

Predictors of knowledge about Women's History: Reliability and results of the *Women in History* (WH) scale for future Spanish teachers.

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Abstract

This research seeks to provide a description of the procedure for calculating internal consistency (Kuder-Richardson 20, KR-20) of the *Women in History* (WH) scale and identify differential and predictive relationships between the level of knowledge about women's historical experience and the sociodemographic and educational characteristics of future Spanish teachers ($n = 1,023$). The results indicate statistically significant differences in the proportions of correct responses (≥ 9) based on age (≥ 46) and previous training in non-positivist contemporary historiographic approaches among teacher education students. Additionally, age is revealed as a predictive factor for the degree of knowledge about women's history. These results highlight the need for more socially just and inclusive initial education from the early stages of higher education. In spite of the endeavors undertaken by institutional committees, entities, or observatories dedicated to advancing equitable opportunities and curricular initiatives geared towards the integration of a gender-based outlook within education, there seems to be substantiation of their constraints in terms of pedagogical implementation. These limitations may potentially culminate in the prospective educators' professional development devoid of the essential theoretical and pragmatic apparatus essential for the adept handling of gender-centric subjects and the formulation of bespoke educational modules.

Keywords: Future teachers, gender, historical education, higher education, women's history

Introduction

The scholarly output focused on scrutinizing historical education for instances of social oversight and the absence of certain identities has primarily directed its efforts towards rectifying the procedural handling of social disparities. This is particularly evident in the deconstruction of gender dynamics and the customary attribution of societal behaviors that curtail the intricate and self-directed evolution of varied identities (Ortega-Sánchez, 2022a). The enduring prevalence of a scholastic historiography rooted in positivist currents, characterized by androcentric, ethnocentric, and sociocentric tendencies, has been substantively substantiated. These inclinations systematically render certain identities inconspicuous, impede their expansiveness, and constrain

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the multifaceted development of personal and communal identities among student cohorts (Ortega-Sánchez et al., 2021). The research underscores the imperative of delving into the societal perceptions held by prospective educators, which are invariably influenced by these historiographical paradigms. This exploration is vital for advancing their education in matters of gender equality (Ortega-Sánchez & Pagès, 2018). Research endeavors focusing on the inclusion and omission of women within educational textbooks elucidate “insufficient representation and scarce recognition of scientists, writers, intellectuals, politicians, athletes (...), key figures in the social, cultural, or scientific legacy” (Ferrerías-Listán et al., 2023, p. 44). Indeed, “even today, primary or secondary textbooks, following the classical positivist style ('great individuals in great events'), only feature women considered important, primarily those who assumed masculine roles” (Guerrero, 2022, p. 589). In this sense, the curricular and textual construction of historical narratives continues to stem from androcentric social structures (Marolla, 2022; Miralles & Gómez, 2017). Therefore, it can be asserted that academia “still fails to incorporate the knowledge derived from women's studies in the development of research papers and teaching in various social disciplines” (Díez & Fernández, 2019, p. 6).

The recovery of personal and social references alternative to hegemonic protagonism, which can still be identified in school historical narratives, is essential for the diversification of identities within the framework of social relations. However, the history of women and gender relations is presented as a segregated history, separate from other contents, with a distinct contemporary perspective on the struggle for political rights. The analysis of the official Catalan curriculum for Social Sciences in Compulsory Secondary Education, conducted by Massip (2023), can be generalized to a history of women added to a “masculine history that reproduces the androcentric narrative linked to the persistence of a liberal, national, and Eurocentric view of historical accounts” (p. 212).

The sociocritical analysis of the curriculum and teacher training plans, understood as conceptual and methodological frameworks the origins and ramifications of biases, inequities, and societal distinctions grounded in gender, this inquiry contemplates the intricacies of stereotypes, preconceptions, and the assignment of societal functions. It engages in the deconstruction of prevailing gender paradigms that exert dominance, thereby shaping the bifurcation of identity. The overarching objective is to recognize social multiplicity as a guiding principle for the cultivation of diverse and heterogeneous gender identities. According to Heras-Sevilla et al. (2021a),

emphasizing the significance of women in the realms of history, culture, and science serves a dual purpose: not only does it enhance the recognition of femininity, but it also serves as a conduit for presenting tangible exemplars for forthcoming generations to draw inspiration from. The incorporation of such role models holds potential to encompass and should extend to encompass various other identities, effectively challenging the entrenched constructs of the sex/gender paradigm. This endeavor pertains to the active combat against invisibility and subjugation, while concurrently fostering the creation of reference points that deviate markedly from established stereotypes and biases.

