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Home Writing Environments of At-Risk and Typically Developing Children in Spain: Implications for Preventing Writing Difficulties

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Abstract

Writing is a key competence for academic and social success, and for future employability. From a sociocultural perspective, writing development is shaped by both school instruction and literacy-related experiences within the home. However, little is known about what specific writing practices and support families naturally provide, particularly for children at-risk of writing difficulties in early primary education. This study examines home writing practices and family support for 296 typically developing and at-risk children in Spain in grades 1 and 2. Students' writing performance was monitored longitudinally using curriculum-based writing measures, identifying 48 at-risk writers. Parents completed the Home Writing Environment Questionnaire, assessing the frequency of formal and informal writing practices and types of family support, including procedural, motivational and material support. The results showed similar patterns of home writing environments between groups; however, at-risk children engaged in writing activities less frequently, especially those involving higher-level processes such as planning, composing and revising. Families of at-risk children reported slightly higher levels of contingent support, suggesting adaptive involvement. These findings highlight the importance of promoting systematic family engagement in early writing to support inclusion and prevent difficulties.

Keywords: home writing environment; formal and informal practices; family support; at-risk writers; primary education; inclusive education; writing

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1. Introduction

Writing is a fundamental learning tool that plays a key role in academic, social and (future) occupational contexts (Graham & Perin, 2007). It is one of the skills recognized in the Sustainable Development Goals (SDGs), specifically Target 4.6 in Quality Education, which aims to ensure that all young people and a substantial proportion of adults gain literacy and numeracy skills (United Nations, 2015). Literacy covers both reading and writing, closely related skills that each support the other's development (Graham et al., 2018b). Despite the reciprocal relationship, reading and writing are distinct literacy competencies that involve partially different cognitive processes. Reading is primarily a receptive process, whereas writing is productive, requiring the coordinated operation of multiple cognitive processes at different levels. These processes include lower-level transcription skills, such as handwriting and spelling, and higher-level processes related to

idea generation, planning, text production, and revision. In addition, executive functions, including attention and working memory, support and regulate these processes throughout writing activity (Berninger & Amtmann, 2003; Berninger & Winn, 2006; Hayes, 2012).

Given its cognitive complexity, writing requires explicit instruction, sustained practice, and engagement in motivationally supportive environments (Berninger & Amtmann, 2003; Hayes, 2012). This means that although reading and writing mutually reinforce one another (Y.-S. G. Kim & Graham, 2022), writing involves different skills, instructional demands, and contextual support from those associated with reading development; and effective writing development depends on writing-specific teaching practices that go beyond those designed to promote reading (Graham & Hebert, 2011; Graham et al., 2018a, 2018b). The Spanish education system (where this study took place) also makes this distinction—writing is recognized as a distinct curricular competence with its own learning objectives and curricular content (Robledo & Olivares, 2022).

Schools play a central role in providing writing instruction through structured teaching practices (Graham & Harris, 2018). However, writing development may also be reinforced and enriched through experiences outside the classroom, particularly in the home environment and through family involvement. Research has consistently shown that parental engagement positively contributes to children's literacy and writing development (Alston-Abel & Berninger, 2018; Camacho & Alves, 2017; Kelso-Marsh et al., 2025b; Robledo & García, 2013). Language is worked on at home from the moment children are born, and stimulating experiences in the home can facilitate students' acquisition of oral language, reading and writing (Anderson et al., 2017; Frijters et al., 2000; Puranik et al., 2018; Sénéchal & LeFevre, 2002). The family home helps children perform contextualized literacy tasks with real communicative purposes, promotes their interaction with printed materials, and offers literacy models (Aram et al., 2014; Nyhout & O'Neil, 2013; Topping et al., 2011), and children first learn about written language at home (Neumann et al., 2009; Park, 2019). However, because writing and reading rely on partially distinct cognitive processes and instructional demands, the opportunities families provide for supporting writing should not be viewed simply as an extension of home reading practices. While home reading activities primarily promote exposure to print and reading comprehension (Sénéchal & LeFevre, 2002, 2014), supporting writing involves creating opportunities for children to write, providing guidance and feedback during the writing process, and encouraging writing for a range of meaningful communicative purposes (Algorri-Diez et al., 2025; Y.-S. G. Kim & Graham, 2022; Álvarez-Moreno and Robledo, under review).

This view is consistent with sociocultural models that conceptualize writing as an activity situated within communities of practice (groups who share common goals and use writing to achieve them—such as in the classroom and at home), and involve participants such as teachers, classmates or family members who contribute directly or indirectly to the writing process. From this perspective, writing is a cognitive activity but is shaped by social and cultural contexts (Graham, 2018a, 2018b). Schools play a key role in this regard by giving students opportunities to acquire, practice, and refine their writing skills through instructional practices delivered by teachers or other professionals, as well as through peer interaction (Hayes, 2012; Graham, 2018a, 2018b; Graham & Harris, 2018).

Despite the writing instruction given in educational settings, many pupils do not achieve suitable levels of writing performance and continue to exhibit difficulties in different writing skills (Graham & Perin, 2007). Without appropriate support this may put them at risk of later learning disabilities (Fletcher & Vaughn, 2009; D. Fuchs & Fuchs, 2006). From a Response to Intervention (RtI) perspective, students may be considered at-risk writers when they demonstrate persistent low performance and insufficient response to instruction over time. Without appropriate and increasingly intensive support tailored to their needs,

these difficulties may progress to the point of meeting the criteria for a learning disability (Fletcher & Vaughn, 2009; D. Fuchs & Fuchs, 2006). Previous RtI-based writing intervention studies have shown that early intensive support from parents can improve writing performance and reduce the achievement gap between at-risk and typically developing students (Arrimada et al., 2018, 2022). This highlights the importance of preventive approaches and protective factors—which stem not only from students' personal characteristics but also from the educational context and socio-familial elements, such as parental involvement (Erbeli et al., 2019; Z. Esmaeeli et al., 2019; Grigorenko et al., 2020).

In educational settings, various instructional and support measures can be implemented to address students' low performance or learning disabilities, with teachers playing a central role in delivering interventions and tailoring them to pupils' needs. These educational efforts may be reinforced through collaboration with families, particularly when parents are involved in supporting writing activities at home in coordination with school practices (Arrimada et al., 2018, 2022; Robledo & García, 2013). Education legislation in Spain recognizes that students with learning disabilities need specific educational support measures and highlights the importance of collaboration between schools and families to ensure inclusive educational responses (LOMLOE, 2020 Spanish Education legislation).

Building on this perspective, the home environment may be a particularly significant setting for learning writing skills and prevention of writing disabilities, particularly in collaboration with school instruction. The home setting provides early and sustained opportunities for interaction with written language and engagement in literacy practices (Graham, 2018a, 2018b). Accordingly, families could foster a literacy-rich environment by giving their children a motivational climate, using writing in everyday contexts for communicative and leisure purposes, and modeling literacy practices (Alsubaie, 2022; Camacho & Alves, 2017).

1.1. The Home Writing Environment

The Home Literacy Model, proposed by Sénéchal and LeFevre (2002), provides a useful framework for conceptualizing home-based literacy practices. It distinguishes between formal and informal practices (Sénéchal, 2006; Sénéchal & LeFevre, 2002); formal practices refer to activities in which parents explicitly teach specific literacy skills, such as letter knowledge or word reading, whereas informal practices involve exposure to books through meaningful interactions, such as shared reading, without the explicit intention of teaching specific skills. Although this model has been predominantly examined in relation to reading and literacy development more broadly (Axelsson et al., 2019; Puglisi et al., 2017), its conceptual structure could also be applicable to writing.

