

# Parental Expectations of Child Development in Early Childhood Education and care: Instrument, Paradigm Variations, and Environmental Influences

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## Declaration of Competing Interest

Authors have no competing interests to declare.

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## Author contributions

Tina Štemberger, Sonja Čotar Konrad and Karmen Drljić conceptualized the study and design for the study. Bor Bregant conceptualised the paper. Material preparation, questionnaire, data collection and the procedure of collecting informed consent and were performed by Tina Štemberger, Sonja Čotar Konrad and Karmen Drljić. Data analysis was performed by Bor Bregant. The first draft of the manuscript was written by Bor Bregant and all authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

## Data availability statement

The data supporting this study cannot be published at this time due to permission restrictions.

## Abstract

In the realm of early childhood education and care (ECEC), parental expectations play a pivotal role in shaping children's educational experiences. However, existing literature lacks comprehensive insights into the factors influencing parental decisions and the domains of child development they prioritize. This study aims to address this gap by examining parental expectations across socio-emotional, motor, artistic, language, scientific, and mathematical domains of child development in the context of ECEC in Slovenia. Additionally, it explores the influence of environmental factors such as household size,

parental demographics, socio-economic indicators, and linguistic barriers on parental decisions regarding ECEC enrollment and their expectations for child development.

An empirical causal non-experimental exploratory study with a quantitative research approach was conducted to investigate parental expectations in ECEC. A novel model was proposed, delineating the relationship between environmental factors and parental decisions of ECEC enrollment regarding child development. Sample comprised of 519 responses obtained from Parents' Perspective on the Role of ECEC questionnaire distributed among parents of children from 28 kindergartens in Slovenia. The research instrument, assesses parental perspectives on various aspects of preschool enrollment and its perceived impacts on child development, namely socio-emotional, motor, artistic, language, scientific, mathematical, general expectations, and educator role. Moreover, it examines the influence of environmental factors on parental expectations, shedding light on the nuanced interplay between these factors and parental decision-making in ECEC enrollment.

Most of the scales in the instrument demonstrated good to excellent internal consistency. Paired t-test indicated significant differences in parental expectations, except for socio-emotional and artistic scales. The impact of environmental variables on parental expectations across aspects of child development was assessed using Random Forest analysis, highlighting household size, maternal status, and maternal education as key factors.

The results imply that the instrument used is suitable for further research of parental expectations in ECEC setting. Results also shed light on what other areas the instrument can be utilized in, specifically environmental variables influencing ECEC expectations.

#### Keywords

Parental expectations, Early childhood education and care, Child development, Environmental factors

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## 1. Introduction

The impact of children's enrolment in education on the development of children and society as a whole is still an under-researched area both abroad and in Slovenia. Previous studies indicate that children's participation in quality early childhood education and care (ECEC) programs positively influences the development of all children, especially those from socially and economically disadvantaged environments (*Council of the European Union, 2011*). Research has also confirmed the positive short-term and long-term effects of quality ECEC, which have been recognized at both individual and societal levels (Schmerse, 2020). These effects primarily manifest in providing key foundations for language development (Washington-Nortey et al., 2022), successful lifelong learning (Schmerse, 2020), social integration (Hannover et al., 2020), personal development, employment (i.e. of mother's Halim et al., (2022)) and individual employability (i.e. of educator Kim et al., (2020)), and individual health (Toussaint et al., 2021).

The accessibility of organized ECEC in Slovenia is at a high level. Data from the Statistical Office of the Republic of Slovenia show that in the past school year, almost 85% of children attended ECECs, as shown on Figure 1. Within this, the proportion was lower in the first age group (1 – 3 years old) of children – 71 %, while among children who have not yet entered school, it was 93 %. From 2004 to the year 2022, the proportion of children enrolled in ECECs has increased by 23 %.

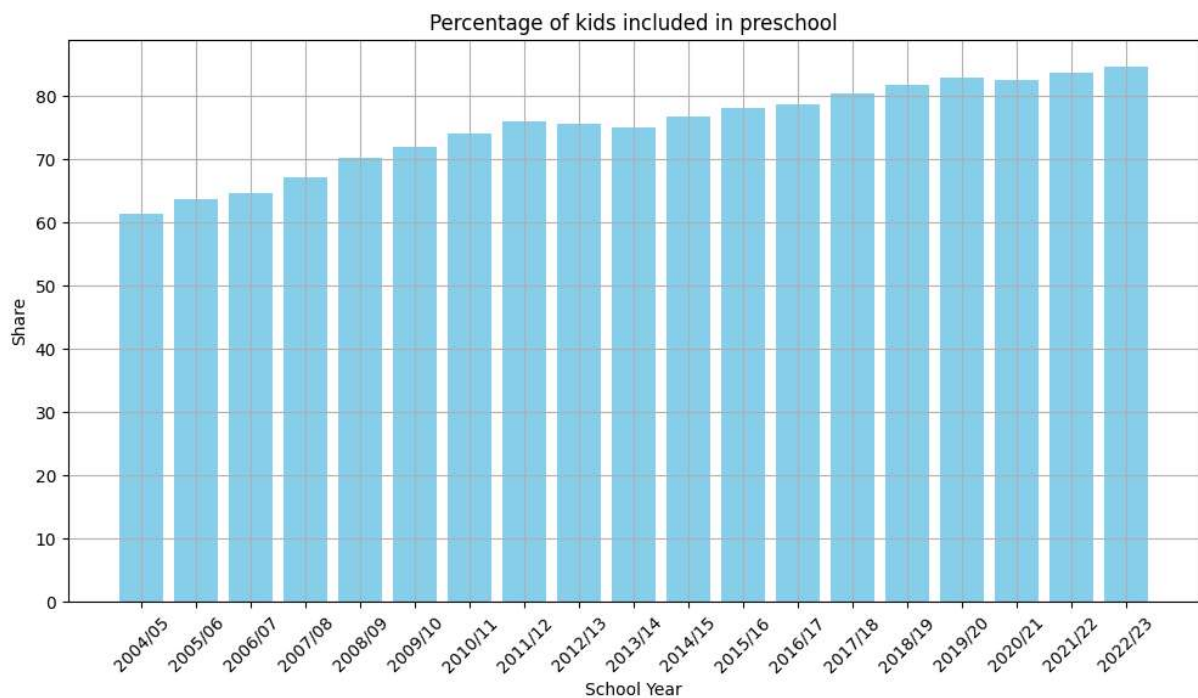


Figure 1: Percentage of kids included in ECEC in certain school year in Slovenia (Statistični urad Republike Slovenije, 2023).

