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Initial training of Portuguese ECEC professionals to work with children aged 0–3: current challenges and needs

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ABSTRACT

Research examining and characterizing the initial training programs currently offered to early childhood educators is scarce. This study aims to a) characterize current offers of initial training for qualified educators, with a focus on the under 3s in Portugal and b) identify the main constraints and opportunities from the perspective of lecturers involved in initial training. A document analysis of 67 initial training programs and a series of focus group discussions ($n = 23$) were conducted. Findings showed that most programs devote limited time to 0–3 years. Participants identified several constraints and proposed adjustments that can be useful for improvement.

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In the past few decades, there have been increasing investments in early childhood education and care (ECEC). Especially in European countries, ECEC centers are becoming a primary developmental setting for a growing number of children under 3. Specifically in Portugal, the childcare centers coverage rate for children aged 0–3 has increased over the past years, achieving 55.2% in 2023 (Ministerio do Trabalho, Solidariedade e Segurança Social, 2024). Research, however, is increasingly showing that attendance is not enough to foster child development if not framed in high-quality services, a key element to ensure a significant impact on the development of children aged 0–3 (Choi et al., 2019; Kwon et al., 2019; Pinto et al., 2019). Definitions around what constitutes high quality in ECEC for under 3 are controversial and include different perspectives, but there is wide agreement that high-quality ECEC environments include structural indicators (e.g., educator:child ratios, pay and working conditions, staff turnover, infrastructure, equipment and materials) (e.g., quality of interactions between adults and children; Cadima et al., 2020; Hamre et al., 2014; Pauker et al., 2018; Pinto et al., 2019; Rutanen & Hännikäinen, 2017; Sumsion et al., 2018).

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A vast body of research has attempted to identify the drivers of high-quality ECEC. One of the most studied features is ECEC professionals' initial training (e.g., Hu et al., 2019; Schaack et al., 2017). Several studies including meta-analysis have shown that higher qualification levels are linked to higher quality practices (Barros et al., 2017; Castle et al., 2016; Kalliala, 2011; Manning et al., 2019). The underlying hypothesis is that, through initial training, professionals may develop a better and more multidimensional understanding of how children learn and develop and, because of that, will be more capable of properly promoting and supporting child development (Cadima et al., 2020). Some scholars have also argued that more specialized qualifications not only support professional competency but also create opportunities to strengthen teachers' professional development. This, in turn, can expand children's learning opportunities, as teachers become more aware of current evidence-based practices that enhance process quality (Sağlam et al., 2023). Nonetheless, studies have also suggested that the training of preservice ECEC teachers may not be enough to ensure high-quality practices and teachers need to continue investing in professional development throughout their careers (Hamre et al., 2012).

Despite the emphasis many scholars place on the need for specialized training and high-quality practices in ECEC settings for children aged 0–3 (Hu et al., 2019; Schaack et al., 2017), most research has focused on the quantity rather than the quality of initial training. There remains a lack of studies identifying the key components of initial training that effectively prepare ECEC professionals to foster high-quality practices (Eckhardt & Egert, 2018; Loizou & Recchia, 2018; Schaack et al., 2017). This study represents an initial effort to examine the content currently offered in initial training programs for ECEC professionals in Portugal. By analyzing the specific provisions for working with children under the age of 3, it is possible to inform more targeted and effective policy recommendations to improve existing training structures.

Core components of initial training for professionals working with children under 3

The few studies that have attempted to identify core elements of initial training for this age group can be found in the *Starting Strong Survey*, an initiative of the Organization for Economic Co-operation and Development (OECD, 2021). Recommendations put forward highlight the relevance of in-depth initial training focused on the characteristics of children under 3, especially when combining early childhood development, curricular guidelines, and pedagogical subjects. Nonetheless, other topics, such as the relationship with families, cultural diversity, linguistic development, or the quality of teacher–child interactions, have also been pinpointed as highly relevant (Egert et al., 2020; Katsiada et al., 2023; OECD, 2021; Ribaeus et al., 2022; Rodríguez-Carrillo et al., 2022). Moreover, supervised practice through internships, particularly when conducted across diverse educational settings and with different age groups, has been identified as a central component of initial training. These experiences provide future professionals with opportunities to develop skills in real-world contexts, thereby supporting more enriching and stimulating practices (Katsiada et al., 2023; OECD, 2021; Ribaeus et al., 2022; Rodríguez-Carrillo et al., 2022).

However, findings from Starting Strong VI, based on policy interviews conducted across multiple countries, indicate that these elements are absent from many initial training programs in several contexts, including Portugal (OECD, 2021). Scholars have highlighted

the paradigm theory versus practice, arguing that learning in the academic context should be linked to internship practices and combined with reflexive seminars to integrate more theoretical aspects with the practical experience (Ribaeus et al., 2022). Training frameworks that integrate theory, practice, and reflective components in a continuous, cyclical process appear to make a strong contribution to the development of a high-quality professional identity among ECEC students (Rodríguez-Carrillo et al., 2022). Despite these calls for integration, there is still limited understanding of current programs as a whole and of how their different components contribute to preparing future professionals (Cretu, 2021).

