Understanding Preschool Stakeholders' Beliefs about Early Developmental Skills: A Q-Method Study

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Early childhood education and developmental skills have become key focuses in many countries' educational policies. Specifically, early developmental skills are a central concern for stakeholders in preschool education, including parents, teachers, and school administrators. In this regard, this study aimed to investigate the extent of consensus and dissensus among key stakeholders in preschool education regarding the importance of early developmental skills. To this end, data were collected from parents (n=23), teachers (n=22), and school administrators (n=20) and subjected to analysis. Utilizing Q-methodology, the study identifies various belief patterns about cognitive, social-emotional, self-care, and motor skills among these groups. Findings reveal significant consensus on the unimportance of certain academic skills such as reading/writing awareness and counting, as well as skills related to technology use in daily life, and art and aesthetics. However, notable dissensus also exists, particularly in the perceived importance of social-emotional, cognitive, and motor skills. These findings underscore the necessity for educational policies to accommodate these varying priorities and suggest the importance of professional development initiatives to align these perspectives. In this context, educational programs should consider incorporating a balanced approach that addresses the needs and values of parents, teachers, and school administrators. Professional development opportunities for teachers could focus on aligning perspectives across groups, ensuring that teachers and school administrators are well-equipped to support children's development across a range of domains, including the often-undervalued areas.

Introduction

The preschool years are crucial for a child's development, marked by essential cognitive, emotional, social, and physical changes that lay the foundation for lifelong skills (Shuey & Kankaras, 2018). Investments in this period bring significant societal and individual benefits, supporting the developmental potential of young children (Heckman & Masterov, 2007). Recent studies in early childhood education have shown the positive effects of educational activities on cognitive (Özbey & Köyceğiz, 2020), socio-emotional (Cámara-Martínez, Ruiz-Ariza, Suárez-Manzano, Cruz-Cantero & Martínez-López, 2023), and physical development (Zeng, Ayyub, Sun, Wen, Xiang, & Gao, 2017). Consequently, early childhood education and developmental skills have become key focuses in many countries' educational policies (Organisation for Economic Co-operation and Development [OECD], 2020). Specifically, early developmental skills are a central concern for stakeholders in

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preschool education, including parents, teachers, and school administrators (Göl-Güven, 2014; Saçkes, 2013; Scopelliti & Musatti, 2013). In this line, this study examines the beliefs of preschool education stakeholders regarding early developmental skills.

Early developmental skills

From birth, children enter a rapid developmental phase that introduces various needs. Addressing these needs enhances children's future achievements (Britto, Lye, Proulx, Yousafzai, Matthews, Vaivada & MacMillan, 2017; Hoddinott, 2008). Supporting children's development, especially in early childhood, is central to all educational and developmental theories (Daniels & Shumow, 2003). Early childhood education curricula are designed to foster children's developmental skills and meet their needs. These skills are defined as outcomes, goals (e.g., Lpfö, 2010; Ministry of Education, Culture, Sports, Science and Technology [MoECSST], 2018; Ministry of National Education [MoNE], 2013), or standards (e.g., Massachusetts Department of Education [MDoE], 2005). Ultimately, children's developmental skills shape the activities, educational environments, materials, and assessment practices in early childhood education (Bredekamp & Copple, 2006; Daniels & Shumow, 2003). Educational efforts categorize early developmental skills into cognitive, language, social, emotional, and motor domains, a classification supported by research (Abry, Latham, Bassok, & LoCasale-Crouch, 2015; Hollingsworth & Winter, 2013; Kernan & Hayes, 1999; Kowalski, Brown, & Pretti-Frontczak, 2005). Although specific skills may vary across curricula, there is a strong international consensus on their importance (Daniels & Shumow, 2003; Saçkes, 2013).

Several studies on early developmental skills have involved some actors in preschool education. In this line, research on teachers' perspectives is particularly well-documented. For example, Kowalski, Pretti-Frontczak and Johnson, (2001) examined preschool teachers' beliefs about 54 developmental skills, highlighting a significant emphasis on social-emotional skills. Subsequently, Kowalski et al. (2005) employed a newly designed Likert scale-based assessment tool to examine changes in teachers' beliefs about developmental skills throughout time. Their findings suggest that the use of formal assessment instruments can lead to a shift in teachers' beliefs about which skills are important for children to develop. In a separate study involving 32 survey participants, who rated items on a scale from 1 (not at all important) to 5, and 14 focus-group participants, Hollingsworth and Winter (2013) found that teachers prioritized social-emotional skills over math, literacy, and language skills. Using self-reported data on preschool and kindergarten teachers' ideas about the key early school skills, Abry et al. (2015) discovered that misalignment was most evident in teachers' judgments of the importance of academic competence. Furthermore, they revealed that misaligned beliefs had a negative impact on children's school adjustment. Some research has also examined both teachers' and parents' perspectives. For instance, a study conducted by Kernan and Hayes (1999) which focused on the expectations of parents and teachers regarding the development of young children, indicated that although there are some areas of consensus, notable differences in expectations also persist. Aligned with a somewhat similar research aim, Saçkes (2013) found a high level of consensus between teachers and parents regarding early developmental skills, except for psychomotor skills. In another study, Göl-Güven (2014) stressed the value of a collaborative approach between parents and teachers in improving the quality and efficacy of early childhood education and care. Although these studies have made significant contributions to the existing body of literature in early childhood education, they have yet to examine the beliefs of all key stakeholders in preschool education concerning early developmental skills, as well as the areas of consensus and

dissensus among their perspectives. To the best of my knowledge, there is also a marked paucity of studies in the early childhood education literature that investigate the areas of consensus and dissensus among key stakeholders' beliefs and perspectives regarding early developmental skills. Furthermore, such research has been particularly scarce in recent years. In this line, the present study seeks to address this gap by employing the stakeholders' belief framework to understand their perspectives better.

