

A Valid and Reliable Scale for Measuring Parental Involvement in Primary School Children's Literacy Development

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Abstract

This study aims to develop a valid and reliable measurement tool to assess parental involvement in the literacy development of primary school students. Recognizing the multifaceted nature of literacy and the crucial role of families in supporting children's learning, the Parental Involvement in Literacy Development Scale (PILDS) was constructed based on Epstein's parental involvement model and key theoretical frameworks. A 28-item scale was developed and refined through expert review and pilot testing to ensure content validity. The scale was administered to 400 parents of children in Grades 1 to 4 attending public primary schools in a city located in the eastern region of Türkiye. Confirmatory Factor Analysis (CFA) supported the six-factor structure, yielding satisfactory fit indices (RMSEA = .06, SRMR = .06, CFI = .98, NFI = .97, NNFI = .98, $\chi^2/df = 2.61$). The internal consistency coefficient for the overall scale was .95, and convergent validity was supported through significant correlations with an established measure of family involvement. Cutoff scores were also determined to classify low, moderate, and high levels of parental involvement. Although the findings offer strong evidence for the validity and reliability of PILDS, they should be considered together with the contextual characteristics of the participating families. Overall, PILDS provides researchers, educators, and policymakers with a comprehensive and culturally grounded tool for assessing multidimensional, literacy-focused parental involvement and for informing targeted interventions and family-school-community partnership practices.

Plain Language Summary

A New Scale to Measure How Parents Help Their Children Learn to Read and Write

This study developed a new measurement tool called the Parental Involvement in Literacy Development Scale (PILDS) to better understand how parents support their children's reading and writing development in primary school. The scale was based on Epstein's parental involvement framework, which includes six key areas: parenting, communicating, volunteering, learning at home, decision making, and collaborating with the community. After expert review and pilot testing, a 28-item version of the scale was given to 400 parents of children in Grades 1 to 4 who attended public primary schools in a city located in the eastern region of Türkiye. Statistical analyses showed that the scale is valid and reliable. The six-factor structure was strongly supported, and the scale demonstrated high internal consistency. The study also identified cutoff scores that classify parents as having low, moderate, or high levels of involvement. Overall, PILDS provides teachers, school leaders, and policymakers with a practical and culturally relevant tool for assessing parental involvement in children's literacy development. It can be used to design targeted parent support programs, strengthen home-school collaboration, and guide educational policies aimed at improving reading and writing outcomes in the early primary years.

Keywords

parental involvement, literacy development, scale development, primary school students

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Introduction

Beyond the basic ability to read and write, literacy is now widely recognized as a multifaceted construct that encompasses a wide range of cognitive, social, and communicative competencies enabling individuals to construct meaning, interact effectively, and engage critically with their environments (Hobbs, 2016). The development of literacy skills in early childhood is of great importance, as these skills serve as strong predictors of children's later reading, writing, and overall literacy proficiency during the primary school years (Sénéchal & LeFevre, 2002). Literacy development begins in early childhood and unfolds progressively through interactions with more knowledgeable others in meaningful contexts, even before formal schooling starts (Teale & Sulzby, 1987; Whitehurst & Lonigan, 1998). Research increasingly highlights the role of environmental factors—such as socioeconomic status, access to learning materials, and especially family involvement—in shaping children's literacy trajectories (McBride-Chang, 2014). Among these, parental involvement has emerged as a particularly influential component in fostering literacy development during the early and primary years (Camacho & Alves, 2017; Niklas & Schneider, 2015). The home environment enriched with shared reading, storytelling, and parent-child communication practices is strongly associated with improved vocabulary, comprehension, and reading attitudes (Sénéchal & LeFevre, 2002; Yang & Chen, 2023).

Contemporary research underscores a robust and multidimensional relationship between parental involvement and children's literacy outcomes (Ruan & McBride, 2024). This involvement manifests through behaviors such as engaging in home activities, supporting schoolwork, attending school events, and maintaining communication with teachers (Epstein, 2010; Jaynes, 2024). A growing body of literature consistently supports parental involvement as one of the strongest predictors of children's literacy success, particularly during the preschool and early primary years. However, existing measurement tools often fail to adequately capture this multifaceted construct, either by focusing narrowly on home-based practices (Umek et al., 2005) or limiting assessments to early childhood contexts (Buvaneswari & Padakannaya, 2017; Sarica et al., 2014). Moreover, instruments that broadly assess parental support for literacy (Enemuo & Obidike, 2013) frequently overlook critical dimensions such as shared decision-making, educational collaboration, and voluntary participation—components emphasized in contemporary family engagement frameworks. Even recently developed tools, such as Çetinkaya's (2024) PI-HLA scale, primarily focus on home literacy activities and digital practices but do not fully address broader family-school partnership components. Despite the well-documented benefits of parental involvement, current

measurement tools reveal a critical gap: the lack of a comprehensive and psychometrically robust instrument specifically designed to assess parental involvement in literacy development during the primary school years.

The Present Study

The present study seeks to address this gap by operationalizing the multidimensional construct of parental involvement in literacy through the development of a theoretically grounded and psychometrically sound measurement instrument. Drawing upon established theoretical models of family-school partnerships, the scale items were carefully aligned with the underlying conceptual frameworks in an effort to ensure both content validity and practical relevance.

The development process was guided by Epstein et al. (1997) Theory of Overlapping Spheres of Influence and her six-dimensional Framework of Parental Involvement—parenting, communicating, volunteering, learning at home, decision making, and collaborating with the community—which collectively provided a comprehensive foundation for conceptualizing family-school collaboration in literacy contexts. By integrating these theoretical perspectives throughout the item development process, the study aims to fill a critical methodological and conceptual need and to offer a rigorous tool that can support future research and educational practice related to literacy development. Accordingly, the present study investigates two central research questions:

- (i) Does the developed scale possess a theoretically and statistically valid structure for measuring parental involvement in literacy development?
- (ii) Is the scale internally consistent and reliable for use across diverse educational settings?

Conceptualizations and Policy Context of Parental Involvement

There is no universal consensus among researchers on a single definition of parental involvement. While some scholars adopt a broad approach that includes academic, social, emotional, and behavioral support (Castro et al., 2015), others focus on specific domains such as home-based or school-based activities (Boonk et al., 2018; Perrigo et al., 2024). Hill and Tyson (2009), for instance, proposed a tripartite model comprising home-based practices, school-based engagement, and academic socialization. These frameworks highlight the significance of communication, emotional support, and motivational influences. However, they often conflate behavioral and emotional dimensions or fail to explore how these aspects interact to influence children's learning outcomes.

