

IELS

INTERNATIONAL EARLY LEARNING
AND CHILD WELL-BEING STUDY

NATIONAL REPORT
MALTA 2025



GOVERNMENT OF MALTA
MINISTRY FOR EDUCATION, SPORT, YOUTH
RESEARCH AND INNOVATION

IELTS 2025

Malta Report

Contents

Contents	iii
Executive summary	v
Chapter 1: Design and Implementation	1
1.1 Introduction	1
1.2 Conceptual framework of IELS (2025)	2
1.3 Contextual or background framework	4
1.4 Participating countries and sampling techniques	4
1.5 Assessment procedures	5
1.6 Generation of achievement scales and background scales	6
1.7 Report structure	7
Chapter 2: How five-year-olds are faring	9
2.1 Introduction	9
2.2 Achievement in early learning and development outcomes	9
2.3 Variation in early learning and development outcomes	16
2.4 Contextual factors influencing countries' performance	26
2.5 Parent and teacher perspectives on children's skills	27
2.6 How dimensions of early learning relate to each other	31
Chapter 3: Equity gaps in early learning	37
3.1 Introduction	37
3.2 Gender gaps in early learning and development	37
3.3 Socioeconomic gaps in early learning and development	48
3.4 Migration gaps in early learning and development	58
3.5 Language gaps in early learning and development	66
Chapter 4: Home environment and children's early learning	73
4.1 Introduction	73
4.2 Parental levels of education and household structure	73
4.3 Parent-child activities with a developmental focus	82
4.4 Parental involvement in early childhood and education	95

Chapter 5: Early childhood education, care and support for children	99
5.1 Introduction	99
5.2 Participation in early childhood education and care (ECEC)	99
5.3 Types of Maltese ECEC setting and children's early learning	103
5.4 Participation duration in ECEC and children's early learning	107
5.5 Support for children experiencing early challenges	114
 Appendix	 121
A Teacher/Staff Questionnaire	122
B Parent Questionnaire	131

Executive summary

The International Early Learning and Child Well-being Study (IELS) is an international survey that assesses 5-year-old children who attend Early Childhood Education and Care centres or schools. It measures emergent literacy, emergent numeracy, inhibition, working memory, mental flexibility, trust, pro-social behaviour, non-disruptive behaviour, emotion identification, and emotional attribution. Children completed the assessment on tablets, within the presence of a trained study administrator. Parents and staff completed questionnaires about each participating child, providing indirect assessments of the same domains. Additional information was collected from the study administrator, including children's responses to questions about their experiences in their educational setting.

Design and implementation

- The IELS survey takes place every seven years. The first was carried out in 2018 and IELS 2025 is the second survey.
- Malta took part in the IELS survey for the first time in 2025. Five countries, including Malta, England, Korea, Netherlands, and the United Arab Emirates; and four sub-national jurisdictions, including Baku and Sumgait (Azerbaijan), Ceara, Para and Sao Paulo (Brazil), the Flemish Belgian community, and Abu Dhabi (United Arab Emirates) participated in this second cycle.
- The Maltese sample comprised 1644 5-year-olds selected from 101 ECEC settings or schools. 820 of the participants (49.9%) were girls and 824 (50.1%) were boys. Moreover, 993 (60.4%) children attended state, 466 (28.3%) attended church, and 185 (11.3%) attended independent ECEC centres or schools.
- The sample size of Maltese teachers (members of staff) was 247, where 222 (89.9%) completed the teacher questionnaire online and 25 (10.1%) did not participate. The sample size of Maltese parents was 1719, where 966 (56.2%) completed the parent questionnaire online, 165 (9.6%) completed the questionnaire on paper, and 588 (34.2%) did not participate.
- IELS 2025 identifies three dimensions – foundational learning, executive function, and social and emotional development. Foundational learning comprises two domains – emergent literacy and emergent numeracy; executive function comprises three domains – inhibition, working memory, and mental flexibility; and social and emotional development comprises five domains – trust, pro-social behaviour, non-disruptive behaviour, emotion identification, and emotional attribution. For each domain a scale was generated using item response theory (IRT), where each scale was standardised to have a mean of 500 points.
- The Cronbach's alpha was used to check the internal consistency between the items of each scaled index. This measure was computed for each country separately and then compared between countries. Item dimensionality was confirmed using structural equation modelling (SEM).
- IELS 2025 also generated three other scales that measure cognitive and motor skills, social and emotional skills, and global capabilities of 5-year-olds as perceived by parents and ECEC staff. Each scale was standardised to set to have a mean 0 and standard deviation 1. A positive score indicated higher skills and negative scores indicated lower skills, compared to the international average (0).

- A composite index for socioeconomic backgrounds (highest parent occupation status, highest parental education, and household income) were generated using principal component analysis.

How five-year-olds are faring

- IELS 2025 finds significant differences in early learning and development outcomes across countries and jurisdictions. In foundational learning, children in Korea consistently achieved high scores. Malta's mean score in foundational learning (491.0) is lower than the international average (500). Children in England, in both emergent literacy and emergent numeracy, and children in Baku and Sumgait in emergent numeracy, also have comparatively high scores. Maltese children perform significantly better in emergent numeracy (503.0) than emergent literacy (478.9).
- In executive function domains, children in Korea consistently achieved high scores; however other countries and jurisdictions cluster more often around the international mean. Malta's mean scores in mental flexibility (497.1), working memory (496.6), and inhibition (486.4) are lower than the international average (500).
- In social and emotional development, Malta's mean scores in pro-social behaviour (518.5), trust (514.0), non-disruptive behaviour (508.5), and emotion identification (507.9) are higher than the international average (500); while Malta's mean score in emotional attribution (483.8) is lower.
- In foundational learning domains, gaps between high and low-performing children are relatively large in the United Arab Emirates, and Baku and Sumgait, while they are relatively small in Korea, the Flemish Belgian Community, and the Netherlands. These gaps are more homogeneous between jurisdictions in executive function domains. In social and emotional development domains, the differences between children with the highest and lowest scores is smallest in the Netherlands, and largest in the United Arab Emirates and Malta.
- The rate of increase in the scores of Maltese children as they grow from 5 to 6 years old is more marked in the domain of inhibition, followed by emergent numeracy, emergent literacy, mental flexibility, emotion identification, trust, and working memory. The rate of increase in the scores is slowest in pro-social behaviour and non-disruptive behaviour. Similar patterns emerge across other jurisdictions.
- Multilevel modelling reveals that in Malta, on average, 15.7% of the variation in foundational learning scores, 9.6% of the variation in executive function scores, and 5.7% of the variation in social and emotional development scores is observed between ECEC centres, with the remaining variation portions (84.3%, 90.4%, and 94.3%, respectively) occurring between Maltese 5-year-olds. This suggests that the characteristics of ECEC centres do not play a dominant role in explaining Maltese children's early learning and development outcomes. Similar trends emerge across other jurisdictions.
- The mother's education has a significant impact on early learning and development. Maltese children whose mother has tertiary education score 74.3 points in fundamental learning, 39.3 points in executive function, and 33.8 points in social and emotional development more than children whose mother has primary education.
- Across the three dimensions of early learning and development, the perceptions of Maltese teachers about children's skills appear more consistent with children's scores than those of Maltese parents. Similar patterns emerge across other jurisdictions.

- Correlations between children's scores in different domains of early learning and development are mostly positive but vary widely in strength. For Maltese children, a strong correlation (0.726) is observed between emergent literacy and emergent numeracy. Among executive function domains, correlations are moderate, particularly with inhibition (0.289 and 0.287). In social and emotional development, scores in directly and indirectly assessed domains correlate weakly, particularly with non-disruptive behaviour (0.043, 0.078, 0.168, and 0.406). Notably, some correlations are higher between rather than within dimensions. Emergent literacy and emergent numeracy have strong correlations with working memory (0.647 and 0.626), mental flexibility (0.628 and 0.612), and emotion identification (0.538 and 0.557). However, these have weak correlations with non-disruptive behaviour (0.071 and 0.061).
- There is strong similarity in the relative position of children in different dimensions of early learning and development. 60.3% of Maltese children in the top quarter of foundational learning are also in the top quarter of executive function, 40.6% of Maltese children in the top quarter of foundational learning are also in the top quarter of social and emotional development, and 44.7% of Maltese children in the top quarter of executive function are also in the top quarter of social and emotional development.

Equity gaps in early learning

- Maltese girls outperform boys across the three dimensions of early learning and development measured in IELS 2025. The differences are more pronounced in social and emotional development (25.3) and less salient in executive function (0.3) and foundational learning (8.3). The mean score of Maltese girls exceeds the mean score of boys by 36.8 points in non-disruptive behaviour, by 31.0 points in emotional attribution, by 28.8 points in emotion identification, by 25.9 points in pro-social behaviour, by 12.2 points in emergent literacy, by 4.5 points in inhibition, by 4.4 points in emergent numeracy, and by 3.8 points in trust. The mean score of Maltese boys exceeds the mean score of girls by 2.8 points in working memory and by 0.9 points in mental flexibility. Gender gaps in favour of girls tend to be larger among children with the weakest performance in the IELS assessments.
- IELS 2025 finds pervasive socioeconomic gaps in learning and development outcomes by age 5. On average, socioeconomically advantaged Maltese children score 73.6, 33.6, and 26.1 points more than their disadvantaged counterparts in foundational learning, executive function, and social and emotional development.
- Across jurisdictions, socioeconomic gaps are most substantial in foundational learning, where socioeconomically advantaged children score on average between 70 and 80 points higher than disadvantaged peers in emergent literacy and emergent numeracy. Socioeconomic gaps are smaller in executive function and social and emotional development but remain consistent across all domains. Mirroring the average distribution of socioeconomic status, gaps tend to be small among children in Korea and large among children in the four European jurisdictions.
- Developmentally resilient children achieve strong early learning and development outcomes despite growing up under unfavourable socioeconomic circumstances. The percentage share of Maltese resilient 5-year-olds in foundational learning is 12.5%, where the percentage share in emergent literacy (15.2%) is larger than the percentage share in emergent numeracy (10.7%). The percentage share of Maltese resilient 5-year-olds in executive function is 18.4%, where the percentage share in inhibition (23.2%) is larger than the percentage shares in mental flexibility (18.9%) and working memory (17.6%). The percentage share of Maltese resilient 5-year-olds in social and emotional development is 17.8%, where the percentage

share in trust (22.7%) is larger than the percentage shares in non-disruptive behaviour (21.2%), emotion identification (20.4%), emotional attribution (19.8%), and pro-social behaviour (19.7%).

- On average, across jurisdictions, between 10% and 15% of socioeconomically disadvantaged children perform strongly in emergent literacy and emergent numeracy, while across executive function and social and emotional domains, the percentage of resilient children ranges from 16% to 22%.
- After accounting for children's socioeconomic and linguistic backgrounds, Maltese 5-year-olds with an immigrant background scored higher than their native counterparts by 29.7 points in emergent numeracy, by 19.6 points in mental flexibility, by 9.5 points in inhibition, by 6.7 points in emotional attribution, and by 19.6 points in emotion identification. On the other hand, Maltese native 5-year-olds scored higher than their immigrant counterparts by 6.7 points in emergent literacy, by 1.4 points in working memory, by 14.9 points in pro-social behaviour, by 8.9 points in trust, and by 2.5 points in non-disruptive behaviour.
- Across jurisdictions and assessment domains, gaps in early learning and development between children with and without an immigration background are small and inconsistent compared to other equity dimensions. Differences in outcomes by immigration background are larger and more often statistically significant in foundational learning, but rare in the executive function and social and emotional development. Accounting for socioeconomic status and home language reduces both the magnitude and significance of these gaps.
- Maltese 5-year-olds who speak the language of assessment are more likely to have mothers with tertiary education than their counterparts speaking another language. Moreover, they tend to have a higher socioeconomic status, live in a better home learning environment, and have parents that tend to have better occupations. However, this result has to be interpreted with caution since the language of assessment was not the same for all Maltese 5-year-olds. In fact, 69.9% of Maltese 5-year-olds were assessed in English, while the remaining 30.1% of the participants were assessed in Maltese, depending on the choice made by the ECEC centre.
- Maltese children who speak the language of assessment (either Maltese or English) at home score higher in emergent literacy and emergent numeracy than their counterparts speaking another language. On the other hand, Maltese children who speak another language at home score significantly higher in pro-social behaviour and trust than their counterparts who speak the language of assessment.
- Across jurisdictions, gaps in early learning and development between children whose primary home language differs from the language of assessment and those who speak the assessment language at home are relatively small. They appear mainly in the foundational learning domains (emergent literacy and emergent numeracy), in the executive function domain of working memory, and in the social and emotional development domain of emotion identification.
- The perceptions of Maltese parents and teachers about the cognitive, social and emotional, and global skills of five-year-olds are generally consistent with the gaps in IELS 2025 assessments. Concerning gender and socioeconomic status, both Maltese parents and teachers perceive girls as having stronger skills than boys, and socioeconomically advantaged children as having stronger skills than disadvantaged peers. However, Maltese teachers and parents have contrasting perceptions of the skills of children with and without an immigration background. Maltese teachers perceive native children as having stronger skills than immigrant children, while the converse applies to Maltese parents.

Home environment and children's early learning

- Around 47% of Maltese mothers completed tertiary education, while the remaining 57% of Maltese mothers have non-tertiary education. In four jurisdictions in IELS 2025, more than 50% of mothers of participating children completed tertiary education; while in the other five jurisdictions (including Malta), more than 50% of the mothers of participating children completed at most post-secondary education (non-tertiary education).
- On average, Maltese children whose mothers have tertiary education score higher across all domains of early learning and development than children whose mothers have lower levels of education. Differences are, on average, largest and most consistent in emergent literacy (27.7 points) and emergent numeracy (26.3 points) but are also sizable in most social and emotional development domains, including emotional attribution (25.0 points), non-disruptive behaviour (21.5 points), pro-social behaviour (18.5 points), and emotion identification (13.5 points). Conversely, Maltese children whose mothers completed, at most, lower secondary education score significantly lower than children whose mothers have intermediate levels of education in eight out of ten assessment domains, on average, with this negative association being most pronounced in foundational learning.
- Mean early learning and development domain scores of Maltese children vary marginally between those living with two parents and those living with one parent. Similar patterns emerge across most of the other jurisdictions.
- IELS characterises home learning environments through parent-child activities with a developmental focus. On average, back-and-forth conversation is the most common activity, occurring three or more times per week for 79.5% of Maltese children. The percentages of Maltese children who engage with their parents in literacy (62.5%), numeracy (63.7%), or motor development (36.2%) at least three or more times per week are similar to the percentages of other jurisdictions participating in IELS 2025.
- Across jurisdictions, including Malta, higher values on the IELS home learning environment index are positively associated with stronger early learning and development outcomes. However, the strength of this association is weaker in the executive function domains, particularly after accounting for families' socioeconomic status.
- The mean home learning environment score of socioeconomically advantaged Maltese 5-year-olds is 0.93 scale points higher than the mean score of socioeconomically disadvantaged children. Moreover, the mean home learning environment score of Maltese 5-year-olds living in a two-parent family structure is 0.36 scale points higher than the mean score of children living in a one-parent family structure.
- On average, 60.3% of Maltese parents report reading to their child from a book three times or more per week. The frequency of reading activities at least three times weekly in socioeconomically advantaged Maltese families (73.8%) is significantly larger than in disadvantaged families (39.2%). Frequent joint reading (i.e. every other day or more often) is associated with better early learning and development outcomes for children, particularly in foundational learning.
- On average, 65.9% of Maltese five-year-olds use a digital device every day, which is larger than the international average (around 50%). In many jurisdictions, including Malta, this daily use is more common among children in low socioeconomic status families. Associations between children's frequency of digital device use and parent-child joint digital activities are weak and inconsistent.

- On average, 49.2% of Maltese children in IELS 2025 have parents who are strongly involved in activities at their ECEC centres, which is larger than the international average (around 40%). However, this involvement is consistently higher among high socioeconomic status Maltese parents (54.7%) than low socioeconomic status parents (40.7%). Children whose parents are strongly involved in their ECEC centres show substantially higher early learning and development outcomes, particularly in social and emotional development domains, than peers whose parents are less involved. These gaps decrease but remain significant after accounting for socioeconomic background.