Theoretical framework: Stakeholders' belief

Stakeholder Theory has brought about a profound paradigm shift in business management by asserting that organizations should transcend the sole objective of profit maximization and actively embrace social responsibilities. This theory, introduced by Freeman (1984), emphasizes the importance of considering the diverse interests and needs of all individuals or groups that have a stake in an organization's activities and outcomes. In the contemporary landscape, characterized by the growing prominence of globalization and sustainability, stakeholder theory has emerged as a pivotal framework for businesses. Freeman (1984) offered a foundational definition of the stakeholder concept, underscoring the necessity for organizations to balance and address the interests of all relevant stakeholders. Within this framework, stakeholders are conceptualized as individuals, groups, or institutions that are either influenced by an organization's activities or possess the capacity to influence its operations. The overarching aim is to cultivate meaningful relationships with stakeholders, gain insights into their expectations and beliefs, and advance organizational development through strategies that align with these perspectives (Donaldson & Preston, 1995; Freeman, 1984; Jones & Wicks, 2018). A fundamental premise shared across various perspectives within stakeholder theory is that stakeholders play a critical role in corporate activities, and their expectations should be addressed, albeit to varying degrees. Organizations that acknowledge this principle can enhance their long-term sustainability by fostering structured and strategic relationships with stakeholders, thereby mitigating potential risks and avoiding failure (Freeman, 1984). It should be noted that stakeholders' decision-making processes are influenced not only by their external roles or institutional responsibilities but also by their deeply held beliefs. Belief Theories posit that individual behavior is driven by beliefs are the mental representations or understandings that people hold about various phenomena (Fishbein & Ajzen, 1975). Individuals tend to reinforce and reshape their beliefs through social interactions and observational learning. In this regard, social norms and group identities play a pivotal role in shaping individuals' belief systems (Bandura, 1986; Tajfel, 1981). The formation and evolution of beliefs are influenced by the interplay of cognitive structures, social learning processes, and cultural transmissions, collectively exerting a profound impact on guiding individual behavior (Rokeach, 1968; Tajfel, 1981).

When extended to educational institutions, this theory posits that schools are not self-contained systems limited to interactions between students and teachers. Rather, they operate as interconnected and dynamic organizations that engage with a wide array of stakeholders, including parents, school administrators, educators, students, local authorities, and non-governmental organizations (Khadija, 2022). Building upon this foundation, a substantial body of research has investigated stakeholders' roles, influences, and significance in education (Catherine & Andal 2024; Iyer, 2024; Peng, Alias & Mansor, 2024). Stakeholders have also emerged as a significant area of inquiry within early education literature (D'Amico, Fan, Linder, Pawloski & White, 2023; Fung & Cheng, 2012; Hadley, Harrison, Lavina, Barblett, Irvine, Bobongie-Harris & Cartmel, 2024; Hawkinson & Davis Tribble, 2019; Ho & Lam, 2014). In the preliminary phase of the stakeholder management process, the identification of

stakeholders is a fundamental and essential step (Donaldson & Preston, 1995; Freeman, 1984; Jones & Wicks, 2018). Accordingly, this study designates parents, teachers, and administrators as key stakeholders in preschool education based on the following criteria: First, the theoretical framework emphasizes that primary actors within an institution are fundamental stakeholders (Bryson, 2004; Donaldson & Preston, 1995; Freeman, 1984; Jones & Wicks, 2018). Second, extensive prior research on early education has consistently highlighted the central roles of parents, teachers, and administrators as key stakeholders (D'Amico, et al., 2023; Fung & Cheng, 2012; Hadley et al., 2024; Hawkinson & Davis Tribble, 2019; Ho & Lam, 2014). Third, these groups are recognized for their substantial direct and indirect influence on children's learning processes and educational practices, further underscoring their relevance within this context (Ata-Aktürk & Demircan, 2021; Colmer, Waniganayake, & Field, 2019; Ergül, Karaman, Akoğlu, Tufan, Dolunay Sarıca, & Bahap Kudret, 2014; Ganon-Shilon & Schechter, 2019; Lieber et al., 2009; Murray, 2021; Tamis-LeMonda, 2019).

Examining the beliefs of stakeholders with diverse roles in preschool education regarding early developmental skills represents a critical endeavor for advancing early childhood education. This is predicated on the assumption that stakeholders' roles, shaped by the socio-cultural contexts in which they operate, influence their values, educational perspectives, and beliefs about developmental skills. The variability in roles across different environments is expected to yield a rich diversity of beliefs. Identifying both the consensus and dissensus within this diversity offers valuable insights for informing and enhancing early childhood education practices. Moreover, integrating diverse viewpoints enhances the validity and reliability of research findings (Vogl, Schmidt, & Zartler, 2019). The Q-methodology employed in this study is particularly suited to this exploration, as it captures subjective viewpoints and allows for the identification of patterns of consensus and dissensus across these diverse stakeholder groups. This methodological approach, grounded in stakeholders' belief theory, offers a comprehensive framework for examining stakeholders' beliefs about developmental skills, as well as identifying areas of consensus and dissensus among these beliefs. Such insights are expected to contribute meaningfully to the design and implementation of more effective and responsive early childhood education systems.

Purpose of study

This study aimed to explore the beliefs of key stakeholders regarding early developmental skills in preschool education and to examine areas of consensus and dissensus among these stakeholders. Despite the extensive body of literature addressing early developmental skills, prior research has predominantly focused on teachers and parents leaving a critical gap in understanding how beliefs align or diverge across different stakeholders. Given the profound influence that parents, teachers, and administrators exert-both directly and indirectly-on children's learning processes and educational practices, this study seeks to address this gap by adopting a comprehensive approach rooted in stakeholder theory. Stakeholder Theory provides a robust framework for analyzing the interconnected roles and expectations of these groups, emphasizing the need to balance diverse perspectives in shaping responsive and effective early childhood education systems. The significance of this study lies in its potential to inform educational practices, curriculum development, and policy formulation by identifying shared priorities and conflicting views, thereby fostering collaborative approaches to early childhood education. The following research questions guide this inquiry:

(1) How do teachers evaluate the importance of early developmental skills?

(2) How do parents evaluate the importance of early developmental skills?

(3) How do school administrators evaluate the importance of early developmental skills?

By addressing these questions, this study may generate meaningful insights into stakeholder perspectives, ultimately contributing to the development of more inclusive and effective early childhood education systems.

Method

In this study, Q-methodology, an exploratory research design, was employed. Developed by Stephenson (1953), this method aims to uncover participants' subjective viewpoints on any given topic. Because it identifies the extent to which participants' values, ideas, or beliefs converge or diverge, Q-methodology has the potential to lead researchers to more analytically distinct findings (McKeown, 2001; Watts & Stenner, 2005). This characteristic makes Q-methodology particularly well-suited for addressing the core research question of the present study. Furthermore, Q-methodology is often referred to as a hybrid research design because it combines quantitative analysis techniques (such as factor analysis) during the analytical phase and aligns closely with qualitative methods during data collection.