Parental involvement is generally defined as a multidimensional process encompassing behaviors and practices—both at home and in school—that reflect parents’ expectations, beliefs, and attitudes toward their children’s education (Epstein, 2010; Hoover-Dempsey & Sandler, 1997). This includes a variety of supportive actions such as assisting with academic tasks, participating in school meetings and activities, attending educational workshops, and maintaining collaborative relationships with educators (Fan & Chen, 2001; Hill & Tyson, 2009; Wilder, 2014). These behaviors aim to promote children’s cognitive, social, and emotional development and are informed by both parental aspirations and institutional efforts (Castro et al., 2004; Eisenberg et al., 2002; Epstein et al., 2025; Henderson & Mapp, 2002; Jeynes, 2024; Nihal Lindberg & Güven, 2021; Simon, 2004). In this sense, parental involvement also includes a commitment to fostering an enriching family environment and building positive, developmentally appropriate parent–child relationships (Keçeli-Kaysılı, 2008).

In recent years, both globally and in Türkiye, families have been increasingly recognized as essential stakeholders in the educational process. International policy frameworks consistently emphasize that effective family engagement is one of the most powerful levers for improving children’s learning outcomes and well-being. The Organization for Economic Co-operation and Development (OECD, 2012), in its report *Let’s Read Them a Story! The Parent Factor in Education*, highlighted that students whose parents are actively engaged in their learning—particularly through home-based literacy activities and communication with teachers—demonstrate significantly higher academic achievement and motivation, regardless of socio-economic background. More recently, the OECD Education Policy Perspectives report *Engaging Parents and Guardians in Early Childhood Education and Care Centers* (OECD, 2024) emphasized that early, sustained, and structured parental participation in preschool settings promotes smoother educational transitions and fosters inclusive and equitable learning environments. Similarly, the United Nations Educational, Scientific and Cultural Organization (UNESCO, 2020) *Global Education Monitoring Report* reaffirmed that accountable and participatory parenting is a key determinant of educational quality, calling on governments to integrate parental involvement into broader education governance and accountability systems.

This global momentum toward strengthening family engagement is reflected in Türkiye’s national education agenda. Both the *Türkiye Yüzyılı Maarif Model* (TYMM) and the *12th Development Plan* (2024–2028) explicitly position family involvement as a central component of educational policy rather than a

supplementary element. The Maarif Model emphasizes family–school collaboration as a key factor in supporting students’ value formation, social-emotional growth, and overall learning processes, framing families as active educational partners rather than passive observers (Ministry of National Education [MoNE], 2024a). Similarly, the 12th Development Plan underscores strengthening parental education, developing family-based support mechanisms, and increasing parental participation from early childhood onward to enhance educational quality and equity (T.C. Cumhurbaşkanlığı Strateji ve Bütçe Başkanlığı, 2023). In line with these strategic priorities, the MoNE has launched several initiatives, such as the Velivizyon platform, the Parent Schools of the Maarif Model, the Parent Guidance Booklets, and the My Educational Journey with My Family project, all of which aim to strengthen parental involvement in students’ academic and social development (MoNE, 2024b; Temel Eğitim Genel Müdürlüğü [TEGM], 2024a, 2024b). This combined global and national policy emphasis reflects a shared commitment to positioning parental involvement as a foundational pillar of educational reform and student success.

Taken together, the conceptual and policy perspectives reviewed above highlight that parental involvement is not a peripheral or optional aspect of education, but a multidimensional and dynamic process shaped by cultural, institutional, and policy contexts. International evidence demonstrates that meaningful family engagement contributes substantially to students’ academic, social, and emotional outcomes, while national frameworks such as Türkiye’s Maarif Model and 12th Development Plan embed this understanding into education policy and practice. These developments collectively underscore a paradigm shift from perceiving parents as external supporters to recognizing them as co-constructors of learning environments.

Children’s Literacy Development and Parental Involvement

Literacy constitutes a foundational element of education across all its definitions. Traditionally associated with the ability to read and write, literacy entails the encoding and decoding of information through the interaction of written symbols and spoken language (UNESCO, 2017). More specifically, it encompasses the capacity to understand the relationship between phonological structures and written words, as well as the skills required to interpret, express, and derive meaning from written texts (Vlieghe, 2015). In this context, the development of literacy skills is of critical importance for all countries. However, similar to many other education systems, Türkiye continues to face challenges in this domain.

According to the PISA 2022 results, Türkiye scored 456 points in the reading domain—below the OECD average—and while 71% of students demonstrated basic reading proficiency (Level 2 or above), only 2% reached Level 5 or higher, which reflects advanced literacy skills such as the ability to analyze complex texts and engage in critical evaluation (OECD, 2023).

Parental involvement is widely recognized as a key factor influencing various aspects of children's academic development, including literacy acquisition (Faires et al., 2000; Ruan & McBride, 2024). This involvement takes on multiple forms—ranging from establishing literacy-rich home environments and engaging in shared reading or writing activities, to maintaining active communication with teachers and participating in school events. Research indicates that home-based literacy practices, such as interactive reading, storytelling, educational games, and collaborative writing, significantly contribute to children's vocabulary growth, reading comprehension, and attitudes toward literacy (Çalışkan & Ulaş, 2022; Sénéchal & LeFevre, 2002; Yang & Chen, 2023). Furthermore, the reinforcement of literacy instruction at school through complementary activities at home fosters consistency and continuity in the child's learning experience (Gül, 2007). Despite the recognized importance of parental involvement in literacy development, the concept of parental involvement remains complex and variably defined across literature (Boonk et al., 2018; Fantuzzo et al., 2000). In this study, parental involvement is defined as a multidimensional process encompassing parents' behaviors, attitudes, and collaborative practices aimed at enhancing their children's literacy development. These include direct support (e.g., helping with reading and writing tasks), environmental structuring (e.g., creating literacy-rich home environments), and indirect contributions (e.g., attending school meetings, sharing educational decisions; Epstein, 2010; Jeynes, 2024).

Accordingly, literacy-focused parental involvement represents both a home-based and systemic effort that complements formal education and reinforces children's holistic development. By integrating parents as active partners in literacy learning, schools can extend the learning environment beyond the classroom and cultivate consistent reading and writing habits that support sustained academic progress. This understanding forms the conceptual foundation of the present study, which seeks to examine and measure the multifaceted nature of parental engagement in primary students' literacy development.