Early childhood education, care, and support for children

- On average, across jurisdictions, 55% of the children in IELS 2025 started attending ECEC before age 3, with ages 2 (24%) and 1 (23%) being the most frequent starting ages. Among those who started ECEC later, 19% did so at age 3, 17% at age 4, and 9% at age 5. By the time of assessment, children had an average experience of over two and a half years in ECEC. In Malta, enrolment rates are 85.6% for 3-year-olds and 90.5% for 5-year-olds.
- Before age 5, on average, socioeconomically advantaged children had attended ECEC for about 4 months longer than disadvantaged children. In England, the Flemish Belgian Community, Malta, and the United Arab Emirates, this difference was of six months or longer. Only in the Netherlands had disadvantaged 5-year-olds attended ECEC longer than advantaged peers. Similar gaps exist in hours attending pre-primary education.
- Maltese 5-year-olds attending independent ECEC settings score significantly higher in foundational learning and executive function than children attending church and state ECEC settings. However, mean social and emotional growth scores vary marginally between the three types of ECEC settings.
- Across early learning and development domains, the association between length of attendance of ECEC and children's outcomes at age 5 is generally positive but inconsistent in statistical significance. For every additional year in an ECEC setting, mean scores in early learning outcomes of Maltese 5-year-olds are expected to increase by 8.62 in emergent literacy, 10.23 in emergent numeracy, 5.69 in inhibition, 9.38 in working memory, 10.78 in mental flexibility, 7.49 in emotion identification, 4.18 in emotional attribution, 6.13 in trust, and 11.06 in pro-social behaviour. On the other hand, non-disruptive behaviour is weakly and negatively related to attendance duration in ECEC settings.
- The association between length of attendance of ECEC and children's outcomes tends to be stronger in jurisdictions where, on average, children attended ECEC for a longer time, particularly in the Flemish Belgian Community, and weaker in jurisdictions where attendance was shorter, particularly in the Netherlands.
- IELS 2025 finds weak evidence that the association between the length of participation in ECEC and children's outcomes differs by socioeconomic background. The relationship between emergent literacy and numeracy outcomes and the length of participation in ECEC is positive for socioeconomically disadvantaged Maltese 5-year-olds but is negative for socioeconomically advantaged Maltese children.
- In Malta and most of the other jurisdictions, ECEC attendance tends to be longer for socioeconomically advantaged children, compared to socioeconomically disadvantaged children. Overall, differential participation in ECEC may be contributing to widening socioeconomic gaps in early learning outcomes in jurisdictions where advantaged children attend ECEC longer than their disadvantaged peers, and may be helping to mitigate inequalities where the reverse holds.

- On average, 17.4% of Maltese parents reported that their child experienced early learning difficulties, and 14.8% of parents reported that their child experienced social and emotional or behavioural difficulties. Moreover, socioeconomically disadvantaged Maltese children are more likely to experience these risk factors, which compound their overall level of disadvantage.
- On average, 15.7% of Maltese 5-year-olds have received speech therapy, 8.6% have received support in learning, 7.6% have received psychological support, 6.7% have received physiotherapy, 5.2% have received support in the assessment language (Maltese or English), and 21.5% have received other types of special support.
- Maltese children who are reported to have experienced early learning, early social and emotional, or behavioural difficulties are more likely to also have received additional supports to address these difficulties. Overall, results suggest an adequate targeting of these supports to the children exposed to a greater number of risk factors.
- Across jurisdictions, additional support with early learning is the most frequent form of targeted support for children in IELS 2025, as received by around one in six children overall. Children exposed to a greater number of risk factors are more likely to receive this and other additional supports, which suggests they are adequately targeted in most jurisdictions.

1

Design and Implementation

1.1 Introduction

The international early learning and child well-being study (IELS) is an OECD-led, play-based assessment evaluating the skills, development, and wellbeing of 5-year-old children. This study was developed to inform countries' efforts to improve children's early learning outcomes and wellbeing. The fundamental objective of the study is to provide countries with reliable, valid and comparable data they can use to benchmark and monitor the extent to which their early childhood education and care (ECEC) systems give all children a strong early start. The study directly measures emergent literacy and numeracy, executive function, as well as social and emotional skills. In addition, it collects information on each participating child through questionnaires completed by parents/guardians and teachers (staff) to inform early education policies.

The first cycle of IELS (2018) was developed in conjunction with three countries (England, Estonia and the United States) interested in children's early learning, development and wellbeing. Five countries, including Malta and four sub-national jurisdictions participated in the second cycle of IELS (2025). Besides defining the study's objectives, IELS (2025) also established foundational guidelines to direct its structure, development, and execution. These principles have been updated and are outlined below for the second cycle.

- Policy relevance - enabling changes in policy and/or practices to be made.
- Reliable, valid and comparable - across countries, languages, cultural contexts and over time.
- Ethical - ensuring the well-being of children in the study is paramount in all decisions.
- Practicable, efficient and cost-effective – able to be implemented without undue burden on countries, practitioners, parents and children, in terms of effort and cost.

The primary purpose of the IELS survey is to provide evidence-based data that enables countries to identify areas for improvement in children's early experiences and outcomes. Through international comparison, IELS helps policy makers, educators, and practitioners understand potential achievements for young children. Ultimately, this helps systems reach key objectives, such as addressing disadvantage and ensuring children are adequately prepared for future schooling. To accomplish this goal, the IELS provides nations with a robust evidence base, allowing them to compare educational outcomes across diverse demographics - such as gender, socioeconomic status, and linguistic or migrant backgrounds. The insights gained from this data help to set policy priorities, develop recommendations, guide future research, and evaluate the effectiveness of existing educational interventions.

1.2 Conceptual framework of IELS (2025)

The early learning and development domains included in IELS (2025) focus on critical skills a child needs for future learning and wellbeing. These developmental domains are interconnected, implying that progress in one area often supports growth in others. Because of this overlapping nature, assessing every single skill is not necessary to get an accurate, comprehensive picture of a child's overall development. This study focuses on important aspects of early childhood development that best forecast positive long-term outcomes, including academic success, physical/mental health, employment and earnings, citizenship, wider wellbeing and life satisfaction. The study covers three dimensions with various domains:

- Foundational learning: Emergent literacy and emergent numeracy
- Executive function: Inhibition, working memory, and mental flexibility
- Social and emotional development: Empathy (emotion identification, cognitive attribution), trust, prosocial behaviour, and non-disruptive behaviour.

Foundational learning comprises the core language and mathematical skills traditionally associated with early education. In IELS, two domains are assessed in this dimension - emergent literacy and emergent numeracy. These essential competencies act as early precursors to formal schooling, allowing children to build the necessary base for advanced reading, writing, and mathematical proficiency. Essentially, mastering these emergent skills provides the vital foundation needed for future academic success.

Emergent literacy refers to the knowledge, skills, and attitudes children develop regarding listening comprehension, vocabulary, and phonological awareness before they learn how to read and write conventionally, typically from birth through preschool. It represents the foundational phase where children learn that print carries meaning, explore books, and begin to mimic reading and writing. Emergent numeracy refers to the natural development of mathematical concepts and skills in young children, starting in infancy and evolving through play, exploration, and daily routines. It represents the foundational, informal understanding of numbers and counting, by working with numbers, patterns, shapes, measurements and enhancing spatial awareness before formal schooling.

Cognitive self-regulation refers to the mental processes that allow children to effectively manage tasks, including planning, directing attention, remembering instructions, and juggling multiple responsibilities. These processes are primarily known as executive function, which serves as a key predictor of children's future success and is specifically measured in the IELS (2025) assessments. Executive function comprises three core mental skills - inhibition, working memory, and mental flexibility.

Inhibition refers to the cognitive ability to override strong, habitual, or automatic responses in favour of a new, contrary action demanded by a specific rule. It is a core executive function, often termed 'response inhibition', that allows individuals to suppress impulsive behaviour. Working memory refers to a fundamental cognitive skill that allows for temporary information storage while organising and manipulating this information for completion of a given task. Mental flexibility refers to the cognitive agility to rapidly adjust one's thinking and behaviour in response to evolving, unexpected, or challenging situations. It involves moving beyond rigid habits or automatic reactions to consciously shift perspectives, rules, or strategies when the surrounding environment changes.

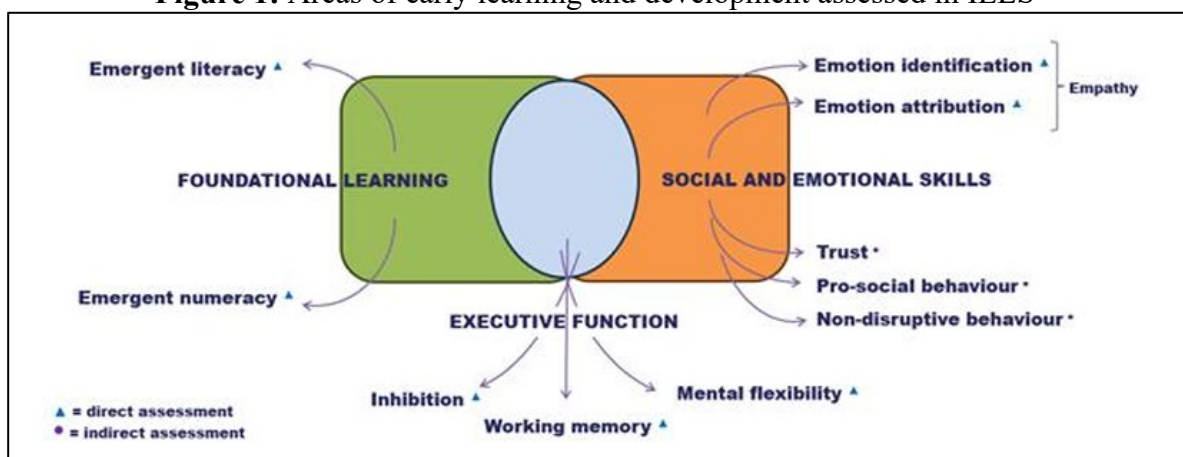
Early childhood is a critical period for developing foundational social-emotional skills, where children learn to build relationships, set behavioural expectations, manage emotions, and show empathy. These foundational skills are built through interaction, as children learn that relationships involve give-and-take. Furthermore, the quality of these interactions with caregivers significantly impacts their behavioural development. Mastering these abilities acts as the foundation for future, more complex social and emotional capabilities

Empathy refers to the ability to understand and share the feeling of others and can be divided into two components - emotion identification and cognitive attribution. Emotion identification is the ability to accurately recognise, label, and understand one's own feelings (internal) or others' emotions (external) based on behavioural or physiological signs. Cognitive attribution is the psychological process of determining the causes behind events, behaviours, or outcomes. It involves analysing, observing, and deducing whether actions stem from internal dispositions (personality, ability) or external factors (situation, luck). This process shapes emotions, future expectations, and social perception.

Trust refers to the interpersonal trust and the capacity to establish trusting relationships. Prosocial behaviour refers to voluntary actions intended to help, benefit, or support other individuals or society as a whole. It includes acts like sharing, comforting, cooperating, and volunteering, often driven by empathy and concern for others' welfare. These behaviours are crucial for fostering positive relationships, social connection, and community cohesion. Non-disruptive behaviour refers to actions that do not interrupt the flow of learning or violate classroom norms, such as quiet, on-task activity. While often quiet, this behaviour is not always engaged; it can include 'hidden' disengagement like daydreaming, passive avoidance, or apathy that requires gentle, private redirection.

These three dimensions of children's early learning and development are critical in predicting later outcomes in schooling and adulthood. Other areas of children's development also matter, such as visual-motor and physical skills. The interrelated and overlapping nature of early learning and development means that these skills need not be measured to have an accurate indicator of how well a child is developing. Figure 1 provides an overview of the three dimensions and respective domains included in IELS. It also indicates which are measured directly and which are measured indirectly, through parent and teacher questionnaires.

Figure 1: Areas of early learning and development assessed in IELS



Emergent literacy, emergent numeracy, inhibition, working memory, mental flexibility, emotion identification, and emotional attribution are measured by direct assessment. Trust, non-disruptive behaviour, and prosocial behaviour are measured by indirect assessment.

1.3 Contextual or background framework

The IELS 2025 contextual framework focuses on gathering data regarding 5-year-olds' individual, home, and ECEC environments. Key background factors assessed include family socioeconomic status, household composition, parental education and employment, and children's home learning environments. This information is essential in answering policy and research questions about factors associated with high and low performance in these key domains, and for identifying gaps and differences.

The teacher (staff) questionnaire elicits information about the teacher's gender, age, highest level of formal education, educational specialisation attained, employment status, years of experience as a teacher/educator at the current school and in total.

The parent questionnaire elicits information related to the child's characteristics, including child's age, gender, potential learning, social or emotional difficulties, special learning or behavioural needs, and whether the child had a low birthweight or was born prematurely. The parent questionnaire also elicits information related to the family background, including house composition, immigration background, languages spoken at home, parents' age, and family's socioeconomic status, based on parents' education levels, parental employment situation, and household income. The parent questionnaire also elicits information related to the child's home learning environment, including parent-child engagement in reading books, imaginative play, music and painting, activities focusing on numeracy and literacy, child's participation in sports activities and other community groups, access to children's books, access to digital devices and frequency of screen time. Parents or guardians were also asked whether their child had previously participated in ECEC. If so, they were asked a series of follow-up questions about the types of ECEC their child attended, the age at which the child started ECEC, and whether the child attended more or fewer than 20 hours a week, for each year they attended ECEC.

1.4 Participating countries and sampling techniques

The IELS 2025 Study involves five countries, including England, Korea, Malta, the Netherlands, and United Arab Emirates. It also involves four sub-national jurisdictions, including Sumgait and Baku in Azerbaijan, the Flemish community of Belgium, Ceara, Para and Sao Paulo in Brazil and Hangzhou in China.

The target population includes 5-year-old children in regulated ECEC settings or in schools. Five years of age often marks a critical transition to formal schooling, with nearly all children enrolled in some form of education by this time. While universal access is not yet achieved everywhere, most countries are trending toward this goal, fuelled by increasing enrolment in early childhood education and care (ECEC) and earlier school start ages. Assessments are conducted at a fixed age rather than at a specific educational level to ensure direct, cross-country comparability. Because school starting ages and ECEC structures differ significantly between nations—sometimes varying by as much as three years - measuring children at the same age allows for a better understanding of what they know and can do at a similar point in their development. This age-based approach facilitates analysis of how different ECEC system designs, such as curriculum, program duration, and entry age, affect child development.

The parent or guardian of each selected child was asked to complete the parent questionnaire, while the teacher (staff member) who knew the selected child best was asked to complete the teacher questionnaire. Children completed the assessment on tablets, within the presence of a trained study administrator. This was carried out in the ECEC centres or schools they attended, to ensure the assessment was carried out in a setting the child was familiar with and for reasons of practicality and cost. Accessing children in formal settings is easier and less costly than locating them and conducting assessments in their home or other settings. The direct child assessment via tablet used visual and audio material. To reduce work overload on children, emergent literacy, inhibition, working memory, and mental flexibility were assessed on one day, while emergent numeracy, emotion identification, and emotional attribution were assessed on a different day.

A two-stage probability sampling method was employed to ensure national representation. In the first stage, a random selection of ECEC centres or schools was chosen within each country or jurisdiction. In Malta, all ECEC centres or schools were included in the study. In the second stage, age-eligible children were randomly chosen from the selected settings. Statistical weights were then computed to correct for sampling error and ensure accurate representation.

Over 25,000 children participated in the main study. The Maltese sample of 1644 children was selected from 101 ECEC settings or schools, where 820 (49.9%) were girls and 824 (50.1%) were boys. Moreover, 993 (60.4%) children attended state, 466 (28.3%) attended church and 185 (11.3%) attended independent ECEC centres or schools. The sample size of Maltese teachers (member staff) was 247, where 222 (89.9%) completed the teacher questionnaire online and 25 (10.1%) did not participate. The sample size of Maltese parents was 1719, where 966 (56.2%) completed the parent questionnaire online, 165 (9.6%) completed the questionnaire on paper, and 588 (34.2%) did not participate.