Participants

In Q-method research, similar to qualitative studies, a high number of participants is not required. Accordingly, this study employed purposeful sampling, specifically criterion sampling, to select participants who could provide diverse perspectives on early developmental skills. To ensure a shared educational context, each participating school administrator's institution was represented by both teachers and parents, meaning that the teachers and parents included in the study were selected from the same schools as the administrators. All teachers were female, with ages ranging from 30 to 52 (M = 40.18, SD = 5.86), and their teaching experience ranged from 8 to 31 years (M = 15.36, SD = 5.11). Among the parents, 91.3% were mothers (n = 21) and 8.7% were fathers (n = 2), with ages ranging from 29 to 53 (M = 37.04, SD = 5.54). In this study, the school administrators (principals and vice principals) comprised 50% women (n = 10) and 50% men (n = 10), with ages ranging from 31 to 52 (M = 39.93, SD = 5.67) and managerial experience ranging from 1 to 22 years (M = 9.20, SD = 6.22). It should be noted that in the factor analysis phase of the Q-methodology, the analysis software may exclude some participants from being associated with any factor, potentially reducing the number of participants in the final analysis. Therefore, discrepancies between the number of participants in this section and the number of individuals associated with each factor may arise due to this reason.

Q sort design

This study aimed to identify the beliefs of teachers, parents, and administrators regarding developmental skills. To achieve this, 34 skill statements were developed across five developmental domains (cognitive, language, social, emotional, motor, and self-care) based on literature recommendations for determining Q-statements (Abry et al., 2015; Hollingsworth & Winter, 2013; Kernan & Hayes, 1999; Kowalski et al., 2005; Lpfö, 2010; MoECSST, 2018; MoNE, 2013). In Q-method research, these statements are referred to as the Q-set. Initially, to assess the clarity and appropriateness of the statements for preschool children, two experts with a doctorate in early childhood education evaluated them using a pre-evaluation index (considering clarity, importance for children, and representation of the

relevant developmental domain). Revisions were made based on feedback, and a pilot study was conducted with five teachers and five parents to evaluate the feasibility of the data collection method and to identify potential issues. Feedback from this phase indicated that the main study could proceed. Additionally, the Q-diagram is crucial for capturing participants' subjectivity by having them rank the Q-statements (Watts & Stenner, 2005). In this study, the diagram was designed to rate participants' beliefs about the 34 Q-statements on a scale from -4 (extremely unimportant for preschool-aged children) to +4 (extremely important for preschool-aged children) (see Figure 1). Participants could place two Q-statements at +4, three at +3, four at +2, five at +1, six at 0, five at -1, four at -2, three at -3, and two at -4. This method naturally ensures a normal distribution. Since this method is based on a forced-choice measurement approach, a specific number of statements must be placed in the designated boxes on the diagram. According to Brown and Ungs (1970), a participant in a Q-method study must make $\frac{1}{2}N(N-1)$ choices. In the present study, with 34 statements, the total number of choices, considering that each choice influences all others, is 561. This approach provides a more comprehensive understanding of participants' beliefs about developmental skills.

Data collecting procedure

The data collection process for this study involved four steps. First, each developmental skill in the Q-set was written on a separate card, and the Q-diagram was prepared. Second, participants were informed about the study. During face-to-face interviews in a quiet school setting, participants were presented with the Q-statements and Q-diagram. They were asked, "What do you think is the level of importance of these skills for preschool-aged children?" and asked to categorize the skills into important (14 statements), unimportant (14 statements), and neutral (6 statements). Participants could review and modify their classifications. The interviewer emphasized that there was no correct classification and that the task should reflect each participant's subjective views. Third, participants ranked the important and unimportant Q-statements in detail, from +4 (extremely important) to +1 (slightly important) and from -4 (extremely unimportant) to -1 (slightly unimportant). Finally, the participants reviewed their rankings and made any necessary changes. The interviewer recorded the Q-statements assigned to the diagram. Data were collected from April to June 2022.
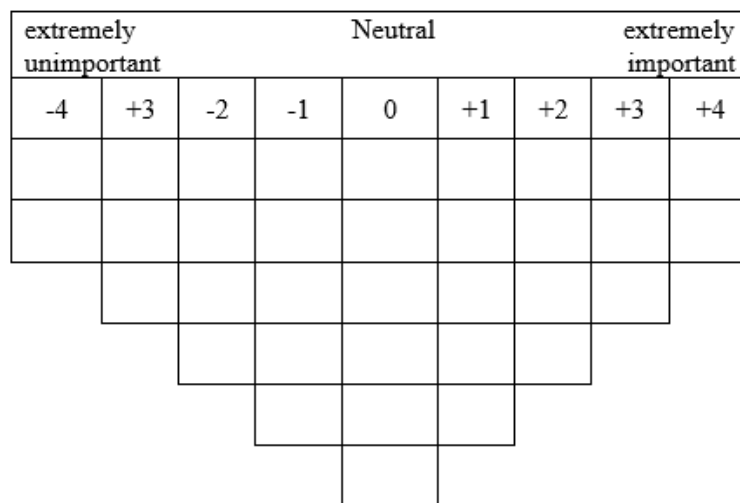

Figure 1. Q diagram

Data analysis

Participants' subjective Q-sorts were analyzed using the KADEK analysis program. Participants' ratings were entered into the program, which then established correlations between each Q-sort. This process generated an intercorrelation matrix, which was subsequently subjected to factor analysis using the principal component analysis method. Varimax rotation was performed to enhance the explanation of variance and minimize the number of factors introduced. In determining the number of factors, the Kaiser-Guttman criterion, which states that all extracted factors should have an eigenvalue greater than 1.00 (Guttman, 1954), was taken into consideration, along with the criterion that each factor should have at least two significant factor loadings. Additionally, the theoretical meaningfulness of the factors was a critical consideration in determining the number of factors (Watts & Stenner, 2005).

Ethical consideration

For this study, official permissions for data collection were first obtained from the Education Commission of the Ministry of National Education. Additionally, ethical approval was secured from the Scientific Research Ethics Committee of a state university. Finally, before data collection, participants were informed about the study, and they signed a consent form confirming their voluntary participation and assuring them that their information would not be shared publicly.