Informal writing practices occur naturally and as part of play and are linked to everyday socio-communicative and recreational activities, allowing children to be incidentally exposed to written language in contexts where writing is present but not the primary focus (Algorri-Diez et al., 2025). These include activities such as composing notes, making shopping lists, writing a birthday invitation or sending text messages, where writing serves meaningful communicative purposes. Moreover, environmental print encountered in daily life, such as labels on clothing or toys, may also be used to support children's awareness of written language conventions, including the use of upper-and lower-case letters (Alsubaie, 2022; Aram et al., 2020; Neumann & Neuman, 2010; Peterson et al., 2021). In contrast, *formal writing practices* focus on direct teaching of specific components of the written code (Algorri-Diez et al., 2025). These practices tend to focus on transcription skills, such as handwriting and spelling, and are generally associated with school-related tasks (Farry-Thorn et al., 2020; Herrera & Guayana, 2022; Neumann, 2018; Krijnen et al., 2020; Peterson et al., 2021; Sonnenschein et al., 2021; Swain & Cara, 2017).

Furthermore, family members could help children during both formal and informal writing activities in various ways, providing *home writing support*, which may be procedural, motivational or material (Algorri-Diez et al., 2025). *Procedural support* can be defined as parental behavior that is similar to teacher behavior, focusing on providing children with instructional or procedural guidance during writing activities. This can take several forms: grapho-phonemic or handwriting support—help aimed at teaching or reinforcing the relationship between graphemes and phonemes as well as supporting the development of handwriting skills; explanations, whereby family members verbally provide information, instruction or directives to the child about writing-related content—such as describing how letters are formed or using directional terms to explain letter strokes (N. T. Lin et al., 2023; Neumann & Neuman, 2010); guidance-accompaniment support, where family members guide children during writing tasks, engaging in collaborative parent–child writing activities (Aram et al., 2014), typically adapted to the child's writing level (Aram et al., 2014; Bildfell, 2016; Nkomo et al., 2023; Peterson et al., 2021); modelling and observational support, which involves giving examples of everyday writing use through modeling writing procedures, or presenting correct written product—such as demonstrating letter formation (Neumann & Neuman, 2010; Nkomo et al., 2023; Peterson et al., 2021); and corrections, where family members give children feedback about something they have written (Kelso-Marsh et al., 2025b; Robins & Treiman, 2009; Skibbe et al., 2013). *Motivational support* focuses on providing affective feedback aimed at fostering interest in writing and motivation to engage in writing activities. This may include positive reinforcement highlighting how important writing is (Herrera & Guayana, 2022; Kelso-Marsh et al., 2025a, 2025b); paying attention to and reading what children have written (Robins & Treiman, 2009); and encouraging children to complete writing tasks (Robins & Treiman, 2009; Skibbe et al., 2013), involving play-based activities that promote engagement with writing. Finally, *material support* involves providing resources that facilitate writing activities at home including manipulatives or digital resources and time and space to write (Alsubaie, 2022; Farry-Thorn et al., 2020; Neumann & Neuman, 2010; Peterson et al., 2021; Sonnenschein et al., 2021; Swain & Cara, 2017).

1.2. Research on the Home Writing Environment: International Evidence and the Spanish Home Literacy Context

Research in this field has mostly been done in English-speaking countries, but has included other international settings. It has predominantly involved preschool or early primary school students with typically developing writing skills, and indicates that children often spontaneously engage in informal practices at home, such as composing text messages, notes, or short stories (Alsubaie, 2022; Aram et al., 2020; Kelso-Marsh et al., 2025a, 2025b; Peterson et al., 2021). Such practices often represent children's functional experiences with written language, contribute to their understanding of writing as a socially important activity, and have been associated with them being more motivated towards writing (Herrera & Guayana, 2022; Leyva et al., 2012; Sparks & Reese, 2013).

International research on formal practices has shown that handwriting is explicitly taught at home through activities engaging children in how to properly hold a pen (Alsubaie, 2022), learning and writing letter names (Alsubaie, 2022; Krijnen et al., 2020), practicing writing the child's own name (Farry-Thorn et al., 2020; Krijnen et al., 2020), and explicitly linking letters to their corresponding sounds (Farry-Thorn et al., 2020; Krijnen et al., 2020; Peterson et al., 2021; Sonnenschein et al., 2021). These skills may also be taught through simple games such as forming letters in the air (Krijnen et al., 2020; Swain & Cara, 2017). In contrast, practices focused on spelling are typically addressed through activities such as word dictation, with particular emphasis on correct use of capital letters and spacing (Herrera & Guayana, 2022), copying words (Neumann, 2018), or spelling words aloud (Farry-Thorn et al., 2020). In addition, evidence suggests that these

types of formal practices positively contribute to children's handwriting (Alsubaie, 2022; Bindman et al., 2014; D. Lin et al., 2011) and spelling performance (Ngorosho & Lahtinen, 2010; Park, 2019).

The evidence in relation to home writing support indicates that parents of children aged five to seven with typically developing writing skills provide procedural and motivational support including scaffolding (Alston-Abel & Berninger, 2018) and feedback (Wollman-Bonilla, 2001), which contributes to the development of stronger writing skills in their children. Additionally, interviews with children getting parental support during writing activities suggest that they saw this support as meaningful and valued the involvement of their family environment in the development of their writing (Kelso-Marsh et al., 2025b; Robledo et al., 2026b). Resource-based support at home also contributes to children's engagement and satisfaction with learning activities (Kelso-Marsh et al., 2025b).

Research on family literacy in the Spanish context has been relatively limited, predominantly approaching literacy from a broad perspective, with more emphasis on reading than writing. For example, Moreno-Morilla et al. (2018) investigated children's home literacy practices, considering literacy as a broad social construct that encompasses everyday reading and writing activities. However, their study did not specifically examine family support for writing or writing-related practices as a distinct domain. Likewise, González-Pulido et al. (2025) examined the home literacy environment of preschool children through dimensions of parental literacy involvement, parental literacy habits, and children's interest in literacy, but their analysis was primarily aimed at reading motivation and reading-related home literacy experiences rather than writing-specific family practices. Although these studies acknowledged literacy as a multidimensional construct and included some writing-related activities, they did not specifically examine the range of family writing practices and support that may contribute to children's writing development.

More recently, Spanish research has begun to address writing more explicitly. Robledo et al. (2026b) examined primary school students' home writing practices, perceived family support, and attitudes toward writing from the children's perspective, highlighting the socioemotional role of the family context. Algorri-Diez et al. (2025) explored parents' reported home writing practices and their support during children's writing development, indicating that families engage in various writing-related activities and provide different forms of assistance. Although these studies represent important advances in understanding family involvement in writing, they did not provide a comprehensive assessment of the home writing environment as a multidimensional construct encompassing both writing practices and parental support. Furthermore, neither study examined how home writing practices and parental support were associated with children's writing competence. Consequently, research on family writing experiences in Spain remains scarce, and to the best of our knowledge, no previous study has systematically assessed the home writing environment by incorporating its different components while also examining how they relate to children's writing performance.

Existing research confirms that both formal and informal writing practices occur in children's homes and that writing is supported in various ways. However, important aspects of the home writing environment are underexplored, particularly in comparison to the broader field of literacy research—which has traditionally focused on reading. Based on our review of the literature, most studies in the specific field of writing have mainly focused on preschool children, with only a few looking at early primary school students (a stage when children are legally required to learn to write and could therefore benefit from all available contextual support, including at home). Furthermore, studies focusing on early primary school pupils in the field of writing have generally addressed only a limited subset of possible family writing practices and/or forms of home support. To date, no

studies have comprehensively examined the full range of natural home writing practices, including both informal and formal activities, alongside the variety of writing support that parents could provide. This indicates the need for a more comprehensive approach.

Considering practices and support together allows a fuller understanding of the home writing environment, and may provide valuable insights into how children learn writing skills at home. There is relatively little evidence about natural family practices and support that target higher-level writing processes, such as planning, text production, or revision. This is despite instructional research showing that parents have the potential to effectively support their children's development of higher-level processes (Arrimada et al., 2018, 2022; Robledo & García, 2013). Understanding whether families naturally engage in practices and support related to these higher-level writing processes is particularly important because as children's schooling progresses, they have to attempt increasingly complex writing tasks (Berninger & Amtmann, 2003). These observations highlight how important it is to explore what writing practices occur at home in relation to higher-level writing processes and what types of support are offered.

