective-sexual and gender diversity to eradicate stereotypes and negative attitudes toward LGBTIQ+ individuals, and to achieve true equity. In this regard, both initial and continuous teacher education play a pivotal role. Despite intense public debates about their relevance and timing, the safeguarding of LGBTIQ+ rights and integrity, coupled with international efforts to promote comprehensive democratic citizenship education, the comprehensive integration of these contents across various curricular domains and targeted teacher training remain outstanding tasks.

The persistence of situations involving discrimination, harassment, and physical and symbolic violence against non-heteronormative communities, rooted in the sex-gender system and cis-heteronormativity, continues to be identified by educators. This reality necessitates the design, implementation, and assessment of pragmatic actions capable of permeating effective teaching practices, founded on detailed analyses of experiences, perceptions, and attitudes among both future and practicing educators, as well as students across different educational stages.

5.1 Limitations

Despite the systematic review's interest in examining factors, benefits, limitations, and obstacles of affective-sexual and gender diversity education within the Spanish context, its geographical confinement stands as an initial constraint, limiting the availability of potentially valuable and comparable studies beyond the chosen locale. Additionally, other biases inherent to this study must be considered: documental bias (scientific articles), linguistic bias (solely English and Spanish), coverage bias, selection or publication bias concerning gray literature (unindexed studies), and temporal bias (2013–2023). Likewise, the inherent limitations of any systematic literature review should be acknowledged. In this vein, the application of a pre-established selection of free terms might exclude relevant outcomes for the study's purpose. The choice of WoS and Scopus, combined with the focus on the Spanish context, may lead to the omission of relevant studies in other languages, regions, or non-indexed sources, a circumstance that would significantly restrict the generalization of the findings. Consequently, caution is recommended when extrapolating the obtained results to different realities, as well as conducting new reviews aimed at broadening the selection criteria applied in the present research.

5.2 Future research directions

Future studies should broaden the search for new findings to include other languages, databases, and gray literature—such as technical reports, doctoral theses, institutional documents, and conference proceedings—which could be potentially valuable for contrasting and discussing the obtained results. This expansion would offer the opportunity to reveal emerging trends, innovative approaches, and specific challenges, along with diverse perspectives, methodologies, and contexts, ultimately contributing to a more holistic and representative understanding of education on affective-sexual and gender diversity.

Finally, approximately 85% of the analyzed studies feature a cross-sectional design, while around 15% are longitudinal. Given the clear predominance of cross-sectional designs in the analysis and treatment of affective-sexual and gender education, it is recommended to incorporate more robust experimental and longitudinal designs, as well as methodological triangulation (quantitative-qualitative), in order to delve deeper into the temporal evolution and potential modifications of teachers' attitudes and practices related to this type of education.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Author contributions

DO-S: Conceptualization, Data curation, Formal analysis, Methodology, Software, Validation, Writing – original draft, Writing – review & editing. JI: Supervision, Visualization, Writing – review & editing. ES: Supervision, Visualization, Writing – review & editing. EE-F: Supervision, Visualization, Writing – review & editing.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Generative AI statement

The author(s) declare that no Generative AI was used in the creation of this manuscript.

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