Theoretical Framework

This study is grounded in the Theory of Overlapping Spheres of Influence developed by Joyce Epstein and

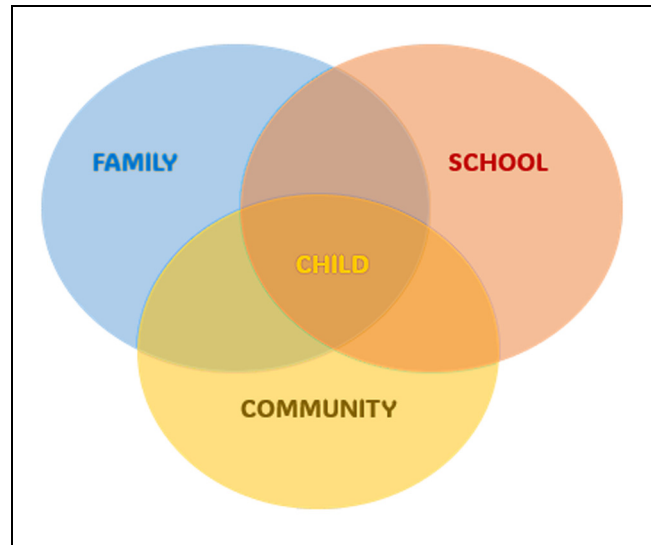


Figure 1. Overlapping spheres of influence.

colleagues, which offers a comprehensive perspective on the interconnections among families, schools, and communities in supporting student development. According to Epstein, Sheldon, and Hine (2025), students' learning outcomes and social development are shaped not only within individual contexts—such as the home, school, or community—but through the dynamic interactions among these contexts (see Figure 1).

The theory posits that these three contexts operate within overlapping spheres that vary in degree and intensity over time, depending on factors such as student age, school culture, and family engagement. It distinguishes between external structures (institutional relationships among families, schools, and community agencies) and internal structures (individual interactions among teachers, parents, and students; Epstein et al., 2025). The degree of overlap among these spheres is influenced by time (developmental and historical), family practices (Force B), and educator practices (Force C; Epstein, 1987; Epstein & Sheldon, 2023). In the context of children's literacy development, these overlapping spheres manifest most visibly through daily home-school exchanges around reading, writing, and language experiences, where families and teachers jointly shape consistent expectations, shared learning opportunities, and continuous communication about progress (Niklas & Schneider, 2017; Reese et al., 2010; Sénéchal & LeFevre, 2002).

Central to Epstein's theory of school-family-community partnerships is the Framework of Six Types of Involvement, which provides both conceptual clarity and practical guidance for designing comprehensive, equitable, and sustainable family engagement programs (Epstein et al., 1997). This multidimensional framework

identifies six interrelated types of involvement—parenting, communicating, volunteering, learning at home, decision making, and collaborating with the community—each representing a distinct yet complementary dimension of how families contribute to children’s educational success (Epstein et al., 1997)

Parenting focuses on helping families create home environments that foster children’s physical, emotional, and cognitive development. Schools are encouraged to provide families with information and resources that strengthen parenting skills and promote learning-friendly conditions at home. This includes supporting routines, discipline strategies, and literacy-rich settings that nurture children’s readiness to learn (Epstein et al., 1997).

Communicating emphasizes the establishment of two-way, respectful, and reciprocal communication channels between schools and families. Effective communication ensures that parents are informed about their children’s progress, understand school expectations, and can share their perspectives and concerns. Epstein et al. (1997) noted that communication should be proactive and inclusive, using diverse formats—such as meetings, newsletters, or digital platforms—to reach all families equitably.

Volunteering refers to opportunities for parents and caregivers to actively participate in the life of the school, both within classrooms and in extracurricular contexts. This form of engagement helps families feel valued as contributors to the school community and allows children to witness positive models of civic involvement. In practice, volunteering extends beyond physical presence—it encompasses any form of contribution that supports school improvement and student learning.

Learning at Home underscores the crucial role of families in extending and reinforcing learning outside school walls. Parents are encouraged to engage in activities such as reading together, discussing homework, or exploring everyday experiences that enhance literacy and numeracy. Empirical studies have consistently shown that home-based learning support is one of the strongest predictors of student achievement and motivation (OECD, 2012; Sénéchal & LeFevre, 2002).

Decision Making involves including parents in school governance, committees, and policy discussions, thereby promoting shared responsibility for educational outcomes. By engaging families in decision-making processes, schools cultivate a democratic culture that values diverse perspectives and builds mutual trust (Epstein, 2010). This form of participation also empowers parents to become advocates for their children and active partners in shaping educational goals.

Finally, *Collaborating with the Community* extends partnership efforts beyond the school, integrating families, local organizations, and community resources into a unified support system for students. This type of

involvement emphasizes the coordination of services—such as health, cultural, and social programs—to meet families’ comprehensive needs and to enrich students’ educational experiences (Epstein & Sheldon, 2002).

Together, these six domains form an integrative and dynamic model of family engagement. Rather than treating parental involvement as a singular behavior, Epstein’s framework conceptualizes it as a systemic network of interactions linking home, school, and community. Through this lens, effective partnership programs address multiple dimensions of family life and cultural diversity, ensuring that all families—regardless of socioeconomic or educational background—can participate meaningfully. This theoretical foundation directly underpins the present scale (PILDS), which operationalizes these six dimensions into measurable components to assess and strengthen parental involvement in primary students’ literacy development.

The theory also integrates well with Bronfenbrenner’s Ecological Systems Theory, emphasizing nested and reciprocal relationships between individuals and the systems they are embedded in (Bronfenbrenner, 1979). Unlike earlier sociological theories that emphasized the separation or sequential roles of families and schools (Parsons, 2017), Epstein’s model advocates for shared responsibilities and cooperative actions that serve the child’s best interests. From an ecological standpoint, children’s literacy outcomes emerge from consistent reinforcement across microsystems (home, classroom, and community). When these systems align around literacy goals—such as daily reading routines or collaborative writing tasks—students experience stronger and more coherent literacy development trajectories (Christenson & Sheridan, 2001; Hoover-Dempsey et al., 2005).

In summary, the Theory of Overlapping Spheres of Influence provides a robust and adaptable conceptual foundation for examining parental involvement in literacy education. It emphasizes not only the potential and necessity of collaborative engagement but also the institutional and interpersonal conditions that enable or hinder such partnerships. This theoretical lens informs the current study’s focus on how schools can develop more effective, inclusive, and sustainable models of family engagement to support children’s literacy development across the primary years.