Portuguese specificities on ECEC educators' initial training

For the past decades in Portugal, the importance of the 0–6 age group has been reinforced both in legal and institutional terms. Preschool education (for children aged 3–6) is now part of the education system, and children have the right to a free place from the age of 4, even though this was not yet fully accomplished, according to 2022/2023 data (CNE, 2024). Also, the Preschool Curricular Guidelines were revised (Lopes da Silva et al., 2016), and for the first time, a steering document guiding pedagogical practice in childcare in Portugal was released in 2024 – the “Pedagogical Orientations for Crèche” – the Portuguese service for children under 3 – a joint effort of the Ministries of Education and Social Security (Ministério da Educação, 2024). In a more distant past, other policy initiatives have been put forward to value this age group, including the approval of the Preschool Legal Framework (in 1997) and the publication of the teachers' professional performance profile law, which includes professionals working with children aged 3–6 (in 2001). However, the Portuguese ECEC system continues to be split between 0–3 and 3–6 years, with the 0–3 age group being officially out of the education system and under the supervision of the Ministry of Social Security. This may account for the fact that many initial training programs, particularly at the master's level, may not adequately prepare future ECEC educators to work with children aged 0–3, given that the designation “preschool education” typically refers to the 3–6 age range. Additionally, it is also worth mentioning that the changes introduced in 2007 in the curriculum of initial training programs have merged the training of elementary education with ECEC preparation, making a specific approach to 0–3 years even more difficult. This becomes even more challenging because, as discussed by Gomes and Brito (2022), the curriculum framework of initial training programs for ECEC educators is largely defined by Portuguese law, which results in highly standardized and uniform programs with reduced diversity and margin for Higher Education Institutions to design more tailored initial training options.

The initial training of qualified ECEC educators in Portugal, which entails 5 years of higher education and is among the most demanding across OECD countries (OECD, 2021), is characterized in the limited available literature as giving insufficient attention to the first 3 years of a child's life (e.g., Pinho et al., 2013; Portugal, 2000; Schreyer et al., 2024). Legally, ECEC educators must first complete a bachelor's degree in Basic Education, a qualification shared with future teachers of children up to 12 years old, and then pursue one of two master's degrees: Preschool Education (focused on children aged 0–6) or Preschool and Elementary Education (focused on children aged 0–10). Consequently, the learning objectives and curricular content of both bachelor's and master's programs tend to prioritize the

characteristics and needs of older children, with comparatively limited attention devoted to the specific developmental needs of children aged 0–3 (Gomes & Brito, 2022).

The present study

In summary, although there is strong evidence highlighting the importance of high-quality initial training for high-quality ECEC practices, research remains limited in systematically examining the programs currently offered by Higher Education Institutions (HEIs). Using a multimethod design, this study presents part of the findings from the ProFormação 0–3 project, which intends to fill a gap in the literature regarding the Portuguese context by specifically identifying and characterizing the initial training of ECEC professionals and the extent to which the knowledge and skills of future educators are fostered to respond to the 0–3 years specificities positively. In line with contemporary perspectives emphasizing the value of integrating multiple viewpoints on initial training (Ribaeus et al., 2022), this study combines document analysis, examining the formal content of HEI programs, with focus groups exploring the perceptions of lecturers involved in their implementation. Accordingly, to characterize the current landscape of initial training in Portugal for qualified ECEC educators and to identify key constraints and opportunities from the perspective of lecturers, three research questions were formulated:

Research Question 1 (RQ1): What initial training programs are currently available in Portugal for ECEC professionals working with children aged 0–3?

Research Question 2 (RQ2): How do HEIs approach the specificities of the 0–3 age group in their initial training programs for ECEC educators?

Research Question (RQ3): What are the main constraints and opportunities in the approach adopted by HEIs?

Method

Participants

A document analysis of the 67 initial training programs in early childhood education and care (ECEC) offered in Portugal was conducted, complemented by a series of focus group discussions with 23 participants. These participants were 23 lecturers teaching in Portuguese HEI, whose ages ranged from 37 to 62 years old ($M = 51$; $SD = 8$), and 75% were female. Their professional experience as lecturers varied from 2 to 34 years. All participants had a PhD (in different academic backgrounds: e.g., Early Childhood Education and Care, Psychology, History, Modern Languages and Literatures, Mathematics, and Music), and 5 had professional experience as ECEC educators working with children under 3. The HEIs represented in the study ($n = 6$), where the participants work, are located in different regions of the north, center, and south of Portugal: One is a private University Institute, two are public Universities, and three are public Polytechnic Institutes. Participants were responsible for teaching various subjects, including ECEC didactics, ECEC methodologies, pedagogy, observation, documentation, assessment practices, and developmental psychology, among others.