Findings

In this study, a two-factor solution emerged for parents, explaining 42% of the variance. Based on this factor solution, two perspectives were identified: a focus on social-emotional skills (1) and a focus on self-care and health skills (2). For teachers, a three-factor solution explaining 57% of the variance was identified. These factors were: a focus on social-emotional skills (1), a focus on both social-emotional and cognitive skills (2), and a focus on motor and cognitive skills (3). Finally, for administrators, a three-factor solution explaining 56% of the variance emerged, comprising perspectives focused on emotional-cognitive skills (1), motor-social-language skills (2), and a combination of social-emotional, self-care, and health skills (3). The distinguishing statements for each participant group's perspectives will be highlighted below. Table 1 presents the factor scores for each participant group. Additionally, the distinguishing statements and their sorting scores for each participant group's perspectives are provided in the supplementary materials.

Table 1: The factor scores for each participant groups

Participant groups	Factors	N	Eigenvalues	% explained variance	Cumulative % explained variance
Teachers	F1	14	8,61	39	39
	F2	5	2,09	10	49
	F3	3	1,69	8	57
Administrators	F1	7	7,14	36	36
	F2	4	2,17	11	47
	F3	8	1,75	9	56
Parents	F1	15	7,24	31	31
	F2	8	2,45	11	42

Parents' perspectives

The first perspective, which prioritizes social-emotional skills, accounted for 31% of the variance. This perspective included 15 parents. Participants within this perspective rated the skills of fulfilling his/her responsibilities and improving his/her sense of self-confidence as extremely important for children (4), and they rated the skills of protecting his/her own and others' rights, expressing positive/negative emotions related to an event or situation, and understanding others' emotions in relation to an event or situation as important (3). Conversely, participants in this perspective considered recognizing geometric shapes and performing simple addition and subtraction as extremely unimportant (-4). They also rated counting to 20 or more, moving to music and rhythm, and observing objects or events as unimportant (-3).

The second perspective, oriented towards self-care and health skills, included 8 parents and explained 11% of the variance. Participants aligned with this perspective rated skills such as maintaining a balanced and adequate diet and following hygiene rules for the body as extremely important for children (4). They also rated acquiring safe and healthy living skills and using necessary tools and equipment for daily life as important (3). However, these participants considered moving to music and rhythm and understanding the importance of art and aesthetics as extremely unimportant (-4), while using technology appropriately in daily life and questioning basic physical, chemical, and biological phenomena in the world they live in were rated as unimportant (-3).

Consensus and dissensus statements in the parents' perspectives

Among participants in both perspectives, skills such as demonstrating literacy awareness and coordinating and controlling the body were rated as somewhat unimportant (-1), while protecting living environments was rated as somewhat important (2). Additionally, the skill to use technology appropriately in daily life and to question basic physical, chemical, and biological phenomena in their world was rated as somewhat unimportant (-2) by the first perspective and unimportant (-3) by the second perspective. Similarly, the skill of counting to 20 or more was considered unimportant (-3) by the first perspective and somewhat unimportant (-2) by the second perspective, indicating a consensus between the two perspectives. Nevertheless, there is a noticeable lack of consensus regarding certain key statements. In particular, the skills of performing simple addition and subtraction, working with peers in collaboration, and understanding others' emotions related to an event or situation revealed significant dissensus between the perspectives.

Table 2. Consensus and dissensus statements among the parents' perspectives

Consensus statements	P1	P2	Dissensus statements	P1	P2
Demonstrating literacy awareness	-1	-1	Performing simple addition and subtraction	-4	1
Coordinating and controlling the body	-1	-1	Working with peers in collaboration	2	-3
Protecting living environments and the nature	2	2	Understanding others' emotions related to an event	3	-2
Questioning basic physical, chemical, and biological phenomena	-2	-3			
Using technology appropriately in daily life	-2	-3			
Counting to 20 or more	-3	-2			

Teachers' perspectives

The first perspective among teachers, which accounts for 39% of the variance, includes 14 participants who rated the skill to fulfil his/her responsibilities as the most important skill (4). They also considered the skills of expressing positive/negative emotions about an event or situation and protecting his/her own and others' rights as important (3). However, participants in this group rated the skill to use technology appropriately in daily life as extremely unimportant (-4) and understanding the importance of art and aesthetics as unimportant (-3).

The second perspective, explaining 10% of the variance, included 5 teachers. These teachers rated the skills of respecting cultural and individual differences as extremely important (4) and establishing cause-and-effect relationship between events as important (3). However, they considered the skills to recognize geometric shapes and to use technology appropriately in daily life as extremely unimportant (-4) and the skill to express oneself verbally in front of a group as unimportant (-3).

The third perspective, involving 3 teachers, explained 8% of the variance. Participants in this perspective rated the improvement of gross motor skills and recognizing geometric shapes as somewhat important (2) and solving problem situations as slightly important (1). In contrast, these teachers rated understanding the importance of art and aesthetics as extremely unimportant (-4).

Consensus and dissensus statements in the teachers' perspectives

Among the teachers' perspectives, there was consensus on the skills of demonstrating literacy awareness, maintaining a balanced and adequate diet, adhering to body hygiene rules, and counting to 20 or more. Both the first and second perspectives rated literacy awareness as somewhat unimportant (-2), while participants in the third perspective rated it as unimportant (-3). The skill of maintaining a balanced and adequate diet was rated as neutral (0) by the first and third perspectives, while the second perspective rated it as somewhat unimportant (-1). Participants in the first and second perspectives were neutral about adhering to body hygiene rules, while those in the third perspective rated it as slightly unimportant (-1). Additionally, counting to 20 or more was rated as unimportant (-3) by participants in the first and second perspectives, and as extremely unimportant (-4) by teachers in the third perspective. In contrast, there was no consensus among the perspectives on the skills of improving his/her sense of self-confidence, recognizing geometric shapes, establishing cause-and-effect relationship between events, and questioning basic physical, chemical, and biological phenomena in the world they live in.