Method

Scale Development Process

Item Pool Generation. To develop the Parental Involvement in Primary School Students’ Literacy Development Scale (PILDS), a comprehensive literature review was conducted on literacy instruction and parental involvement. As no existing instrument directly

measured this specific construct, the theoretical framework of Epstein's (1995, 2010) model was adopted as the primary basis for item generation. In addition to this model, several parental involvement scales were carefully reviewed to guide the development of relevant and culturally appropriate items. These included the Parental Involvement Scale developed by Walker et al. (2005), which revised the Hoover–Dempsey and Sandler model; the Turkish Parental Involvement Scale by Gürbüztürk and Şad (2010); and instruments addressing parental engagement in elementary education contexts (e.g., Çetinkaya, 2024; Mbaluka et al., 2021; Ringenberg et al., 2005; Sheldon & Epstein, 2007; Yulianti et al., 2018). Insights from these scales informed both the conceptual coverage and item wording to ensure theoretical alignment and contextual sensitivity. As a result of this process, an initial pool of 32 items was generated to comprehensively represent the 6 dimensions proposed in Epstein's framework. The items were designed to capture both behavioral and attitudinal aspects of parental involvement in literacy development, ensuring adequate coverage of each subdimension before expert review and refinement.

In accordance with Epstein's (2010) six-dimensional model, items were written to reflect each of the following domains. The parenting dimension reflects the creation of supportive home environments that nurture literacy development (e.g., ensuring quiet study spaces, providing literacy materials, responding empathetically to challenges). The communication dimension captures parent–teacher information exchange (e.g., asking about literacy goals, discussing children's progress, addressing concerns). The volunteering dimension measures parents' active engagement in school-based literacy activities (e.g., contributing to events, preparing materials, supporting classroom practices). The learning at home highlights parental involvement in home-based literacy practices (e.g., supporting homework, organizing literacy games, purchasing books). The decision-making dimension addresses parents' participation in school-level decisions related to literacy instruction (e.g., sharing opinions on instructional materials, expressing views during meetings). Finally, the collaborating with the community dimension emphasizes parents' engagement with broader cultural and educational resources (e.g., attending workshops, supporting extracurricular literacy activities, seeking external support when needed). Accordingly, a total of 32 items were generated, rated on a five-point Likert scale ranging from (1) *Never* to (5) *Always*.

Expert Review and Pilot Testing. The preliminary version of the scale, consisting of 32 items, was evaluated by a panel of 6 academic experts in literacy education and 1 expert in educational measurement and evaluation. A

structured expert evaluation form was used to ensure systematic and comparable feedback. Each item was presented under its corresponding subdimension along with a concise conceptual definition of the construct.

Experts rated each item on a three-point scale (1 = Not appropriate, 2 = Needs revision, 3 = Appropriate) based on its clarity, relevance, and conceptual alignment with the intended subdimension. They were also asked to provide written justifications for any item rated. This systematic approach allowed transparent comparison of expert judgments and facilitated reaching a consensus within the research team.

To quantify the degree of expert agreement, a Content Validity Index (CVI) was calculated for each item by dividing the number of experts rating the item as "appropriate" by the total number of experts. Items with a CVI value of .80 or higher were retained without modification, whereas items with lower CVI values were revised or deleted. As a result of expert evaluations, four items were removed from the initial pool due to high redundancy with other items, low consensus among experts, ambiguity regarding the specific behavior being measured, or limited cultural relevance within the Turkish primary education context. Additionally, four items were revised to improve their wording and conceptual precision, and all remaining items were deemed acceptable. For example, based on expert feedback, the item "*I create a peaceful environment at home to prevent my child from being distracted while engaging in literacy-related activities*" was revised to "*I remove environmental distractions (e.g., turning off the television, ensuring quiet surroundings) to help my child stay focused during literacy-related tasks.*" which was considered clearer and more directly aligned with the intended construct.

Following the expert review, a pilot study was conducted to assess the comprehensibility and practicality of the revised scale. The 28-item version was administered to 30 parents who shared similar characteristics with the target population. The factor structure and item distribution are presented in Table 1.

Participants were encouraged to indicate any items they found confusing, ambiguous, or difficult to interpret. Observational notes and informal feedback were collected during administration. Based on these insights, minor wording adjustments were made to further enhance the clarity of three items. The pilot results indicated that the instructions and items were well understood, and the average completion time ranged between 8 and 10 min, confirming the feasibility of the instrument for broader implementation.

Implementation and Sample. To provide evidence of construct validity for the developed Parental Involvement in Literacy Development Scale (PILDS), data were

Table 1. Factor Structure of the PILDS and Item Distribution.

Factors	Items
Parenting (Par)	I ensure that a suitable learning environment is provided at home (e.g., desk, lighting, quiet space) to support my child's literacy development I remove environmental distractions (e.g., turning off the television, ensuring quiet surroundings) to help my child stay focused during literacy-related tasks I respond with empathy and encouragement when my child experiences difficulties related to literacy
Volunteering (Vol)	I keep various literacy materials at home that my child can benefit from I voluntarily participate in classroom activities related to literacy development that involve parental engagement I voluntarily contribute to the preparation of materials and tools to be used in school-based literacy activities I voluntarily participate in school-organized literacy events (e.g., reading celebrations, poetry readings, choir performances) by dedicating my time I am willing to provide financial support for literacy activities planned by the teacher when necessary
Communication (Com)	I obtain information from my child's teacher about the literacy topics that will be covered I ask the teacher about their expectations regarding literacy education I maintain communication with my child's teacher regarding their literacy development I ask the teacher to explain the instructional approach they follow in literacy teaching I discuss any literacy-related difficulties my child is experiencing with their teacher I monitor the teacher's digital announcements about literacy activities
Learning at home (Leh)	I assist my child with literacy-related homework when needed I organize games or activities at home to support my child's literacy development I regularly purchase and read books to support my child's literacy development In addition to school-recommended resources, I use supplementary tools at home (e.g., playing audiobooks) to support literacy development I have my child do additional exercises or review activities to reinforce the literacy topics learned at school
Decision making (Dec)	I set aside one-on-one learning time with my child for literacy activities at home I share my opinions with the teacher when decisions are made regarding instructional materials planned for literacy education I am willing to serve as a parent representative in school decisions involving literacy education I share my suggestions about literacy activities with the teacher or the school administration I express my opinions during parent-teacher meetings concerning decisions related to literacy education
Collaborating with the community (Coc)	I attend public events, seminars, or workshops that I believe will enhance my child's literacy skills I encourage my child to participate in social, cultural, or artistic activities that may support literacy development I seek support from online platforms, other parents, or professionals when addressing my child's literacy-related challenges I visit libraries or cultural centers with my child to support the development of their literacy skills

collected from a sample of parents whose children were enrolled in various grade levels of public primary schools. A total of 400 participants were reached using a combination of random and criterion sampling strategies. In accordance with methodological standards, data were collected from a sample size at least five times greater than the number of items, which is widely accepted as a sufficient criterion for CFA (Büyüköztürk, 2018). The selection criteria were guided by the purpose of the scale: to measure parental involvement in the literacy development of primary school students. Therefore, participants were required to be the legal guardians of children attending grades 1 to 4 in public schools.