1.5 Assessment procedures

Assessment information was collated using three sources to provide a triangulated perspective on each child's early learning and development. A direct assessment of each child was used to elicit information on seven skills, including emergent literacy, emergent numeracy, inhibition, working memory, mental flexibility, emotion identification and emotional attribution. A questionnaire completed by each child's parent or guardian elicited information on the child's learning, development and behaviour, and a questionnaire completed by each child's teacher provided indirect assessment of three social and emotional skills (trust, prosocial behaviour and non-disruptive behaviour).

Children completed a direct assessment on tablets, with one-to-one support from a trained study administrator. The children listened to stories and interacted with cartoon-like characters by touching or moving items on the screen. Study administrators ensured each activity was ready before children started and that each child could navigate his or her way through the activities. The study administrator remained with the child throughout the assessment.

Each assessment activity took around fifteen minutes. Two assessment activities were administered per day, across two days. The two-day format worked well for children, ensuring that they were neither overburdened by the assessment nor removed from their normal learning environment for an extended period. The stories and other activities the children engaged in during the assessment were designed to be interesting, fun and developmentally appropriate. No reading or writing was involved in the direct assessment activities; only visual and auditory materials were used.

Each child's parent or guardian and the teacher or ECEC staff member who knew the child best were asked to respond to a questionnaire about the child's learning and development. The parent questionnaire was completed either online or on paper and took around twenty minutes to complete. The staff questionnaire was completed mainly online, where completion took around ten minutes per child, plus an additional five minutes to provide information about the staff members themselves. In this way, the study triangulated information from direct assessment of the child with indirect assessments of the child provided by adults who knew them well. This approach enables IELS to assess children's early learning and development across a broader scope of domains than is possible through a direct assessment alone.

Both parents/guardians and teachers provided information on skills assessed in the direct assessment, and also on a broader set of skills and behaviours. Parents/guardians and teachers answered questions on the child's development in emergent literacy and emergent numeracy, the child's social and emotional skills, as well as the child's behaviours that they observe at home or at the ECEC centre or school the child attends.

1.6 Generation of achievement scales and background scales

The IELS scales for the ten outcome domains (emergent literacy, emergent numeracy, inhibition, working memory, and mental flexibility, emotion identification, cognitive attribution, prosocial behaviour, trust, and non-disruptive behaviour) and the IELS background scales (child's global development, child's social and emotional skills, child's cognitive and motor skills and socioeconomic status) were generated using item response theory (IRT). Each scale was constructed as theorised in the assessment framework; however, one of the theoretical proposed dimensions (empathy) was separated into two dimensions (emotion identification and emotional attribution). These ten scales are standardised to set the international means to 500 score points.

Because children cannot answer all possible questions, IELS 2025 used IRT calibration model and the latent regression model to generate plausible values for each child. In order to generate plausible values for the ten outcome domains, multi-dimensional scaling of ten latent dimensions (outcome domains) was conducted. Moreover, the multi-dimensional random coefficient multinomial logit model was used for national and international item calibrations and for national conditioning and production of plausible values.

The Cronbach's alpha was used to check the internal consistency between the items of each scaled index. This measure was computed for each country separately and then compared between countries. Item dimensionality was confirmed using structural equation modelling (SEM) based on the conceptual underpinning of the questions in the assessment framework. Weighted least squares estimation was used to accommodate better non-normal, categorical or ordinal data. Moreover, SEM provided a number of fit indices, including the root mean square error of approximation (RMSEA), comparative fit index (CFI), and non-normed fit index (NNFI) to assess the goodness of the model fit.

IELS categorical items from the context questionnaires were scaled using IRT modelling, particularly through the one-parameter Rasch model to derive estimates of each scale for each child. Moreover, weighted likelihood estimates (WLE) for the latent dimensions were transformed to scales with an average of 0 and a standard deviation of 1. A composite index for socioeconomic backgrounds (highest parent occupation status, highest parental education, and household income) were generated using principal component analysis.

1.7 Report structure

Chapter 2 compares average scores and variation in children's early learning and development outcomes across the countries/jurisdictions participating in IELS 2025. It then examines associations between average scores and countries/jurisdictions' contextual factors. The chapter concludes by examining correlations between children's scores and parents' and teacher's perceptions of their skills, and between children's outcomes across domains of assessment.

Chapter 3 investigates the inequalities in early learning and development. Moreover, this chapter examines the associations between children's outcomes in IELS 2025 and their gender, socioeconomic, immigration and language backgrounds. It also explores the consistency between gaps in assessed outcomes and parents' and teachers' perspectives on children's skills.

Chapter 4 examines the associations between home environments and children's early learning and development outcomes. It first explores parental levels of education and household structure as indirect influences on children's outcomes. The chapter then examines associations with parent-child activities, with a focus on reading and digital practices, as well as parents' engagement in the child's ECEC centre, as more direct influences on children's outcomes.

Chapter 5 explores participation in ECEC among children in IELS 2025. This chapter investigates the association between participation in ECEC and early learning and development outcomes and explores the proportions of children in IELS 2025 experience early difficulties and receive special supports. Moreover, this chapter examines the associations between special supports and early learning and development outcomes.

2

How five-year-olds are faring

2.1 Introduction

The IELS evaluates the progress of five-year-olds to gauge how well they are developing the fundamental skills necessary for long-term academic success and personal wellbeing. Moreover, IELS provides participating countries and jurisdictions with reliable, valid and comparable data to benchmark and monitor the performance of early education systems in ensuring that every child receives a solid foundation at the young age. This chapter outlines the average performance across all participating countries and jurisdictions in IELS 2025, providing the foundation for the rest of the report. This system-level perspective helps identify where systems excel in early childhood development and where more investment is required, both to improve future outcomes and also guide current primary school policy.

Section 2.2 details average results for foundational learning, executive function, and social-emotional skills, allowing for a direct comparison between participating countries and jurisdictions. Section 2.3 explores the within country/jurisdiction variation in early learning and development outcomes, setting the stage for a deeper look at what causes these differences among diverse groups of children. Section 2.4 investigates the contextual factors influencing country/jurisdiction's performance in IELS 2025. Section 2.5 examines the correlations between the ten outcomes included in IELS' multidimensional assessment model and parents'/teachers' perceptions of children's early skills, providing a triangulated perspective of early learning and development. Section 2.6 shows the correlations between assessment domains and joint performance distributions across dimensions of early learning and development, providing insights into how different types of skills relate to each other.

2.2 Achievement in early learning and development outcomes

IELS assesses children's outcomes in ten early learning and development domains using the same metric, with international means standardised to 500 score points. This chapter displays the mean scores for all children's outcomes, while performance clusters are based on the composite scores for the three broad dimensions of early learning and development (foundational learning, executive function, and social emotional development). It is crucial to note that no single measure can fully capture the comprehensive data IELS offers, nor does it reflect the diverse objectives that different regions aim to achieve with their early childhood policies. Moreover, this section addresses the statistical uncertainty present in IELS when comparing results across countries and jurisdictions. IELS 2025 finds significant differences in early learning and development outcomes across countries and jurisdictions.

Table 2.1: Mean scale scores for foundational learning, grouped by country/jurisdiction

Jurisdiction	Emergent Literacy	Emergent Numeracy	Foundational Learning
Korea	543.7	546.7	545.2
England (United Kingdom)	534.9	515.6	525.2
Baku, Sumgait (Azerbaijan)	482.5	520.4	501.5
Netherlands	497.1	489.1	493.1
United Arab Emirates	487.6	495.5	491.6
Malta	478.9	503.0	491.0
Flemish Community (Belgium)	482.6	483.1	482.9
Ceara, Para, Sao Paulo (Brazil)	501.9	456.0	479.0
Abu Dhabi (United Arab Emirates)	464.4	491.7	478.0

Tables 2.1 present the mean scale scores for foundational learning of each country/jurisdiction participating in IELS 2025. Out of nine countries/jurisdictions, Malta ranked fourth in emergent numeracy, eighth in emergent literacy and sixth in foundational learning (composite score). Malta's mean score in emergent numeracy (503.0) is marginally higher than the IELS average (500); however, Malta's mean score in emergent literacy (478.9) is significantly lower than the international average. In foundational learning, Malta's mean score (491.0) is significantly smaller than Korea (545.2) and England (525.2), significantly larger than Abu Dhabi (478.0), and comparable to the remaining five jurisdiction and countries. Children in Korea stand out by achieving consistently higher scores than those in other countries/jurisdictions. Children in England (United Kingdom), in both emergent literacy and emergent numeracy, and children in Baku and Sumgait (Azerbaijan), in emergent numeracy, also have comparatively high scores in the foundational learning dimension.

Figure 2.1 displays the score distribution of Maltese 5-year-olds in emergent literacy, where 679 (41.3%) scored higher than the international average (500). Figure 2.2 displays the score distribution of Maltese 5-year-olds in emergent numeracy, where 827 (50.3%) scored higher than the international average. Figure 2.3 displays the score distribution of Maltese 5-year-olds in foundational learning, where 749 (45.6%) scored higher than the international average.

Figure 2.1: Score distribution of Maltese 5-year-olds in emergent literacy

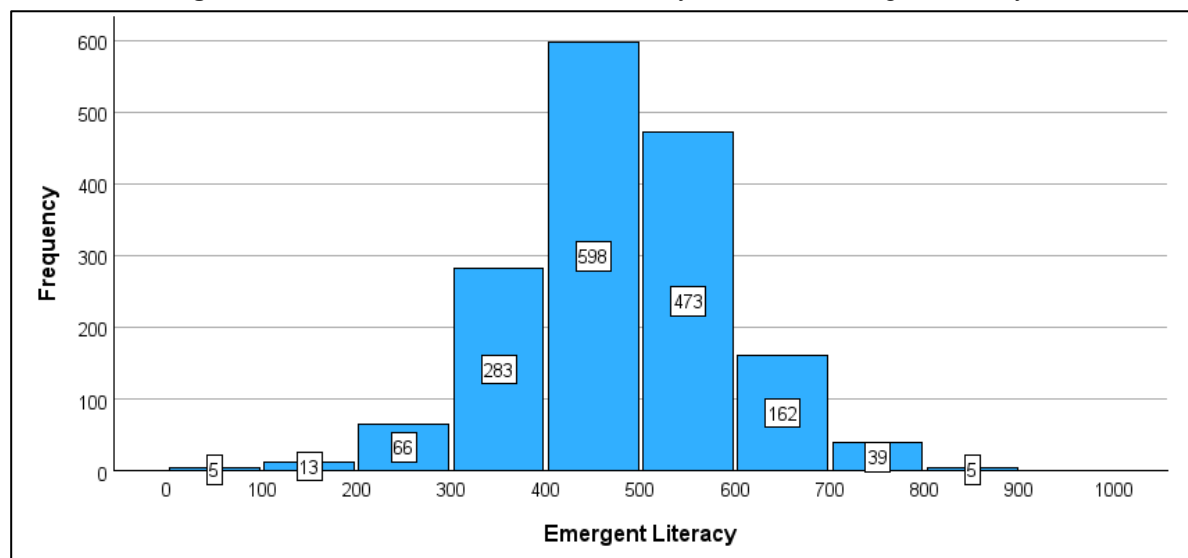
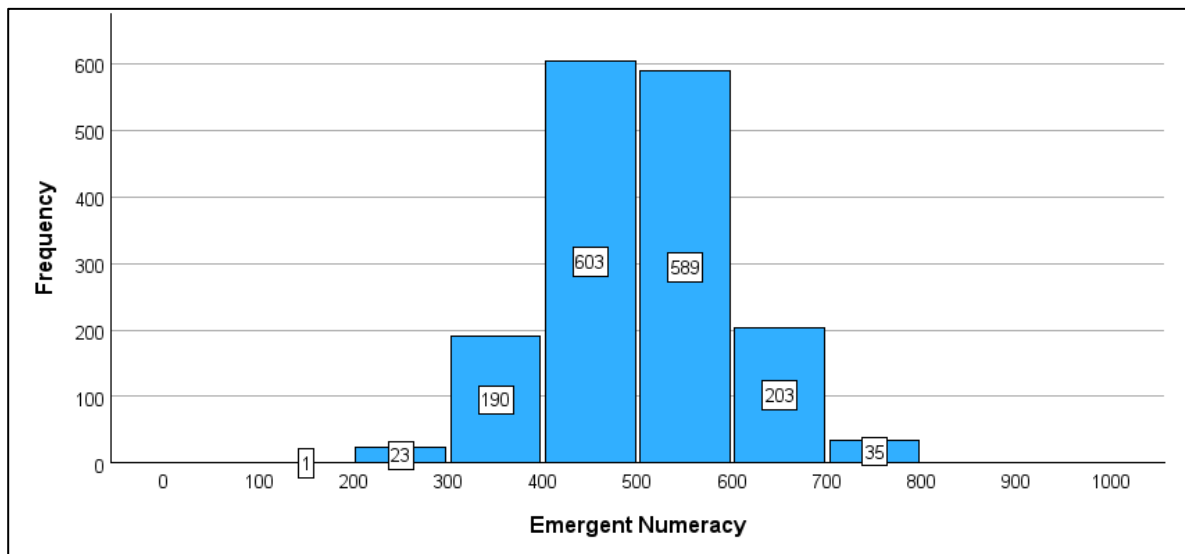
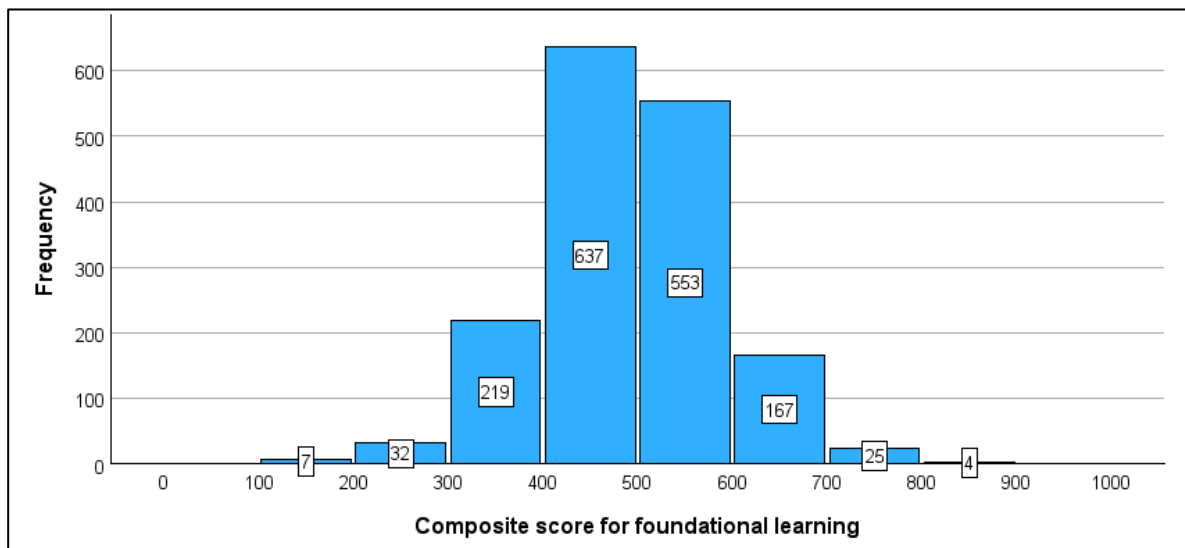


Figure 2.2: Score distribution of Maltese 5-year-olds in emergent numeracy**Figure 2.3:** Score distribution of Maltese 5-year-olds in foundational learning**Table 2.2:** Mean scale scores for executive function, grouped by country/jurisdiction

Country/Jurisdiction	Inhibition	Working Memory	Mental Flexibility	Composite Score
Korea	577.0	567.5	546.4	563.6
England (United Kingdom)	495.2	507.8	507.4	503.5
United Arab Emirates	501.2	497.8	498.3	499.1
Flemish Community (Belgium)	496.0	501.8	494.5	497.4
Baku, Sumgait (Azerbaijan)	502.0	489.3	500.2	497.2
Malta	486.4	496.6	497.1	493.4
Abu Dhabi (United Arab Emirates)	479.6	483.4	486.5	483.2
Netherlands	483.6	476.4	488.2	482.7
Ceara, Para, Sao Paulo (Brazil)	453.6	467.9	472.6	464.7

Tables 2.2 present the mean scale scores for executive function of each country/jurisdiction participating in IELS 2025. Out of nine countries/jurisdictions, Malta ranked sixth in inhibition, fifth in working memory, fourth in mental flexibility and sixth in executive function (composite score).