Another limitation according to the studies we reviewed relates to children's writing performance. Little is known about how families support at-risk writers and the types of practices and support that they naturally engage in at home. Most studies examining the home writing environment have focused on typically developing children, with only one study categorizing students according to different writing performance levels, although the results were presented in the aggregate without distinguishing between the groups (Kelso-Marsh et al., 2025b). Examining the Home Writing Environment (HWE) in this population is particularly important because at-risk writers often experience challenges in cognitive and motivational processes (Fletcher & Vaughn, 2009; D. Fuchs & Fuchs, 2006; Graham, 2018a, 2018b). This means that while writing practices and support at home may be important for all children learning to write, it is particularly so for at-risk students or those with writing disabilities because these children often exhibit lower levels of motivation towards writing—a pattern that their parents also report (Janikowski & Norvitilis, 2020), and something that may require more specific, targeted forms of support due to the challenges they experience (Fletcher & Vaughn, 2009; D. Fuchs & Fuchs, 2006). Examining the different types of writing support and natural practices families provide may therefore contribute to a better understanding of how home writing environments could foster children's writing development and inform preventive and educational interventions.

Finally, little attention has been paid to the home writing environments of at-risk writers in comparison to typically developing students. Such comparisons are important, as they may help determine whether differences in home writing environments contribute to—or mitigate—writing difficulties. Although no studies have addressed this issue in the writing domain, there has been some research in reading, a closely related domain given the shared cognitive and literacy processes underlying both skills (Y.-S. G. Kim & Graham, 2022). However, comparing the families of at-risk readers with those of typically developing peers in terms of the home literacy environment has produced mixed findings. Some studies reported that at-risk readers tend to experience a less enriched home literacy environment, characterized by reduced access to reading materials (Dilnot et al., 2017; Z. Esmaeeli et al., 2019; S. Esmaeeli, 2023; Tichnor-Wagner et al., 2016) and lower overall exposure to home literacy practices, with at-risk children less frequently engaging in collaborative reading tasks with their parents (Dilnot et al., 2017; Z. Esmaeeli et al., 2019; Tichnor-Wagner et al., 2016). In contrast, other studies have found no significant differences between at-risk readers and typically developing peers in terms of formal literacy instruction at home (S. Esmaeeli, 2023; Hamilton et al., 2016). In terms of support, no differences have been reported in the help that children get from their parents with homework or learning to read

(Tichnor-Wagner et al., 2016). Overall, the literature related to reading does not provide consistent evidence of how home environments differ between these groups. It is still unclear whether there are similar patterns in the context of writing, highlighting the need for comparative research specifically on home writing environments.

1.3. The Current Study

Building on the theoretical framework presented above, the present study examines family writing practices and support in the homes of Spanish children in the first two years of primary schooling (age six to eight), including children exhibiting typical writing development and those identified as at-risk writers. The aim of the study is to analyze home writing practices and family support for writing in families of children in grade 1 and grade 2 with typical writing development and those identified as at-risk writers in Spain. Grades 1 and 2 are the first years of formal writing instruction in Spain (LOMLOE, 2020), and as such are a critical period for early identification and prevention of writing difficulties (Coker et al., 2018). Although writing difficulties may become more pronounced later in children's schooling, prevention-oriented frameworks such as Response to Intervention (RtI) emphasize the importance of identifying and addressing emerging difficulties as early as possible, before they become consolidated and can lead to more persistent learning problems (Fletcher & Vaughn, 2009; D. Fuchs & Fuchs, 2006).

The first specific objective is to explore the home writing practices and the forms of support in the home writing environment for at-risk and typically developing writers. Formal home practices include those focused on transcription skills as well as those targeting higher-level writing processes, such as planning and revision. Informal practices are explored through activities carried out for communicative or recreational purposes, including using digital technologies for writing purposes at home. In addition, the study examines different types of family writing support in the home context, including support directly related to writing skills, procedural support and motivational or resource-related support. In line with previous research in early childhood and early primary education with typically developing writers, both formal and informal practices related to higher-level writing skills are expected to occur less frequently than transcription practices (Alsubaie, 2022; Farry-Thorn et al., 2020; Krijnen et al., 2020; Neumann, 2018; Peterson et al., 2021; Sonnenschein et al., 2021). However, there may be some engagement in higher-level practices, as children are exposed to books and other texts at home (Alsubaie, 2022; Peterson et al., 2021; Swain & Cara, 2017). Similarly, a variety of types of support (Herrera & Guayana, 2022; Kelso-Marsh et al., 2025b; Peterson et al., 2021; Skibbe et al., 2013) are expected in both at-risk and typically developing children's families, as some studies suggest that parents tailor their practices to their children's needs (Bildfell, 2016; Nkomo et al., 2023).

A second objective is to make a comparative analysis of these family-reported practices and support types in families of children with typical writing development and at-risk writers, examining differences between school levels (grade 1 and grade 2 separately) and in the overall sample. In this regard, and in line with findings from the reading literature, differences are expected between groups in the nature and frequency of home writing practices and support, although the direction of these differences is uncertain given the inconsistent evidence in related domains (Dilnot et al., 2017; Z. Esmaeeli et al., 2019; S. Esmaeeli, 2023; Hamilton et al., 2016; Tichnor-Wagner et al., 2016).

2. Materials and Methods

The present study adopted a quantitative, non-experimental, descriptive-comparative *ex post facto* design to examine home writing practices and family writing support in children exhibiting typical writing development and those identified as at-risk writers.

2.1. Participants

The sample consisted of 296 children from Spain in grades 1 and 2 (aged between 6 and 8) together with their families. One child's first language was English; the remainder were native Spanish speakers. Twelve children were exposed to bilingual home environments where Spanish and another language were spoken. Participants were recruited through convenience sampling from three primary schools in the north of Spain, based on school accessibility and voluntary participation in the study. These schools predominantly served families from medium-to-high socioeconomic backgrounds. This sampling strategy was intended to reduce socioeconomic heterogeneity in the participants, although individual differences in SES were not directly assessed.

At-risk writers were identified by systematically monitoring students' progress in learning to write according to the principles of the RtI model (Fletcher & Vaughn, 2009; D. Fuchs & Fuchs, 2006). This involves early screening and continuous monitoring of students' performance in order to provide increasingly intensive support according to their educational needs and response to instruction. To that end, every two weeks (from February to June; 12 tasks in total) all students were asked to write a narrative prompted by a picture. The tasks were done in a gamified environment to maintain students' motivation for written tasks. The students' writing was assessed under blind conditions by two previously trained raters. Ratings were based on handwriting neatness according to a holistic scale, spelling accuracy (calculated as the proportion of correctly and incorrectly written words), and overall composition quality measured using a holistic quality rubric (See a detailed description in the measures subsection). The data from these measures were used to identify at-risk writers, based on their estimated performance in handwriting neatness, spelling accuracy and compositional quality at the end of the monitoring period (see instruments and measures section). This led to 48 students being classified as at-risk writers (at-risk group), while the remaining 248 children exhibited the expected writing development for their educational stage (non-risk group). Descriptive statistics are presented in Table 1.

Table 1. Sample characteristics of At-risk and Non-risk Children.

	At-Risk Group		Non-Risk Group		
	Grade 1	**Grade 2**	**Grade 1**	**Grade 2**	**Total**
N	21	27	121	127	296
Male	14	17	61	58	150
Female	7	10	60	69	146
Age mean (SD)	6.66 (0.303)	7.72 (0.269)	6.61 (0.452)	7.61 (0.289)	7.14 (0.623)
Total	48		248		

Family data were collected from the primary caregivers, Parent 1 (typically the mother) and Parent 2 (typically the father). However, in some cases, one or both caregiver roles were assumed by another family member, such as grandparents. Not all parents completed the sociodemographic questionnaire. The data in Table 2 is based on those who provided this information.

Table 2. Sample characteristics of Primary Caregivers.