Since the scale was intended for parents of primary school children, efforts were made to include participants whose children were enrolled in different grade levels across the primary school spectrum. The data were collected from public primary schools located in Muş, Türkiye, a province situated in the eastern Anatolia region. These schools serve students from diverse socioeconomic backgrounds, largely representing lower-middle and middle-income families (Turkish Statistical Institute [TÜİK], 2023). The participating schools were situated in both central and peripheral districts, allowing for the inclusion of parents living in urban and semi-urban neighborhoods. To collect data, the scale

Table 2. Demographic Characteristics of the Implementation Sample.

Variable		<i>f</i>	%
Relationship to the child	Mother	220	55.0
	Father	105	26.3
	Sibling	46	11.5
	Other	29	7.2
Age	20–29	117	29.3
	30–39	183	45.8
	40–49	82	20.5
	50–59	18	4.5
Father's educational level	Primary school	72	18.0
	Middle school	71	17.8
	High school	106	26.5
	Associate degree	34	8.5
	Bachelor's degree	84	21.0
	Master's degree	20	5.0
Mother's educational level	Doctorate	13	3.3
	Primary school	130	32.5
	Middle school	68	17.0
	High school	86	21.5
	Associate degree	34	8.5
	Bachelor's degree	66	16.5
Child's grade level	Master's degree	13	3.3
	Doctorate	3	0.8
	Grade 1	184	46.0
	Grade 2	99	24.8
	Grade 3	53	13.3
	Grade 4	64	16.0
Total		400	100

developed by the researcher was converted into an online Google Form. Classroom teachers supported the distribution of the form to parents, and the data were obtained through voluntary online participation. The link to the form was shared with parents via SMS and other digital communication tools commonly used in classroom-based parent groups (e.g., WhatsApp). At the beginning of the form, an informed consent statement was provided, clearly highlighting the purpose and voluntary nature of the study. The demographic characteristics of the sample are presented in Table 2.

As shown in Table 2, the majority of participants in the study were mothers of the children (55%), followed by fathers (26.3%), siblings (11.5%), and other relatives (7.2%). In terms of age distribution, 45.8% of the participants were aged between 30 and 39 years, and 29.3% were between 20 and 29 years, indicating that most participants were young adults. Regarding fathers' education levels, the highest percentage (26.5%) were high school graduates, followed by bachelor's degree holders (21%) and primary school graduates (18%). The overall percentage of fathers with higher education degrees (associate and above) was 37.8%. In contrast, mothers' educational attainment was lower; 32.5% were primary school graduates, followed by high school (21.5%) and middle school

graduates (17%). Only 29.1% of mothers held a higher education degree, suggesting that mothers generally had lower educational levels than fathers. As for the grade levels of the children, nearly half (46%) were enrolled in the first grade, followed by 24.8% in the second grade, 16% in the fourth grade, and 13.3% in the third grade. This distribution is consistent with the intentional focus of the study on early primary years, particularly Grades 1 and 2, where parental involvement is considered most critical for fostering foundational literacy development (Boonk et al., 2018; Sénéchal & LeFevre, 2002). Therefore, the sample was deliberately weighted toward parents with children in these grade levels.

Data Analysis. In this study, data obtained from 400 participants were analyzed to evaluate the construct validity and reliability of the Parental Involvement in Literacy Development Scale (PILDS). Given that the item pool was developed based on Epstein's six-dimensional theoretical model and validated through expert review, the hypothesized factor structure was directly tested using Confirmatory Factor Analysis (CFA). During the CFA, the assumption of multivariate normality was examined, and it was observed that the overall multivariate skewness and kurtosis values indicated deviations from normality (Relative Multivariate Kurtosis [RMK] = 1.35; Mardia, 1970). For this reason, the Robust Maximum Likelihood (MLR) estimation method, which is recommended when deviations from normality are present, was employed in the CFA.

To assess the fit of the six-factor model, multiple goodness-of-fit indices were examined, including the Root Mean Square Error of Approximation (RMSEA), Standardized Root Mean Square Residual (SRMR), Normed Fit Index (NFI), and Comparative Fit Index (CFI). The Goodness of Fit Index (GFI). The internal consistency of the scale and its subdimensions was evaluated using Cronbach's alpha (α) and the Spearman-Brown split-half reliability coefficient. In addition, item-total correlation coefficients were calculated to determine the discriminatory power of each item. All statistical analyses were performed using SPSS21 and LISREL 8.80.

Findings

Confirmatory Factor Analysis (CFA). The final 28-item scale, developed based on the theoretical framework and determined to have a six-dimensional structure, was administered to the sample ($N = 400$). The aim was to evaluate whether the six-factor model would provide a good fit to data with similar characteristics and to offer additional evidence for the construct validity of the scale. The path diagram of the specified model is presented in Figure 2.