Table 3. Consensus and dissensus statements among the teachers' perspectives

Consensus statements	P1	P2	P3	Dissensus statements	P1	P2	P3
Demonstrating literacy awareness	-2	-2	-3	Improving his/her sense of self-confidence	4	-1	4
Maintaining a balanced and adequate diet	0	-1	0	Recognizing geometric shapes	-2	-4	2
Adhering to body hygiene rules	0	0	-1	Establishing cause-and-effect relationship between events	1	3	-2
Counting to 20 or more	-3	-3	-4	Questioning basic physical, chemical, and biological phenomena	-4	1	-3

Administrators' perspectives

The first perspective, which prioritizes emotional-cognitive skills and includes 7 administrators, explained 36% of the variance. The administrators in this perspective rated the skill to express positive or negative emotions about an event or situation as extremely important (4). They considered the skills of solving problems and establishing cause-and-effect relationships between events as somewhat important (2). Conversely, they rated the skill to perform simple addition and subtraction as extremely unimportant (-4) and the skill to use necessary tools and equipment for daily life as unimportant (-3).

The second perspective, which focuses on a mix of skills and includes 4 participants, accounted for 11% of the variance. The administrators in this perspective rated skills across motor, social, and language domains as important. They considered the improvement of fine motor skills as extremely important (4), and the skills to use their native language fluently and to work with peers in collaboration as important (3). However, these participants rated understanding the importance of art and aesthetics and maintaining a balanced and adequate diet as extremely unimportant (-4).

The final perspective, which explained 9% of the variance, included 8 administrators. They rated acquiring safe and healthy living skills and maintaining a balanced and adequate diet as extremely important (4). They also considered learning social values and norms and improving his/her sense of self-confidence as important (3). However, they rated the skill of understanding the importance of art and aesthetics as unimportant (-3).

Consensus and dissensus statements in the administrators' perspectives

Among the school administrators, there was consensus on the skills of protecting his/her own and others' rights, improving his/her sense of self-confidence, demonstrating literacy awareness, and counting to 20 or more, as they gave similar ratings to these skills. Both the first and second perspectives rated the skill of protecting his/her own and others' rights as somewhat important, while the third perspective rated it as important. The skill of improving his/her sense of self-confidence was rated as extremely important by both the first and second perspectives, and as important by the third perspective. Demonstrating literacy awareness was rated as somewhat unimportant by the first and third perspectives, and as slightly unimportant by the second perspective, forming a consensus. Similarly, the skill of counting to 20 or more was rated as unimportant by the first and third perspectives and as somewhat unimportant by the second perspective. However, there was dissensus among the administrators' perspectives regarding the skills of maintaining a balanced and adequate diet, learning social values and norms, improving fine motor skills, and using the native language fluently.

Table 4. Consensus and dissensus statements among the administrators' perspectives

Consensus statements	P1	P2	P3	Dissensus statements	P1	P2	P3
Protecting his/her own and others' rights	2	2	3	Maintaining a balanced and adequate diet	0	-4	4
Improving his/her sense of self-confidence	4	4	3	Learning social values and norms	1	-2	3
Demonstrating literacy awareness	-2	-1	-2	Improving fine motor skills	-1	4	0
Counting to 20 or more	-2	-3	-3	Using the native language fluently	-1	3	1
Using technology appropriately in daily life	-3	-3	-2				

Discussion

The present study aims to identify the beliefs of key stakeholders in preschool education using the Q-method to capture strong consensuses based on subjective beliefs. The study offers a substantial contribution to the field by incorporating key stakeholders into an investigation aimed at understanding beliefs about early developmental skills. Furthermore, the methodological approach employed in this research has successfully provided a nuanced understanding of their views instead of overlooking the different perspectives of the participants as observed in previous studies. An additional strength of this study lies in its ability to identify both consensus and dissensus within and across stakeholder groups. In these respects, the current research advances beyond prior studies, enriching the early childhood education literature by synthesizing insights from the diversity of beliefs through Q methodological approach. The discussion is organized around four main themes: parents' perspectives, teachers' perspectives, administrators' perspectives, and areas of consensus and dissensus among stakeholders.

Parents' perspectives

By uncovering that parents hold beliefs from two perspectives, the present study extended previous research (Göl-Güven, 2014; Kernan & Hayes, 1999; Saçkes, 2013). Consistent with previous research (Hewitt & Maloney, 2000; Yalman & Öztabak, 2024), parents in the first perspective prioritize social-emotional skills. They generally view academic skills within cognitive development as less important. However, some studies indicate that parents value both cognitive and social-emotional skills (Saçkes, 2013; Scopelliti & Musatti, 2013). This discrepancy may be due to the rate-forced methodology used in the present study. By highlighting that parents prioritize social-emotional over cognitive skills, the current findings have advanced the clarity and understanding of parents' beliefs regarding developmental skills. Parents' prioritization of social-emotional skills, as highlighted in previous studies (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011; Taylor, Oberle, Durlak, & Weissberg, 2017), likely reflects their belief in the substantial influence of these skills on children's daily experiences and long-term academic success. Additionally, parents may see social-emotional skills as more crucial due to the lack of environments that nurture these skills in today's society.

Consistent with previous studies (Foot, Howe, Cheyne, Terras & Rattray, 2000; Göl-Güven, 2014; Saçkes, 2013), the current research shows that parents view self-care skills as highly important. They tend to rate cognitive skills and those related to art and aesthetics as less important. This prioritization makes sense because self-care skills are considered more fundamental in the hierarchy of needs than skills like art, aesthetics, and inquiry (Desmet & Fokkinga, 2020; Maslow, Frager, Fadiman, McReynolds, & Cox, 1970). Thus, parents focusing on self-care skills may naturally view cognitive and art-related skills as less critical. Additionally, concerns about the increasing screen time for children and its potential negative effects (Genç, 2014; Koran, Berkmen, & Adalıer, 2022; Mustafaoğlu, Zirek, Yasacı, & Özdinçler, 2018) may lead parents to devalue technology-related skills. Overall, this study suggests that parents prioritize skills that are essential for daily life and fundamental needs over academic and aesthetic skills.