		Parent 1	**Parent 2**
Age mean (SD)		42.29 (5.16)	44.86 (5.46)
% Male		0.4%	99.2%
Employment	Actively working	89.2%	95.3%
	Unemployed/benefit claimant	3.5%	2%
	Homemaker	2.8%	0.8%
	Retired	3.8%	1.6%
	Studying	0.7%	0.4%

Table 2. *Cont.*

		Parent 1	Parent 2
Educational attainment	No qualifications	0.7%	0.8%
	Compulsory education	8%	10%
	Vocational training	12.5%	19.2%
	Further education (*Bachillerato*)	13.9%	20.4%
	University degree	64.8%	49.6%

Note. Percentages are based on the total number of responses for each caregiver.

2.2. Instruments and Measures

2.2.1. Monitoring Measures to Detect Students At-Risk

Students were given *a composition task* every two weeks (a total of 12). The tasks were set by classroom teachers using a gamified breakout format. The teachers projected a breakout activity on a digital whiteboard containing different missions (see an example in Díaz-Tejedor & Arrimada, 2025) where students were asked to hand-write a narrative text in response to a picture prompt within a maximum of 10 min per text. All picture prompts were selected to be comparable in terms of their visual characteristics. They depicted everyday situations that the children would be familiar with (e.g., cooking, swimming or playing). They each included the same number of human characters, and were presented in color. As students completed each task, they progressed through the different missions and received small rewards associated with task completion. The gamified format was implemented solely to maintain students' motivation and engagement throughout the repeated assessment process and only affected the presentation context of the activities. It did not alter the writing prompts, administration conditions, scoring criteria, or the writing measures used to identify at-risk writers.

Three indicators of writing performance were obtained from these tasks. One corresponded to Curriculum-Based Measures in Writing (CBM-W): *spelling accuracy*, calculated as the percentage of correctly spelled words relative to the total number of words written regardless of spelling mistakes, word segmentation, or spacing. Two additional indicators were assessed using holistic rating scales: *handwriting neatness*, assessed using a holistic scale from 0 to 4 based on the accuracy and regularity of the handwriting; and *composition quality*, rated using a holistic scale from 0 to 5, based on narrative structure (introduction, development and conclusion), coherence of ideas, inclusion of descriptive details, vocabulary, sentence structure and connectors. The composition tasks were independently scored by two trained members of the research team, resulting in an inter-rater agreement of 0.91 for handwriting and 0.92 for composition quality.

The writing monitoring procedure in the present study was based on repeated assessments of students' writing performance over time. Evidence from psychometric research supports the predictive validity of progress monitoring, particularly through curriculum-based measures, in mathematics (Foegen, 2008; Foegen et al., 2007; L. Fuchs et al., 2007; Singamaneni, 2011) and reading (Kaizu & Tamaki, 2024; Y.-S. Kim et al., 2010; Schatschneider et al., 2008), by demonstrating significant associations between progress-monitoring indicators and standardized criterion measures. In the field of writing, recent reviews have similarly concluded that curriculum-based writing measures exhibit adequate construct validity in relation to norm-referenced assessments and may provide a useful basis for early identification of students experiencing writing difficulties (Alex-Smith et al., 2024; Balade et al., 2024). Furthermore, repeated monitoring of writing progress has previously been implemented within RtI frameworks to identify students who are at risk of writing difficulties. These include studies by our research group using repeated writing probes and both curriculum-based and holistic writing indicators to monitor students' writing development over time (Arrimada et al., 2018, 2022). Accordingly, the present study adopted a repeated writing progress-monitoring approach,

combining curriculum-based and holistic writing indicators to operationally classify students according to their risk of writing difficulties for research purposes.

For each student, and for each writing measure (handwriting neatness, spelling accuracy, and composition quality), a simple linear model was specified to the sequence of scores, providing an estimate of expected performance at the end of the monitoring period. Following the RtI framework (Fletcher & Vaughn, 2009; D. Fuchs & Fuchs, 2006), students whose predicted performance at the end of the school year was at or below the 25th percentile of the sample distribution in two or more writing components (handwriting, spelling accuracy, or composition quality) were identified as at-risk writers. This classification indicated significantly slower progress in writing acquisition than their peers, and was essential for assigning students to the at-risk and non-risk groups, thereby enabling the subsequent analysis of their home writing environment.

2.2.2. Home Writing Environment Questionnaire

The *Home Writing Environment Questionnaire* (*HWEQ*, Robledo et al., 2026a) is aimed at students' families and assesses the nature and frequency of writing-related practices and support that typically occur at home. The questionnaire includes a section for collecting information about the family context, asking for personal, socioeconomic and sociodemographic data. It then has two scales: the *Home Writing Practices Scale* and the *Home Support for Writing Scale*. Both scales gather information about the family members involved in home writing practices and support.

Home writing practices are explored through 17 items (see Appendix A.1), examining how often children engage in writing activities at home. The items relate to informal home practices where writing is used for communicative (items 1–3) or recreational purposes (items 4–6), as well as formal home practices associated with transcription abilities (items 7–8) and higher-level skills such as planning and text structure tasks (items 9–12) and revising writing (items 13–14). In addition, several items address children's use of digital technologies in writing activities (items 15–17). Frequency is rated using a 4-point Likert scale (1 = never/almost never; 2 = monthly; 3 = weekly; 4 = daily).

Family support for writing is assessed through 22 (see Appendix A.2) items that examine how often family members give the child different types of assistance. These include content-related support, which focuses on family teaching, guidance or direct support of different writing skills (items 1–3: transcription; items 4–9: planning; items 10–11: revision). Procedural support refers to the strategies families use to support children during writing activities (item 12: explanations; item 13: modelling; item 14: guidance; items 15–16: corrections). Motivational support refers to the emotional or motivational help that families may provide at home in relation to writing (items 17–19). Finally, resource-related support refers to the provision of analog, digital, and spatial resources that facilitate writing activities at home (items 20–22). Frequency of the different types of support is rated using a 5-point Likert scale (1 = never; 2 = almost never; 3 = only if the child asks for or needs it; 4 = sometimes; 5 = almost always or always).

The reliability and validity of the questionnaire were examined within the study sample. The questionnaire demonstrated good psychometric properties, confirming its factorial structure in accordance with the proposed theoretical model, as well as good reliability.

2.3. Procedure

The study was conducted longitudinally during a single school year, with two cohorts of students (students in grade 1 and students in grade 2). At the beginning of the study, schools were contacted to obtain permission to conduct the study, followed by communication with families to inform them about the study and obtain written informed consent. Subsequently, the progress-monitoring procedure was conducted over a five-month period from February to June. Once at-risk writers were identified, each family was given a paper copy of the HWEQ to complete at home, accompanied by detailed instructions on how to fill out the questionnaire. The questionnaire data was collected during a one-week period at the beginning of the following academic year (September), following the summer vacation.

2.4. Data Analysis

First, descriptive frequency analyses were conducted to address the first aim of the study, which was to describe the types of practices and support implemented in the homes of at-risk writers and their peers.

Following that, a comparative analysis was performed to examine differences between the two groups in home writing practices and support. This was done both for the overall sample and separately by grade level in order to account for potential differences in home writing environments between students in grade 1 and grade 2. Before inferential analyses were performed, the variables' distributions were examined. As several variables did not fulfil the assumption of normality in the at-risk group, the non-parametric Mann–Whitney U test was used to examine between-group differences. For all inferential analyses, a statistical significance level of $p \leq 0.05$ was applied.

3. Results

This section begins with the results of the descriptive frequency analyses, examining the overall distribution of home writing practices and support, as well as item-level responses. These analyses are presented separately for at-risk writers (at-risk group) and children with typical writing development (non-risk group). A comparative overview between the two groups is also provided for each component of the home writing questionnaire.

Following that, the inferential results of the comparative analyses are reported, examining differences in home writing practices and support between at-risk writers and their age-matched peers in the non-risk group.