The integration of multiple perspectives from different historical actors must necessarily consider the female experience in the construction of historical knowledge. In this regard, relatively recent research proposes teaching social sciences in primary education based on critical literacy, gender equity, and social justice (Whitford, 2022), as well as incorporating these principles into teacher education at this level (Ortega-Sánchez & Pagès, 2017). Other studies focus on implementing innovative teaching strategies in history education (Castrillo et al., 2023) and furnishing specialized resources concerning the history of women within secondary education to foster students' understanding of gender identities and institutionalized oppression in historical analysis (Colley, 2019). These studies recommend implementing teaching interventions aimed at critically questioning stereotypical gender representations. In this sense, understanding coeducation as a transformative tool, we concur with García and De la Cruz (2019) on the opportunity to create data analysis instruments that can be utilized by students themselves from their early educational stages, aimed at reflecting upon and discussing school historical narratives.

The didactic treatment of women's history requires deconstructing preconceptions and erroneous representations of gender and feminism.

The educational value of women's history and gender for future secondary education teachers has been studied by Rausell (2020), whose research offers insights into its usefulness for eliminating female invisibility and marginalization in historical narratives. However, the difficulties and limitations faced by teachers in incorporating women's historical experiences in the classroom, related to workload and curricular and training traditions, are also evident (Marolla et al., 2021a). Integrating gender as an analytical category within the framework of social science education facilitates the acknowledgment of the functional presence of gender stereotypes within social dynamics and behavioral paradigms, as manifested in discourses and teaching practices. However,

the absence of gender as a socio-historical analytical category and the treatment of unequal relationships surrounding this concept continue to be identified in pedagogical practices (Yuden et al., 2020). The uncritical perpetuation of androcentric underpinnings within the historical narratives being imparted further cements the obscurity of women as influential societal actors, thus fortifying the imbalances in values and the entrenched dualistic constructs shaping both societal norms and identities.

The available evidence concerning the absences or concealments surrounding the critical analysis of women's representations and experiences, as well as the unequal gender relations within curriculum materials, has been extensively demonstrated (Engebretson, 2014; Schmeichel, 2015). These same pieces of evidence can be corroborated in the persistence of narratives aimed at adding or complementing a reproductive and essentially unaltered historiographical discourse (Schmeichel, 2014), or at maintaining the concept of gender as equivalent to the binary category of man-woman (Engebretson, 2018). Despite the relative and inconsistent improvements in addressing women's history within curriculum materials (Engebretson, 2018), we concur with Bowman (2020) in asserting that within the existing curriculum resources that center around women, gender, and feminism, it is evident that only a limited number exhibit attributes characteristic of a discerning feminist discourse, notably including an emphasis on power dynamics and systems of oppression. Consequently, it could be posited that the teaching faculty of social studies lack optimal knowledge about women's history and that the official history curriculum continues to evolve from androcentric principles.

However, the scarcity of studies specifically aimed at analyzing perceptions and, primarily, teaching practices regarding gender equity within the social studies classroom is considerable (Bowman, 2020; Engebretson, 2018). Likewise, the impact of curriculum development and the social sciences curriculum on the construction of gender identities, along with the widespread avoidance of formulating critical feminist objectives (Schmeichel, 2015), are noteworthy.

In this context, this research aims to provide a depiction of the process of acquiring the initial empirical evidence concerning the psychometric properties of the *Women in History* (WH) scale (Crocco, 2011). Furthermore, it seeks to test and substantiate its applicability in Spain, with the objective of addressing the aforementioned deficiencies. This endeavor is pursued through the exploration of three research questions:

1. Do the items comprising the *Women in History* (WH) scale (Crocco, 2011) measure the same construct or common trait with equal intensity, direction, and degree? Is their measurement stable, precise, consistent, and predictable?
2. Are there statistically significant differences in the level of knowledge about women's history among future Spanish teachers based on their sociodemographic characteristics (gender, age, geographic origin) and educational backgrounds? Are the proportions of responses to knowledge about women's history statistically different based on these variables?
3. What sociodemographic and educational factors explain the level of knowledge about women's history among future Spanish teachers?