Measures and procedures

Document analysis

Document analysis was essential for achieving the objectives of this study, as it enabled the identification of topics related to children aged 0–3 within a large volume of information on initial training programs (Bowen, 2009; Morgan, 2021). The analysis began with a systematic review of information available on HEIs' websites, including descriptions of ECEC initial training programs and study plans. This was followed by direct contact with degree coordinators to request clarifications and/or additional information when necessary. This procedure served a twofold purpose. First, it allowed for the mapping of initial training programs available in Portugal for ECEC professionals working with children aged 0–3. Second, it provided an overview of how different HEIs address the specificities of this age group within their programs by examining the frequency of modules, syllabus content, and learning objectives containing direct or indirect references to children under 3 years of age.

Focus group interviews with lecturers

To understand lecturers' perceptions, behaviors, and emotions regarding how the programs they teach are preparing future ECEC educators to work with children under 3, a focus group methodology was developed (Krueger & Casey, 2009; Yin, 2016). The decision to use this instrument was based on the need to collect qualitative assessments to help complement the information gathered in the document analysis and to inform future improvements (Morgan, 1997; Silva et al., 2014). More specifically, the aims of these focus groups were the following: to understand how specificities of the 0–3 years are valued in ECEC initial training programs; to clarify how these issues are addressed in terms of content diversity, extension, and methodology; and to understand how HEIs use their autonomy to address the specificities of the 0–3 age group in the context set by Portuguese legislation regarding curricula and learning objectives. Therefore, a semistructured interview was designed considering the purpose of this investigation, and lecturers' perceptions were obtained from a set of open questions, including: How is the preparation for working with children under 3 valued in the program in which you teach? How are the specificities of the 0–3 age group approached in the program you teach? What suggestions could be made for improving initial training, regarding the specificities of children under 3?

Six discussion groups were carried out with 3 to 5 participants, lasting approximately 90 minutes. These Focus Groups were conducted online by the researchers, who followed an appropriate script to achieve the goals of the study, considering the recommendations of the literature (Amado, 2013; Cadima et al., 2020; Gomes & Brito, 2022; Hu et al., 2019; Pauker et al., 2018; Rutanen & Hännikäinen, 2017).

Ethics

Ethical issues were taken into consideration during the design of the project and during its execution whenever needed. Moreover, the research was approved by the Commission of Ethics and Deontology of the Faculty of Psychology, University of Lisbon.

Informed consent, approved by the Data Protection Office of the ProChild CoLAB Association, was obtained from all the individuals participating in the interviews. Written informed consent was specifically designed for interviews for this study, and an identification code was created to ensure confidentiality. When the invitation was sent, and before

the group discussions, participants were informed of all necessary details and gave their consent to participate in the study.

Data analysis

In the documental analysis, information was categorized and used to characterize the existing offer of initial training programs for ECEC professionals (e.g., How many initial training programs exist in Portugal for ECEC educators? How much time is devoted to topics about the specificities of the 0–3 age group?). The amount of time calculated for specific topics on 0–3 years was based on the analysis of explicit designations and the respective number of European Credit Transfer and Accumulation System (ECTS) or training hours, as well as on implicit course designations that suggested the possibility of including curricular content related to children aged 0–3.

For the interviews, a content analysis was conducted to categorize lecturers' perceptions, with both deductive and inductive principles guiding the category construction. The category system and operational definitions were developed by three researchers and assessed by two experts (high agreement: $\alpha = .894$). The analysis was conducted using NVivo software: First, answers were broadly examined and then the main themes were identified and organized into categories and subcategories to match the objectives of the study, following Bardin's guidelines (Bardin, 1977). Category systems and their operational definitions are described in [Appendices A and B](#).

Results

Initial training of professionals working with children aged 0–3 years in the Portuguese context

The document analysis enabled the identification of the existing training provision for ECEC educators. As previously noted, ECEC educators are required to hold an ISCED Level 7 qualification, comprising a 3-year bachelor's degree followed by either a three-semester master's in Preschool Education or a 2-year master's in Preschool and Elementary Education, in order to work autonomously (see [Table 1](#)). The analysis revealed notable variation across Higher Education Institutions in methodological approaches, course content, the amount of time dedicated to the specificities of the 0–3 age group, and opportunities for supervised practice. These differences reflect the institutions' distinct pedagogical orientations as well as, in some cases, considerations of student preferences.

Summing up the 67 programs for ECEC educators analyzed, [Table 2](#) presents the type of training and the amount of time devoted to the specificities of the 0–3 age group.

Table 1. Training options for ECEC educators.

ECEC educator	
Bachelor's degree in Basic Education (ISCED 6)	
+	
Master's degree in Preschool Education (ISCED 7)	OR Master's degree in Preschool and Elementary Education (ISCED 7)

Table 2. Initial training offer for ECEC educators and amount of time devoted to 0–3 years.

Type of training	Number of available programs	Time devoted to 0–3 years
Bachelor's degree in Basic Education	28	~6% *
Master's degree in Preschool Education	14	~24% *
Master's degree in Preschool and Elementary Education	25	~16% *

*Not including supervised practices – internships.