3.1. Descriptive Analysis of Home Writing Practices and Support by Risk Status

3.1.1. Home Writing Practices

In the non-risk group (see Table 3), the most common formal home writing practices were related to transcription skills. Overall, 48% of students did formal transcription practice on a daily or weekly basis. Higher-level practices associated with planning and revising were less frequent. The most common of these was revising strategies, with 20.1% of students doing them daily or weekly, followed by planning activities, reported by 13.38% of students with the same frequency. Informal practices were considerably less common. Only 4.8% of children engaged in communication-focused writing activities on a daily or weekly basis. Similarly, both use of ICT for writing at home and engagement in recreational writing activities were rare: parents reported that 98% of students almost never used digital tools for writing purposes, and 99.1% indicated that they rarely or never engaged in writing for enjoyment.

Table 3. Frequency of Home Writing Practices in Non-Risk group.

Variable	Daily	Weekly	Monthly	Never/Almost Never
Transcription	11.3%	36.7%	25.4%	26.6%
Planning	0.4%	12.98%	35%	51.6%
Revising	2.8%	17.3%	35.1%	44.6%
Communication	0.4%	4.4%	38.8%	56.4%
Recreation	0.4%	0.4%	18.4%	80.7%
ICT	0%	1.2%	7.6%	91%

Note. Percentages are based on parents' responses; totals may not add up to 100% due to missing responses.

In the at-risk group (see Table 4), formal transcription practices were the most frequently reported activities at home, with 35.5% of students engaging in them on a daily or weekly basis. In contrast, higher-level processes were largely absent from the home context. Text revision tasks were carried out by only 8.2% of students on a daily or weekly basis, while planning activities were rarely reported, with most students never or almost never engaging in tasks aimed at organizing ideas or structuring written text. Moreover, informal practices were reported less frequently. Writing for communicative purposes was primarily monthly, with no weekly or daily participation. Recreational writing was almost nonexistent, as most students reported rarely or never engaging in writing for enjoyment. In contrast, the use of information and communication technologies (ICT) for writing at home was minimal, with a small proportion of students using ICT for writing every day.

Table 4. Frequency of Home Writing Practices in At-Risk group.

Variable	Daily	Weekly	Monthly	Never/Almost Never
Transcription	4.2%	31.3%	43.7%	20.08%
Planning	0%	4.1%	31.3%	64.6%
Revising	2%	6.2%	39.5%	52.1%
Communication	0%	0%	41.6%	58.4%
Recreation	0%	0%	10.3%	89.7%
ICT	2.1%	0%	4.1%	93.8%

Note. Percentages are based on parents' responses; totals may not add up to 100% due to missing responses.

From a comparative perspective (see Figure 1; statistically significant differences are analyzed in Section 3.2), formal writing practices followed a similar pattern in both the at-risk and non-risk groups. Transcription activities were the most frequent in both groups, followed by revising and then planning. Despite this similar distribution, students in the at-risk group engaged in these practices less frequently overall. There was a similar pattern for informal practices. Communication-focused writing activities were the most common for both groups, followed by recreational writing. Nonetheless, while a small number of the students in the non-risk group did these activities on a daily or weekly basis, the at-risk students tended to do them at a monthly frequency or not at all. Overall, both formal and informal writing practices were less frequent in the at-risk group.

There was a different pattern for the use of ICTs for writing. Although overall ICT use was low in both groups, a small proportion of students in the at-risk group used digital tools for writing on a daily basis, whereas more of the non-risk group used ICT on a weekly basis and fewer students either never or almost never used such tools. Consistent with these patterns, item-level descriptive analyses indicated that mean frequency scores were higher across all items in the non-risk group than in the at-risk group.

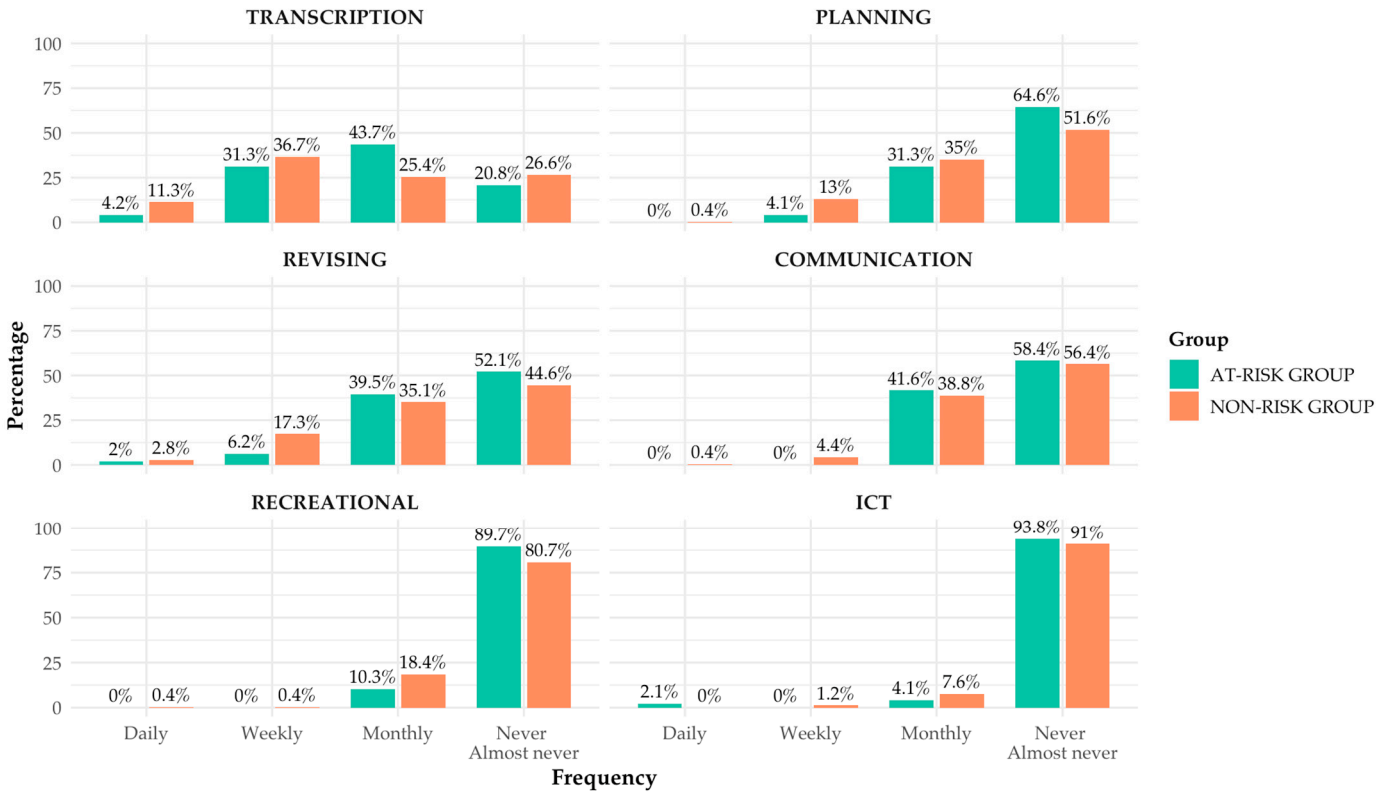


Figure 1. Home Writing Practices of at-risk vs. non-risk group.

3.1.2. Home Writing Support

In the non-risk group (see Table 5), the most frequently reported home support parents provided was related to content, particularly revising (82.7%) and transcription (80.4%) processes. Support for planning was less consistently reported and was more often provided occasionally or when requested rather than as regular practice. Procedural support was also commonly provided, although mostly on an occasional basis.

Table 5. Frequency of Home Support Practices in Non-risk group.

Variable	Always/ Almost Always	Sometimes	If Requested/If Needed	Almost Never	Never
Transcription	56.5%	23.9%	11.6%	6.4%	1.6%
Planning	13.3%	33.8%	31.7%	16%	4.8%
Revising	57.7%	25%	8.9%	5.2%	3.2%
Motivation	10.1%	77.9%	10.4%	0.4%	1.2%
Procedural	22.6%	46.5%	22.9%	6%	2%

Note. Percentages are based on parents' responses; totals may not add up to 100% due to missing responses.

There was a different pattern for motivational support. Although fewer parents reported providing daily motivational support, the vast majority reported offering encouragement and motivational support at least sometimes, with only a very small proportion (1.6%) indicating that they rarely or never provided this type of support.