In Slovenia, the Curriculum for kindergartens (Ministry of Education, Science and Sport, 1999) is a national document in education. It enables professional planning and high-quality ECEC by incorporating professional literature and guidelines for educators. It evolves and adapts at the level of implementation curriculum, taking into account direct children's voices, the organization of life in the ECEC, and the integration of the ECEC into the broader community. Its activities are categorized into the areas of movement, language, art, society, nature, and mathematics. The stated objectives within each activity area serve as a framework within which content and activities are offered professionally to preschool teachers.

An increasing amount of scholarly inquiry investigates the reasons behind the variations in childcare choices among families and the consistent correlation of these differences with the income and socio-demographic attributes of families (Meyers & Jordan, 2006). Parents' choices regarding their children's ECEC are influenced not only by complete information but also by the various strategies they employ to navigate the challenges and opportunities posed by their cultural and social environments, personal abilities, and situations (Ansari et al., 2020).

Meyers & Jordan (2006) state there are two main theoretical paradigms regarding the differences: (1) Economists view childcare within the framework of parents' choices regarding employment and spending, assuming these decisions are influenced by personal preferences and financial limitations, and (2) other social scientists analyze the decision-making process itself, taking into account the societal factors that mold parents' expectations of optimal childcare options and their access to relevant information and resources. This approach aligns with that of Ansari et al., (2020), stating four main factors are believed to impact the selection of ECEC arrangements: family needs, resources, community dynamics, and cultural values and preferences.

### 1.1. Parental expectations

On the other hand, parents highly value quality in ECEC, prioritizing factors such as nurturing environments (Forry et al., 2013), qualified teachers (Boyd-Swan & Herbst, 2018), and holistic developmental approaches (Forry et al., 2013). However, the literature indicates that many parents nowadays lack reliable information about what constitutes high-quality ECEC, leading to challenges in decision-making (Gordon et al., 2021; Herbst et al., 2020).

Furthermore, parental expectations about ECEC encompass a wide range of considerations beyond the overall quality. These include specific aspects such as social, socio-emotional, motor, artistic, language, scientific, and mathematical development. Parents also hold general expectations regarding their child's ECEC experience and the role of educators in facilitating their growth and learning. Understanding these diverse viewpoints is crucial in comprehensively addressing parental concerns and optimizing the ECEC experience for children.

Acknowledging parents as key sources of expert insight into child development, and systematically exploring their concerns alongside those of other caregivers (e.g., grandparents, daycare providers), is vital for a family-centered and personalized approach to ECEC.

In today's educational landscape, parental expectations of ECEC extend far beyond mere academic readiness. Parents increasingly seek environments that prioritize holistic child development (Levinthal et al., 2021), respecting and upholding their child's rights to a nurturing and supportive learning experience (Ansari et al., 2020). Key to these expectations is a commitment to individualized care, where each child's unique needs, strengths, and interests are recognized and fostered. Safety and health benefits are paramount concerns (Klingberg et al., 2021), with parents expecting ECEC to provide environments that are physically and emotionally secure. Moreover, collaboration between educators and parents is essential, forming a symbiotic relationship where insights from both sides contribute to the child's growth and development. In essence, modern ECEC expectations reflect a desire for comprehensive, child-centered education that nurtures every aspect of a child's well-being.

Parental expectations of the educator's role in ECEC are deeply rooted in the belief that they serve as partners in their child's development journey. Effective communication between educators and parents is paramount, fostering trust and transparency in understanding children's progress and addressing concerns (Puccioni et al., 2020). Parents expect educators to not only engage children in meaningful learning experiences but also actively involve them in program planning and implementation (Ata-

Aktürk & Demircan, 2021), valuing parental insights and cultural backgrounds. Child-centered approaches, where educators tailor activities to individual needs and interests, are highly valued, promoting a nurturing and inclusive environment (Recchia & Bentley, 2013). Discipline management is seen as a collaborative effort, with parents expecting educators to employ positive reinforcement strategies that promote self-regulation and social-emotional growth (Tompkins & Villaruel, 2022). Professional expertise is revered, with parents entrusting educators to possess the knowledge and skills necessary to facilitate their child's learning and development effectively (Manigo & Allison, 2017).

### 1.2. Environmental factors

ECEC enrollment rates are significantly influenced by a myriad of factors spanning socioeconomic, cultural, and familial dimensions. Primary decision make can be considered from a context of circumstances. Firstly, maternal employment, which is linked to work schedule and available free time, is shown to have significant impact (Ansari et al., 2020; Coley et al., 2014; Rasheed et al., 2021). The reverse is also true: ECEC attendance has been demonstrated to mitigate labor market disparities between genders, fostering more equitable opportunities in both employment and earnings for women and men alike (Kesler, 2020). Nevertheless, it is crucial to acknowledge that the regulations and expenses associated with ECEC and childcare exhibit substantial divergence across nations (Olivetti & Petrongolo, 2017). Since the labor market is intricately linked with socioeconomic status (SES), it is imperative to delve into this specific area as well. Parental education, occupational status, and socioeconomic status influence preschoolers' school readiness by promoting parental engagement, encouraging child participation in extracurricular activities, and shaping early childhood education enrollment rates, which in turn affect young learners' educational trajectories, while the impact of SES on children's well-being at various levels, including family and neighborhood, is mediated by their own characteristics, family dynamics, and external support systems (Bradley & Corwyn, 2002; Ren et al., 2021). Furthermore, research suggests that for children from low-income backgrounds or those who are dual-language learners, ECEC can serve as a vital platform for building an academic and social foundation, thereby facilitating improved performance in ECE and beyond (Schonberg et al., 2019). All the aforementioned factors are linked to education, as we have already observed.

Parents' preferences for ECEC and their evaluation of opportunities are often intertwined with their cultural backgrounds. Moreover, cultural factors extend beyond preferences and familiarity with the educational system; they encompass the broader context of community norms and values (Adams et al., 2016; Crosnoe et al., 2016). For children who are dual-language learners, ECEC serves as a crucial platform for academic and social development, as ECEC can facilitate improved performance in education beyond, particularly for these vulnerable groups (Schonberg et al., 2019).

In addition to socioeconomic, cultural, and familial factors, special needs considerations have an impact in ECEC enrollment (Haley & Kenney, 2007). Families with children who have special needs often face unique challenges in accessing suitable ECEC programs that can adequately support their child's development. Factors such as availability of specialized services, affordability, trained staff, and inclusive learning environments become paramount in the decision-making process for these families (Howe et al., 2018; Scanlon et al., 2023). Addressing the needs of children with disabilities or special needs requires tailored approaches and resources within ECEC settings to ensure equitable access and opportunities for all children (Rad et al., 2022).