Malta's mean score in inhibition (486.4) is significantly lower than the IELS average (500); however, Malta's mean score in working memory (496.6), and mental flexibility (497.1) are marginally lower than the international average. In executive function, Malta's mean score (493.4) is significantly smaller than Korea (563.6), significantly larger than Netherlands (482.7) and Ceara, Para and Sao Paulo (464.7), and comparable to the remaining five jurisdiction and countries. Children in Korea stand out by achieving consistently higher scores than those in other countries/jurisdictions. Moreover, there is less differentiation across executive function domains, with jurisdictions clustering around the international mean.

Figure 2.4 displays the score distribution of Maltese 5-year-olds in inhibition, where 716 (43.6%) scored higher than the international average (500). Figure 2.5 displays the score distribution of Maltese 5-year-olds in working memory, where 795 (48.4%) scored higher than the international average. Figure 2.6 displays the score distribution of Maltese 5-year-olds in mental flexibility, where 731 (44.5%) scored higher than the international average. Figure 2.7 displays the score distribution of Maltese 5-year-olds in executive function, where 750 (45.6%) scored higher than the international average.

Figure 2.4: Score distribution of Maltese 5-year-olds in inhibition

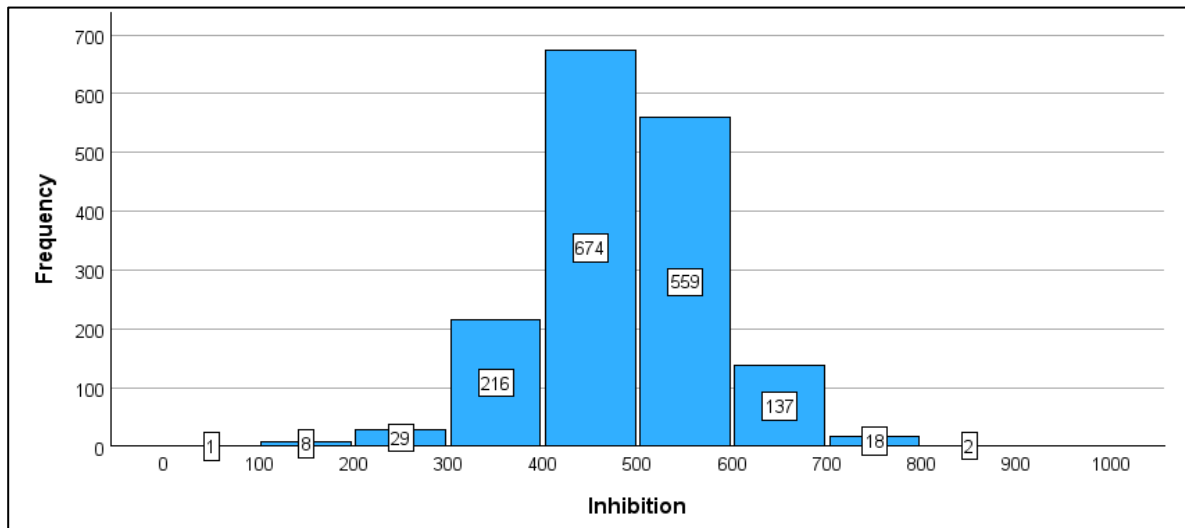


Figure 2.5: Score distribution of Maltese 5-year-olds in working memory

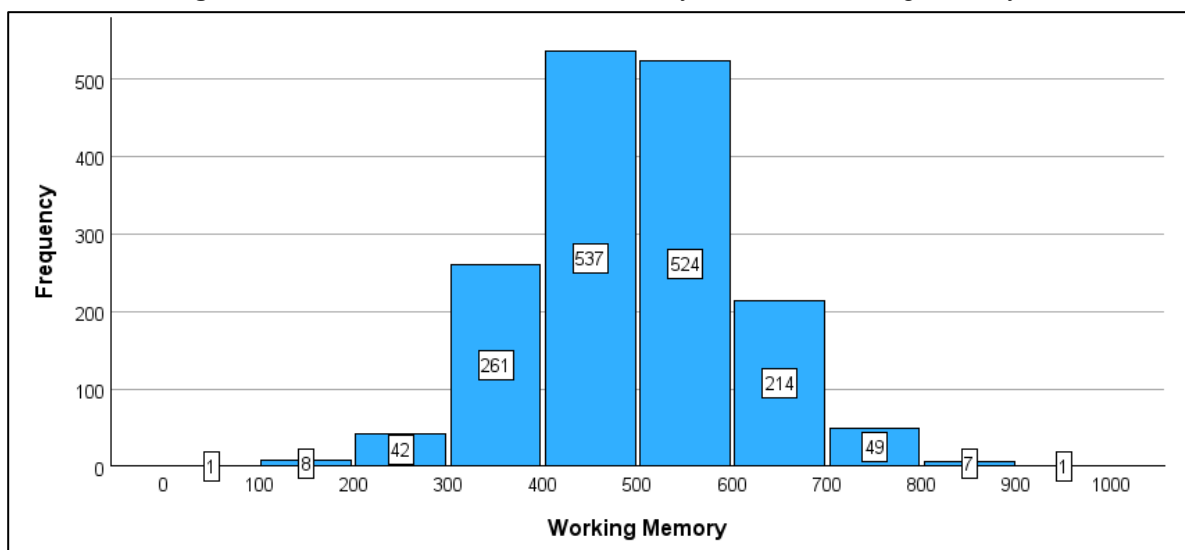
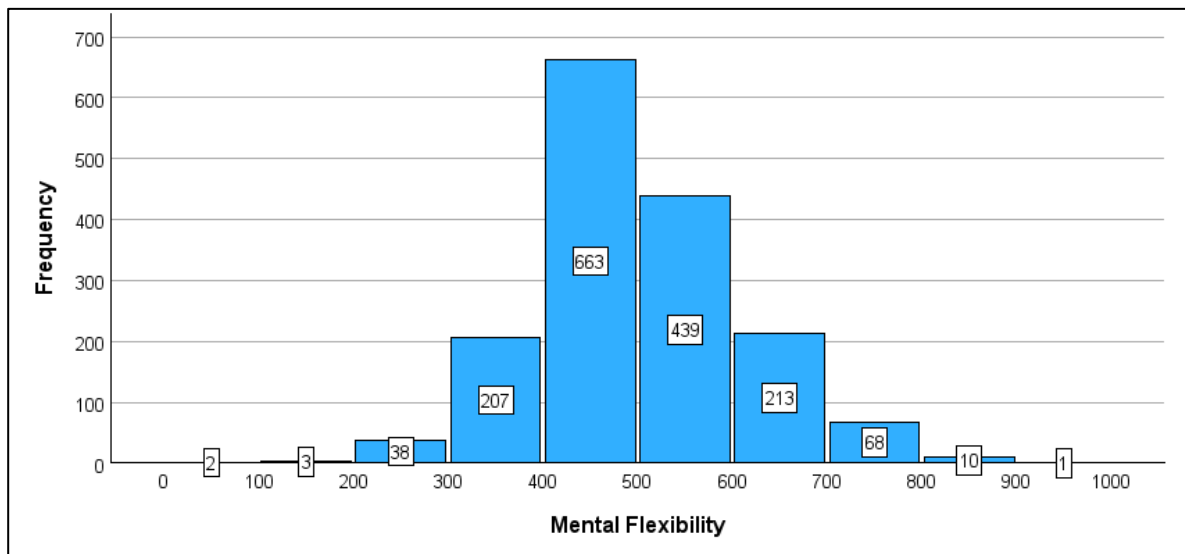
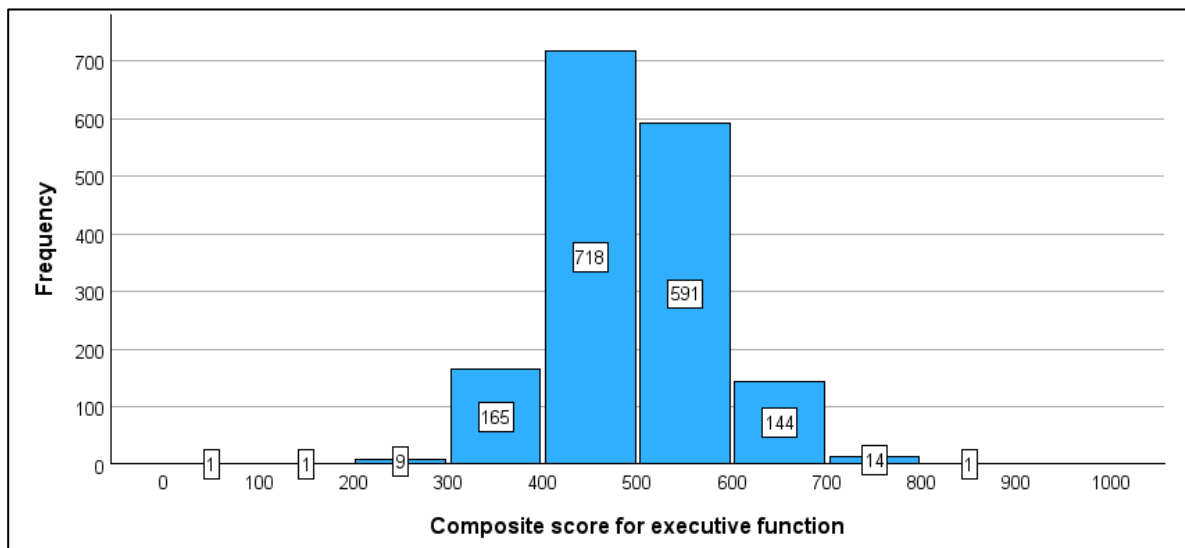


Figure 2.6: Score distribution of Maltese 5-year-olds in mental flexibility**Figure 2.7:** Score distribution of Maltese 5-year-olds in executive function**Table 2.3:** Mean scale scores for social emotional development, grouped by country/jurisdiction

Country/Jurisdiction	Emotion identification	Emotional Attribution	Trust	Prosocial Behaviour	Non-disruptive Behaviour	Composite Score
England (United Kingdom)	503.4	509.1	513.1	497.4	530.3	510.7
United Arab Emirates	505.1	495.3	509.6	516.6	506.7	506.6
Malta	507.9	483.8	514.0	518.5	508.5	506.6
Baku, Sumgait (Azerbaijan)	501.1	500.6	493.5	500.4	511.0	501.3
Korea	479.1	506.8	494.3	503.8	522.4	501.2
Netherlands	499.0	505.0	511.7	482.8	492.3	498.2
Flemish Community (Belgium)	530.1	504.5	489.6	489.1	469.9	496.6
Abu Dhabi (United Arab Emirates)	485.4	477.3	515.3	521.8	508.0	501.6
Ceara, Para, Sao Paulo (Brazil)	491.2	500.0	466.0	484.3	461.3	480.6

Tables 2.3 present the mean scale scores for social emotional development of each country and jurisdiction participating in IELS 2025. Out of nine countries/jurisdictions, Malta ranked second in emotion identification, eighth in emotional attribution, first in trust, first in prosocial behaviour, fourth in non-disruptive behaviour and third in social emotional development (composite score). Malta’s mean score in emotional attribution (483.8) is significantly lower than the IELS average (500); however, Malta’s mean score in trust (514.0), and prosocial behaviour (518.5) are significantly higher than the international average. Malta’s mean score in emotion identification (507.9) and non-disruptive behaviour (508.5) are marginally higher than the international average. In social emotional development, Malta’s mean score (506.6) is comparable to England (510.7) and United Arab Emirates (506.6) but is significantly larger than the remaining six jurisdiction and countries.

In the social and emotional development dimension, children in England achieve high average scores in three out of the five domains of assessment, which is also the case in two domains for children in Korea, Malta and the United Arab Emirates. Overall, results appear less consistent in this dimension, with children in four jurisdictions - the Flemish Community (Belgium), Malta, the Netherlands and Korea - combining average scores above and below the international mean in different domains.