In the at-risk group (see Table 6), the most common content-related support was related to transcription (83.3) and revision (75%). In contrast, planning support appeared to be provided more conditionally, as 20.8% of parents reported that they never or almost never provided this type of support. Around 70% of parents reported giving procedural support, and most parents indicated that they sometimes provided motivational support.

Table 6. Frequency of Home Support Practices in At-risk group.

Variable	Always/ Almost Always	Sometimes	If Requested/If Needed	Almost Never	Never
Transcription	56.2%	27.1%	12.5%	0%	4.2%
Planning	6.2%	39.6%	33.4%	14.5%	6.3%
Revising	58.3%	16.7%	10.4%	6.3%	8.3%
Motivation	8.3%	70.9%	14.5%	0%	6.3%
Procedural	22.9%	47.9%	18.7%	4.2%	6.3%

Note. Percentages are based on parents' responses; totals may not add up to 100% due to missing responses.

From a comparative perspective (see Figure 2; statistical significant of differences are analyzed in Section 3.2), family teaching, guidance and direct support related to transcription and revision were the most consistently reported forms of content-related support in both groups, with similar proportions of parents indicating that they always or almost always provided this type of support. However, a slightly higher proportion of parents of at-risk writers reported always or almost always providing revision support. In contrast, planning support was less consistent in both groups, but a smaller proportion of parents in the at-risk group reported that they always or almost always provided this type of support. Furthermore, more parents of children in the at-risk group reported giving content-related support for transcription, revision and planning on a contingent basis, i.e., when children asked for help or when parents felt that support was needed.



Figure 2. Home Writing Support for at-risk vs. non-risk group.

Most parents in both groups reported sometimes providing motivational support, with relatively few indicating that they always or almost always did so. However, in the at-risk group, a higher percentage of parents reported never providing this type of support. Procedural support was also reported by the largest proportion of parents in both groups as being given sometimes, followed by always or almost always, with similar percentages

between the two groups. Finally, although the overall pattern was similar in each group, the proportion of parents providing support when children asked or needed it was slightly higher in almost all types of support.

Consistent with the overall patterns, item-level descriptive analyses indicated that mean scores were generally slightly higher in the at-risk group in most of the items in the home writing support questionnaire. More specifically, at-risk writers tended to receive somewhat higher levels of content-related support from their parents for transcription skills, including writing with proper handwriting (item 1), spelling (item 2) and grammar (item 3). They also received slightly more support for higher-level processes, such as planning what to write (item 4), considering the purpose of their texts before writing (item 5), generating or selecting ideas to include (item 6), organizing texts by linking paragraphs appropriately (item 8), considering the intended audience (item 9) and revising their writing to correct mistakes and improve the text (item 11). In terms of procedural support, at-risk writers' parents more frequently reported explaining aspects of writing the child did not know (item 12), accompanied the child during writing activities by offering suggestions, answering questions, and guiding them (item 14), and indirectly correcting by guiding the child to identify mistakes or areas for improvement and correct them independently (item 15). Finally, parents of at-risk writers reported slightly higher levels of encouragement and engagement, including reinforcing the child when they wrote, improved their writing, or made an effort through rewards or praise (item 18), and showing interest in what the child had written, for example by reading, displaying, or discussing the text (item 19).

3.2. Comparative Analysis of Home Writing Practices and Support by Risk Status and Grade Level

Before carrying out comparative analyses, the distributional properties of the variables were examined separately for each group. For students not identified as at-risk, skewness and kurtosis values were within the acceptable thresholds of ± 3 and ± 7, respectively (Kline, 2011), supporting the assumption of approximate normality. In contrast, for the at-risk students, most variables did not fulfil the criteria for assuming normality. Consequently, non-parametric analyses were conducted using the Mann–Whitney U test. All comparisons were conducted both for the overall sample and separately for each grade to account for potential developmental differences. Table 7 presents the home writing practices and support variables that demonstrated statistically significant differences, as well as those close to significance, in both dimensions (practices and support), including results for the general sample and disaggregated by grade.

In the overall sample, there were significant differences in formal practices related to Planning, and in informal ICT-related writing practices, with higher mean scores for students not identified as at-risk writers. Additionally, there was a significant difference for procedural support related to explanation (Pr_Item 12)—where parents explain aspects of writing that the child does not know—with higher frequency in the at-risk group, indicating parents providing more procedural support focused on explanations.

For the students in grade 1, there were statistically significant differences in informal writing practices related to planning and revising, with consistently higher scores in the group not identified as at-risk writers. More specifically, within planning practices, there were significant differences in: "writing, completing, or organizing texts while respecting their structure or components" (Pr_Item 10); "activities aimed at learning how to link or connect ideas in texts" (Pr_Item 11); and "writing texts using linking words or connectors appropriately to connect ideas or parts of the texts" (Pr_Item 12). In addition, in revising practices, there was a difference in correcting mistakes in written texts (Pr_Item 14). Although there were no overall statistically significant differences in other components

of home writing practices, there were differences in two specific items related to informal practices, which were more frequent for students not identified as at-risk: writing letters or invitations, reflecting writing for communicative purposes (Pr_Item 2), and writing stories, associated with writing for recreational purposes (Pr_Item 4). Moreover, there were no statistically significant differences in overall home writing support, but there was a significant difference with the at-risk writers' group scoring higher in procedural support related to explanation (Sup_Item12).

Table 7. Home writing practices and support showing significant differences for at-risk and non-risk students by grade.

				M		*SD*	
		U	***p***	**At-Risk Group**	**Non-Risk Group**	**At-Risk Group**	**Non-Risk Group**
Total	Pr_Planning	7304	0.006	2.438	3.064	1.398	1.424
	Pr_ICT	6789	0.052	1.486	1.550	1.157	0.866
	Sup_Item 12	4422	0.024	4.667	4.302	0.564	0.949
1st Grade	Pr_Item 2	1303.5	0.013	2.333	3.103	0.907	1.310
	Pr_Item 4	1338	0.054	1.474	2.000	0.513	1.099
	Pr_Planning	1831	0.001	1.976	3.030	3.050	1.362
	Pr_Item 10	1560.5	0.003	1.789	2.793	1.084	1.501
	Pr_Item 11	1452	0.006	2.211	3.373	1.512	1.734
	Pr_Item 12	1313.5	0.044	2.278	3.080	1.526	1.691
	Pr_Revising	1587	0.029	2.286	2.979	4.438	0.925
	Pr_Item 14	1374	0.032	2.421	3.018	2.116	1.646
	Sup_Item 12	815	0.035	4.789	4.325	0.419	0.889
2nd Grade	Pr_ICT	2121	0.022	1.333	1.672	0.795	0.958
	Pr_Item 15	1856	0.047	1.840	2.558	1.434	1.873

Note. ICT = Information and Communication Technology; *M* = mean; *p* = significance level; Pr = variable from the Home Writing Practices Scale; *SD* = standard deviation; Sup = variable from the Home Support for Writing Scale; *U* = Mann–Whitney U statistic. Item labels refer to Home Writing Environment Questionnaire items. The questionnaire is presented in Appendix A.

Finally, in Grade 2, there were only statistically significant differences in informal ICT-related writing practices, with more frequent use of messaging applications such as WhatsApp (Pr_Item 15) among students not identified as at-risk. There were no statistically significant differences in the home support variables.

4. Discussion

This study addresses a significant research gap regarding the understanding of the home writing environment during the first years of primary education (a critical stage in the development of writing skills as the beginning of formal schooling). Drawing on parent-reported data collected through the Home Writing Environment Questionnaire (*HWEQ*, Robledo et al., 2026a), the study examined the home writing practices and support provided by families of students in grades 1 and 2 in Spain with typical writing development and at-risk writers. The analysis was guided by a conceptualization of the home writing environment that includes formal and informal practices, as well as different types of support that may be procedural, motivational or resource-related (Algorri-Diez et al., 2025). Based on the findings, several conclusions can be drawn.