### 1.3. Child development and curricula areas

ECEC can effectively address various aspects of child development through a well-rounded curriculum. Child development encompasses four primary areas: physical, cognitive, emotional, and social. Physical development involves changes in body structure and motor skills, while cognitive development includes intellectual processes like memory and problem-solving. Emotional development pertains to

how children experience and regulate emotions, and social development focuses on interpersonal skills and relationships. Certain curriculum areas primarily target specific development domains. For instance, motor activities are central to physical development, whereas language development is key to cognitive growth. However, these areas often overlap; for example, art activities can enhance emotional expression and social skills, while science and mathematical activities integrate both cognitive and motor skills. Thus, an integrated curriculum in ECEC ensures a holistic approach, fostering balanced development across all areas. Further, this chapter will outline the various curriculum areas. Their classification in the context of child development can be found in the provided Figure 2.

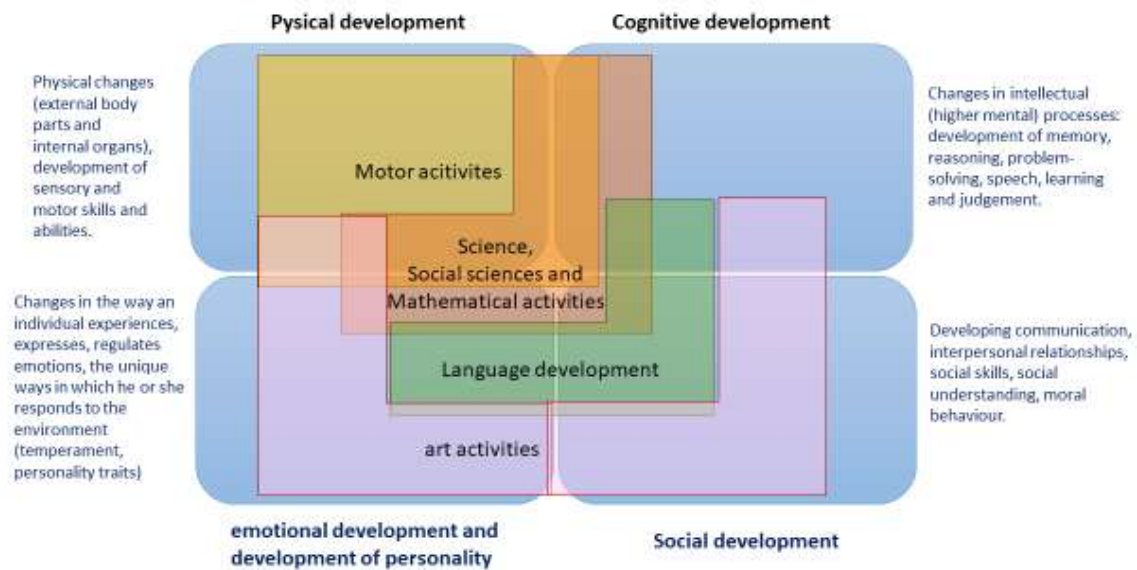


Figure 2: Integration of ECEC curriculum areas into child development context (Marjanovič Umek & Zupančič, 2004).

## 1. Curriculum activities for movement

The prevalence of childhood obesity, notably in urban areas (cf. in Slovenia, Korošec et al., (2018)), has prompted heightened awareness regarding children's physical fitness and motor skills. Concerns arise from studies indicating a decline in certain physical abilities among preschoolers, potentially attributed to environmental shifts such as increased screen time (Martins et al., 2020), changes in transportation (Pabayo et al., 2010), and reduced opportunities for physical play at home (McManus et al., 2011). These alterations in the home environment intersect with socioeconomic status (SES) and parental attitudes toward physical activities, shaping children's developmental trajectories (Hu et al., 2022). Families with higher SES often afford better access to sports and educational resources, fostering enhanced physical development. Additionally, parental attitudes, whether supportive or indifferent, significantly impact children's engagement in physical activities, ultimately influencing their motor skill acquisition and overall physical fitness (Kader et al., 2015). Therefore, understanding the interplay between environmental factors, familial attitudes, and preschoolers' physical development is essential for designing targeted interventions to mitigate the decline in critical skills and promote healthy growth in children.

## 2. Social science

Socio-emotional development pertains to the gradual acquisition of skills to engage with the social world, manage and express emotions, and foster connections with others (Palmer et al., 2018). This



aspect is particularly crucial during the ECEC years, as it lays the foundation for later emotional and social competence (Duarte et al., 2024). Pivotal role is also of parental responsibility in the sense of attachment figure, cognitive and emotional expertise, and as a vessel in introducing to cultural and subcultural rules of emotion (Tan et al., 2020; Von Salisch, 2001). Moreover, mothers possessing advanced education often exhibit increased engagement in the developmental progress of their children (Cuartas, 2022).

Four typical areas encompass social competence (for instance, abilities related to interpersonal interactions), emotional competence (such as comprehension of emotions), behavioral challenges (including both internal and external manifestations), and self-regulation (like the ability to manage impulses) (Carson & Kuzik, 2021; Halle & Darling-Churchill, 2016)

### **3. Artistic activities**

The parental perspective on artistic activities within early childhood education reveals varying attitudes towards the importance of such activities. While ECEC teachers tend to prioritize art activities as a significant component of children's learning experiences, parents may not consistently share this view (Konca & DemiRtaş İlhan, 2021), however it is important to acknowledge that parental perspectives may vary, reflecting diverse cultural norms and values (e.g. cited study has origins in Turkey). This preference indicates a potential gap in understanding the role of artistic expression in children's development among parents. Factors such as socioeconomic background and cultural influences may contribute to these discrepancies in parental perspectives. For instance, parents from low socioeconomic backgrounds may prioritize academic values, while those from higher socioeconomic backgrounds emphasize personal and social values in early childhood education (YAKA et al., 2014). This insight suggests that there could be a discrepancy between what parents prioritize in early childhood education and the emphasis placed on artistic activities within ECEC classrooms.

### **4. Language activities with speech development**

Parents are often concerned about detecting language developmental issues promptly to prevent their escalation into disorders (Hawa & Spanoudis, 2014). Additionally, concerns regarding language development predict alterations in social participation among preschoolers, with persistent language impairment correlating with increased risks of adult mental health issues and diminished social engagement, as shown in a 29 year long longitudinal study, conducted by Schoon et al., (2010), highlighting the intertwined nature of language and social skills. Thus, actively listening to parental and professional caregivers' concerns without imposing diagnostic labels is imperative within preventive child health care practices to identify potential developmental challenges without subjecting children to unnecessary stigmatization (Doove et al., 2021). Timely intervention strategies aimed at identifying children necessitating supplementary assistance across diverse developmental domains are of paramount importance.