Figure 2.8: Score distribution of Maltese 5-year-olds in emotion identification

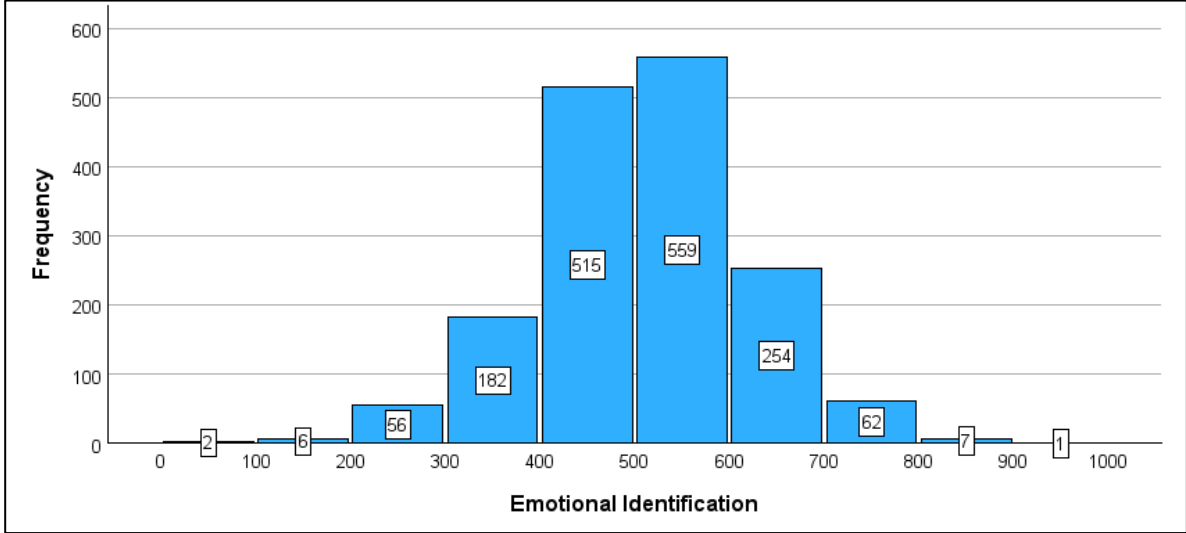


Figure 2.9: Score distribution of Maltese 5-year-olds in emotional attribution

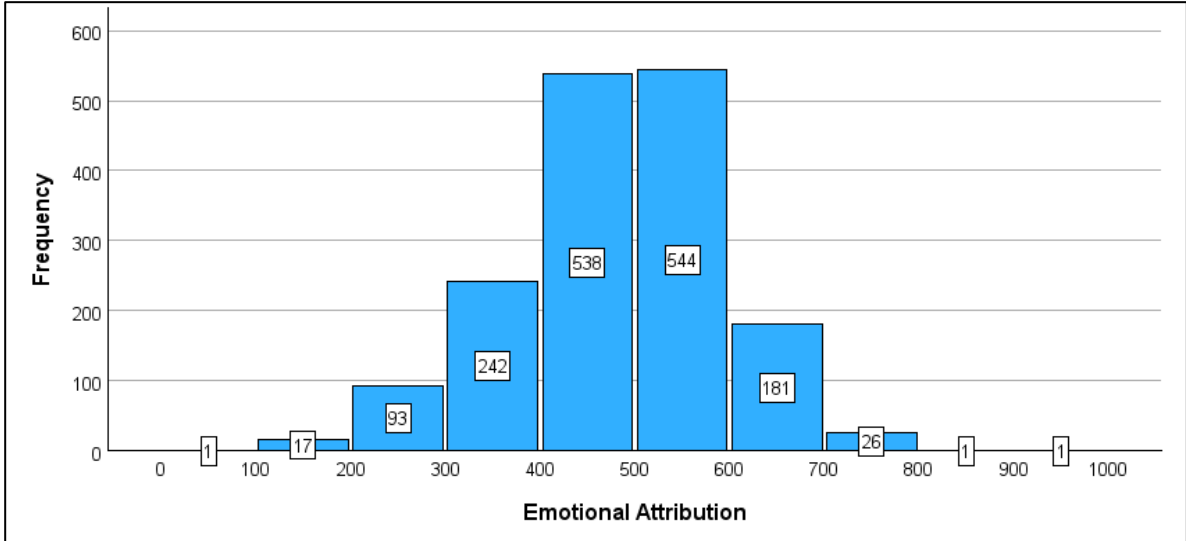


Figure 2.10: Score distribution of Maltese 5-year-olds in trust

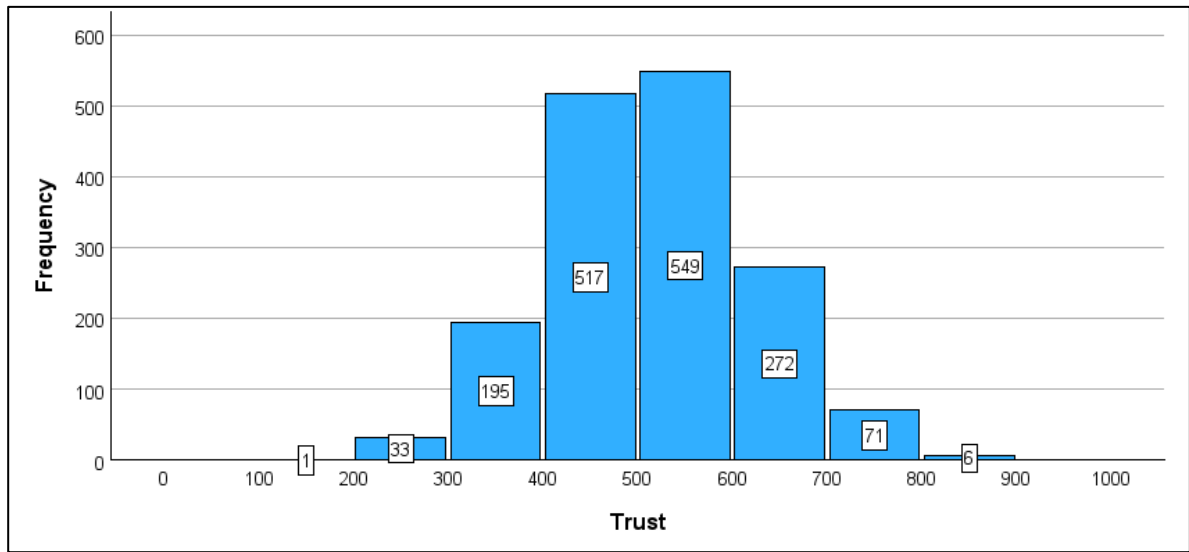


Figure 2.11: Score distribution of Maltese 5-year-olds in prosocial behaviour

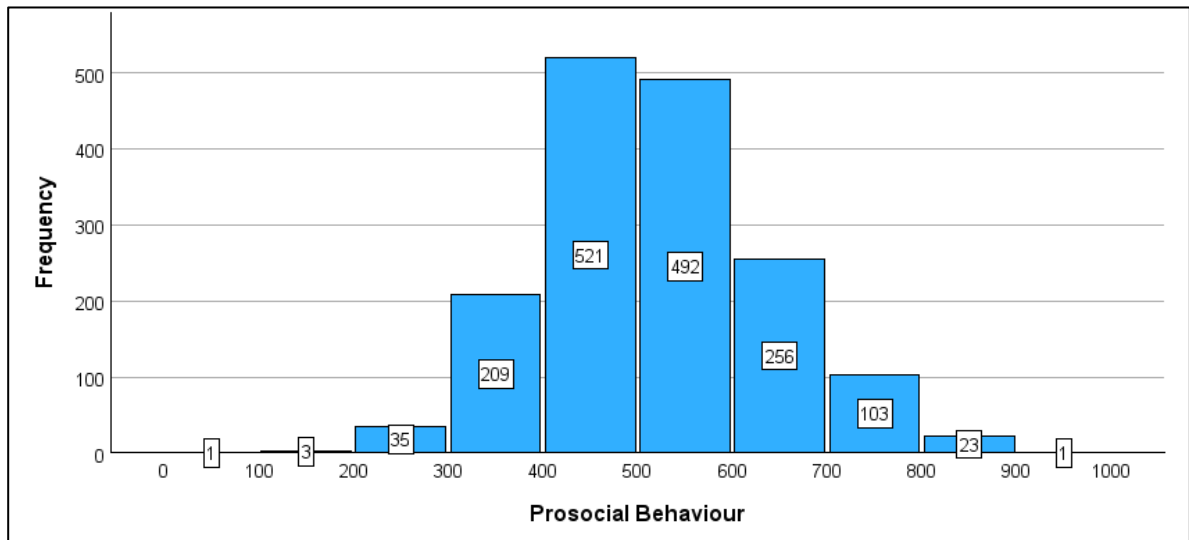


Figure 2.12: Score distribution of Maltese 5-year-olds in non-disruptive behaviour

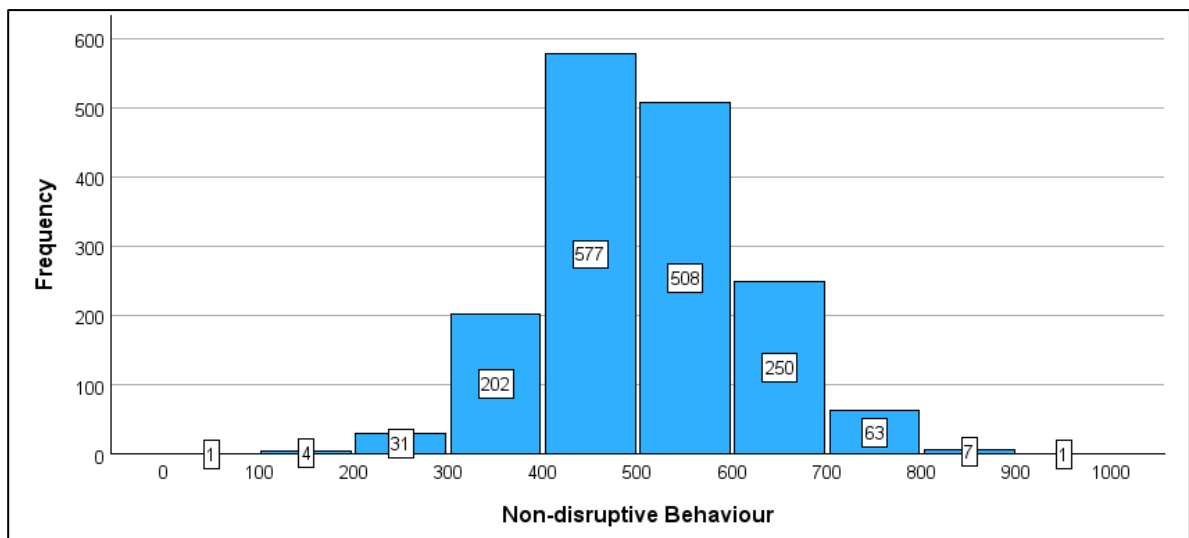
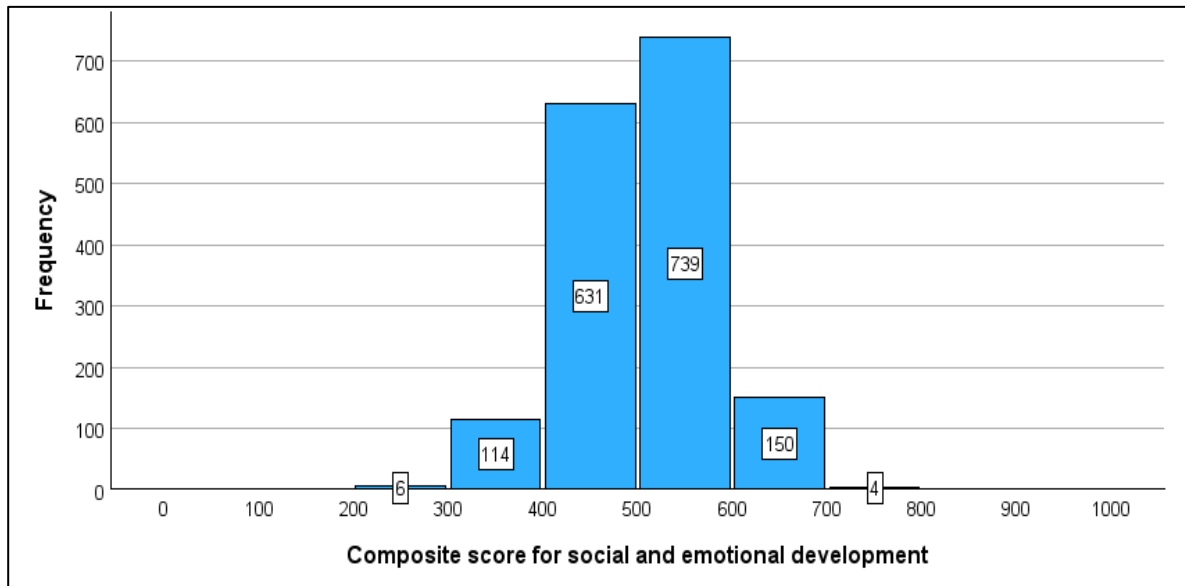


Figure 2.13: Score distribution of Maltese 5-year-olds in social emotional development



Figures 2.8 - 2.13 display respectively the score distributions of Maltese 5-year-olds in emotion identification, emotional attribution, trust, prosocial behaviour, non-disruptive behaviour and social emotional development. The percentages of 5-year-olds scoring higher than the IELS 2025 average (500) are 883 (53.7%) in emotion identification, 753 (45.8%) in emotional attribution, 898 (54.6%) in trust, 875 (53.2%) in prosocial behaviour, 829 (50.4%) in non-disruptive behaviour, and 893 (54.3%) in social and emotional development.

2.3 Variation in early learning and development outcomes

Two score distributions can have different shapes despite that their mean scores are similar. When the majority of children have outcomes near the average the score distribution will be slim and has a high peak, which implies less differentiation in the skills that children attain by age 5. On the other hand, when the majority of children have outcomes distant from the average the score distribution will be wide and flat, which implies different groups of children attain rather unequal levels of skills. The standard deviation measures the dispersion (spread) in the outcomes, where a large standard deviation indicates a wide flat score distribution; whereas a small standard deviation indicates a slim high-peaked score distribution. The skewness measures the symmetry of the score distribution, where a positive coefficient indicates a right skewed score distribution; whereas, a negative coefficient indicates a left skewed score distribution. The kurtosis measures the peakedness of the score distribution compared to the normal curve. A negative coefficient indicates a wide distribution which is flatter than the normal curve; whereas, a positive coefficient indicates a slim distribution which has a peak higher than the normal curve.

Table 2.4: Descriptive statistics of Maltese 5-year-olds for the three dimensions

Dimensions	Standard Deviation	Skewness	Kurtosis
Foundation learning	91.20	0.009	0.524
Executive function	77.14	0.075	1.035
Social emotional development	70.78	-0.101	0.134

Table 2.5: Descriptive statistics of Maltese 5-year-olds for the ten domains

Domains	Standard Deviation	Skewness	Kurtosis
Emergent literacy	106.03	-0.119	0.730
Emergent numeracy	91.05	0.070	0.169
Inhibition	91.59	-0.138	1.167
Working memory	104.67	0.129	0.528
Mental flexibility	106.57	0.336	0.539
Emotion identification	110.13	-0.188	0.604
Emotional attribution	113.57	-0.293	0.353
Trust	104.75	0.101	0.027
Prosocial behaviour	116.24	0.323	0.124
Non-disruptive behaviour	102.80	0.178	0.353

Table 2.4 shows that outcome scores are most dispersed in foundation learning ($SD = 91.20$) and least dispersed in social emotional learning ($SD = 70.78$). The score distributions of the three dimensions are fairly symmetric (skewness is close to 0) and have peaks higher than the normal distribution (positive kurtosis). Table 2.5 shows that outcome scores are most dispersed in prosocial behaviour ($SD = 116.24$), emotional attribution ($SD = 113.57$), emotion identification ($SD = 110.13$), emergent literacy (106.03) and working memory ($SD = 104.67$) and least dispersed in emergent literacy (91.05) and inhibition ($SD = 91.57$). The score distributions of the ten domains have peaks higher than the normal distribution (positive kurtosis). The score distributions of mental flexibility and prosocial behaviour are right skewed, emotional attribution is left skewed, while the score distributions of remaining domains are fairly symmetric.

In the foundational learning domains of emergent literacy and emergent numeracy, children in the Flemish Community, Korea and the Netherlands have the smallest variability in scores while children in the United Arab Emirates and Baku and Sumgait have the largest variability. Scores in the executive function domains display less variation overall, with no clear pattern of results across jurisdictions. Variation is again comparatively low among children in the Netherlands in the five social and emotional development domains, as it is among children in Ceará, Para and Sao Paulo in three of these domains and children in the Flemish Community in two domains. By contrast, variation in this dimension tends to be large among children in the United Arab Emirates and Baku and Sumgait, though not in all domains. In jurisdictions such as England and Korea, children's scores vary less than the international in the directly assessed domains of emotion identification and emotional attribution, but more in some of the indirectly assessed domains. Overall, across all early learning and development outcomes, there is a weak and inconsistent association between jurisdictions' mean performance and the degree of variability in children's scores.

Another measure of variation in outcomes is the difference that separates the children with the lowest and highest scores within a country/jurisdiction ($10^{\text{th}} - 90^{\text{th}}$ inter-decile range or $25^{\text{th}} - 75^{\text{th}}$ inter-quartile range). Table 2.6 shows that the inter-decile and inter-quartiles ranges for the three dimensions are 225.4 and 124.1 for foundation learning, 193.1 and 103.9 for executive function, and 180.0 and 95.2 for social and emotional development. Table 2.7 shows that the inter-decile and inter-quartiles ranges for the ten domains are 258.7 and 139.9 for emergent literacy, 232.5 and 121.2 for emergent numeracy, 223.0 and 111.8 for inhibition, 263.9 and 147.8 for working memory, 261.3 and 137.1 for memory flexibility, 272.5 and 144.4 for emotion identification, 291.3 and 140.7 for emotional attribution, 269.3 and 143.3 for trust, 300.5 and 151.2 for prosocial behaviour, and 261.8 and 138.8 for non-disruptive behaviour.

Table 2.6: Percentiles of Maltese 5-year-olds for the three dimensions

Dimensions	10 th perc.	25 th perc.	50 th perc.	75 th perc.	90 th perc.
Foundation learning	377.4	429.3	490.9	553.4	602.8
Executive function	400.6	440.8	490.8	544.7	593.7
Social emotional development	415.6	461.5	507.1	556.7	595.6

Table 2.7: Percentiles of Maltese 5-year-olds for the ten domains

Domains	10 th perc.	25 th perc.	50 th perc.	75 th perc.	90 th perc.
Emergent literacy	346.9	411.9	481.4	551.8	605.6
Emergent numeracy	387.4	442.4	502.1	563.6	619.9
Inhibition	375.4	431.6	486.5	543.4	598.4
Working memory	366.0	423.9	495.9	571.7	629.9
Mental flexibility	380.4	427.1	484.3	564.2	641.7
Emotion identification	373.0	437.0	510.2	581.4	645.5
Emotional attribution	329.6	417.3	494.6	558.0	620.9
Trust	382.6	441.2	512.7	584.5	651.9
Prosocial behaviour	378.2	439.7	509.9	590.9	678.7
Non-disruptive behaviour	382.2	437.5	503.0	576.3	644.0

For all ten early learning and development outcomes assessed in IELS 2025, the international averages for the inter-decile differences range from 220 to 250 score points. This means that the scores of children in the upper and lower portions of the performance distribution tend to differ by approximately 2 to 2.5 standard deviations. This level of variation is broadly consistent with the inter-decile ranges observed in PISA 2022 among 15-year-olds. In foundational learning domains, the widest gaps between high- and low-performing children are found in the United Arab Emirates and Baku and Sumgait, where inter-decile ranges are above 280 score points in both emergent literacy and emergent numeracy. By contrast, these differences remain below 200 score points in Korea (in emergent literacy) and in the Flemish Community and the Netherlands (in emergent numeracy). Inter-decile ranges tend to be smaller in jurisdictions with higher average scores in emergent literacy, but no association exists in emergent numeracy.