Lecturers' perceptions on how HEIs approach the specificities of the 0–3 age group in their initial training programs for ECEC educators

Regarding RQ2, the lecturers discussed the approach of their HEIs to the 0–3 age group on issues related to the content, main objectives of the program, and the role of supervised practice. Lecturers also shared their perception of how this age group is addressed, when compared to other age groups (see Table 3).

Considering the specific training opportunities provided for students to learn and develop competencies on the specificities of children under 3, lecturers reported these were frequently related to disciplinary contents and methodologies. Some participants noted that the added value of their program is “a pedagogical differentiation, where a particular attention is given to 0–3 year” (FG.4), while others referred to specific courses that have “many contents about motor development and artistic expressions to work with children aged 0–3” (FG.4) or whose “first part is much more directed to sensorial work” (FG.2). Another dimension mentioned includes the objectives of ECEC programs study plans, which were organized to provide students “experiences that allow them to develop competencies to work with children under 3 too” (FG.1). A final training opportunity that was considered relevant by lecturers for students to develop the specific skills to work with the 0–3 age group is the supervised practice, where “students have an opportunity to reflect on action in practice, to actually build knowledge ... and to actually produce reflection, thought and even see ways of working with the children themselves.” (FG.2).

Regarding the evaluation of the specific approach to the 0–3 age group, participants' perceptions were mixed. While for some there was a smaller focus on this age group, “comparing with other age groups, 0–3 has not the same value” (FG.4), for others, their program offers students equal opportunities to develop skills about different ages, “we are preparing students to deal with all age groups in a very balanced, theory-grounded approach” (FG.5).

Table 3. Higher Education Institutions' approach to the specificities of children under 3.1

0–3 years approach in Higher Education Institutions	0–3 years specific approach	Disciplinary and methodological contents (<i>n</i> = 80)
		Objectives of the study plan (<i>n</i> = 27)
		Supervised practice experiences (<i>n</i> = 11)
	0–3 years specific approach evaluation	Less attention to 0–3 year than other age groups (<i>n</i> = 27)
		Equitable attention to all age groups (<i>n</i> = 19)

Lecturers' perceptions on the constraints and improvements on the approach to the specificities of the 0–3 age group in their initial training programs for ECEC educators

As for RQ3, lecturers shared a great diversity of perspectives on what are the main constraints to a more focused approach to the specificities of children under 3 in the ECEC initial training programs they teach. Moreover, they also suggested different aspects that could be adopted to improve the way HEIs approach this age group (see Table 4).

One frequently mentioned constraint was the strictness of Portuguese legislation, which was considered “a very large and very difficult limitation” (FG.3) because it imposes HEIs’ fixed “metrics regarding the number of hours for each subject to which we have to obey” (FG.1), which then hinders HEIs’ autonomy to manage the contents and the time that is devoted to topics on children under 3. The perceived social devaluation of the work with children under 3 was also an important aspect for participants, who considered that “the fact that 0–3 years is not part of the education system influences how society looks at it” (FG.1), reinforcing the idea that the “0–3 age group is not seen as an area where a more specialized or professional contribution could be important” (FG.4) and that it is commonly viewed that “teachers are babysitters to entertain children, change diapers and feed them” (FG.5). The role of university lecturers of ECEC initial training programs on promoting the focus on 0–3 years was another important topic of reflection, with different aspects worth emphasizing. On the one hand, some participants were concerned about the lack of time they had to reflect and to further develop their own work on the specificities of children under 3 (FG.3), the lack of “nationally and internationally research on science education with children aged 0–3” (FG.2), or the lack of advanced training opportunities to improve their own skills on the topic, “there are very few high-specialized trainers in 0–3 years in Portugal at the moment, considering the needs of initial and continuous training” (FG.5). On the other hand, lecturers also mentioned their colleagues’ lack of interest on the particularities of the 0–3 age group; some of them “are unaware of the importance of the 0–3 years and there isn’t a strong enough pressure to make them change” (FG.4). Finally, participants of the focus groups also referred to as constraints the lack of high-quality educational settings for 0–3 years, where they can integrate future ECEC educators to acquire specific and practical knowledge for this age group (FG.5), as well as the

Table 4. Constraints and improvement suggestions on the approach to 0–3 years.

Constraints to 0–3 years specific approach	Strictness of legislation ($n = 21$)
	Social devaluation of the pedagogical work with under 3 ($n = 8$)
	Lack of time to reflect on and to develop the curriculum ($n = 8$)
	Lecturers’ lack of interest on the topic ($n = 8$)
	Lack of 0–3 years settings with high-quality practices ($n = 6$)
	Lack of specialized training for lecturers ($n = 4$)
	Lack of research on the best approaches to initial training for under 3 ($n = 3$)
	Students’ competencies ($n = 3$)
	Curriculum reform ($n = 19$)
	More time to reflect on and develop the curriculum ($n = 16$)
Improvement suggestions on 0–3 years approach	Supporting 0–3 years professional appreciation ($n = 9$)
	Changes in the initial training education system ($n = 7$)
	Supporting high-quality practices for 0–3 years ($n = 4$)
	Increased investment by Higher Education Institutions ($n = 3$)
	Specific training on the topic for lecturers ($n = 2$)

unpreparedness of students who “have a lot of limitations in academic reasoning, don’t have cognitive and emotional maturity” and are not interested in 0–3 years topics (FG.6).