Teachers' perspectives

This study also demonstrated that teachers hold diverse beliefs encompassing multiple perspectives on early developmental skills, thereby providing further clarification and

extending the findings of prior research (Abry et al., 2015; Hollingsworth & Winter, 2013; Kowalski et al., 2001; Kowalski et al., 2005). Consistent with previous research highlighting the importance of social-emotional development (Hollingsworth & Winter, 2013; Kowalski et al., 2001), teachers in the first perspective valued social-emotional skills but rated technology-related skills and those associated with art and aesthetics as unimportant. While the National Association for the Education of Young Children (NAEYC, 2012) emphasizes the importance of developmentally appropriate technology activities, teachers in this study did not align with these recommendations. Like parents, teachers may view technology skills as less important due to concerns about children's increasing screen time. Some scholars argue that technology use in early childhood can be harmful or ineffective (Cordes & Miller, 2000; Haugland, 2000). Effective technology use also requires proper classroom resources and sufficient teacher knowledge and skills (Blackwell, 2015; Chen & Chang, 2006; Ihmeideh, 2009; Nikolopoulou & Gialamas, 2015), which may be lacking. Teachers' low valuation of art and aesthetics could reflect beliefs similar to those held by parents. Interestingly, although teachers reportedly engage in art activities frequently (Özkan & Girgin, 2014; Soydan, 2019), they still rated these skills as unimportant in this study, suggesting a possible discrepancy between beliefs and practices. Future research should explore teachers' beliefs about these skills, their implementation frequency, and reasons for any discrepancies.

Teachers in the second perspective valued social and cognitive skills more but still rated a specific cognitive and language skill as unimportant. The cognitive skill viewed as unimportant was more academic: "recognizing geometric shapes." In contrast, a few teachers in the third perspective considered recognizing geometric shapes important. This study thus identified discrepancies between teacher groups. Furthermore, teachers in the third perspective, unlike others, valued both recognizing geometric shapes and developing gross motor skills. These findings highlight a dissensus among teachers regarding cognitive skills, likely due to varying perceptions of their educational roles. This interpretation aligns with Abry et al. (2015), who also linked such discrepancies to differing educational responsibilities among teachers.

Administrators' perspectives

The findings showed that administrators hold three distinct belief perspectives on developmental skills. Those in the first perspective prioritized emotional and cognitive skills while deeming a particular cognitive and self-care skill as unimportant. Administrators in the second perspective took a broader approach, valuing motor, language, and social skills more, and, like some parents and teachers, rated art and aesthetic skills as unimportant. Those in the third perspective emphasized self-care, social, and emotional skills but also rated art and aesthetic skills as unimportant. Notably, administrators adopted a more holistic view, valuing skills across various domains. However, there was dissensus about the importance of self-care skills between the second and third perspectives. While it is expected that parents prioritize self-care due to their "parenting role," it was surprising that some administrators also rated these skills as extremely important. This inconsistency might be linked to the educational values they prioritize and the contexts of their respective schools. Overall, the study suggests that administrators tend to take a holistic view of developmental skills, though significant differences in opinion remain among them.

Stakeholders' consensus and dissensus

This section will discuss the consensus among stakeholders, followed by a synthesis of both consensus and dissensus among their perspectives and this will enable the formulation

of robust inferences. The findings revealed strong consensus on the insignificance of skills like "demonstrating literacy awareness" and "counting to 20 or more." These findings align with previous research, which highlights the perceived insignificance of academic skills (Abry et al., 2015; Hollingsworth & Winter, 2013). Additionally, both parents and administrators commonly view "using technology appropriately in daily life" as unimportant. The findings also indicate partial consensus among specific perspectives. For example, both parents' first perspective and teachers' second perspective agree on the importance of social-emotional skills, and some administrators share this belief. There is also a strong consensus between parents' second perspective and administrators' third perspective on the importance of self-care skills. Another significant finding is the shared belief across various perspectives that art and aesthetics are unimportant, noted in parents' first perspective, teachers' first and third perspectives, and administrators' second and third perspectives. Technology use was also deemed unimportant by parents and teachers' first and third perspective. Notably, the strongest alignment of beliefs was between parents and administrators, although there are shared beliefs among parents, teachers, and administrators. The most striking shared belief is the perceived unimportance of technology use in daily life and art and aesthetics. This is surprising given the importance of technology in today's world and initiatives like STEM promoting these skills. Stakeholders' beliefs are influenced by their roles and perceived identities (Bandura, 1986; Freeman, 1984; Tajfel, 1981). Viewed through this lens, the roles of parents and teachers in child education and care may have shaped beliefs rooted in concerns about the potential adverse effects of excessive technology exposure on children's development. In addition to areas of consensus, there is also dissensus among parents, teachers, and administrators. A significant dissensus involves self-care skills, with teachers and second-perspective administrators rating these skills as highly important, unlike parents in the same perspective. Another dissensus lies within teachers' perspectives, who value certain cognitive skills more than parents and administrators. However, the dissensus on cognitive skills is less marked between teachers and administrators. Teachers and administrators also diverge from parents by emphasizing the importance of motor skills. Notably, a language skill was prioritized in only one of the administrators' perspectives, marking a clear departure from the patterns observed in the other groups. These findings highlight dissensus among group perspectives. To address concerns about technology, there is a need for awareness programs on developmentally appropriate technology use in early childhood, which could alleviate concerns. Stakeholders should also be educated on the significance of art and aesthetics for children's healthy development. A lack of sensitivity in these areas could narrow the implementation of art activities in classrooms, potentially limiting children's aesthetic development, as seen in previous studies (Özkan & Girgin, 2014).

Conclusions and implications

This study provides a detailed understanding of early childhood developmental skills using the Q-method and a triangulated perspective approach. The findings suggest that while there is some consensus among these stakeholder groups, particularly regarding the perceived unimportance of certain academic skills such as reading/writing awareness and counting, as well as the use of technology in daily life and art and aesthetic skills, significant dissensus also exists. Parents emphasize the importance of social-emotional and self-care skills, while teachers show more variability, with certain groups valuing cognitive and motor skills highly. Administrators display a more heterogeneous outlook, with a notable emphasis on emotional, social, motor, and language skills.