Distances between children in the upper and lower parts of the performance distribution are more homogeneous between jurisdictions in executive function domains, reflecting the lesser overall variation in this dimension. In inhibition and mental flexibility, differences between children tend to be larger in jurisdictions where average scores in these domains are higher, while the opposite holds in working memory. Regarding social and emotional development domains, differences with children with the highest and lowest scores are smallest in the Netherlands, being below 200 score points in four of these domains, and largest in the United Arab Emirates and Malta, and generally mirroring the overall level of variation in each jurisdiction. In trust, prosocial behaviour and non-disruptive behaviour, inter-decile ranges are larger in jurisdictions with higher average scores in these domains.

Children learn and develop rapidly during their early years. Age differences in early learning and development outcomes largely reflect naturally occurring increases in children's skills, driven by cognitive and physical maturation processes that start from conception and continue into the pre-school years. Differences in scores by month of age between ages 5 and 6 provide an estimate of the rate of expected learning and developmental progressions and help examine whether gaps between younger and older children vary across the three dimensions of early learning and development assessed by IELS.

Figure 2.14: Relationship between emergent literacy and age of Maltese 5-year-olds

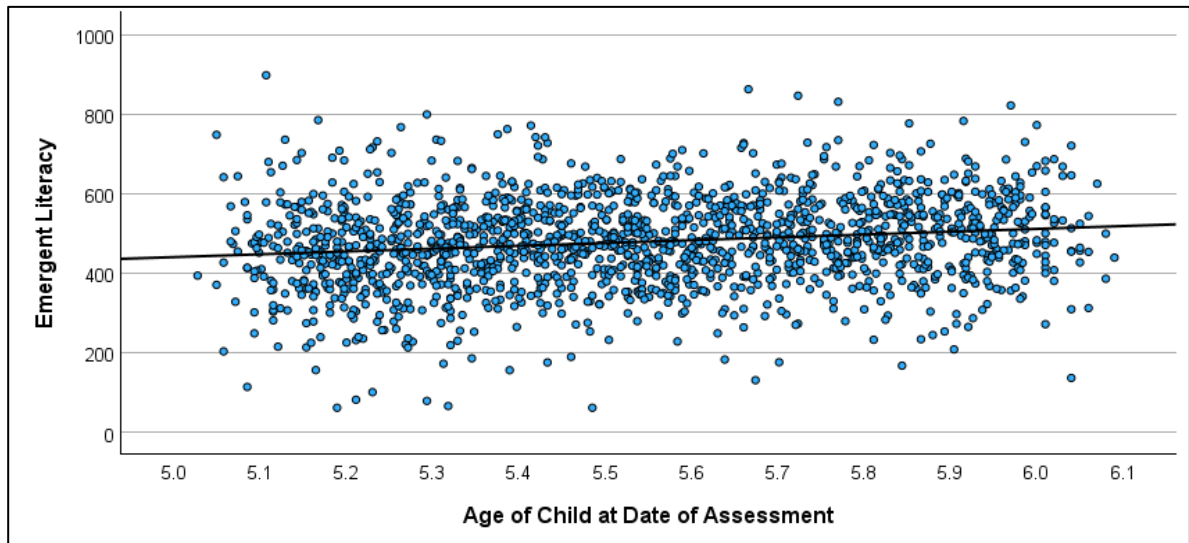


Figure 2.15: Relationship between emergent numeracy and age of Maltese 5-year-olds

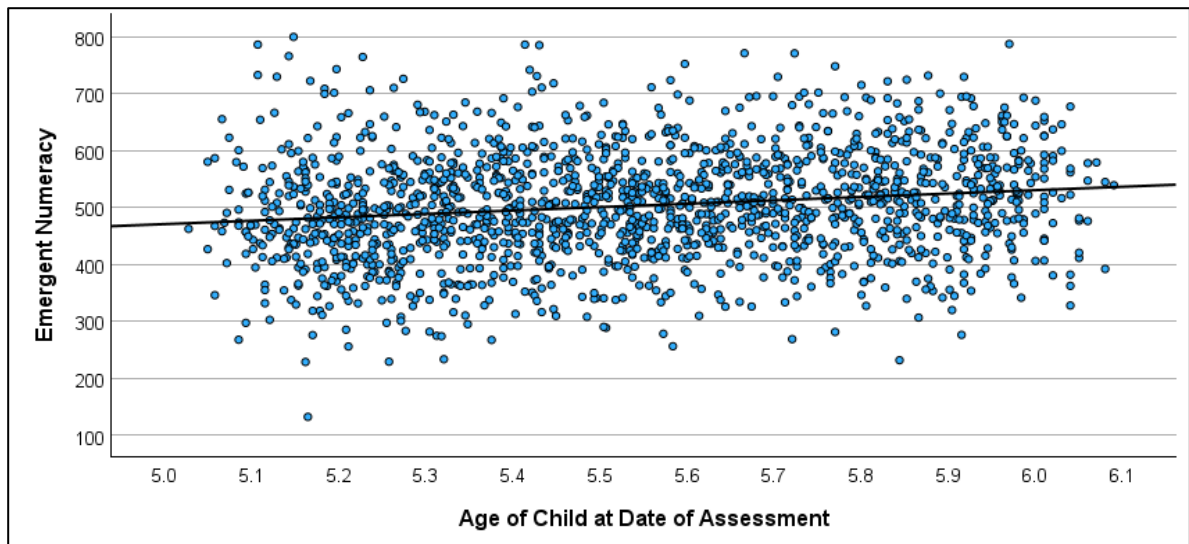


Figure 2.16: Relationship between foundational learning and age of Maltese 5-year-olds

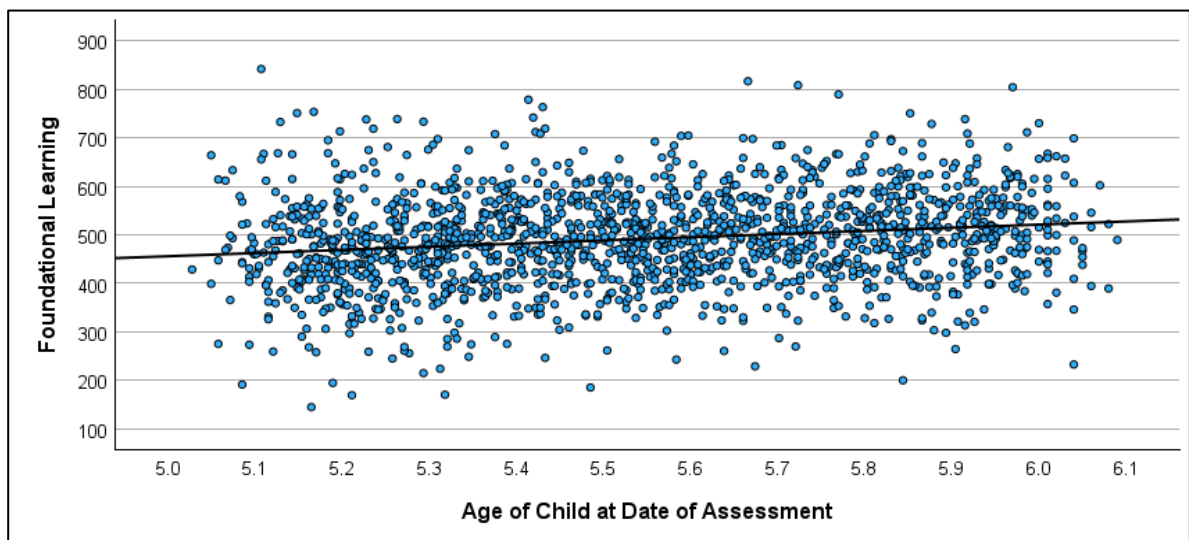


Figure 2.17: Relationship between inhibition and age of Maltese 5-year-olds

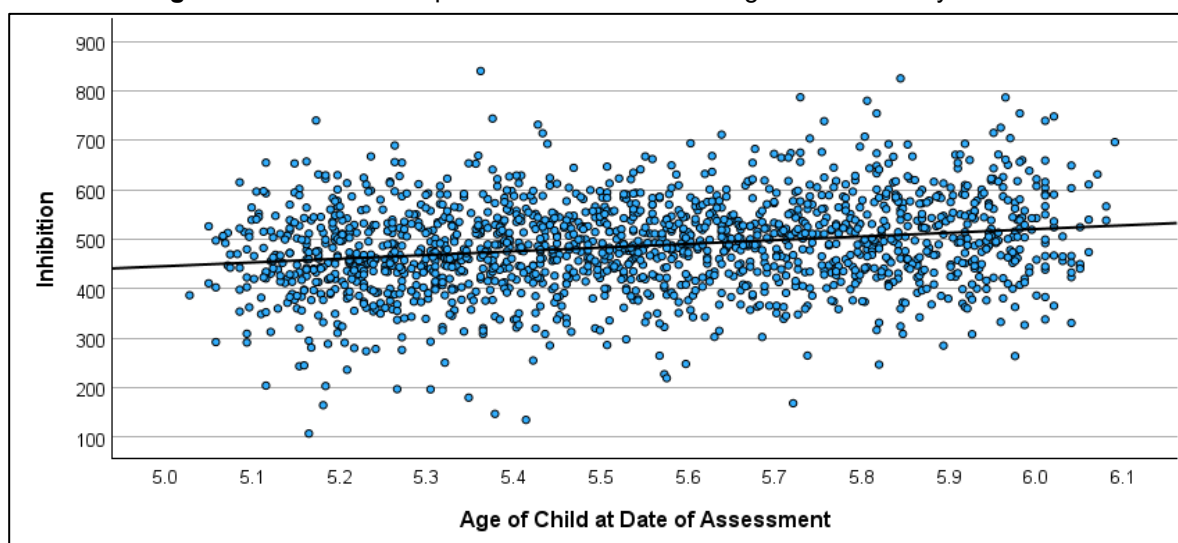


Figure 2.18: Relationship between working memory and age of Maltese 5-year-olds

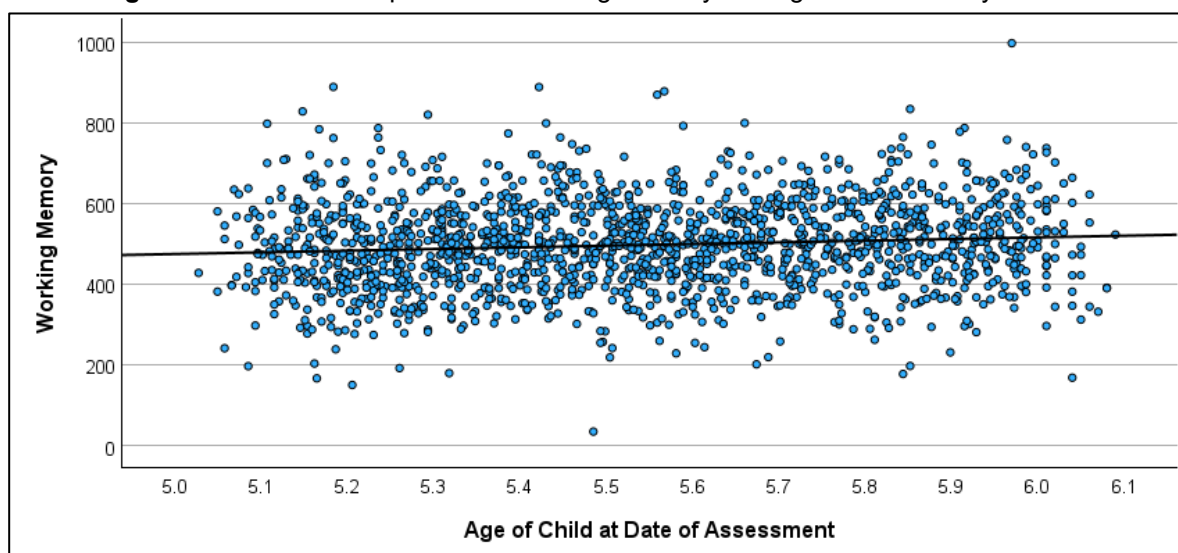


Figure 2.19: Relationship between mental flexibility and age of Maltese 5-year-olds

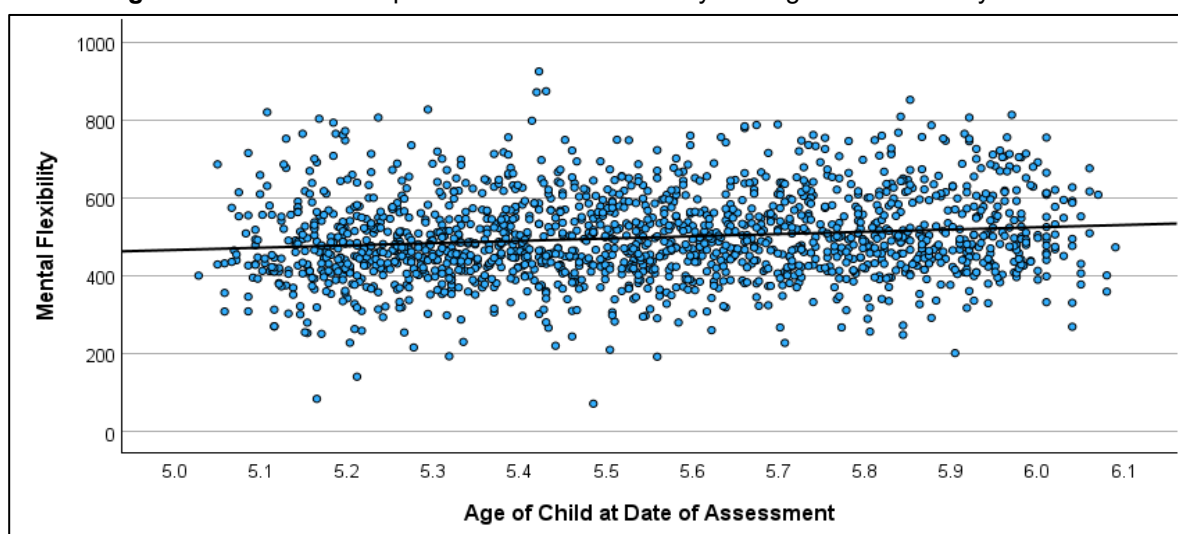


Figure 2.20: Relationship between executive function and age of Maltese 5-year-olds

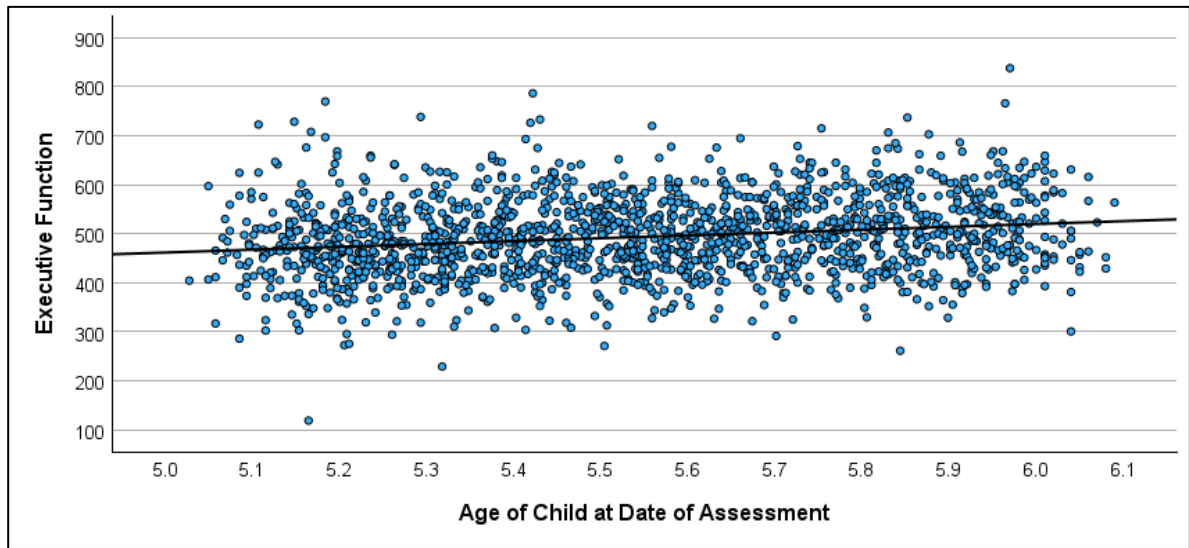


Figure 2.21: Relationship between emotion identification and age of Maltese 5-year-olds