Method

Participants

By employing a convenience-based non-probabilistic sampling approach, a collective of 519 female participants (constituting 50.7%) and 504 male participants (comprising 49.3%) expressed their willingness to partake in the study. The participants were predominantly under the age of 45 (87.8%), with the remaining 12.2% being 46 years or older. They were enrolled in the Master's program in secondary education, in their last academic year of pursuing the Bachelor's program in elementary education, and in various other authorized courses. The participants were from the following regions: Murcia (20.4%), Burgos (20.3%), Valladolid (20.1%), the Basque Country (19.6%), and Alicante (19.5%).

Instrument

The study employed the *Women in History* (WH) scale, constituting the second segment of Crocco's (2011) knowledge assessment inventory. This scale was contextualized and verified for content and construct suitability within the Spanish milieu through the efforts of Ortega-Sánchez and Heras-Sevilla (2020). It encompasses 15 succinct explanatory statements pertaining to women's history and the history of feminism, complemented by 20 potential responses assigned to each statement. The scale's architecture comprises three analytical dimensions: *Political leadership* (D1 [4 items]), *Political-cultural leadership* (D2 [7 items]), and *Cultural leadership* (D3 [4 items]) (Table 1).

Table 1*Women in History (WH) Scale*

	<i>D</i>	<i>Item</i>
1	D1	Fifth pharaoh of the eighteenth dynasty of ancient Egypt
2	D1	Expanded and strengthened the Russian empire
3	D2	Feminist author and wife of Jean Paul Sartre
4	D2	Muhammad's first wife
5	D2	Hernán Cortés's translator, also known as 'La Malinche'
6	D2	Wrote <i>Book of the City of Ladies</i>
7	D3	Twelfth-century Christian mystic and songwriter
8	D3	Wrote the <i>Tale of Genji</i>
9	D1	Prime minister of Israel
10	D2	Wrote <i>A vindication of the Rights of Women</i>
11	D3	Greek poet
12	D3	Pioneer in the field of radioactivity
13	D2	Founder, Green belt movement and Nobel Prize winner
14	D2	Nun who challenged the clergy in seventeenth-century Mexico
15	D1	English suffragist and socialist
		1. Sappho
		2. Joan of Arc
		3. Jingsheng Wei
		4. Lady Murasaki
		5. Hildegard von Bingen
		6. Germaine de Staël
		7. Marie Curie
		8. Mary Wollstonecraft
		9. Hatsheputi
		10. Sylvia Pankhurst
		11. Christine de Pizank
		12. Doña Marina
		13. Sor Juana Inés de la Cruz
		14. Khadijah
		15. Anastasia Gromyko
		16. Golda Meir
		17. Catherine the Great
		18. Wangari Maathai
		19. Aisha
		20. Simone de Beauvoir

Note. Source: Ortega-Sánchez and Heras, adapted from Crocco (2011).

Given the dichotomous nature of the variables comprising the WH scale, the estimation of its internal consistency and thus the reliability of the instrument's measures were calculated using the Kuder-Richardson KR-20 formula.

$$KR_{20} = \left(\frac{k}{k-1} \right) * \left(1 - \frac{\sum p \cdot q}{Vt} \right)$$

Where

KR_{20} = coefficient of reliability (Kuder-Richardson).

k = number of items in the instrument.

Vt = total variance of the test.

$\sum p \cdot q$ = sum of individual item variances.

p = TRC / n (total correct responses divided by the number of participants).

$q = 1 - p$

Based on the statistical characteristics of its items (means and variances), the mean of each dichotomous item (i.e., scored as either correct or incorrect) corresponds to the proportion of subjects who respond positively (p), and its variance is the product of p and q , where q is the number of individuals who respond incorrectly. The KR-20 formula incorporates information

about the difficulty of each item, as it relies on the number of items in the scale, the sum of their variances, and the total variance.

The reliability analysis yielded a result of .841 ($KR > .80$), confirming the excellent internal consistency of the instrument. Consequently, it can be stated that the items comprising the scale measure the same construct or common trait with the same intensity, direction, and degree. They positively correlate with each other (scale homogeneity), and their measurement is stable, precise, consistent, and predictable.

Design and procedure

This study employs a non-experimental cross-sectional design within a relational-comparative, explanatory observational, non-interventional, and predictive levels of research. It aims to demonstrate causal relationships considering the criterion of temporal relationship by Bradford Hill between variables (Morabia, 1992) and their occurrence. According to this criterion, sociodemographic and previous education variables (exogenous) temporally precede the endogenous variable under study or the event of interest (degree of knowledge of women's history). The questionnaire was distributed via email and hosted on the Google Forms platform, which is available for free use. Students pursuing teacher education received the survey in their official institutional email accounts. They were provided with a clear understanding of the research study's objectives, as well as the assurance of confidentiality regarding their responses. Additionally, their consent to employ the collected data for the study's purposes was duly sought.