The implications of this study are multifaceted. First, the findings highlight the need for

educational policies to account for the differing priorities and beliefs of these key stakeholders. Educational programs should consider incorporating a balanced approach that addresses the needs and values of parents, teachers, and administrators. Second, professional development opportunities for teachers could focus on aligning perspectives across groups, ensuring that teachers and administrators are well-equipped to support children's development across a range of domains, including the often-undervalued areas. Third, the dissensus revealed by the study may also indicate a lack of complete communication among the participant groups. Such a communication gap can lead to insufficient collaboration, thereby negatively affecting the effectiveness of early childhood education. This is particularly concerning because the participant groups in this study are integral components of the educational process (Aktürk & Demircan, 2021; Colmer et al., 2019; Ergül et al., 2014; Ganon-Shilon & Schechter, 2019; Murray, 2021). In this context, it is crucial to develop common educational policies through the active participation of early childhood education stakeholders. Family involvement initiatives should be conducted more effectively. Furthermore, parents should be encouraged to participate in school policy-making meetings. By fostering strong consensus around children's developmental skills and strengthening collaboration between school and home, children's development can be more robustly supported.

Limitations

Despite the valuable insights generated by this study, several limitations must be acknowledged. The use of Q-methodology, while effective in capturing subjective beliefs and identifying distinct perspectives, is inherently limited by the sample size and the subjective interpretations of participants' statements. The study's reliance on a small, localized sample of parents, teachers, and administrators may restrict the generalizability of the findings to broader populations. Larger studies incorporating diverse participant groups from various backgrounds and contexts could provide a more comprehensive understanding of stakeholder beliefs about early childhood developmental skills. Another limitation is that while Q-methodology is well-suited for revealing patterns of consensus and dissensus, it does not offer deep insights into the underlying causes or contextual factors influencing these beliefs. Qualitative follow-up interviews or mixed-method approaches could further elucidate the reasons behind the perspectives revealed in this study. Additionally, the absence of longitudinal data limits the ability to understand how these beliefs may evolve over time as educational policies, classroom dynamics, or societal values shift. Lastly, the study focused primarily on beliefs surrounding early childhood developmental skills, without examining how these beliefs translate into actual practice. Future research should explore the alignment between stakeholders' stated beliefs and their practical implementation in educational settings, which could yield deeper insights into the impact of these belief systems on children's developmental outcomes.

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Declaration

Ethics statements: Ethical research conduct has been met through voluntary basis of participation and anonymity of the participants.

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Data availability: Data are available upon requests.

Supplementary Material

Table S1. *Early developmental skills*

Social-emotional skills
SES-1: Expressing positive/negative emotions related to an event or situation
SES-2: Understanding others' emotions related to an event or situation
SES-3: Protecting his/her own and others' rights
SES-4: Respecting cultural and individual differences
SES-5: Fulfilling his/her responsibilities
SES-6: Understanding the importance of art and aesthetics
SES-7: Learning social values and rules
SES-8: Working with peers in collaboration
SES-9: Improving his/her sense of self-confidence
Language skills
LS-1: Expressing what is heard/seen through various means (verbal, drawing, music, etc.)
LS-2: Demonstrating reading/writing awareness
(Examples of reading awareness: imitating reading, explaining the importance of reading in daily life, asking an adult to read a book, etc.)
(Examples of writing awareness: pointing out written texts around them, showing punctuation marks in written materials, indicating the direction of writing, dictating their feelings and thoughts to an adult, explaining the importance of writing in daily life, etc.)
LS-3: Establishing effective communication with adults/peers
LS-4: Improving vocabulary
LS-5: Expressing himself/herself in front of a group
LS-6: Using the native language fluently
LS-7: Improving listening skills to obtain information
Cognitive Skills
CS-1: Solving problems
CS-2: Performing simple addition and subtraction
CS-3: Recognizing geometric shapes
CS-4: Using technology appropriately in daily life *(phone, computer, tablet, internet, social media, etc.)*
CS-5: Counting up to 20 or more
CS-6: Establishing cause-and-effect relationship between events
CS-7: Observing objects or events
CS-8: Questioning basic physical, chemical, and biological phenomena
Motor Skills
MS-1: Coordinating and controlling the body
MS-2: Improving fine motor skills *(e.g., using scissors, holding a pencil, stringing beads)*
MS-3: Improving gross motor skills *(e.g., jumping, running, standing on one foot)*
MS-4: Moving to music and rhythm
Self-Care and Health Skills
SCAHS-1: Using necessary tools and equipment for daily life *(e.g., toothbrush, comb, towel, toilet paper, spoon, fork, cleaning cloth, broom)*
SCAHS-2: Maintaining a balanced and adequate diet
SCAHS-3: Following hygiene rules related to the body
SCAHS-4: Protecting living spaces and the nature
SCAHS-5: Acquiring safe and healthy living skills *(e.g., adequate rest, physical activities, knowing signs of danger, identifying safe individuals for himself/herself)*
SCAHS-6: Improving body awareness *(knowing body parts, organs, and gender characteristics)*

This section presents the findings related to distinguished statement of participants

Table S2. *Distinguishing statements of parents in the perspective 1*

Statements	Z-score	Q-sort value
Improving his/her sense of self-confidence **	1,78	4
Fulfilling his/her responsibilities **	1,77	4
Protecting his/her own and others' rights **	1,75	3
Understanding others' emotions related to an event or situation **	1,19	3
Expressing positive/negative emotions related to an event or situation **	1,12	3
Establishing effective communication with adults/peers **	1,05	2
Expressing himself/herself in front of a group **	0,8	2
Working with peers in collaboration **	0,67	2
Maintaining a balanced and adequate diet **	0,43	1
Following hygiene rules related to the body **	0,28	1
Establishing cause-and-effect relationship between events **	0,18	0
Acquiring safe and healthy living skills**	0,15	0
Using necessary tools and equipment for daily life **	-0,12	0
Improving fine motor skills **	-0,2	-1
Improving gross motor skills **	-0,65	-1
Using technology appropriately in daily life **	-0,67	-2
Questioning basic physical, chemical, and biological phenomena **	-0,82	-2
Improving vocabulary **	-0,98	-2
Understanding the importance of art and aesthetics **	-1,06	-2
Observing objects or events **	-1,1	-3
Moving to music and rhythm *	-1,44	-3
Counting up to 20 or more **	-1,64	-3
Performing simple addition and subtraction **	-1,79	-4
Recognizing geometric shapes **	-2,06	-4

* Indicates significance at p<0.05, ** indicates significance at p<0.01.