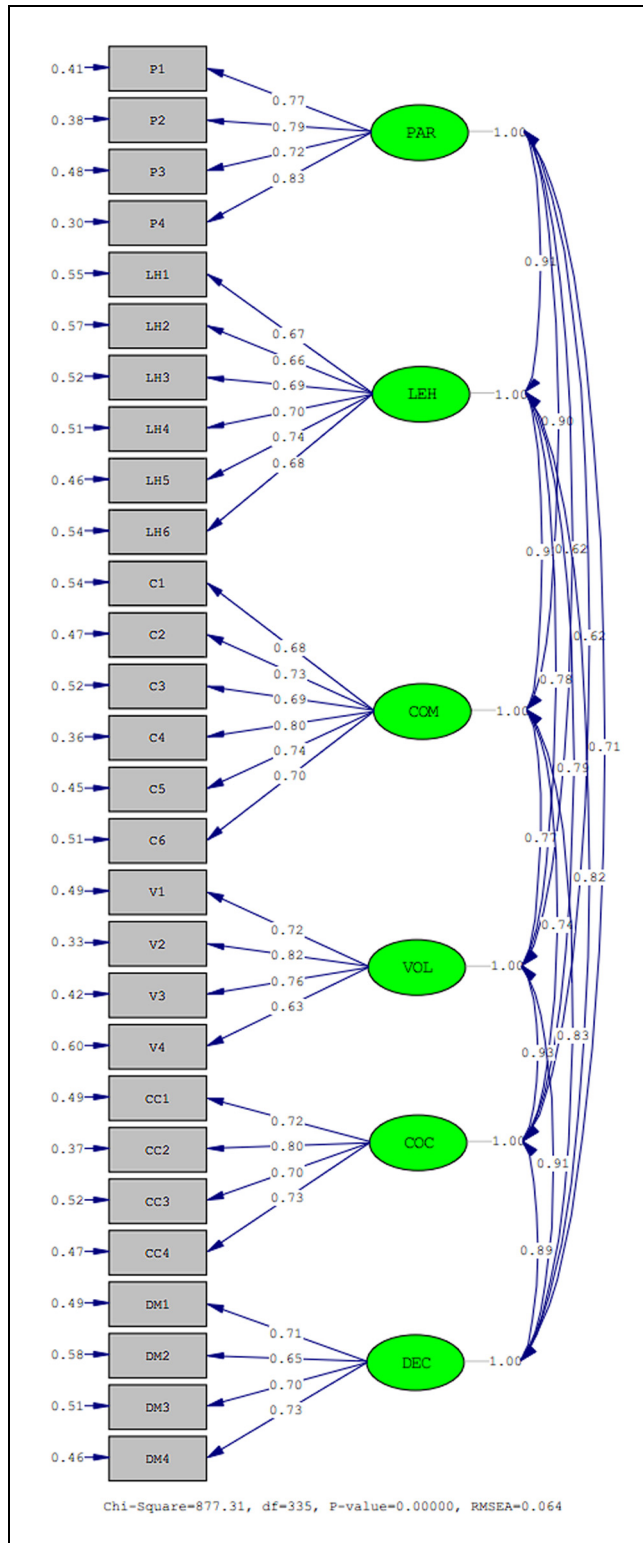


Figure 2. Standardized factor loadings (regression weights) and error variances of the CFA model.

As shown in Figure 2, the standardized regression weights (factor loadings) for the six-factor measurement model consisting of 28 items in the final version of the scale ranged between .63 and .82. All these coefficients were found to be statistically significant at the .05 level. The error variances for the items ranged from .30 to .60. According to Tabachnick et al. (2007), standardized regression coefficients above .32 are considered acceptable, indicating an adequate level of model-data fit.

To evaluate the model fit, several goodness-of-fit indices were utilized. In this study, the following indices were interpreted: RMSEA, SRMR, χ^2 (Chi-square), χ^2/df (Chi-square/degrees of freedom), CFI, GFI, NFI, and NNFI. The model fit indices obtained from the main implementation of the scale are presented in Table 3, and the reliability coefficients for both the overall scale and its subdimensions are presented in Table 4.

As shown in Table 3, the RMSEA value was .06, and the SRMR value was .06. The model fit indices were as follows: CFI = .98, NFI = .97, NNFI = .98, and the χ^2/df ratio was 2.61. Since the Chi-square statistic is highly sensitive to sample size, researchers often interpret the χ^2/df ratio rather than the chi-square value itself in CFA studies. A χ^2/df value below 5, RMSEA and SRMR values below .08, and CFI, NFI, and NNFI values above .95 are generally considered indicative of good model fit (Byrne, 1994; Hooper et al., 2008).

As shown in Table 4, the reliability coefficient for the overall PILDS scale was found to be .95. This value indicates that the measurements obtained from the scale are highly reliable. Considering the subdimensions of the scale, the reliability coefficients range between .79 and .86. These values demonstrate that the reliability levels of the measurements are high (George & Mallery, 2016).

These results indicate that the PILDS yields valid and reliable measurement outcomes. The final version of the scale, scored on a 5-point Likert scale and consisting of 28 items, allows for scores ranging from 28 to 140. Higher scores on the scale indicate greater parental involvement in children's literacy education.

To assess the convergent validity of the scale, an additional measurement tool that targets a similar construction was administered. In this context, the Family Involvement Questionnaire, originally developed by Fantuzzo et al. (2000) and adapted into Turkish by Şeker (2009), was utilized. This scale comprises three subscales: home-based involvement, school-based involvement, and school-family collaboration-based involvement. The validity of the adapted version was supported through factor analysis, and Cronbach's

Table 3. Fit Indices for the Single-Factor Model.

χ^2 (SD)	χ^2/SD	RMSEA	SRMR	CFI	GFI	NFI	NNFI
877.31 (335)*	2.61	.064	.06	.98	.82	.97	.98

* $p < .05$.

Table 4. Cronbach's Alpha Coefficients for the Reliability of the Scale Scores.

Scale	Subscales	Number of items	Cronbach alpha (α)
PILDS	Parenting	4	.86
	Learning at home	6	.84
	Communication	6	.86
	Volunteering	4	.82
	Collaborating with the community	4	.82
	Decision making	4	.79
	PILDS total	28	.95

Table 5. Correlations Between the PILDS and Subdimensions of the Parental Involvement Scale (Convergent Validity Analysis).

	PILDS	Home-based	School-family collaboration-based	School-based
PILDS				
r	1			
p				
Home-based				
r	.77	1		
p	.000*			
School-family collaboration-based				
r	.66	.60	1	
p	.000*	.000*		
School-based				
r	.58	.44	.70	1
p	.000*	.000*	.000*	

* $p < .05$.

alpha reliability coefficients, ranging from .79 to .85, indicated high internal consistency. The correlation coefficients between the two measurement tools (i.e., PILDS and the Family Involvement Questionnaire) were calculated to examine the relationship between them and are presented in Table 5.

As shown in Table 5, there were statistically significant and positive correlations between the PILDS and the subscales of the Family Involvement Questionnaire adapted by Şeker (2009; $p < .05$). A strong correlation was found between the PILDS and the Home-Based Involvement subscale ($r = .77$), a moderately strong correlation with the School-Family Collaboration-Based Involvement subscale ($r = .66$), and a moderate correlation with the School-Based Involvement subscale ($r = .58$). Significant relationships were also observed

among the subscales themselves; for instance, there was a very strong correlation between School-Family Collaboration-Based Involvement and School-Based Involvement ($r = .70$). These findings demonstrate that the PILDS is a valid instrument for measuring similar constructions and provides sufficient evidence of convergent validity.

Determination of Cutoff Scores. After establishing sufficient evidence for the validity and reliability of the PILDS, a standard-setting procedure was conducted to determine the cutoff scores. In this process, the two-step cluster analysis method was employed. The analysis resulted in the identification of three distinct clusters (Clustering quality = .70; average Silhouette coefficient = .55). The

Silhouette coefficient ranges from -1 to $+1$, with values closer to $+1$ indicating higher consistency among clusters. Furthermore, a clustering quality score above .50 suggests that the data are well-suited for clustering and that the analysis results are reliable (Dinh et al., 2019).

Based on the three clusters identified, two cutoff scores were determined: 98.00 and 121.00. Accordingly, parents who scored between 28 and 97.99 were classified as demonstrating low levels of involvement in their children's literacy education; those who scored between 98.00 and 120.99 were considered to have a moderate level of involvement; and those who scored 121.00 or above were interpreted as showing a high level of involvement.