As for the suggestions to improve the initial training to better prepare future ECEC educators to work with children under 3, one frequently mentioned topic was the need to consider curricular reforms in initial training programs, even though there was no agreement on how it should be done. While some lecturers proposed “to have two semesters in 0–3 years and two semesters in 3–6 years” (FG.1), others suggested “a remodeling of the BA in Basic Education, with a lower emphasis in teaching and a higher emphasis in didactics and initiation to professional practice” (FG.4). Other institutional governance proposals included not only broader changes in the education system, such as “to implement educational guidelines to work with the 0–3 age group” (FG.2) or for “a closer relationship between HEIs and the settings where students start their professional practice” (FG.6), but also an increased support by Higher Education Institutions to provide better working conditions for lecturers to devote individualized time with future ECEC educators to prepare them to deal with children under 3 (FG.1, FG.2). In parallel with the identified constraints, participants also reflected on the need to have more time to reflect on and to cooperatively develop their own research on the topic (FG.2, FG.4, FG.6), to have more advanced training opportunities dedicated to the specificities of the 0–3 years (FG.1), and to promote a more generalized social valorization of the job performed by ECEC professionals (FG.1, FG.6). Lastly, some participants highlighted the importance of supporting high-quality ECEC institutions that explore the developmental potential of children under the age of 3, for they are “great opportunities for students’ training to observe and/or collaborate in interviews with families or meetings” (FG.3).

Discussion

This study aimed to fill some of the gaps found in the literature on educators’ initial training to work with children aged 0–3, by characterizing the current offer in Portugal. Henceforth, the results allowed for the identification and mapping of existing programs for ECEC educators (RQ1) and demonstrated that the amount of time devoted to the specificities of 0–3 years is not significant. In all training programs analyzed, 24% of time or less was devoted to this age group, confirming that this age range tends to be undervalued compared to other age groups, namely 3–6 years and 6–10 years, aligning with findings from previous literature (Pinho et al., 2013; Portugal, 2000; Schreyer et al., 2024). Moreover, results also suggest that when specificities of care and education of children under 3 are addressed, they are usually included in courses that also address other age groups, possibly resulting in a superficial or schooled manner handling of the topics, as also found by Gomes and Brito (2022) and Jahreie (2023). At the master’s level, 39 programs were analyzed nationally and, between the two programs mandatory for ECEC educators, it was found that, not surprisingly, the master’s degree in Preschool Education devotes more time to the 0–3 years compared to the master’s degree in Preschool and Elementary Education. However, it is important to note that there are only 14 Master’s degrees in Preschool Education in Portugal, in contrast to 25 Master’s degrees in Preschool and Elementary Education, which means students are likely to have fewer opportunities to develop adequate capacities to work with this age group.

Regarding supervised practice experiences, identified as essential in initial training for ECEC professionals (Katsiada et al., 2023; OECD, 2021; Ribaeus et al., 2022; Rodríguez-Carrillo et al., 2022), several programs analyzed do not offer supervised practice in ECEC settings for children under 3, but only for older children. This means that, in Portugal, future ECEC educators may finish their initial training of 5 years without ever having had contact with children this age.

According to our findings, the adequacy of current training programs to offer opportunities for students to develop a deep understanding regarding the specificities of the 0–3 age range (both during the curricular years and in supervised practice) may be at stake. Additionally, the current trend to prepare both ECEC educators and primary school teachers together, which is reflected in the much higher number of master's programs in Preschool and Elementary Education offered nationally, may undermine future ECEC educators' preparation to address the specificities of the 0–3 years.

Considering the focus group results, there were mixed views regarding how HEIs approach the specificities of the 0–3 age group in their initial training programs for ECEC educators (RQ2). Despite several authors considering supervised practice as a crucial element of initial training (Ferreira et al., 2021; Gomes, 2018; Mitter & Putcha, 2018), lecturers' perceptions differed. Some of them considered supervised practice as important as other aspects that need to be ensured in initial training, such as a more theoretical and conceptual approach to the specificities of 0–3 years, which should be operationalized through the program objectives, study plans, and the application of different methodologies in different courses. These views are more aligned with halfway approaches that consider the most adequate option to promote the development of students' professional knowledge and skills as a combination of theory and practice (Aguar & Aguiar, 2022; Cretu, 2021; Rebollo-Quintela & Losada-Puente, 2021). By combining theory and practice, this approach advocates supporting students' reflective skills as a better way to articulate theoretical concerns and practical opportunities, a powerful metacognitive tool to be used throughout their professional lives.