Table S3. *Distinguishing statements of parents in the perspective 2*

Statements	Z-score	Q-sort value
Maintaining a balanced and adequate diet **	1,98	4
Following hygiene rules related to the body **	1,87	4
Acquiring safe and healthy living skills **	1,25	3
Using necessary tools and equipment for daily life **	1,25	3
Fulfilling his/her responsibilities **	1,13	2
Improving fine motor skills **	0,82	2
Improving vocabulary **	0,42	1
Establishing effective communication with adults/peers **	0,39	1
Protecting his/her own and others' rights **	0,38	1
Performing simple addition and subtraction **	0,36	1
Improving body awareness *	0,35	1
Improving his/her sense of self-confidence **	0,25	0
Improving gross motor skills **	0,06	0
Expressing himself/herself in front of a group **	-0,18	0
Expressing positive/negative emotions related to an event or situation **	-0,43	-1
Observing objects or events **	-0,5	-2
Counting up to 20 or more **	-0,58	-2
Establishing cause-and-effect relationship between events **	-0,71	-2
Understanding others' emotions related to an event or situation **	-0,9	-2
Using technology appropriately in daily life **	-1,67	-3
Questioning basic physical, chemical, and biological phenomena **	-1,69	-3
Understanding the importance of art and aesthetics **	-1,89	-4
Moving to music and rhythm *	-1,98	-4

* Indicates significance at p<0.05, ** indicates significance at p<0.01.

Table S4. *Distinguishing statements of teachers in the perspective 1*

Statements	Z-score	Q-sort value
Fulfilling his/her responsibilities **	1,96	4
Expressing positive/negative emotions related to an event or situation **	1,37	3
Protecting his/her own and others' rights *	1,32	3
Expressing himself/herself in front of a group **	1,28	3
Respecting cultural and individual differences *	0,62	1
Establishing cause-and-effect relationship between events **	0,44	1
Improving listening skills to obtain information **	0,26	0
Using the native language fluently **	-0,49	0
Observing objects or events *	-0,57	-1
Improving vocabulary **	-0,64	-1
Improving body awareness **	-0,79	-2
Recognizing geometric shapes **	-1,17	-2
Understanding the importance of art and aesthetics **	-1,31	-3
Using technology appropriately in daily life **	-1,42	-4

* Indicates significance at p<0.05, ** indicates significance at p<0.01.

Table S5. *Distinguishing statements of teachers in the perspective 2*

Statements	Z-score	Q-sort value
Respecting cultural and individual differences *	1,17	4
Establishing cause-and-effect relationship between events **	1,16	3
Questioning basic physical, chemical, and biological phenomena **	0,72	1
Expressing positive/negative emotions related to an event or situation **	0,58	1
Coordinating and controlling the body *	0,06	0
Improving his/her sense of self-confidence **	-0,33	-1
Understanding the importance of art and aesthetics **	-0,35	-1
Using necessary tools and equipment for daily life *	-0,79	-2
Expressing himself/herself in front of a group **	-1,33	-3
Recognizing geometric shapes **	-2,04	-4
Using technology appropriately in daily life **	-2,64	-4

* Indicates significance at p<0.05, ** indicates significance at p<0.01.

Table S6. *Distinguishing statements of teachers in the perspective 3*

Statements	Z-score	Q-sort value
Improving gross motor skills **	0,82	2
Recognizing geometric shapes **	0,59	2
Solving problems *	0,18	1
Understanding others' emotions related to an event or situation *	0,12	0
Respecting cultural and individual differences *	-0,15	0
Learning social values and rules **	-0,39	-1
Using technology appropriately in daily life **	-0,49	-1
Expressing himself/herself in front of a group *	-0,55	-1
Expressing positive/negative emotions related to an event or situation **	-0,62	-1
Establishing cause-and-effect relationship between events **	-0,85	-2
Understanding the importance of art and aesthetics **	-2,34	-4

* Indicates significance at p<0.05, ** indicates significance at p<0.01.

Table S7. *Distinguishing statements of administrators in the perspective 1*

Statements	Z-score	Q-sort value
Expressing positive/negative emotions related to an event or situation **	1,65	4
Solving problems *	0,95	2
Establishing cause-and-effect relationship between events **	0,7	2

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Learning social values and rules **	0,46	1
Questioning basic physical, chemical, and biological phenomena **	0,43	1
Maintaining a balanced and adequate diet **	0,1	0
Coordinating and controlling the body *	0,06	0
Understanding the importance of art and aesthetics **	-0,4	-1
Using the native language fluently **	-0,52	-1
Improving vocabulary *	-0,83	-2
Following hygiene rules related to the body **	-0,83	-2
Using necessary tools and equipment for daily life **	-1,3	-3
Performing simple addition and subtraction **	-1,74	-4

* Indicates significance at p<0.05, ** indicates significance at p<0.01.

Table S8. *Distinguishing statements of administrators in the perspective 2*

Statements	Z-score	Q-sort value
Improving fine motor skills **	1,97	4
Using the native language fluently **	1,71	3
Working with peers in collaboration *	1,12	3
Improving gross motor skills **	0,45	1
Fulfilling his/her responsibilities *	0,38	1
Performing simple addition and subtraction **	0,19	0
B12 Respecting cultural and individual differences **	-0,3	-1
Recognizing geometric shapes **	-0,36	-1
Moving to music and rhythm **	-0,55	-1
Establishing effective communication with adults/peers *	-0,77	-2
Protecting living spaces and the nature **	-0,91	-2
Learning social values and rules **	-1,02	-2
Establishing cause-and-effect relationship between events *	-1,03	-2
Maintaining a balanced and adequate diet **	-1,61	-4
Understanding the importance of art and aesthetics *	-2,3	-4

* Indicates significance at p<0.05, ** indicates significance at p<0.01.

Table S9. *Distinguishing statements of administrators in the perspective 3*

Statements	Z-score	Q-sort value
Acquiring safe and healthy living skills **	1,74	4
Maintaining a balanced and adequate diet **	1,44	4
Learning social values and rules **	1,41	3
Improving his/her sense of self-confidence *	1,32	3
Expressing himself/herself in front of a group **	0,87	2
Using the native language fluently **	0,31	1
Understanding others' emotions related to an event or situation **	-0,08	0
Establishing cause-and-effect relationship between events *	-0,38	-1
Observing objects or events **	-0,54	-1
Expressing what is heard/seen through various means *	-0,55	-1
Performing simple addition and subtraction **	-0,78	-2
Understanding the importance of art and aesthetics *	-1,56	-3

* Indicates significance at p<0.05, ** indicates significance at p<0.01.