Every procedure employed in this study was strictly in accordance with the ethical norms delineated by the institutional and/or national research committee, in alignment with the principles established in the Declaration of Helsinki of 1964 and its subsequent modifications, or analogous ethical benchmarks. Additionally, these procedures conformed to the ethical research criteria stipulated by the University of Burgos. The University's Bioethics Committee granted approval for the research project, affirming the resolute dedication to ethical principles and the utmost reverence for human dignity, individual privacy, physical and moral integrity, as well as the safeguarding of personal data throughout the entirety of the research endeavor.

Data analysis

To identify statistically significant intergroup differences based on the sociodemographic variables characteristic of future teachers, we applied the χ^2 test of homogeneity. Additionally, we applied the Z-test, with p -values corrected using the Bonferroni method for more than three groups, to evaluate, based on these same variables, the existence of statistically significant differences in response to women's historical knowledge. Furthermore, the effect sizes of the identified associations were calculated using the ϕ statistic.

Finally, to predict the degree of knowledge of future teachers regarding the variables included in the *Women in History* (WH) scale, a predictive model was constructed based on selected sociodemographic and educational variables (gender, age, origin, and previous training in contemporary non-positivist historiographic approaches). Thus, we performed a binary logistic regression analysis, transforming the summation of results into a single dependent variable of binary or dummy nature. Following the confirmation of logistic regression assumptions (such as the fulfillment of linearity assumptions due to a categorical dependent variable with two levels, the error's independence within intergroup analysis, and the absence of multicollinearity between variables with correlations exceeding .7), our objective shifted to unveiling the prognostic potential of sociodemographic predictor variables on the aforementioned knowledge. This knowledge was bifurcated into two categories: ≤ 8 and ≥ 9 accurate responses out of the formulated 15 questions. The acquired data underwent processing through SPSS v.25 for Windows, as well as Excel (Office 2021).

Results and discussion

Relational-comparative results

The distributions of absolute and relative frequencies do not indicate differential confidence intervals or statistically significant differences based on gender ($\chi^2_{(1, n = 1023)} = .006, p = .939$) and geographical origin of future teachers ($\chi^2_{(4, n = 1023)} = .406, p = .982$) (Table 2 and Table 3). However, intergroup differences are found among the sample groups related to age ($\chi^2_{(4, n = 1023)} = 159.451, p = <.001$) and previous training in contemporary non-positivist historiographic approaches ($\chi^2_{(1, n = 1023)} = 103.284, p <.001$) (Table 2 and Table 4). The effect sizes of these associations are moderate ($\phi = .395, .318$) (Tables 2-4).

Table 2*Cross-tabulation of WH, gender, and age*

	Gender				Age				φ	Total	
	Male		Female		≤ 45		≥ 46				
	f_i	p_i	f_i	p_i	f_i	p_i	f_i	p_i		f_i	p_i
-	366 ^a	72.6	378 ^a	72.8	712 ^{ab}	79.3	32 ^{ab}	25.6	.395	744	72.7
+	138 ^a	26.4	141 ^a	27.2	186 ^{ab}	20.7	93 ^{ab}	74.4		279	27.3
Total	504	100	519	100	898	100	125	100		1023	100

Note. – (up to 8 accurate responses), + (9 or more accurate responses). ^a Categories with proportions that do not exhibit significant differentiation from one another at the .05 level. ^{ab} Categories with proportions that display significant differentiation from one another at the .05 level.

Table 3*Cross-tabulation of WH and geographical origin*

	Geographical origin										Total	
	Burgos		Murcia		Basque Country		Alicante		Valladolid			
	f_i	p_i	f_i	p_i	f_i	p_i	f_i	p_i	f_i	p_i	f_i	p_i
-	149 ^a	71.6	151 ^a	72.2	149 ^a	74.1	146 ^a	73.4	149 ^a	72.3	744	72.7
+	59 ^a	28.4	58 ^a	27.8	52 ^a	25.9	53 ^a	26.6	57 ^a	27.7	279	27.3
Total	208	100	209	100	201	100	199	100	206	100	1023	100

Note. – (up to 8 accurate responses), + (9 or more accurate responses). ^a Categories in which the proportions do not exhibit statistically significant differences at the .05 significance level.