Regarding the evaluation of the 0–3 years approach, answers may have been influenced by the master's degree program in which lecturers teach, with those teaching at the master's in Preschool and Elementary Education noting that there is a smaller focus on children under 3. Nonetheless, considering that, in most cases, less attention is devoted to 0–3 years than to other groups, three aspects may be concurring in this lack of preparation to work with children under 3: i) the master's degree in Preschool and Elementary Education is offered by more HEIs when compared to the master's degree in Preschool Education; ii) since the master's degree in Preschool and Elementary Education prepares students to work with a broader age range (children from 0 to 10 years old), less time is devoted to each age specificities; iii) students may be attracted to choosing the master's degree in Preschool and Elementary Education due to the increased employability opportunities than searching for the mastery of essential skills to perform the profession in the most appropriate way (Concha-Díaz et al., 2022; Rebollo-Quintela & Losada-Puente, 2021). By choosing this master's degree in Preschool and Elementary Education, professionals can work with children from 0 to 10 years old, in three different educational settings: crèche/nursery (0–3 years), preschool (3–6 years), and elementary school (6–10 years). Despite being an understandable choice in terms of maximizing the opportunities for future employment, it may bring difficulties in increasing the quality of educational settings and practices for

children under 3 since pedagogical and curricular guidelines for these age groups are distinct (Gomes & Brito, 2022). More specifically, aspects related to young children's autonomy, care routines, learning environments, sensitive exploration, and high-quality interactions, both child–child and child–adult, as well as family engagement, take on a distinct dynamic in children under 3. These dimensions are often less developed or insufficiently explored when initial training places greater emphasis on older age groups. As a result, a stronger focus on the specific characteristics of the 0–3 age range would better prepare students to implement high-quality pedagogical practices and to respond more effectively to the particular needs of this developmental stage (Pinho et al., 2013; Vasconcelos, 2011).

Regarding the main constraints and opportunities in the approaches adopted by HEIs (RQ3), lecturers' reflections on legislation and curricular reforms underscore the need to expand learning opportunities specifically focused on the 0–3 age group within the initial training of ECEC teachers. In addition, any potential restructuring of initial teacher education programs for early childhood educators should ensure that preservice coursework and supervised field experiences are designed and implemented in a more integrated and systematic way, as advocated by Hu et al. (2022).

It is worth mentioning that lecturers also perceive that the educational potential of ECEC settings remains undervalued in society at large, a perception that can undermine the professional work of educators working with children under 3, as also evidenced in the literature (Billaudeau et al., 2023). According to recent studies, 80% of respondents (majority of residents in Lisbon, Portugal) see the main task of ECEC settings for children under 3 as “taking care” places, and only 58% recognize them to have an educational role; also, while 90% or more consider that Portugal should provide better support to childhood development, only 35% understand that it is during the first 3 years of life that there is greater brain development (Amaro et al., 2023; Veríssimo et al., 2023). Moreover, given that high-quality practices can have a positive impact on children's social, health, and academic performance and on economic growth (Kawarazaki, 2023), Higher Education Institutions could play an important role in clarifying the specificities of 0–3 years by promoting knowledge and practices on these specificities, especially including an explicit and intentional emphasis on this age group in the initial training, as suggested by Fukkink and Long (2007).

While the main goal of this article is to systematize information that may be used to inform future reform proposals, it is also possible to identify some implications that can guide future changes in the initial training of ECEC educators, at least in two different dimensions. First, the growing cross-ideological consensus that education for children under 3 is a priority should be translated into a more coherent and robust legal framework. Specifically, legislation regulating the training and professional conditions of ECEC staff working with the 0–3 age group needs to more fully reflect the societal value of early childhood education. This entails not only strengthening requirements for specialized training, but also ensuring adequate working conditions, professional stability, and formal recognition of the complexity and importance of this work. Aligning policy commitments with concrete regulatory measures is essential for elevating the status of the profession and for supporting the quality of provision in this critical developmental period. Second, in relation to the training offered by HEIs, the findings suggest the need for more flexible and differentiated pathways. Rather than maintaining closed, standardized models that aim for broad coverage but risk insufficient depth, training programs could be structured to include

distinct curricular tracks and supervised practice components focused on specific age groups (e.g., 0–3, 3–6, or 6–10 years). Such an approach would allow for more solid and context-sensitive preparation, better aligned with the developmental particularities of each stage. The implementation of this model should be grounded in a collaborative process involving HEIs, policymakers, and sector stakeholders, with the aim of integrating more specialized content into existing programs while preserving coherence and accessibility.

Beyond these structural and curricular considerations, a broader cultural and professional shift remains essential. Advancing the status of ECEC professionals working with children under 3 requires sustained reflection on the nature, demands, and societal importance of their role. Strengthening recognition – both within the education system and across society at large – is a critical step toward ensuring that policy reforms translate into meaningful improvements in practice and professional identity.