Discussion and Conclusion

In this study, the six-factor PILDS, developed on the basis of theory, demonstrated satisfactory model fit. The measurements obtained from the scale were found to be reliable and valid, and the inferences drawn from these measurement results are likewise valid. The maximum score that can be obtained from the scale is 140, and the minimum score is 28. Higher scores on the overall scale indicate higher levels of parental involvement in children's literacy development.

This structure aligns closely with theoretical approaches and empirical research on parental involvement in children's literacy development. Each factor represents distinct yet interrelated behaviors and practices exhibited by parents as they support their children's literacy skills. The resulting factors are consistent with the subdomains proposed in Epstein's model of parental involvement and support the findings of previous research in this area (Jeynes, 2012; Mol et al., 2008; Sénéchal & LeFevre, 2002; Van Steensel et al., 2011).

The six factors validated through PILDS highlight that parental involvement is a multidimensional construct. Meta-analytic findings in the literature (Jeynes, 2012; Sénéchal & Young, 2008; Mol et al., 2008; Van Steensel et al., 2011) demonstrate that home-based reading activities and parent-child interactions have significant and moderate effects on children's reading and writing achievement. In this regard, PILDS shows that parental involvement is not a unidimensional concept but rather a multilayered structure encompassing cognitive, instructional, emotional, and social components. Çetinkaya's (2024) parental involvement scale developed in the Turkish context similarly conceptualizes home-based literacy activities, digital involvement, shared reading, and communication with teachers as distinct subdimensions. The six-factor structure of PILDS indicates that it can differentiate between various forms of parental engagement in the literacy process and supports the

presence of a multidimensional understanding of parenting within the cultural context.

The parenting dimension of the PILDS scale encompasses how families organize the home environment and implement parenting practices to support children's literacy development. Research consistently shows that family-related factors are more influential than school-related factors in determining children's academic achievement (Ahioğlu Lindberg & Demircan, 2013). Particularly in the context of literacy development, rich linguistic stimulation at home and access to literacy materials make significant contributions to children's language and cognitive growth. Indeed, studies have demonstrated that increased parental engagement in activities such as reading books to their children, storytelling, and practicing letters and numbers enhances children's readiness for reading and writing (Van Voorhis et al., 2013). According to Hoover-Dempsey and Sandler's (1997) theoretical model, parents' active involvement in their children's education positively affects children's attitudes toward school, academic performance, and school attendance. These findings emphasize that positive parenting practices at home and the creation of a supportive learning atmosphere play a critical role in children's literacy development. Findings related to the parenting dimension are also consistent with research conducted in Türkiye. For example, Turkish studies have shown that parental involvement is a key factor in enhancing children's school achievement and in improving reading comprehension, reading motivation, and attitudes toward reading (Çalışkan & Ulaş, 2022; Çelenk, 2003). The value families attach to their children's education and the learning opportunities they provide at home accelerate the development of reading and writing skills (Gül, 2007). In this regard, beyond meeting children's basic needs, parental practices such as keeping books and magazines at home, offering motivation, and creating an appropriate study environment are considered essential components of this dimension.

The volunteering dimension encompasses parents' voluntary participation in school- and classroom-based activities related to literacy skills, their supportive roles in collaboration with teachers, and their willingness to contribute to school needs. Epstein (2010) defines volunteering as the second level of parental involvement and emphasizes that this dimension represents the most tangible form of the school-family partnership. Volunteering involves schools identifying appropriate roles for parents, drawing on their competencies, and encouraging their integration into the school culture. The items in the scale reflect parents not only as supporters of literacy instruction at home but also as active stakeholders who become part of the school learning environment.

International findings indicate that the impact of volunteering depends more on its quality than its quantity. Hickman (1995) found that simply being present at school as a volunteer was not directly related to academic achievement; however, when combined with home-based involvement, it created a strong synergistic effect. Moreover, the impact becomes stronger when volunteering activities are structured with academic purposes. For example, in the review by Reese et al. (2010), programs in which parents or community volunteers conducted small-group reading sessions in classrooms resulted in significant improvements in children's reading and writing skills. Similarly, Jeynes (2024) emphasized that volunteer-based family involvement enhances students' academic expectations and learning motivation, particularly at the elementary school level. International literature also reports that family involvement events organized at school (such as Family Literacy Nights, Reading Days, and Library Partnerships) strengthen students' sense of belonging to school and their attitudes toward learning (Van Voorhis et al., 2013). Although such practices are implemented to a limited extent in Türkiye (Sarica et al., 2014; Sarikaya, 2021), literacy-focused volunteer activities may have strong potential to enhance students' motivation.

Another dimension included in PILDS is communication. In Epstein's (2010) model of family involvement, communication constitutes the core of the school–family–community partnership. In this model, communication is not limited to the transmission of information from school to parents; it also involves parents engaging in reciprocal interaction with teachers and contributing to the educational process. The items in the scale align with this understanding. Hoover-Dempsey et al. (2005) also argue that communication is a key mechanism that strengthens parents' motivation for involvement and their sense of self-efficacy. When parents receive clear information from teachers, they better understand how to support their children and tend to increase home-based involvement activities. International studies also support the significance of this dimension. In Jeynes's (2012) meta-analysis, parent–teacher communication was found to be significantly associated with students' overall academic achievement. In Türkiye, communication often remains limited to parent–teacher meetings, phone calls, or brief notifications; however, parental involvement increases substantially when teachers engage in regular and two-way communication (Çalışkan, 2022; Gürbültürk & Şad, 2010). Furthermore, Keçeli-Kaysılı (2008) emphasized that the continuity of family–school communication is a key factor in students' academic success, while Çetinkaya (2024) demonstrated that the quality of communication with teachers directly shapes the nature of home-based literacy activities. These findings

support the conclusion that the communication dimension of PILDS is a strong component that influences both cognitive outcomes (literacy development) and socio-emotional outcomes (motivation, sense of belonging).

The learning-at-home dimension encompasses parents' home-based activities aimed at supporting their children's academic success, including literacy practices, homework assistance, and the provision of learning materials (Epstein, 2010). The items in the scale reflect this function. Research findings consistently show that such forms of home-based learning support constitute the most influential type of parental involvement in children's literacy development (Hoover-Dempsey & Sandler, 1997). In their 5-year longitudinal study, Sénéchal and LeFevre (2002) demonstrated that parental engagement in regular book reading, writing activities, and letter–word games at home had long-lasting effects on children's early reading skills. Similarly, Niklas and Schneider (2017) found that children from families who provided rich literacy environments at home performed significantly better in early reading and writing compared to their peers. Fantuzzo et al. (2000), in their study with low-income families, identified “home-based learning support” as the strongest predictor of children's language development and self-regulation skills. Reese et al. (2010) reported that home literacy interventions led to notable gains in preschool children's vocabulary, narrative abilities, and print awareness. Studies conducted in Türkiye also confirm the critical importance of home learning support in literacy development. Çetinkaya (2024) noted that as the quality of the early home literacy environment increases, children's readiness for reading and writing likewise improves. According to Sarikaya (2021), writing activities conducted with family involvement enhance not only children's written expression skills but also their self-confidence toward learning. In this context, this dimension of the PILDS provides a strong indicator for assessing the extent to which parental involvement contributes to students' literacy development.