Table 4*Cross-tabulation of WH and previous training in contemporary non-positivist historiographic approaches*

Educational background in non-positivist contemporary historiographic approaches							
	No		Yes			Total	
	f_i	p_i	f_i	p_i	φ	f_i	p_i
-	527 ^{ab}	64.4	0 ^{ab}	0.0	.318	744	72.7
+	279 ^{ab}	34.6	217 ^{ab}	100		279	27.3
Total	806	100	217	100		1023	100

Note. – (up to 8 correct responses), + (9 or more correct responses). ^{ab} Categories whose proportions differ significantly from each other at the .05 level.

Descriptive data indicate that only 27.3% of the given associations were answered correctly with 9 or more correct responses. These outcomes are congruent with the findings derived from Díaz de Greñu et al.'s (2013) investigation and mirror the outcomes established through the preliminary study conducted by Ortega-Sánchez and Heras-Sevilla (2020). Similarly, they correspond with the conclusions drawn from Crocco's (2011) study, wherein a majority of the 60 participating educators, both neophyte and seasoned, displayed a comprehension encompassing less than 50% of the female figures and their contributions to global history as outlined in the scale.

Like in the European geographical context (Ortega-Sánchez, 2022b), recent international research continues to draw attention to the marginalization of women's history and their role as social agents in the construction of historical knowledge in schools (Yuliati et al., 2020), as well as the perpetuation of stereotypical discourse in textbooks (Pamuk, 2021). This same lack of training in the field of women's history has been evidenced in studies involving future primary school teachers in Spain (Sánchez, 2018). Similar to the findings of Felices de la Fuente et al. (2016) study, a clear “mismatch between historiographical advances in women's history and the teaching of history” (p. 242) can be confirmed, along with the prevalence of narrative protagonists conditioned by a non-inclusive curriculum (Marolla, 2016). The progress and consolidation of women's history as a historiographical field do not seem to correspond to the learning outcomes or the findings of educational research in history teaching (Alegre & Tudela, 2022, p. 652).

Indeed, the invisibility of women and their history continues to be a socially relevant issue hindered by a traditionally androcentric approach within the social sciences school curricula and the persistence of positivist historiographical perspectives, among other factors. In this vein, we concur with Marolla (2021) on the necessity of a deconstructive shift in the aims of history education regarding the presence/absence of women in teacher training programs. This deconstruction should integrate the theoretical frameworks of the field of social sciences education and gender post-structuralism.

The rationale behind these findings could potentially stem from the acknowledgment of the inherent tensions between the desire to establish women's and gender history as a distinct research domain (Groot, 2018), and the imperative for gender to genuinely function as an analytical category within history education and teacher preparation programs. Furthermore, the confusion between the subject and object of study as a cause for the omission of women's historical experience in taught history has been highlighted by García and Peinado (2015), among others. In this confusion, “the belief that women's history is a women's matter (...) does not occur in any other line of research” (Gil, 2019, p. 537).

Explanatory and predictive results

The omnibus test reveals a chi-square significance of less than .05 ($\chi^2_{(7, n = 1023)} = 258.352, p = <.001$), signifying that the constructed model can elucidate the extent of knowledge among prospective educators concerning women's history. In terms of gauging the model's efficacy, the

Cox and Snell R² as well as the Nagelkerke R² values denote that sociodemographic and educational variables prognosticate this knowledge at 0.223 (22.3%) and 0.323 (32.3%), respectively. The R² determination coefficients closely approximate the Cohen's kappa index, derived from the correlation between actual response values (the target variable) and the corresponding projected values, yielding a value of .350 ($p < .001$) (35%). The assessment of the model's usefulness culminated in its predictive prowess, yielding the ensuing outcomes: accuracy = 78.7%, error = 21.3%. Notably, the percentage of instances accurately anticipated by the model, or the comprehensive percentage correctly classified, surpasses 50% of the instances (78.7%). This substantiates an appropriate explanatory capability of the model and consequently underscores its validation.

The relationship between the sociodemographic and educational variables of future teachers and their level of knowledge about women's history reveals that only age is a predictor in this relationship (Wald statistic $\neq 0$, $p < .001$). The established relationship is positive (β_i with a + sign), meaning that older age is associated with a higher probability of achieving satisfactory levels of knowledge about women's history. Similarly, for this variable, $\exp(\beta_i)$ deviates significantly from 1 with high intensity. Therefore, its ability to explain the event of interest is appropriate (Table 5).

Table 5

Equation variables, OR value = $\exp(\beta_i)$, regression coefficients, and Wald Statistic.