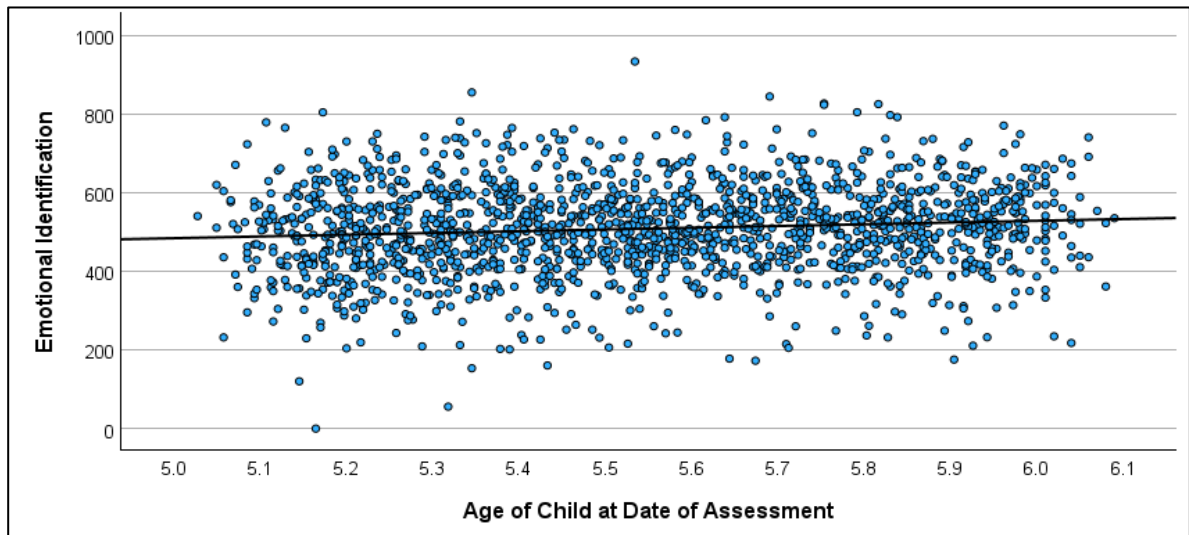


Figure 2.22: Relationship between emotional attribution and age of Maltese 5-year-olds

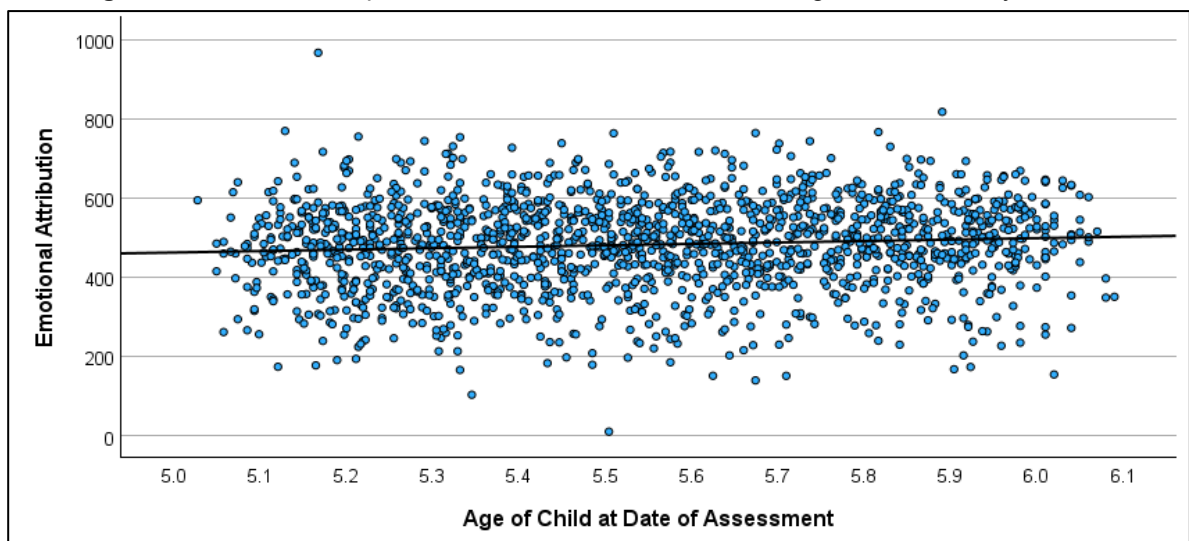


Figure 2.23: Relationship between trust and age of Maltese 5-year-olds

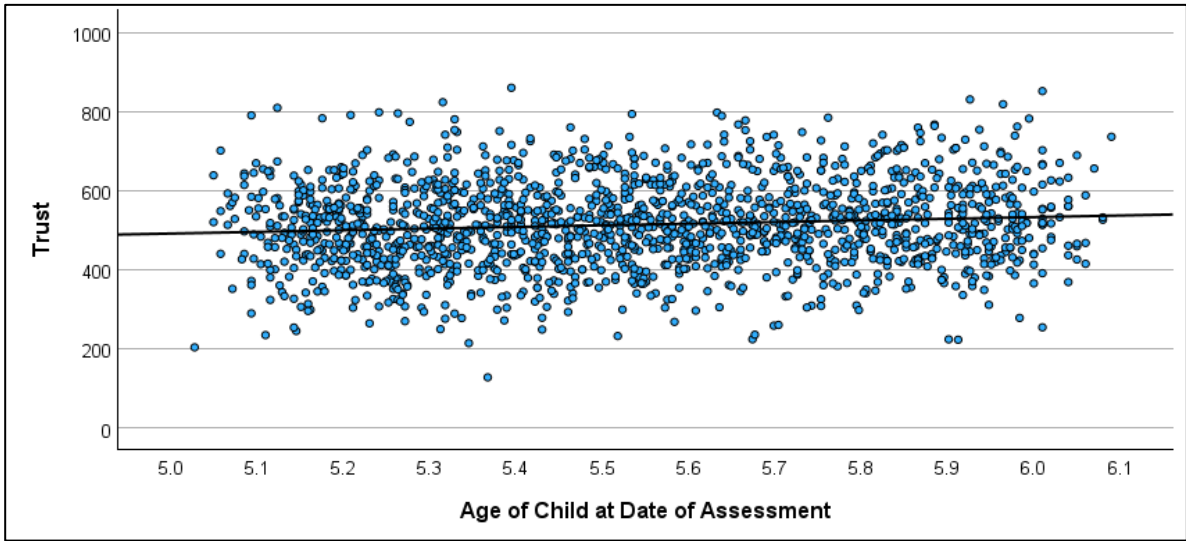


Figure 2.24: Relationship between prosocial behaviour and age of Maltese 5-year-olds

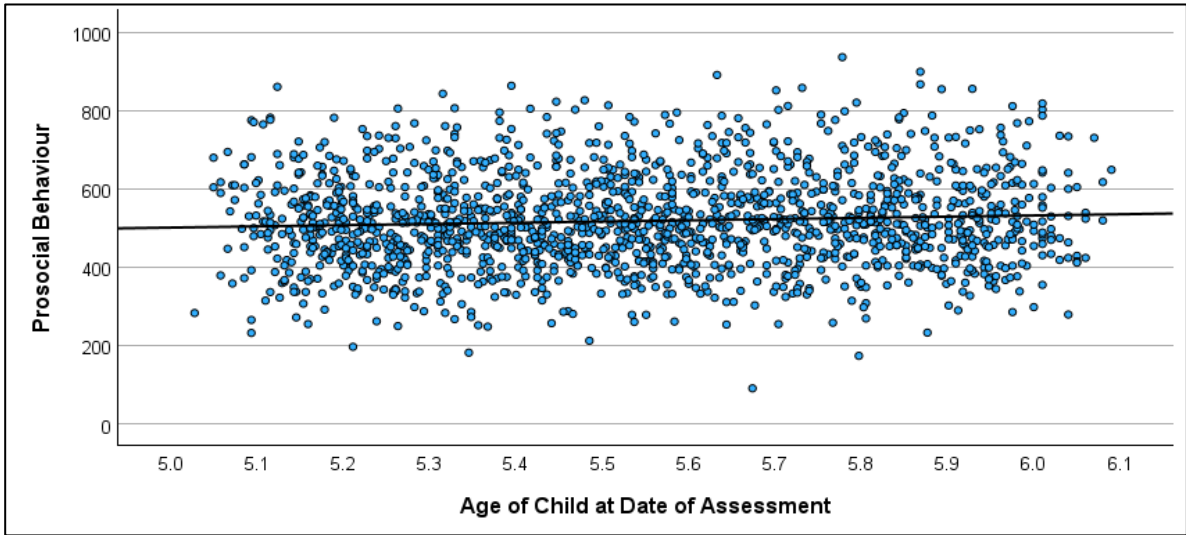


Figure 2.25: Relationship between non-disruptive behaviour and age of Maltese 5-year-olds

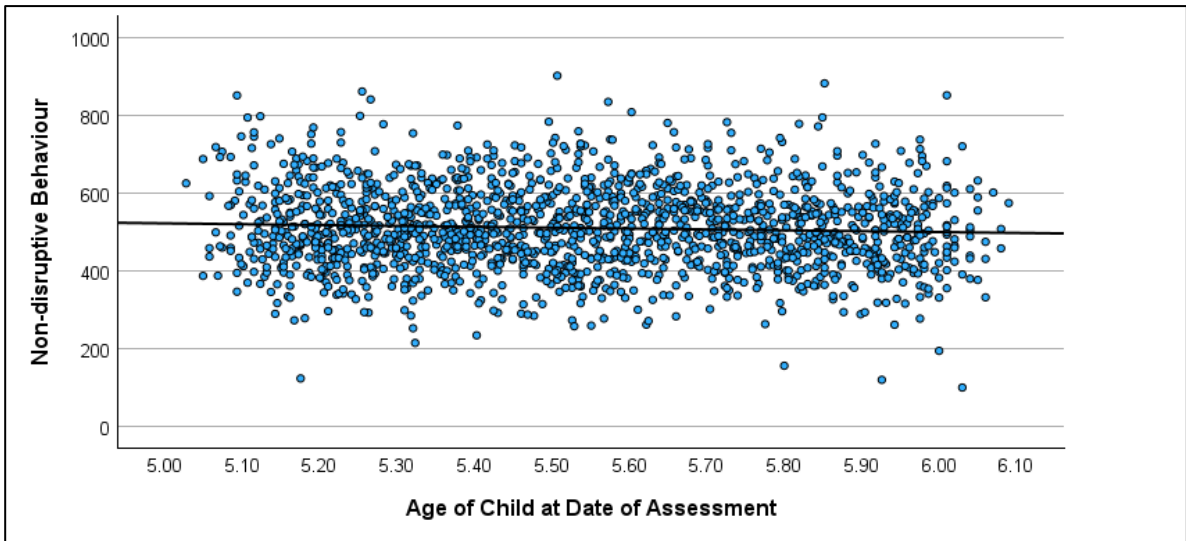
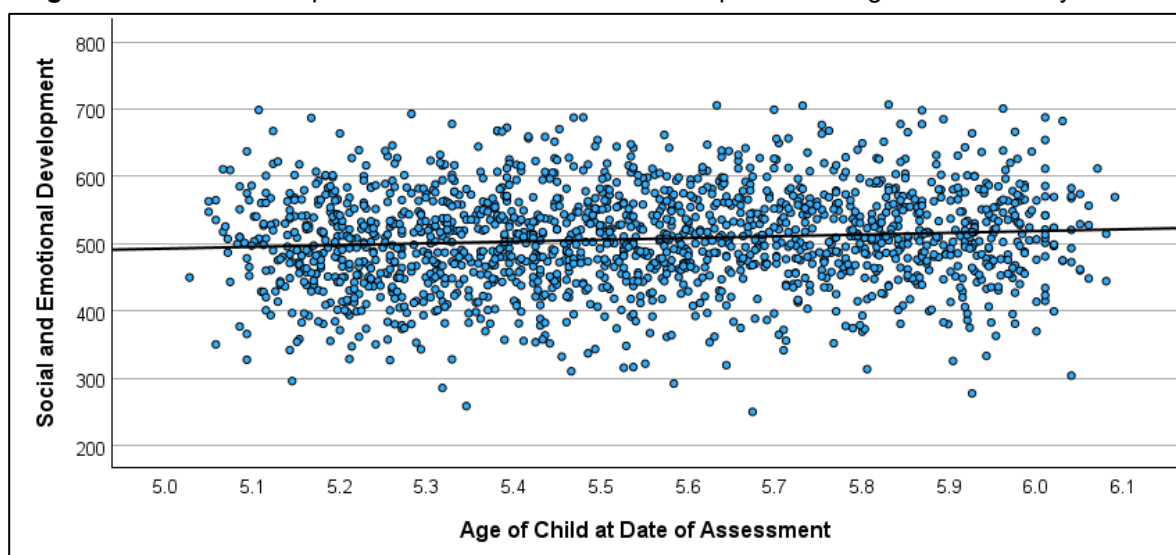


Figure 2.26: Relationship between social emotional development and age of Maltese 5-year-olds**Table 2.8:** Correlation of each dimension with the age of Maltese 5-year-olds

Dimensions	Correlation Coefficient	P-value
Foundation learning	0.182	<0.001
Executive function	0.192	<0.001
Social emotional development	0.096	<0.001

Table 2.9: Correlation of each domain with the age of Maltese 5-year-olds

Domains	Correlation Coefficient	P-value
Emergent literacy	0.169	<0.001
Emergent numeracy	0.169	<0.001
Inhibition	0.217	<0.001
Working memory	0.099	<0.001
Mental flexibility	0.141	<0.001
Emotion identification	0.104	<0.001
Emotional attribution	0.086	<0.001
Trust	0.102	<0.001
Prosocial behaviour	0.069	0.005
Non-disruptive behaviour	-0.056	0.024

Figures 2.14 – 2.26 show that all the three dimensions and most of the domains are positively related to the age of Maltese 5-year-olds. These trends also agree with IELS 2025 results, which confirm that, on average across jurisdictions, children's scores in early learning and development outcomes increase as children grow from age 5 to age 6. The only exception is non-disruptive behaviour which is negatively related with the age of Maltese 5-year-olds but is positively related in the other countries/jurisdictions. Moreover, the rate of increase is not consistent across outcomes. Table 2.8 shows that for Maltese 5-year-olds, the increase is more pronounced in the dimensions of foundational learning and executive function than social emotional development. Table 2.9 shows that the increase is more pronounced in the domains of inhibition, emergent numeracy and emergent literacy than other domains. These trends also agree with IELS 2025 results.

In the domains of emergent numeracy and inhibition, across countries/jurisdictions, the average scores increase by approximately 70 score points between 5 and 6 years. In emergent literacy, working memory and mental flexibility, the average score increments range from 44 to 54 score points. However, in the social and emotional development dimension, the growth in scores is more moderate, particularly in the domains of trust, pro-social behaviour, and non-disruptive behaviour, where the overall increase is of around 10 score points and where scores level off or even decrease slightly between 5 years and 6 years of age. Emotion identification and emotional attribution follow a pattern more similar to that observed in the foundational learning and executive function domains, with an average increase of approximately 40 score points. These trends also agree with Malta's results.

Variation in children's outcomes by month of age is not consistent across jurisdictions. In England, score differences between younger and older children exceed international averages across all assessment domains. In the foundational learning and executive function dimensions, these differences are also large among children in the Netherlands and small among children in Baku and Sumgait, Ceara, Para and Sao Paulo, and Malta, relative to international averages. Across other countries/jurisdictions, the score increments vary by domain, without displaying a clear pattern. In the social and emotional development domains of emotion identification and emotional attribution, these score increments are also large among children in the United Arab Emirates and the Flemish Community, whereas these score increments are small among children in Baku and Sumgait, Ceara, Para and Sao Paulo and Korea. In the other three, indirectly assessed domains, differences between jurisdictions tend to be narrow.