The decision-making dimension refers to parents' involvement in school policies, governance, and decision-making mechanisms. In the PILDS, this dimension encompasses parents' active participation in expressing opinions, offering suggestions, and engaging in school decision-making processes specifically related to their children's literacy education. According to Epstein's (2010) model, parents' involvement in school governance through platforms such as parent–teacher associations, school committees, or similar structures reflects an advanced level of school–family partnership. Henderson et al. (2007) likewise emphasized in her reports that parents' participation in school decision-making processes can support school reforms and contribute to the

sustainability of student achievement. Additionally, Mbaluka et al. (2021) reported that the level of parental involvement in school decisions is positively associated with students' self-discipline and academic performance. However, ensuring meaningful parental participation in decision-making processes presents structural and cultural challenges, particularly in education systems like Türkiye's, where this dimension is often less active compared to others (Çalışkan, 2022; Yiğit, 2024). Parent-teacher associations tend to function primarily in financial or organizational roles, while parents' influence on curriculum or administrative decisions remains limited (Hakyemez, 2015; Keçeli-Kaysılı, 2008). The items in the PILDS operationalize Epstein's conceptual framework specifically for literacy education, encouraging parents not only to provide external support but also to engage as strategic partners who contribute on an equal footing. This demonstrates that the scale has the potential to embody Epstein's (2010) principle of "shared ownership among families, schools, and communities" in a meaningful way.

The collaborating-with-the-community dimension encompasses parents' tendencies to engage with community resources—such as other parents, professionals, local institutions, libraries, arts and culture centers, and non-governmental organizations—to support their children's literacy development. Epstein (1995) defines collaboration with the community as "the integration of community resources and services to strengthen schools, families, and students." The items in the scale indicate that parents support their children's literacy development not only within the boundaries of the school but also within a broader community-based learning network. Parents' awareness of community learning opportunities, their encouragement of children to participate in such environments, and their interactions with other parents or professionals directly align with Epstein's principle of "shared responsibility for learning." From the perspective of Hoover-Dempsey and Sandler's (1997) model, this dimension serves as an external source that strengthens parents' perceptions of their own efficacy. As parents receive support from other parents or experts, they reinforce their parenting competence and adopt a more systematic approach to supporting their children's learning. Sanders and Epstein (1998) also noted that active community involvement in education enhances schools' social capital and increases families' access to learning resources. Jeynes (2024) further demonstrated that community-based parental involvement improves not only students' academic performance but also their intrinsic motivation for learning. In Türkiye, school-community collaboration has not yet developed into a systematic structure and is often carried out on a project-based or needs-oriented basis (Çalışkan, 2022;

Keçeli-Kaysılı, 2008). However, recent initiatives by the Ministry of National Education—such as library enrichment programs, parent education activities in public education centers, and reading projects in partnership with non-governmental organizations—represent important steps toward strengthening community collaboration (Ilkim Han & Kesiäk, 2023). These findings demonstrate that the Community Collaboration dimension of the PILDS offers a coherent, valid, and functional structure that aligns with both theoretical expectations and the current direction of educational policies.

Limitations

This study has several limitations that should be acknowledged. One limitation relates to the sample, which consisted of parents from a specific region in Türkiye. The data were collected from public primary schools in Muş, located in the eastern Anatolia region, where families predominantly represent lower-middle to middle-income backgrounds. This contextual characteristic may influence how broadly the findings can be applied to other educational settings and populations. Most participants were mothers aged 30 to 39 with relatively lower education levels compared to fathers, and the use of convenience sampling in selected primary schools may not fully represent the diversity of parental backgrounds across different regions and socioeconomic groups. These characteristics may have shaped how parental involvement was experienced and reported, and future studies may benefit from including samples from multiple regions and school types to enhance generalizability.

A further point to consider is the age of the children. Nearly half of the participating students were in first grade, a developmental stage in which parental involvement is typically focused on basic literacy activities, such as reading support, homework assistance, and teacher communication. This developmental focus may have affected the range of involvement behaviors reflected in the data.

Finally, the scale was validated solely based on parents' perspectives, without incorporating input from teachers or students. This limits the ability to provide a more comprehensive picture of family-school collaboration in literacy education. Moreover, because the instrument was developed and validated in the Turkish context, its applicability to other cultural or linguistic settings remains uncertain.

In addition, although internal consistency and convergent validity were supported, other aspects of construct validity, such as discriminant validity, predictive validity, and potential measurement invariance across parent subgroups (e.g., gender, education level, or grade), were not examined in this study. Future research should address

these areas to further strengthen the psychometric evidence and ensure the scale's robustness across diverse populations.

Recommendations

The Parental Involvement in Literacy Development Scale (PILDS) offers several practical implications for educational practice and future research. In school settings, it can serve as a diagnostic tool to identify parents with low levels of involvement, allowing educators to implement targeted support programs. Guidance services may use the scale pre- and post-intervention to monitor the effectiveness of parent education initiatives. Additionally, teachers can employ the scale during individual parent-teacher conferences to gain a clearer understanding of each family's involvement profile. For broader applicability, the scale should be administered across diverse socio-cultural groups and different school types to examine its cross-cultural validity. Researchers may also use the scale in correlational studies to explore the relationship between parental involvement and students' academic achievement or literacy outcomes. Furthermore, incorporating teacher perspectives alongside parent responses may provide insight into potential alignment or discrepancy in involvement perceptions. Finally, the development of similar instruments tailored to different age groups and educational levels—such as preschool or middle school—would further enhance the scale's utility and relevance across the educational spectrum.

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Ethical Considerations

This study was approved by the Ethics Committee of Muş Alparslan University (Approval Number: [149965], July 18, 2024).

Consent to Participate

Informed consent was obtained from all participants involved in the study.

Author Contributions

The author was solely responsible for the conception, design, data collection, analysis, and writing of this manuscript. All work was independently conducted and approved by the author.

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Data Availability Statement

The datasets generated and analyzed during the current study are available from the corresponding author upon reasonable request.

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