	β_i	ET	Wald	gl	p	$\exp(\beta_i)$	95% C.I. for $\exp(\beta_i)$	
							Lower	Upper
Gender	-.016	.169	.009	1	.924	.984	.707	1.369
Age	2.045	.222	84.621	1	<.001	7.733	5.001	11.957
P			.282	4	.991			
P(1)	.064	.248	.067	1	.795	1.066	.656	1.733
P(2)	.009	.254	.001	1	.970	1.009	.614	1.659
P(3)	-.065	.253	.067	1	.796	.937	.570	1.538
P(4)	-.020	.256	.006	1	.937	.980	.593	1.619
FIG	-20.224	2728.072	.000	1	.994	.000	.000	
Constant	-.969	.200	23.388	1	<.001	.379		

Logistic regression model [equation]

$$y = \frac{1}{1 + e^{-(.96 + -.01Gender + 2.0Age + .06P(1).00P(2) + -.06P(3) + -.02(P4) + -20.22Fig)}}$$

$$f(x) = -.96 + -.01Gender + 2.0Age + .06P(1).00P(2) + -.06P(3) + -.02(P4) + -20.22Fig$$

Note. SE: Standard Error. P: Geographic origin. FIG: Previous training related to contemporary non-positivist historiographic approaches.

The absence of a predictive relationship between the gender of future teachers and their degree of knowledge about women in history indicates the nonexistence of potential 'gender empathy,' whereby informative values and a possible causal relationship with this exogenous variable or with previous training in contemporary non-positivist historiographic approaches could be presumed. It can be concluded, therefore, that the degree of knowledge about women's history is independent of the declared gender, despite the availability of empirical evidence regarding the existence of more favorable general attitudes towards gender equality in women than in men (Rivas-Rivero et al., 2023), which, in principle, could justify the formulation of an assumption based on higher group knowledge levels in this area.

Age, however, is the determining factor in observing an age gap, which could be understood from a culturalist and maturation perspective, in the knowledge of women's historical experience, with higher age of teacher trainees. The identification of this predictive factor is consistent with the study by Buades-Sitjar et al. (2021), which examined the influence of variables such as gender, age, socioeconomic status, and educational level on cultural knowledge degree in a significant sample of Spanish participants ($n = 48,234$). In this study, age functioned as a robust positive predictor up to the age of 50, after which a decreasing trend was observed until reaching 80 years old, at which point similar levels were recorded to those observed in individuals aged 30.

In light of the obtained results, it can be concluded that there continues to be a weak attention to the inclusion of women and feminist theoretical foundations in the curriculum of Primary and Secondary Social Studies, as previously revealed by Schmeichel (2015). This circumstance translates into the need for more opportunities to learn about gender equality in order to reduce contemporary sexist prevalences (Stevens & Martell, 2021). Consequently, it seems evident that curricula and teacher training programs should take into account the scientific advancements in the field of gender studies, which remain relatively limited in history education (Marolla et al., 2021a, 2021b). This consideration should necessarily impact both teachers' didactic approaches and discourses, as well as their teaching practices within the educational and school context. With this purpose in mind, social science education offers the appropriate conceptual and reflective framework to steer the curriculum towards citizenship education grounded in the principles of social justice.

Similarly, these results are consistent with the need for further teacher training in coeducation and education for equality (Gilchrist & Zhang, 2022), which challenges the persistence of gender

stereotypes as limiting factors in identity and society. Indeed, both initial and ongoing teacher education are essential in improving gender equality in teaching and learning processes, regardless of the curriculum subject (Pollock et al., 2021). Despite the recognizable commitment in some training programs, education for social justice and the promotion of equity should be significantly and intersectionally integrated (Blair and Deckman, 2022). The lack of a predictive influence stemming from prior or ongoing training focused on women's history comprehension could potentially be attributed to the explicit intentionality required for its didactic approach and instruction, hence extending beyond the confines of curriculum boundaries (Engebretson, 2018). In this regard, the epistemological, theoretical, pedagogical, and practical integration of feminist perspectives in teacher training programs, as well as community-based experiences and multiple-perspective approaches, have been recommended as formative catalysts to achieve counter-hegemonic positions in the educational field (Roberts, 2021), foster students' historical consciousness (Brauch, 2017), and contribute to the eradication of gender inequality (Jones & Hughes, 2016).