Limitations and future research

The present study is not free of limitations and future research on the topic could be helpful to overcome some methodological issues, namely, by including a larger and more representative sample of participants from other Higher Education Institutions. Cross-validation with observation data could be helpful to characterize in more detail how HEIs approach the specificities of the 0–3 age group, and the development of a monitoring tool could also be considered to measure the adequacy of ECEC professionals' preparation (Cade et al., 2022). Moreover, collecting other perspectives and reflections from in-service professionals, students, or experts could help in understanding the current HEIs' approach to the specificities of children under 3 and identify possible ways to improve. Finally, it would be valuable to examine the role of secondary schools, as they share responsibility with universities, particularly in the training of ECEC assistants. This collaboration could foster greater cooperation between political, social, academic, and research institutions in supporting broader educator training initiatives.

Conclusion

This study contributes to the characterization of the initial training of early childhood education and care (ECEC) educators to work with children aged 0–3, particularly within the Portuguese context. By adopting a multimethod approach, the robustness and consistency of the findings were strengthened. The main results indicate that limited time is devoted to the specificities of the 0–3 age group in initial training programs. This may be explained by the fact that most programs are designed to prepare future educators for diverse educational contexts and for working with children across a broad age range, from 0 to 10 years. Consequently, the decision not to prioritize the specificities of children under 3 may be understood as a pragmatic or instrumental choice, shaped by these structural and curricular constraints.

These considerations, combined with ECEC educators' minor preparation and guidance to work with children under 3, may jeopardize a greater investment and consideration of the educational settings for this age group. Moreover, the perception shared by lecturers and supported by recent literature of an undervaluation by society in general of the importance of the work developed by ECEC educators, may indicate a lack of understanding of how

high-quality ECEC contexts impact both the immediate and future lives of children. Nevertheless, the increasing number of initiatives by civil society to discuss the importance of this age group, as well as the recent publication of the Pedagogical Guidelines for the 0–3 years by the Ministry of Education (Marques et al., 2024) – which happened after the conclusion of this study – suggest there may be an opportunity for change. In this context, it is important to rethink the current training offer and to consider new processes to support ECEC professionals' initial training at different levels, namely the incorporation of an explicit and intentional emphasis on child development and learning for 0–3 years.

Note

1. Although the frequency of the categories is included throughout the presentation of the results (where n refers to the number of references for each category), the main concern of the study is to identify the diversity of perspectives shared by participants, rather than to purely quantify the references made to each category.

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Appendices

Appendix A

Category system, operational definition, and examples of theme *0-3 years approach in Higher Education Institutions*.

		Operational definition	Examples
Theme	0–3 years approach in Higher Education Institutions	Educators' training in universities and similar institutions concerning 0–3 years specificities.	–
Category	0–3 years specific approach	Approach to 0–3 years in educators' initial training.	–
Subcategory	Disciplinary and methodological contents	Subjects and methods applied to teach and prepare educators.	Another subject is inclusive education and pedagogical differentiation, where 0–3 has a particular attention (FG.4). The first part of the module is much more directed to sensorial work (FG.2).
	Objectives of study plans	Training design to properly prepare educators.	Our students have experiences that allow them to develop competencies to work in 0–3 too (FG.1). Objectives regarding competencies of observation and analysis that seem essential to us (FG.6).
	Supervised practice experiences	Educators' training on 0–3 years specificities in supervised settings.	In the 3rd year, students have pedagogical practice in 0–3 (FG.4). The internship is where students have an opportunity to reflect on action in practice, to actually build knowledge, understanding, and reflection in order to confront the context of practice and to be able to actually produce reflection, thought, and even see ways of working with the children themselves (FG.2). They go to 0–3 contexts in the second semester (FG.3).
Category	0–3 years specific approach evaluation	It compares educators' learning opportunities to develop skills on different ages.	–
Subcategory	Less attention to 0–3 years than other ages	Less opportunities to develop skills on 0–3 specificities than on other age groups.	Regarding the master's in preschool education, I must confess that it could be given more weight (to 0–3 years), I think so and I'm aware of it as a teacher (FG.2). It is unbalanced (0–3 supervised practices), and modules that support 0–3 work too (FG.3). Regarding other age groups (3–6 years), 0–3 has not the same place ... (FG.4).
	Equitable attention between age groups	Similar opportunities to develop skills on 0–3 specificities and on other age groups.	We give the same importance to 0–3 and preschool (3–6) (FG.1). We are preparing in a very balanced way for both ages, a theory-grounded approach (FG.5).

Appendix B

Category system, operational definition, and examples of theme *Constraints perceived by lecturers and improvement suggestions*.