In a recent study by Doove et al., (2021) a significant association between parental and professional caregivers' concerns regarding preschoolers' language development and its impact on social participation was shown. Konca & DemiRtaş İlhan, (2021) add that parents typically prioritize language activities in ECEC settings, aiming to enhance their children's linguistic development and communication skills, while educators often seek to foster peer interaction and social skills through language-based activities, recognizing their crucial role in ECEC. Parental involvement in home settings is also highlighted as a role in shaping preschool children's language abilities (Feng & Tan, 2023) for nuanced interactions on this topic).

### **5. Scientific activities**



Parental engagement along with family characteristics and interest in science is associated with children's early science learning (Junge et al., 2021). One important aspect nowadays is fostering respect for nature, advocating for programs that encourage outdoor exploration and hands-on experiences with the natural world, valuing programs that incorporate sensory activities, experimentation, and observation (Änggård, 2010; David Sobel, 2014). On the other hand, there's a growing interest in the integration of digital tools for problem-solving, with some parents viewing technology as a valuable tool for expanding children's understanding of scientific concepts and enhancing critical thinking skills from an early age (Familyarskaya, 2021; Wan Zakaria et al., 2022). OECD (2016) states that the concept of scientific literacy encompasses elements of understanding (like vocabulary and key ideas), as well as comprehension of scientific methodologies, and emotional components like attitudes and enthusiasm toward scientific subjects.

## **6. Mathematical activities**

Studies have indeed shown a positive correlation between home numeracy activities and preschool children's mathematical development (see meta-analysis by Dunst et al., 2017). However, the extent to which this improvement encompasses solely numerical activities or also encompasses the emotional dimension remains uncertain (Dowker, 2021). It is plausible that the emotional environment surrounding mathematical learning at home, including parents' own mathematical confidence and attitudes, could significantly impact children's mathematical development. Expectations regarding problem-solving skills may include the ability to identify mathematical problems, devise effective strategies to solve them, and evaluate solutions. Additionally, parents may desire for their children to derive enjoyment and satisfaction from engaging in mathematical activities, fostering a positive attitude towards mathematics. Notable study was conducted by Skwarchuk et al. (2014), who proposed a Home Numeracy Model after surveying nearly 200 parents of ECEC children and conducting numeracy tests a year later. They found that parents' formal numeracy activities predicted children's symbolic arithmetic, while exposure to numerical games predicted non-symbolic arithmetic. Parental attitudes toward arithmetic mainly predicted children's non-symbolic arithmetic skills. Their model suggests that parental academic expectations drive formal numeracy activities, predicting children's formal numeracy, while parental attitudes and informal activities predict informal numeracy. Overall, there now appears to be agreement that mathematics education in ECEC is beneficial and supported by both educators, as well as parents (Ginsburg & Amit, 2008; Pollarolo et al., 2023).

### **1.4. Study aims**

The study aimed to address a critical gap in understanding how parental expectations and environmental factors shape children's experiences in ECEC. Recognizing that parents not only influence but actively co-create their child's early education experiences through their expectations and support, the research explored the reliability of an instrument measuring these expectations. It also investigated differences between parental expectation paradigms and how environmental factors influence them. By focusing on both expectations and environmental contexts, the study seeks to identify key drivers of parental decision-making that directly impact children's participation and experiences in ECEC programs.

## **2. Methods**

### **2.1. Methodology and proposed model**

The methodology utilized is an empirical causal non-experimental exploratory study, employing quantitative research approach.

In our study, we present a novel model, as presented on Figure 3, elucidating the intricate interplay between environmental factors and parental decisions regarding enrollment in ECEC. Our model

delineates the significant impact of diverse variables such as child age and gender, parental demographics (age and gender), socio-economic indicators (parental employment and education), household dynamics (size), linguistic barriers, and special needs considerations on the enrollment landscape. Moreover, we propose a bijective correspondence between parental enrollment decisions and their nuanced expectations concerning multifaceted dimensions of child development, encompassing socio-emotional, motor, artistic, linguistic, scientific, and mathematical domains, as well as parental expectations of the educator's function, and general expectations. Note that this model approach does not completely align with the established model of child development areas, but is modified to account for the specific instrument used.

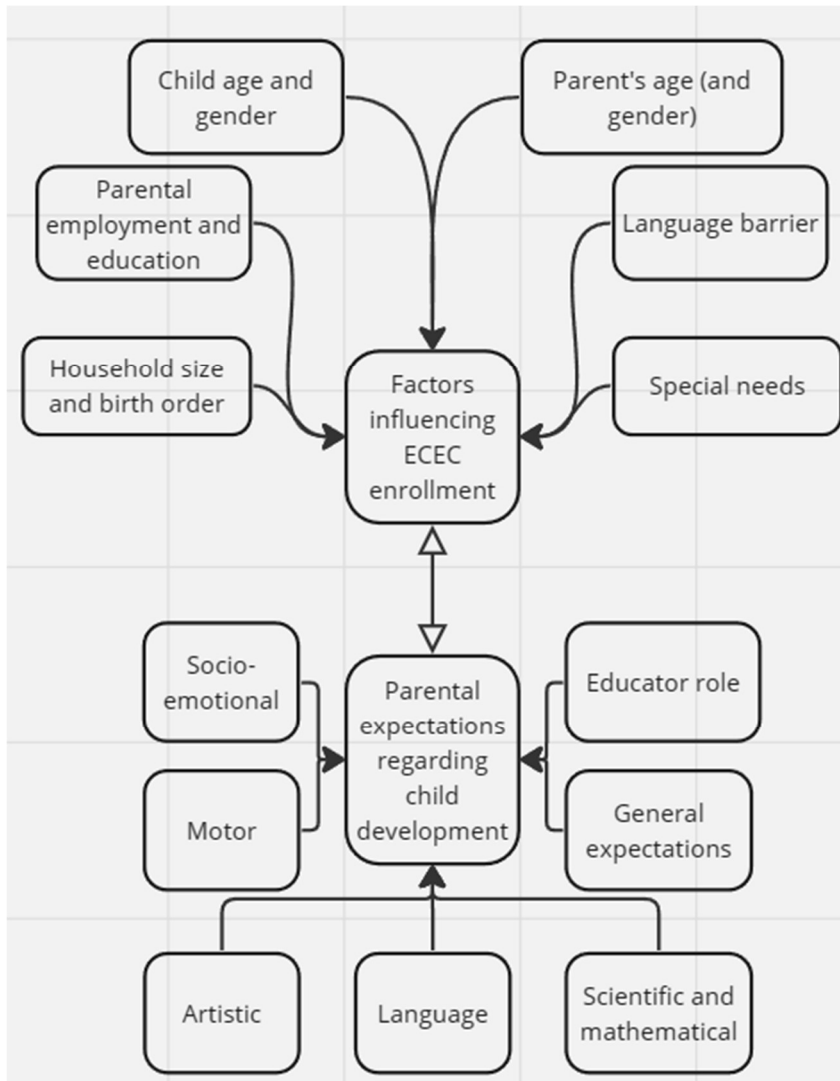


Figure 3: Proposed model of parental expectations regarding child development, suitable for the instrument used.