4.1. Home Writing Practices of Typically Developing and At-Risk Writers

Consistent with previous research looking at early primary school and preschool samples with typical writing development (Alsubaie, 2022; Aram et al., 2020, 2014; Bildfell, 2016; Farry-Thorn et al., 2020; Krijnen et al., 2020; N. T. Lin et al., 2023; Neumann, 2018;

Neumann & Neuman, 2010; Nkomo et al., 2023; Robins & Treiman, 2009; Skibbe et al., 2013), the findings indicate that both formal and informal writing practices, as well as different forms of family support, are present in the home environments of children with typical writing development and at-risk writers. However, these practices and support are not equally distributed.

The findings related to the *home writing practices* of children with typical writing development indicate that they are predominantly focused on transcription skills such as handwriting (involving exercises related to handwriting neatness) and spelling (involving exercises focused on spelling rules and punctuation). This pattern is consistent with previous research, showing that these are the skills that are most frequently and explicitly practiced at home (Alsubaie, 2022; Farry-Thorn et al., 2020; Herrera & Guayana, 2022; Krijnen et al., 2020; Neumann, 2018; Peterson et al., 2021; Sonnenschein et al., 2021; Swain & Cara, 2017). In contrast, practices targeting higher-level processes, such as planning and revision, were considerably less frequent. Although some families reported activities such as organizing ideas, structuring texts, or revising written work, they tended to occur only occasionally. The findings indicate that although higher-level skill practice is limited, parents are indeed able to provide this type of formal practice in the home environment, as shown in studies demonstrating that these higher-level processes are critical for writing development and can be effectively taught through direct parental instruction (Arrimada et al., 2018, 2022). More specifically, parents can teach higher-level processes such as idea generation and selection, organization and structuring of texts, use of connectors to link ideas, as well as revision, particularly through reading texts, identifying errors, and correcting them. One possible explanation for the lower rates of higher-level practices compared with transcription skills is that formal writing activities at home are often closely linked to classroom activities (Herrera & Guayana, 2022; Kelso-Marsh et al., 2025b). In the first few years of primary school, transcription skills such as handwriting and spelling are frequently emphasized in order to help children make them automatic and reduce the cognitive demands associated with lower-level transcription processes during writing (Berninger & Amtmann, 2003; Berninger & Winn, 2006; Hayes, 2012). However, this should not be interpreted as suggesting that higher-level writing processes are less important during early writing development. Previous research has shown that young children are already capable of composing texts from the beginning of schooling, and that higher-level processes such as planning can also be effectively supported through explicit and self-regulated instruction both at school and at home (Arrimada et al., 2018, 2022; Camacho & Alves, 2017; Robledo & García, 2013).

In contrast to what we expected after reviewing the broader home writing environment literature, informal writing practices were relatively uncommon. When they did happen, they were primarily associated with communicative purposes, such as writing messages or notes, but usually monthly rather than any more regularly. Moreover, recreational writing activities were almost absent. Similarly, informal writing using digital tools was rare, with very few children engaging in such activities regularly. This finding is worth noting, considering that previous research suggests that children often spontaneously engage in informal writing and other literacy activities at home (Aram et al., 2020; Peterson et al., 2021). One possible explanation is that writing, unlike reading, may be less naturally embedded in everyday family routines, particularly in early primary years, when children are still developing basic transcription skills.

One of the main contributions of this study is the inclusion of an exploration of the home writing environment of at-risk writers. Overall, the general pattern of engagement in home writing practices was similar in both groups, as formal practices related to transcription skills were more frequently reported than higher-level writing activities or informal

practices (with practices aimed at communicative purposes being the most common). However, there were differences in how often children did these practices. At-risk writers generally did writing activities at home less often than their peers with typical writing development. Although research on the home writing environment of at-risk writers is still scarce, these findings are in line with studies on the home literacy environment with students who at-risk of reading difficulties. Those studies have shown that at-risk readers tend to engage in literacy practices at home less frequently than their typically developing peers (Dilnot et al., 2017; Z. Esmaeeli et al., 2019; Tichnor-Wagner et al., 2016).

Overall, considering students in grades 1 and 2, the most notable differences were that at-risk students did fewer planning activities and used digital tools for writing less. Specifically, at-risk writers in grade 1 got less direct instruction at home in higher-level processes, such as planning and revision, as well as informal writing practices, including writing letters or invitations for communicative purposes and writing stories for recreational purposes. In grade 2, there were only differences in informal writing practices using digital tools, which typically developing writers did more often. These findings suggest that limited exposure to writing practices at home, particularly those involving higher-level processes and digital tools, may be an additional risk factor for the development of writing disabilities. Consequently, early intervention should focus on strengthening text-planning processes within the home from the beginning of formal schooling, as well as promoting strategies that effectively integrate the use of digital tools, even on a weekly basis. Such measures could improve motivation and, in turn, increase the frequency of writing practices in at-risk writers, contributing to preventing potential future writing difficulties.

4.2. Home Writing Support for Typically Developing and At-Risk Writers

Looking at the *home writing support* that parents provided, the most frequent forms of support for children with typical writing development were content-related, particularly those focused on transcription and revision processes, which tended to be provided relatively systematically. In contrast, support targeting planning processes was less consistent and tended to be offered only occasionally or when a child asked for or needed it. Procedural and motivational support were predominantly provided sometimes, rather than on a systematic basis. Similar to the pattern for home writing practices, both typically developing and at-risk writers exhibited a comparable overall distribution of support types. In both groups, content-related support was more common than procedural or motivational support. However, there were differences in how often and under what conditions support was given. Specifically, it was more common for at-risk writers to receive support on a contingent basis—when they needed it or explicitly asked for help. These findings suggest that parents are sensitive to their children's writing difficulties and tailor the level and type of support accordingly. This interpretation is consistent with previous research in typically developing writers showing that parental involvement tends to be responsive and adaptative to children's needs (Aram et al., 2014; Bindman et al., 2014; Nkomo et al., 2023). However, the fact that support is primarily provided when the child needs it or explicitly asks for it, rather than being planned and regular, may limit the learning of writing skills. According to preventive models, intervention should increase in intensity and frequency according to students' difficulties, providing support that is adjusted to their level of competence (Fletcher & Vaughn, 2009; D. Fuchs & Fuchs, 2006).

When considering the analysis by grade, the differences become even more specific. At a global level, differences were observed only in certain types of procedural support, the same ones that also showed differences in Grade 1. Specifically, directly explaining aspects of writing that the student does not know was more frequent in the at-risk group. This may

be because these at-risk students may need explicit clarification more often due to their difficulties, prompting parents to adopt a more instructive role.

Looking at resource-based support, in contrast to previous findings from literature on the home literacy environment—which describe contexts characterized by reduce access to materials and lower exposure to literacy practices among at-risk students (Dilnot et al., 2017; Z. Esmaeeli et al., 2019; Tichnor-Wagner et al., 2016)—there were no differences between the groups in the present study. Similarly, there were no substantial differences in motivational support, which may seem surprising given that at-risk writers often display lower levels of motivation towards writing, something their parents also see (Janikowski & Norvitilis, 2020). This suggests that families, regardless of risk status, tend to provide similar levels of affective involvement and reinforcement, even when at-risk writers may show lower motivation towards writing than their typically writing peers.

Overall, these findings highlight how important the home writing environment is for early writing development and the potential role that families could play in supporting children's writing acquisition and reducing the risk of later writing difficulties. The study shows that, while children with typical writing development and at-risk writers both engage in similar types of practices and receive comparable forms of parental support, at-risk writers tend to participate less frequently than their typically writing peers in formal and informal writing activities. Nevertheless, they get higher levels of support, suggesting that parents may tailor their support to children's writing needs. This suggests that parental responsiveness is crucial. However, more proactive, systematic, planned support could further improve writing development and potentially reduce later writing difficulties. Increasing the frequency of home writing practices, particularly those targeting higher-level processes such as planning, may be especially important in first grade. Furthermore, the results underscore the value of incorporating digital tools into home writing activities, even on a weekly basis, to boost engagement and motivation. Taken together, these findings may inform the design of home-based interventions and parental guidance that complement classroom instruction and support early writing development within prevention-oriented educational frameworks, while also providing a foundation for future research examining the Home Writing Environment in different cultural and educational contexts.