		Operational definition	Examples
Theme	Constraints perceived by lecturers and improvement suggestions	Limitations identified by lecturers when addressing topics on 0–3 years and suggestions to better address 0–3 years specificities.	–
Category	Constraints to 0–3 years specific approach	Contextual and personal difficulties faced by lecturers to work on 0–3 years contents.	–
Subcategory	Strictness of legislation	Laws and rules regarding the organization of ECEC educators' initial training in Higher Education Institutions, which limit the autonomy of lecturers to focus on 0–3 years contents.	We have metrics regarding the number of hours for each subject to which we have to obey (FG.1). Legislation is obviously a very large and very difficult constraint (FG.3).
	Social devaluation of the pedagogical work with under 3	Generically, childcare settings for children under 3 tend to be considered as a care service and its specificities and potentialities are unexplored.	The fact that 0–3 is not part of the education system influences the way we look at it (FG.1). In our culture, 0–3 is not recognized as an area where a specialized, formal, and professional contribution can be important (FG.4). Regarding 0–3, we still need to overcome the political vision, the parents' vision, the society's vision . . . [Stop] looking at 0–3 teachers as babysitters to entertain children, change dippers, and give them the bottle (FG.5).
	Lack of time to reflect on and develop the curriculum	Lecturers have few opportunities to expand teaching on the specificities of 0–3 years, both theoretically and methodologically.	It would be good to have more time together . . . to build this process (FG.3). I think we needed more time, especially in the master's degree to approach 0–3 (FG.3).
	Lecturers' lack of interest on the topic	Some lecturers are less motivated to further explore the specificities of 0–3 years.	Our freedom, our training interests are conditioned (FG.2). They are unaware of 0–3 importance, and there is not a strong enough pressure for them to change. . . (FG.4).
	Lack of 0–3 years settings with high-quality practices	There are few childcare centers where the potentialities of children under 3 are supported and explored to be considered good settings for supervised practices.	There are not many high-quality contexts (FG.5).
	Lack of specialized training for lecturers	Lecturers have few opportunities to improve their knowledge on the specificities of 0–3 years.	There are very few highly specialized trainers in 0–3 in Portugal, at the moment, considering the needs of initial and continuous training (FG.5).
	Lack of research on the best approaches to initial training for under 3	There are few opportunities to develop research projects on the specificities of 0–3 years.	Nationally and internationally there is a lack of research on science education with children aged 0–3 (FG.2).

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		Operational definition	Examples
	Students' competencies	Some students are not interested in 0–3 years topics or have a poor academic performance.	Sometimes they don't have cognitive and emotional maturity. They have a lot of limitations in academic reasoning (which is a difficulty) to understand and apply the theoretical rationale (FG.6).
Category	Improvement suggestions on 0–3 years approach	Suggestions to better address the specificities of 0–3 years in HEIs.	–
	Curriculum reform	Changes in study plans and initial training framework should be considered.	Eventually to have two semesters in nursery and two semesters in preschool; to develop research in 0–3, which is extremely difficult (FG.1). A basic education degree remodeling, with lower emphasis on teaching and higher emphasis on didactics and initiation to professional practice; to increase the number of transdisciplinary and more integrated modules to be able to respond to a more holistic vision of the child (FG.4).
	More time to reflect on and develop the topic	To offer lecturers more opportunities to expand teaching on 0–3 years, both theoretically and methodologically.	This formative and informative perspective is central [rather than] valuing schooling so much; . . . an internal pedagogical reorganization so that we are able to dedicate ourselves deeply to 0–3 (FG.2). To perform cooperative work among lecturers would be very good (FG.4). Feeding critical reflection between lecturers from the beginning (FG.6).
	Supporting 0–3 years professional appreciation	The specificities of children under 3 and their potentialities should be promoted to foster a greater social value of the topic.	It is very important to value 0–3 teachers' training in Portugal, compared to other countries in Europe (FG.1). The profile of future professionals, what should the articulation be like after initial training . . . (FG.4). It is essential to reinforce and raise awareness on the importance of these caregivers and their affective relationships with children; the support they provide to families as well, it is fundamental (FG.6).
	Changes in the initial training education system	Adjustments at a governmental level to be considered on the approach to the specificities of 0–3 years.	Implementing educational guidelines to 0–3 (FG.2). HEI should have a closer relationship to the contexts where students start their professional practice (FG.6). Governmental management has . . . to be well developed and articulated by the two ministries [Ministry of Education and Social Security Ministry] (FG.6).

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	Operational definition	Examples
Supporting high-quality practices for 0–3 years	To increase the number and diversify the type of childcare centers that support and explore the potentialities of 0–3 years and that can be considered good settings for supervised practices.	Those are great opportunities in students' training to observe and/or collaborate in interviews with families or meetings (FG.3). More immersive moments in these outdoor spaces (FG.3).
Increased investment by Higher Education Institutions	Higher Education Institutions should better support the specificities of the 0–3 years and increase investment in that area.	Learning communities . . . added value for HEI, community partners, students (FG.1). Investing in more spaces and materials (FG.2). Training institutions should deeply reflect about what they expect a 0–3 teacher to be and, from this profile, to promote cooperation between lecturers to think about what should be developed with the students (FG.2).
Specific training on the topic for lecturers	To offer lecturers more opportunities to improve their knowledge on the specificities of children under 3.	It is important to be aware, particularly in 0–3 teachers' training . . . the personal dimension, the relationship with others, ethics (I.1).