## 2.2 Sample and procedure

The sample for our study comprised 519 responses obtained, and filtered from an initial pool of 826 solved questionnaires *Parents' Perspective on the Role of ECEC*. These questionnaires were distributed among students' parents from 28 primary schools in Slovenia, providing a diverse representation of the student population.

Random multistage sampling was used. From the list provided by the Ministry of Education, one school in an urban and one school in a rural environment were selected for each of the 12 statistical regions. For the region with the largest population, four schools were selected to ensure appropriate weighting

of the sample. Data collection in schools was chosen to gain insights from parents who decided to enroll their children in kindergarten as well as those who did not. Data collection took place in 2022, during the second week of September, immediately after the start of the school year (September 1). The questionnaire was completed by parents of first graders who were informed about the survey during parent meetings held during the enrollment of new students in school. All participants gave their informed consent. Also, participants took part on a voluntary basis and were not financially remunerated for their participation in the research. The study was carried out following the ethical standards of the 1964 Declaration of Helsinki, the European data protection law (European General Data Protection Regulation – GDPR UE 2016/67), and the European Code of Conduct for Research Integrity.

### 2.3. Instrument used

The instrument utilized in this study encompasses a series of Likert-type scales designed to gauge parental perspectives on various aspects of preschool enrollment and its perceived impacts on child development, developed, and already validated by Čotar Konrad et al. (2025).

1. **Social development (SoD1)** assesses parental beliefs regarding the influence of preschool enrollment on children's social development. It consists of items evaluating children's interactions with peers, their ability to engage and participate in group activities, acquisition of new skills, independence, self-confidence, and emotional expression. This scale comprises 13 items.
2. **Socio-emotional development (SED)** delves into parental expectations of preschool's impact on children's socio-emotional development. It examines aspects such as emotional recognition, empathy, conflict resolution skills, adaptation to new environments, and expression of needs and opinions. This scale includes 8 items.
3. **Movement (MoD)** focuses on parental opinions regarding preschool's influence on children's motor development. It evaluates factors like awareness of physical abilities, enjoyment in movement, confidence in physical skills, exposure to different sports, and the use of digital tools for physical activities. It consists of 7 items.
4. **Art (ArD)** explores parental views on preschool's role in fostering children's artistic development. It assesses aspects such as exposure to various forms of art, aesthetic perception, artistic expression, creativity, and the use of digital tools for artistic creation. This scale comprises 5 items.
5. **Language development (LaD)** examines parental expectations of preschool's impact on children's language development. It includes items related to language awareness, listening skills, exposure to literary works, verbal and non-verbal communication skills, vocabulary enrichment, and comprehension of story sequences. This scale consists of 8 items.
6. **Social science (SoD2)** investigates parental beliefs regarding preschool's influence on children's social development. It covers areas such as inclusive participation, formation of life habits, cultural sensitivity, and promotion of a safe and healthy lifestyle. This scale includes 4 items.
7. **Science (ScD)** assesses parental opinions on preschool's role in children's scientific development. It evaluates factors like respect for nature, diverse approaches to learning about the natural world, and the use of digital tools for problem-solving. This scale consists of 4 items.
8. **Math (MaD)** focuses on parental expectations of preschool's impact on children's mathematical development. It includes items related to everyday math learning, mathematical

expression, problem-solving skills, and enjoyment of mathematical activities. This scale comprises 6 items.

**9. General expectations (GeE)** evaluates parental expectations of preschool in terms of holistic child development, adherence to child rights, individualized care, safety, health benefits, and collaboration between educators and parents. This scale consists of 7 items.

**10. Educator role (EdR)** assesses parental expectations of the educator's role in preschool. It examines aspects such as communication with parents and children, parental involvement in program planning and implementation, child-centered approaches, discipline management, and professional expertise. This scale includes 12 items.

These instruments, which were self-reported, collectively provide a comprehensive understanding of parental perspectives on preschool enrollment and its perceived impacts on various domains of child development.

#### 2.4. Data analysis

The gathered data was analysed using *Python* programming language, primarily using *pandas* (version 3.11.4) and *scikit-learn* (version 1.3.2) libraries.

All data was transformed in the form of tidy data. Label encoding, and one-hot encoding (i.e. use of dummy variable for use of Random forest) were used to tackle categorical variables. Missing variables and participant rows were dropped, if they had less than 1/5 of the values, and other missing values were replaced with arithmetic mean.

For internal consistency, we used Cronbach  $\alpha$  coefficient. For correlation metric of environmental factors between ordinal-ordinal variable pairs, we used Kendall  $\tau$  coefficient. For categorical-categorical pairs Cramér's  $V$  was utilized, while we skipped the measure for categorical-ordinal variables, due to multi-level categorical variables in our case. Differences between parental expectations were evaluated using paired  $t$ -test. Strength of environmental factors on parental expectations were measured using Random forest analysis (as some variables were unbalanced).

### 3. Results

#### 3.1. Preliminary analysis

Dataset description regarding parental expectations with quantile information, using min-max scaling method is summarized in Figure 4. We can observe that socio-emotional, motor, and artistic development are rated higher than language, science, and mathematical skills. However, it is noteworthy that within the realm of social development, particularly concerning inclusivity and cultural differences, expectations rank comparatively lower than other aspects of social development.