Conclusions

The persistence of androcentric historical narratives and the traditional absence of educational treatment regarding gender inequalities in Spain, which extend to other geographic locations (Gomes & Camargo, 2022; Marín, 2020; Shuayb and al-Sarraf, 2022), necessitate a reconsideration of the feminist perspective in history education and the deconstruction of the still recognizable gender gap in this field of knowledge. The interpretive analysis and multiperspectival examination of teachers' discourses and practices must involve an evaluation of how history is taught at various educational stages. Despite teachers' recognition of the need to reform their teaching practices, recent studies continue to affirm the absence of specific narratives related to the visibility of gender relations during their university teacher training (Marolla, 2020).

It is still necessary, therefore, to make visible female role models and overcome the reproductive mechanisms of hegemonic construction in historical-scientific knowledge (Ortega-Sánchez et al., 2021). In this sense, it is imperative to make progress in the realm of education and training concerning coeducation as well as sexual and gender diversities. This educational initiative should encompass the introduction of both female and male role models that challenge prevailing

hegemonic identities, thereby paving the way for novel models of representation (Heras-Sevilla et al., 2021b).

In spite of the efforts undertaken by committees, units, or institutional observatories, alongside legislative and curricular advancements in the recent decades, their limitations in didactic transposition appear to be confirmed. In fact, “this urgent need for change is reflected in the increase of transnational, national, and regional educational policies and legislation in recent years that call on institutions to work towards a feminist transformation of education” (Agud-Morell & Breull-Arancibia, 2023, p. 13). These limitations result in the preparation of students for their professional roles without providing them with the necessary theoretical and practical tools concerning gender issues. These tools are crucial for devising their customized programs (Ortega-Sánchez, 2019). Education for gender equality, therefore, still requires initial training committed to social justice (Ortega-Sánchez, 2022b). This commitment ought to be articulated within the framework of an educational approach directed at nurturing democratic citizenship. Such an approach should possess the capacity to illuminate the tentative character and constructive mechanisms intrinsic to social knowledge. From this standpoint, the incorporation of the socially and historically contextualized gender concept should catalyze the dismantling of androcentric frameworks within the pedagogical preparation of history and social sciences educators. This aspect, however, remains underdeveloped in educational programs and instructional methodologies (Crocco, 2010).

The formulation of teacher training initiatives intended to cultivate critical aptitudes for both equity-oriented and equality-centric education warrants a focal emphasis on didactic innovation. This prioritization aims to instigate tangible modifications in teaching methodologies and, concurrently, to foster profound introspection into one's own instructional approaches within this sphere. Consequently, it becomes palpable that engaging with prospective educators as reflective practitioners, with concentrated attention on the aims of social science education, curricular contents, prototypes of their forthcoming pedagogical implementations, and the dissection of the fundamental tenets underpinning their classroom decisions, assumes an indispensable significance. In this context, the exploration of the cognition and societal perceptions held by future educators emerges as an essential preliminary assessment. Such investigation serves as a foundational step in contemplating university curricula, as well as in instigating innovative enhancements in pedagogical approaches. The outcomes gleaned from this endeavor will play a

pivotal role in steering the incorporation of critical viewpoints geared towards effecting societal transformation.

Incorporating gender as a social analytical category within the domain of History education, especially in the context of women's history, necessarily involves addressing the diversity of perspectives and historical experiences, critically analyzing the socio-cultural construction of gender representations that are receptive to historical knowledge, and promoting the concept of historical consciousness in understanding the past, the historicity of the present, and the projection of personal and social futures of citizenship. In this sense, the teaching of women's history and its explicit curricular inclusion is one of the most recognizable areas of educational and social promotion for gender equality.

The underrepresentation of women within the curricula and course materials of social studies remains an ongoing concern (Bowman, 2020; Woyshner & Schocker, 2015), perhaps stemming from a deceptive perception of a post-gender society (Engebretson, 2014). In this regard, the recommendations set forth by Woyshner (2002) remain pertinent: 1) The need to interrogate the androcentric underpinnings on which the education of history and social sciences has been constructed is paramount; 2) The cultivation of a critically engaged pedagogical approach among educators, rather than one solely focused on reproducing historical discourse that tangentially includes women's history as a mere addendum or supplement to dominant androcentric narratives; 3) A heightened political commitment that positions women's history centrally within the teaching discourse, thereby transcending the perpetuation of the notion of the political as confined to the public sphere.