4.3. Limitations and Future Research

Finally, several limitations of this study should be acknowledged. First, the participants were recruited through convenience sampling from a limited number of schools in Spain serving predominantly middle-to upper-middle socioeconomic status backgrounds (SES), which may introduce potential sampling bias and limit the generalizability of the findings. Although this sampling strategy was intended to reduce socioeconomic heterogeneity in the sample, individual SES was not directly assessed and may have influenced both the home writing environment and children's writing development. Future research should include direct measures of SES to better examine its contribution to writing outcomes and examine home writing environments across diverse sociocultural contexts in order to better understand the factors contributing to children's writing development.

Second, the sample of students identified as at-risk writers was relatively small, which may limit the generalization of the findings and reduce statistical power in comparative analyses. However, this was expected, as only around 27.6% of the population is identified as at-risk of learning disabilities (Bozatlı et al., 2024). Third, the study relied exclusively on parent-reported data. Future research should incorporate multiple sources of information, including children's perspectives, as suggested by Gardner (2013). Fourth, although the study provides a detailed description of the home writing environment, it does not directly examine the relationship between home practices and children's writing performance.

Future research should explore these associations to better understand the mechanism through which the home writing environment influences writing development, as well as the potential protective role of the family in preventing writing disabilities, in line with the Response to Intervention model (Fletcher & Vaughn, 2009; D. Fuchs & Fuchs, 2006). Finally, longitudinal studies would be particularly valuable to determine how changes in the home writing environment may contribute to improvements in writing skills over time, particularly for at-risk student writers.

5. Conclusions

The present study contributes to understanding the home writing environment of children with typical writing development and at-risk writers during the first years of primary education. Overall, the findings showed that both groups engaged in similar types of home writing practices and received similar forms of family support. However, at-risk writers engaged in writing activities at home less frequently than their peers with typical writing development, particularly in practices related to higher-level writing processes such as planning. In contrast, at-risk writers tended to receive slightly higher levels of family support, particularly when they needed it or explicitly asked for help, suggesting that families may adapt their support to their children's writing needs.

These findings highlight the potential role of the home writing environment in supporting early writing development and preventing later writing difficulties. Increasing the frequency of writing practices at home, particularly those focused on higher-level writing processes, and promoting more systematic family support may be particularly relevant for children who show early difficulties in writing acquisition. In this sense, family involvement may complement writing instruction at school and contribute to preventive approaches aimed at supporting children's writing development from the beginning of formal schooling.

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Institutional Review Board Statement: The study was reviewed and approved by the Research Ethics Committee of the University of León (Spain), approval code ETICA-ULE-026-2024. All procedures complied with applicable data protection regulations, including the EU General Data Protection Regulation (Regulation (EU) 2016/679) and Spain's Organic Law 3/2018 on Personal Data Protection and Digital Rights. Where required, informed consent was obtained in accordance with institutional and legal requirements.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data supporting the findings of this study are available upon reasonable request from the corresponding author, Patricia Robledo (University of León, Spain), upon reasonable request (email: probr@unileon.es). The data are not publicly available due to privacy and ethical restrictions related to participant confidentiality.

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Abbreviations

The following abbreviations are used in this manuscript:

CBM-W	Curriculum-Based Measures in Writing
HWE	Home Writing Environment
HWEQ	Home Writing Environment Questionnaire
ICT	Information and Communication Technologies
RtI	Response to Intervention
sDGs	Sustainable Development Goals
SES	Socioeconomic Status

Appendix A

Appendix A.1

Table A1 presents the subscale of the *Home Writing Environment Questionnaire* (*HWEQ*, Robledo et al., 2026a) related to the formal and informal practices that children do at home. The questionnaire was developed and administered in Spanish; the items are presented here in English translation.

Table A1. The Home Writing Practices Scale.

	Items
	WRITING PRACTICES (whether linked to school assignments or not)
1.	Write lists (e.g., a shopping list, guest list, . . .)
2.	Write letters or invitations.
3.	Write greetings or congratulatory messages.
4.	Write stories
5.	Write songs or poems
6.	Write jokes or riddles
7.	Handwriting exercises (neat handwriting): writing letters, syllables, words or sentences while respecting letter formation, directionality and size.
8.	Spelling and punctuation exercises (e.g., choosing b/v, g/j, capital letters, . . .).
9.	Activities to generate or find ideas to include in texts (e.g., searching the internet, brainstorming, asking questions, . . .).
10.	Writing, completing or organizing texts while respecting their structure/parts (e.g., introduction, development, conclusion) or elements (e.g., characters, place time).
11.	Activities to learn how to link or connect ideas in texts (e.g., completing a text with linking words, finding connectors between sentences, . . .).
12.	Writing texts using linking words or connectors correctly (to join ideas or parts of the text).
13.	Read written texts and identify mistakes in them.
14.	Correct mistakes in written texts.
15.	Write WhatsApp messages.
16.	Write emails.
17.	Write on social media (Instagram, Facebook, . . .)

Appendix A.2

Table A2 presents the subscale of the *Home Writing Environment Questionnaire* (*HWEQ*, Robledo et al., 2026a) related to the support that parents provide to their children at home.

The questionnaire was developed and administered in Spanish; the items are presented here in English translation.

Table A2. The Home Support for Writing Scale.

	Items
	CONTENT SUPPORT
	When parents collaborate with their child in writing activities, they help, teach or encourage to:
1.	. . . write with proper handwriting.
2.	. . . write with correct spelling (without mistakes, using punctuation marks. . .).
3.	. . . write with correct grammar (observing agreements, e.g., gender and number; constructing sentences correctly; using appropriate verb tenses. . .).
4.	. . . plan what they are going to write (think before writing, draft first. . .).
5.	. . . consider the purpose of their texts before writing (e.g., to narrate, to express an opinion. . .).
6.	. . . generate, search for, or think of good ideas to include in their texts
7.	. . . organize their texts following a structure (e.g., introduction, development, conclusion).
8.	. . . organize their writing by linking paragraphs or ideas appropriately using connectors (e.g., however, firstly, on the other hand. . .).
9.	. . . consider the audience of their text and write appropriately for them (understandable, engaging. . .).
10.	. . . review their writing to detect mistakes or areas for improvement.
11.	. . . correct mistakes in their writing, improving the text.
	PROCEDURAL SUPPORT
	When helping the child with writing, how do parents provide assistance?
12.	Explaining: They explain writing aspects the child does not know. *Example: "B is a stick with two bumps"; "Words with stress on the antepenultimate syllable always carry a stress mark"; "A text should have an introduction, development, and conclusion" . . .*
13.	Modeling: They provide examples of written tasks or demonstrate correct was of writing so that the child can learn by observing models. *Example: "Look at how I write this letter"; "Observe the story and you'll see the introduction, development, and conclusion"; "Watch how your brother revises his text" . . .*
14.	Accompanying: They support the child while completing writing activities, offering suggestions, answering questions and guiding them. *Example: "What do you need to do?"; "You could add this idea, it would look good this way"; "Do you need help?".*
15.	Indirectly correcting: They guide the child to identify mistakes or areas for improvement and correct them independently. *Example: "Something is wrong with this word"; "Something is missing here" . . .*
16.	Directly correcting: They correct the child's mistakes in the completed writing. *Example: "You are missing the accent"; "This idea is unclear"; "A full stop goes here" . . .*
	MOTIVATIONAL AND RESOURCE SUPPORT
	At home, parents:
17.	. . .encourage the child to write, highlighting the importance or usefulness of writing.
18.	. . .reinforce the child when they write, improve their writing, or make an effort (rewarding, praising. . .).
19.	. . . show interest in what the child has written (look at it, read it, display it. . .).
20.	. . . provide the child with analogue writing resources (pens, notebooks. . .)
21.	. . .provide the child with digital writing resources (apps, games, word processors such as Word, electronic devices. . .)
22.	. . . provide the child with an appropriate place to write (e.g., adequate lighting, desk and chair. . .).

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