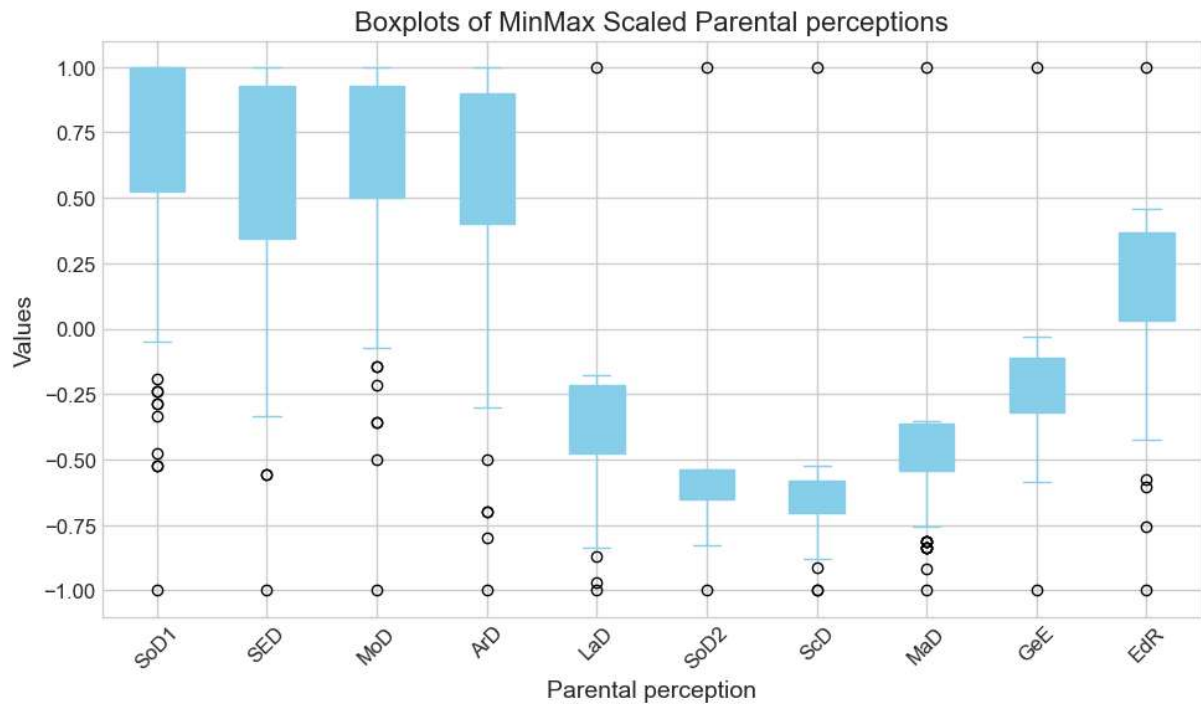


Figure 4: Boxplots of MinMax scaled parental expectations.

We opted to exclude certain environmental factors—specifically, the presence of special needs in the child, as it exhibited imbalance (among the 519 participants (represented by their parents), only 6 were categorized as children with special needs), and the child's age and age at enrollment in ECEC, as these variables fell within an extremely narrow age range. All the environmental factors data is summarized in Figure 5, and **Error! Reference source not found.**

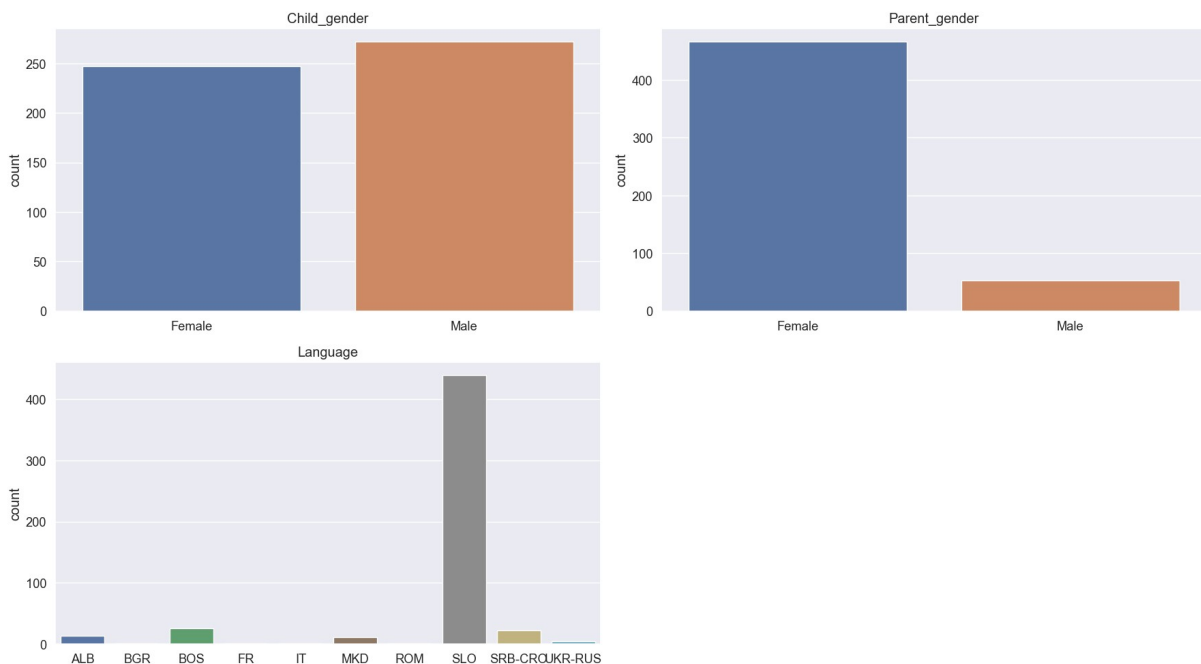


Figure 5: Distribution of categorical environmental factors impacting ECEC enrollment, and parental expectations.

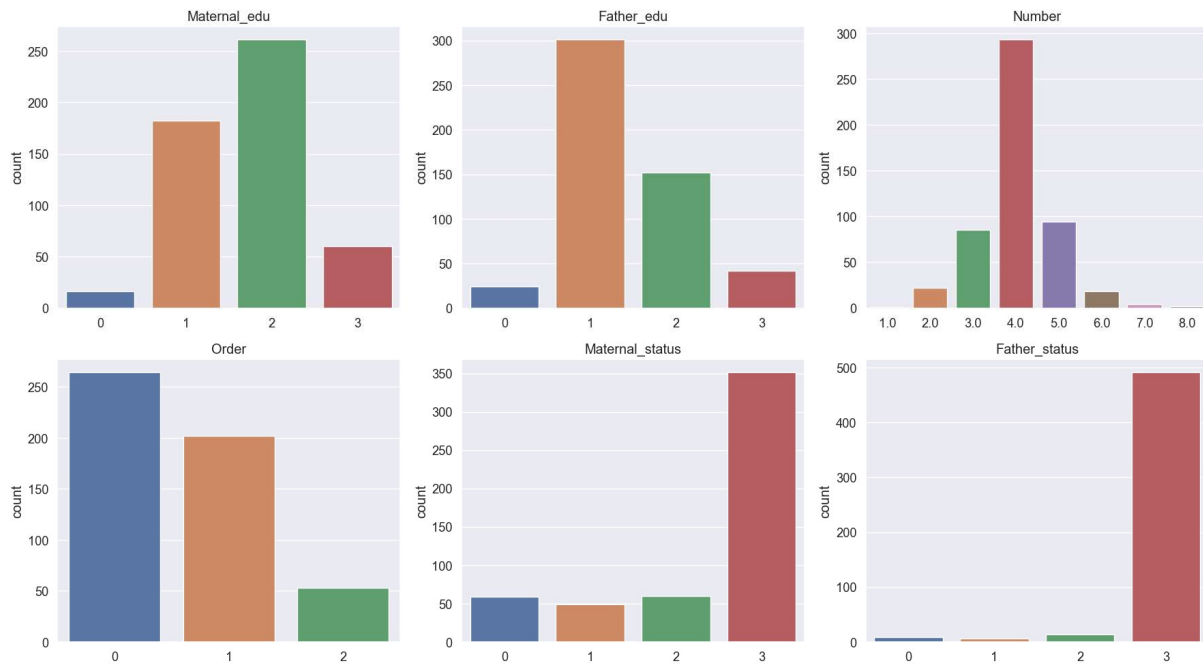


Figure 6: Distribution of ordinal environmental factors impacting ECEC enrollment, and parental expectations. Education levels are encoded numerically: 0 for primary school, 1 for middle-high school (in Slovene context gymnasium), 2 for bachelor's degree, and 3 for master's or PhD degrees. The "Number" variable represents the number of household members. The "Order" variable indicates the birth order of the child, with 0 for the first-born, 1 for the second-born, and 2 for the third-born. Employment status is categorized as follows: 0 for not employed, 1 for not employed but actively seeking employment, 2 for employed part-time or for a shortened work week, and 3 for fully employed