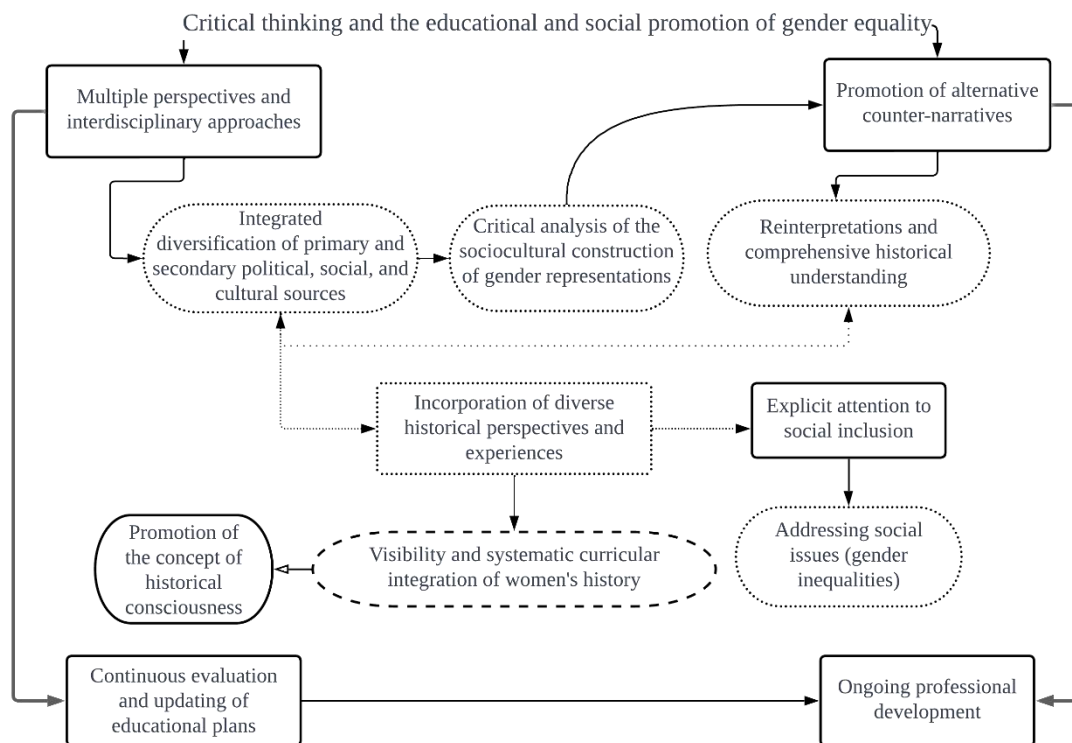
While the educational advantages of implementing courses centered around women's history in fostering a comprehensive understanding of past narratives pertaining to gender inequalities and their relevance to students' realities appear plausible, research by Levstik and Groth (2002) revealed a perceptual disconnect in secondary education. Moreover, problematic perceptions surrounding the term 'feminism' have been documented among both educators and students within the realm of social studies (Colley, 2019).

Based on the results obtained in this research, the curriculum of future History teachers should go beyond disciplinary training in contemporary non-positivist historiographic approaches and move towards the formation of citizenship based on justice and social equity. To achieve this goal, a theoretical model articulated around five procedural axes is proposed (Figure 1): 1a) Incorporation

of a multiple perspective and interdisciplinary approach through the use of historical narratives constructed from the integrated diversification of primary and secondary political, social, and cultural sources; 1b) Promotion of alternative counter-narratives to hegemonic ones that allow for reinterpretations and comprehensive historical understandings; 2a) Inclusion of different voices and didactic treatment of precise and nuanced representations of historically marginalized groups' experiences; 2b) Visibility and systematic curricular integration of women's history from initial to ongoing teacher training in History; 3) Explicit attention to social inclusion by addressing social issues such as gender inequalities and other forms of discrimination; 4) Continuous evaluation and updating of future teacher training programs; 5) Ongoing professional development through the provision of actions on education for equality and social justice in the teaching of History.

Figure 1

Theoretical-procedural model. Historical education and women's history for the promotion of education for equality.



Source: Author's own elaboration.

Limitations

The investigation merits an expansion to incorporate a qualitative research phase, which would enhance the validation of the addressed inquiries with heightened credibility. Moreover, it is noteworthy that the online dissemination of the scale may introduce a particular constraint, affecting the comprehensive understanding of the contextual nuances that underlie the associations between responses and individual items. In addition, the utilization of non-probabilistic convenience sampling, as opposed to a probabilistic participant selection approach, might potentially impact the broader applicability of the examined outcomes. Therefore, a cautious approach is advisable when considering the generalizability of the results at a population level.

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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.

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