### 3.2. Internal consistency of parental expectations instrument

Table 1: Internal consistency test of parental expectations using Cronbach's alpha.

Variable	Cronbach $\alpha$
SoD1	0.95
SED	0.89
MoD	0.87
ArD	0.87
LaD	0.79
SoD2	0.50
ScD	0.57
MaD	0.72
GeE	0.66
EdR	0.89

Overall, most of the scales demonstrate good to excellent internal consistency, except for SoD2 (Social Development) and ScD (Scientific Development), which show poor internal consistency. These findings suggest that the items in these two scales may not effectively measure the intended constructs or may require further refinement. Results are comparable to those found by Čotar Konrad et al. (2025). Due to their results, they opted to exclude scientific development due low expectation value (see Figure 4), and to merge social development with socio-emotional development expectations, providing better exploratory factor analysis results.

### 3.3. Differences between importance of paradigms

The paired *t*-test revealed, as shown on Figure 77, that the only two questions not significantly different from each other were socio-emotional development and artistic development, suggesting similar parental expectations of preschool's impact on these aspects of child development.

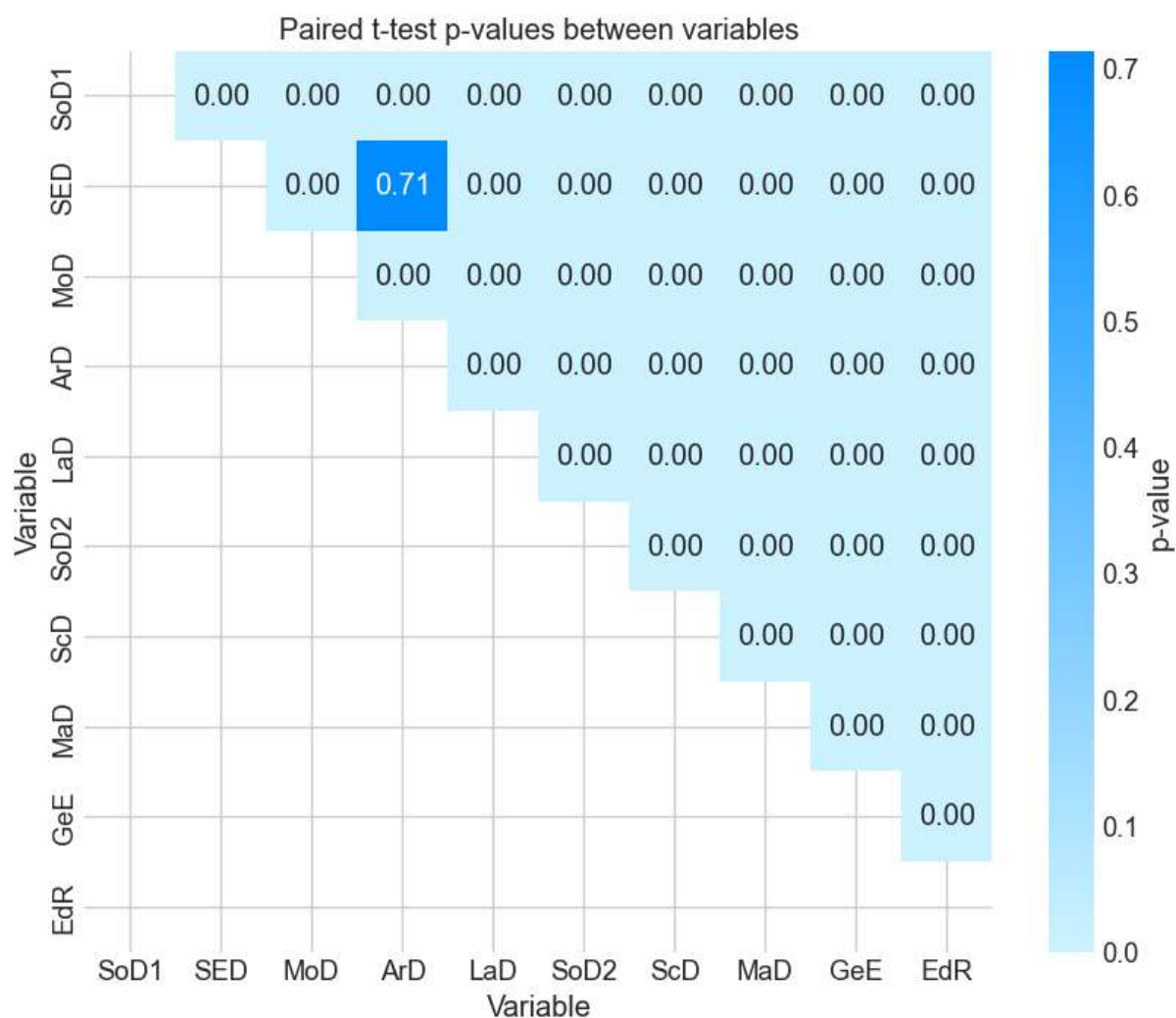


Figure 7: Paired t-test p-values between parental expectations.

### 3.4. Variable importance

Environmental variable impact on parental aspects were assessed using Random Forest analysis, as it handles unbalanced data of different type, and is mostly unaffected by scaling. We calculated the average across all the paradigms. From Table 2, it is clear that factors related to the mother—such as maternal status, and maternal level of education—have a more substantial impact compared to factors related to the father. This suggests that mothers may play a more pivotal role in shaping expectations about ECEC.

Table 2: Importance of environmental variables on averaged parental expectations using random forest analysis.

Environmental factor	Importance score
Household size (Labeled »Number«)	0.20
Maternal status	0.15
Maternal level of education	0.14
Father's level of education	0.12



Consecutive kid (Labeled »Order«)	0.12
Language	0.10
Child's gender	0.09
Parent's gender	0.05
Father's status	0.04

### 3.5. Correlation of environmental factors



Figure 8: Correlation matrix of environmental factors impacting ECEC enrollment, and parental expectations.

In Table 33 we see the four most absolute correlated variables, according to one of the two metrics utilized. All the mentioned correlations are mild ( $0.2 < |\text{correlation}| < 0.5$ ). Other correlations were not of statistical importance. The correlations provided align with theoretical expectations and are considered mild.

Table 3: Most correlated environmental variables.

Variable pair		$\tau$	V
Maternal education	Father's education	0.45 ( $\tau$ )	
Household size	Consecutive order	0.43 ( $\tau$ )	
Parent's gender	Language	0.29 (V)	
Maternal education	Maternal status	0.25 ( $\tau$ )	

Legend:  $\tau$  = Kendall's tau correlation coefficient; V = Cramér's V association coefficient.

## 4. Discussion

Research shows that ECEC programs are important and serve as crucial environments for fostering children development (Council of European Union, 2011; Schmerse, 2020). However, parental

expectations regarding the role of ECEC on said development vary significantly, and are influenced by a multitude of factors (see sections Introduction, and Parental expectations).

In examining parental expectations across diverse domains of child development, our research provided valuable insights into the priorities and perceptions of parents in Slovenia. We showed that instrument *Parents' Perspective on the Role of ECEC* is reliable, and yielded discernment into what the parents value. In the study we also examined which environmental factors impact the observed differences the most.

Parents may prioritize holistic development (Levinthal et al., 2021) and value aspects such as social interaction (Sollars, 2023), physical activity (due to the decline of physical abilities (Foulkes et al., 2021)), newer studies show that primarily parents should be involved to secure conditions for motor development outside of ECEC (Sollerhed et al., 2021)), and creativity (Medvecká, 2023) (however, this may be a subject of cultural context – cf. study conducted by Konca & DemiRtaş İlhan, (2021)) as essential components of their child's early education experience. Additionally, the lower ranking of inclusivity and cultural differences within the social development category could be attributed to a lack of awareness or emphasis on the importance of fostering cultural sensitivity and inclusivity in early childhood education settings (OECD, 2021). Moreover, the low internal consistency of the question assessing inclusivity and cultural differences within the social development category may suggest inconsistencies or discrepancies in respondents' interpretations or understandings of the concepts being measured, potentially contributing to varied expectations of their importance within early childhood education.

The observed differences in parental expectations underscore the multifaceted nature of ECEC. It is essential to distinguish between what parents expect from ECEC and how they perceive the role of ECEC based on their interactions and observations. While parental expectations may encompass a wide range of developmental domains and desired outcomes for their children, the reality of the ECEC environment may shape their perceptions differently. Moreover, there can be discrepancies between parental expectations and the priorities set by ECEC institutions themselves. For instance, parents may prioritize certain aspects of child development (Van Trijp et al., 2023), such as socio-emotional skills or language development, while ECEC institutions may emphasize other areas based on pedagogical philosophies or curriculum guidelines (Sumsion et al., 2018). These differences in expectations and perceptions underscore the importance of communication and collaboration between parents and ECEC providers to ensure alignment in goals and priorities for children's holistic development, as both groups consider ECEC as a long-term investment in terms of social and intellectual capital (Li et al., 2020).

The emphasis on maternal influence in shaping educational expectations can be attributed to traditional caregiving roles and possibly to a higher engagement or influence in day-to-day child-rearing practices. Factors such as the mother's education and her socioeconomic status are crucial as they often correlate with educational aspirations for children, values on education, and access to resources that can support early learning (Korupp et al., 2002; Serneels & Dercon, 2021). Moreover, as the data shows lower importance scores for paternal variables, it might imply that, in the contexts studied, fathers, while important, have a relatively lower direct influence on specific expectations of early childhood education, perhaps due to less involvement or differing priorities in the educational planning within households. This insight could have implications for policy and practice, suggesting that enhancing maternal education and support could be particularly effective in boosting educational outcomes from an early age (see meta-analysis on both parental influences by Pinquart & Ebeling (2020)). Many research also shows, that ECEC is important especially for kids, whose mothers have low

education levels (Schonberg et al., 2019), and plays compensational role, especially from the view of language development (Lecheile et al., 2020; Lim et al., 2022).

It is important to note that the decision to enroll a child in preschool often hinges on practicalities, with many parents seeking childcare solutions due to work commitments (Ansari et al., 2020; Coley et al., 2014; Rasheed et al., 2021) rather than primarily focusing on the child's developmental needs (that was also emphasized by participants in the present study). While preschool undoubtedly offers valuable social, emotional, and cognitive benefits, (and this is acknowledged by the parents, Li et al., 2020) parents may find it challenging to gauge the quality of educators beforehand, raising concerns about the kind of influence their child will encounter (Gordon et al., 2021; Herbst et al., 2020), however, they still generally trust the educators (White et al., 2020). Along with these uncertainties, parents participating in the study emphasized the crucial role they play in their child's development, underscoring the significance of parental involvement and the need for preschools to effectively collaborate with families (see also Ata-Aktürk & Demircan, 2021; Puccioni et al., 2020; Tompkins & Villaruel, 2022). In assessing parental expectations of preschool, it becomes evident that while practical considerations may drive enrollment, parents place immense value on the quality of education and the partnership between educators and families in nurturing their child's holistic growth.

The insights gleaned from the results contribute to a deeper understanding of the dynamic relationship between parental expectations on the role of ECEC. By recognizing the nuanced differences between what parents anticipate and value from ECEC, stakeholders can foster more effective communication and collaboration to better meet the diverse needs of children and families. Additionally, acknowledging the discrepancies between the significance of environmental factors sheds light on crucial aspects influencing parental decisions and perceptions regarding ECEC. Understanding these factors facilitates the development of more tailored and effective approaches within ECEC settings.

In the Slovenian context, this challenge is particularly pronounced due to the diverse demographics present in the country. With a significant number of families originating from various foreign backgrounds (speaking from Slovenian viewpoint), mainly the Balkans, Ukraine-Russian due to recent geopolitics, and the Roma community, addressing language and cultural disparities has become increasingly crucial. These differences often pose significant hurdles, highlighting the essential role of strategies implemented by ECEC institutions, social work centers, and other relevant bodies (Klun, 2021).

## 5. Conclusions and limitations

In conclusion, this study sheds light on parental expectations regarding ECEC in Slovenia, revealing the intricate interplay between environmental factors and enrollment decisions. While the research instrument demonstrated good reliability, and highlighted significant differences in parental priorities across various domains of child development, limitations include the lack of vertical data collection, potential refinement of the instrument, and the omission of special needs considerations due to limited information. Addressing these limitations and building upon the insights gained will be crucial for future research to inform evidence-based policies and practices in ECEC.

## References

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