The early learning and development outcomes of 5-year-olds vary widely. Since 5-year-olds are nested in ECEC centres, multilevel models can be used to decompose this variation into differences at the child (level 1 units) and ECEC centre (level 2 units). This builds on the design of IELS, which samples participating children through ECEC centres. This variance decomposition analysis can provide valuable policy insights. If a large share of the total variation in children's outcomes is attributable to differences in performance between ECEC centres, then differences in the characteristics of ECEC centres are important for policy to consider. Likewise, if differences between 5-year-olds account for a large share of the overall variation in performance then this suggests that the home environment and early education systems (e.g. economic and social conditions) strongly influence children's outcomes.

Ensuring consistently high quality through ECEC centres is a major challenge for any education system. Some performance differences between centres may be attributable to the design of ECEC systems and policies, such as governance and funding models, or to the extent to which quality standards apply to different segments of the system. Performance differences also reflect the socioeconomic composition of settings, which may, for instance, reflect residential segregation and translate into disparities in the resources that ECEC centres can mobilise. The share of between-ECEC centres variation may be seen as a proxy for the concentration of social and economic advantage/disadvantage. Recent data from TALIS Starting Strong 2024 show that pre-primary ECEC centres with very small and large shares of children from socioeconomically disadvantaged homes coexist in many countries.

Table 2.10: Variances and intraclass correlations of Maltese 5-year-olds for the three dimensions

Dimensions	Variance		Intraclass Correlation	
	Level 1	Level 2	Level 1	Level 2
Foundation learning	6266.13	1167.00	84.3%	15.7%
Executive function	5131.99	544.99	90.4%	9.6%
Social emotional development	4419.43	267.11	94.3%	5.7%

Table 2.10 shows that in Malta, 15.7% of the variation in foundational learning composite scores, 9.6% of the variation in executive function composite scores, and 5.7% of the variation in social and emotional development composite scores is linked to average differences in children's scores between ECEC centres. This implies that foundational learning is more impacted by the choice of the ECEC centre than executive function and social emotional development. The remaining part (84.3%, 90.4%, and 94.3%, respectively) account for variation in performance between 5-year-olds. This suggests that the characteristics of ECEC centres do not play a dominant role in explaining children's early learning and development outcomes. Instead, most of the variation in these outcomes is accounted for by the characteristics of children themselves, including through the influence that their backgrounds, home environments and, eventually, experiences in ECEC prior to age 5, have on their early learning and development.

Table 2.11 shows that the intraclass correlations of emergent numeracy (17.6%), emergent literacy (13.8%), mental flexibility (13.0%), working memory (12.3%) and emotion identification (11.0%) are larger than the intraclass correlations of the remaining domains. This implies that emotional attribution (3.2%), inhibition (3.4%), trust (4.2%), prosocial behaviour (4.9%) and non-disruptive behaviour (5.6%) of Maltese children are less impacted by the choice of the ECEC centre made by the parents/guardians.

Table 2.11: Variances and intraclass correlations of Maltese 5-year-olds for the ten domains

Domains	Variance		Intraclass Correlation	
	Level 1	Level 2	Level 1	Level 2
Emergent literacy	9137.28	1462.8	86.2%	13.8%
Emergent numeracy	5978.63	1276.99	82.4%	17.6%
Inhibition	7836.84	275.83	96.6%	3.4%
Working memory	9162.05	1284.98	87.7%	12.3%
Mental flexibility	8688.74	1298.32	87.0%	13.0%
Emotion identification	8299.96	1025.84	89.0%	11.0%
Emotional attribution	11103.02	367.04	96.8%	3.2%
Trust	9984.46	437.73	95.8%	4.2%
Prosocial behaviour	11923.99	614.38	95.1%	4.9%
Non-disruptive behaviour	9363.53	555.46	94.4%	5.6%

Since ECEC centres are nested within countries/jurisdictions, multilevel models can also be used to decompose the variation in children's scores into differences at the ECEC level (level 1 units) and country/jurisdiction (level 2 units). In IELS 2025, about 7% of the variation in foundational learning composite scores, 13% of the variation in executive function composite scores, and 2% of the variation in social and emotional development composite scores is linked to average differences in children's scores between participating jurisdictions. These results indicate broad contextual characteristics at the jurisdictional level that influence children's outcomes.

On average across jurisdictions, 11% of the variation in foundational learning composite scores, 19% of the variation in executive function composite scores, and 12% of the variation in social and emotional development composite scores is observed between ECEC centres. Since Malta's share are 15.7%, 9.6% and 5.7% respectively, it can be deduced that the choice of ECEC centres in Malta have more impact on foundational learning compared to ECEC centres abroad, but less impact on executive function and social emotional development. Across the three dimensions of early learning and development, the share of between-ECEC centre variation in children's scores is largest in Korea and the United Arab Emirates, where it accounts for 20% or more of the total variation. By contrast, this share is smallest in Ceara, Para and Sao Paulo and the Flemish community, where it represents a negligible fraction of the overall variation.

2.4 Contextual factors influencing countries' performance

Comparing children's outcomes across diverse countries and education systems poses numerous challenges because the social, economic and cultural context of jurisdictions being compared are often very different. Each jurisdiction's contextual factors provide the background for its specific findings, as these affect the family and the wider social environments in which the 5-year-olds included in this study were growing up. For instance, the relative prosperity of some jurisdictions allows them to allocate more funding to the early years, whereas others are constrained by a lower national income. Child poverty rates can be affected by these. However, it is not only current economic conditions that matter for early childhood outcomes; for instance, the level of education of previous generations can also influence children's learning and development. The participating countries/jurisdictions in IELS 2025 differ in scale, economic development, demographics, and early learning systems and other supports provided to young children and their families.

Table 2.12: Mean fundamental learning scores stratified by Maltese mother's education level

	Sample size	Mean Score	Std. Dev.	Std. Error
Primary education or less	13	452.78	125.18	34.72
Lower secondary education	235	471.31	98.57	6.43
Upper secondary education	201	476.37	88.03	6.21
Post-secondary education, non-tertiary	168	489.10	90.94	7.02
Short-cycle tertiary education	251	505.85	86.13	5.44
Bachelors or equivalent	203	527.04	93.87	6.59

$F(5, 1065) = 11.00, p < 0.001$

Table 2.13: Mean executive function scores stratified by Maltese mother's education level

	Sample size	Mean Score	Std. Dev.	Std. Error
Primary education or less	13	468.05	103.62	28.74
Lower secondary education	235	486.66	79.41	5.18
Upper secondary education	201	483.22	73.87	5.21
Post-secondary education, non-tertiary	168	488.56	82.90	6.40
Short-cycle tertiary education	251	499.37	76.27	4.81
Bachelors or equivalent	203	507.36	81.15	5.70

$F(5, 1065) = 2.96, p = 0.012$

Table 2.14: Mean social emotional development scores stratified by Maltese mother's education level

	Sample size	Mean Score	Std. Dev.	Std. Error
Primary education or less	13	479.80	107.04	29.69
Lower secondary education	235	500.32	74.33	4.85
Upper secondary education	201	498.44	71.78	5.06
Post-secondary education, non-tertiary	168	501.41	73.67	5.68
Short-cycle tertiary education	251	521.81	73.66	4.65
Bachelors or equivalent	203	513.58	65.61	4.61

$F(5, 1065) = 3.95, p = 0.001$

Tables 2.12 - 2.14 show how the average performance in the foundational learning, executive function and social emotional development of Maltese 5-year-olds vary with mother's education level. These parents are roughly aged 25-34 years. Mean score differences are larger in foundational learning between mother's education levels than executive function and social emotional development. Across IELS countries and jurisdictions, the variation in the share of tertiary-educated parents accounts for 43% of the variation in the foundational learning composite score. An even stronger correlation is observed between the share of tertiary-educated parents and average executive function score ($r=0.73$; 53% of variance), and a slightly weaker association with the social and emotional development score ($r=0.55$; 30% of variance).

2.5 Parent and teacher perspectives on children's skills

Besides providing children's scores in ten different domains of early learning and development, IELS 2025 provides information on the perceptions of parents, teacher and staff member about each child's skills. This enables IELS to compare information from direct and indirect assessments and also gauge children's development across a broader scope of areas, based on the skills and behaviours observed at home or at the ECEC centre the children attended. Research shows positive correlations between direct assessment and adult reports of children's early learning and development outcomes, with the concordance generally being higher in early literacy and numeracy domains than in executive function and self-regulation domains.

In addition to the domains of early learning and development presented in preceding sections, in IELS 2025 parents, teachers and staff provided information on how children were developing in three areas, including cognitive and motor skills, social and emotional skills, and global capabilities (the latter, provided by teachers only). This information was used to construct three indices summarising these perceptions, using an IRT estimation method consistent across contextual and outcomes measures.

Figures 2.27 and 2.28 display the score distributions of Maltese 5-year-olds in cognitive and motor skills, where 835 (50.8%) according to teachers and 903 (54.9%) according to parents scored higher than the IELS average (0). Figure 2.29 and 2.30 display the score distributions of Maltese 5-year-olds in social and emotional skills, where 777 (47.3%) according to teachers and 798 (48.5%) according to parents scored higher than the IELS average. Figure 2.31 displays the score distribution of Maltese 5-year-olds in global capabilities, where 877 (53.3%) according to teachers scored higher than the IELS average.

Figure 2.27: Score distribution of Maltese 5-year-olds in cognitive and motor skills (Staff)

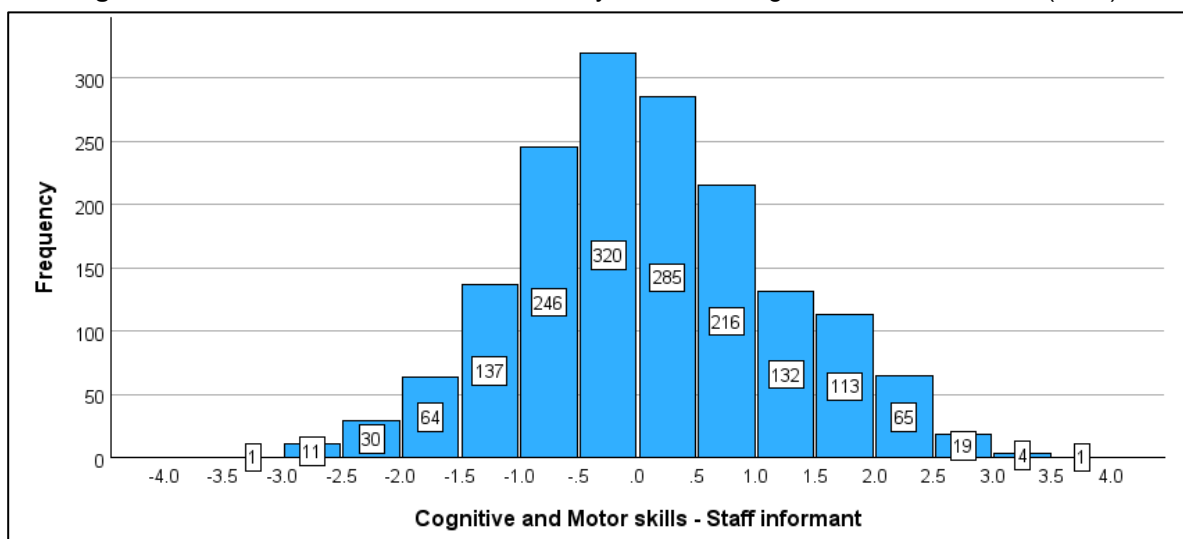


Figure 2.28: Score distribution of Maltese 5-year-olds in cognitive and motor skills (Parent)

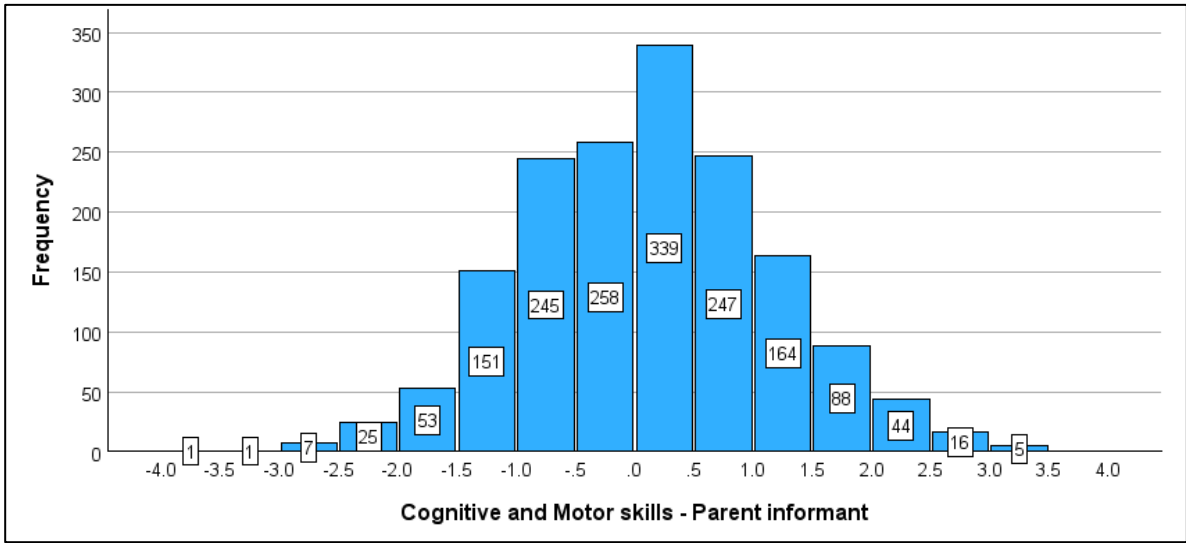


Figure 2.29: Score distribution of Maltese 5-year-olds in social and emotional skills (Staff)



Figure 2.30: Score distribution of Maltese 5-year-olds in social and emotional skills (Parent)

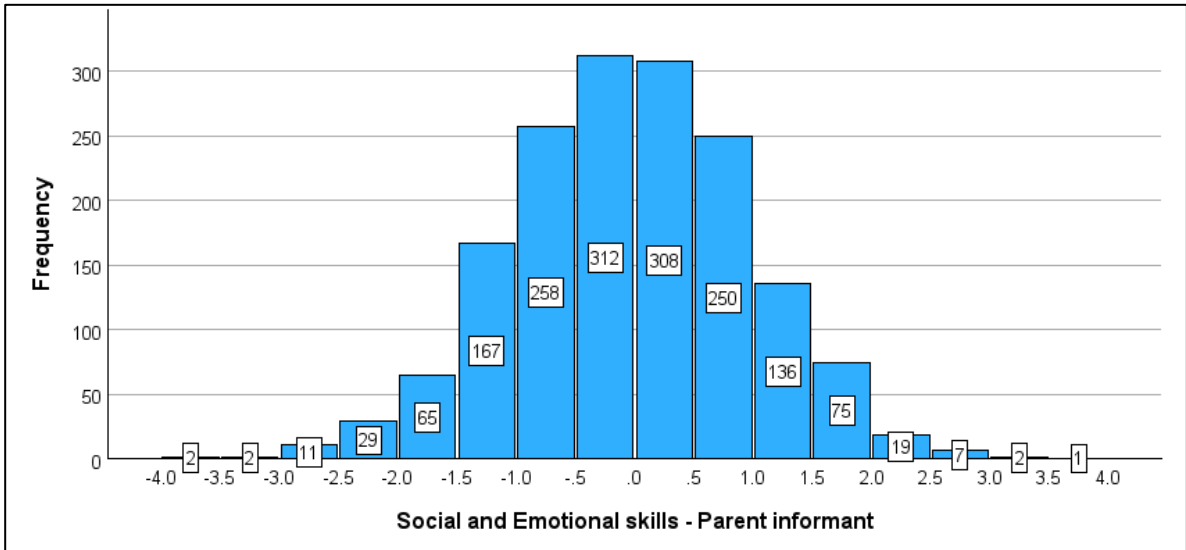


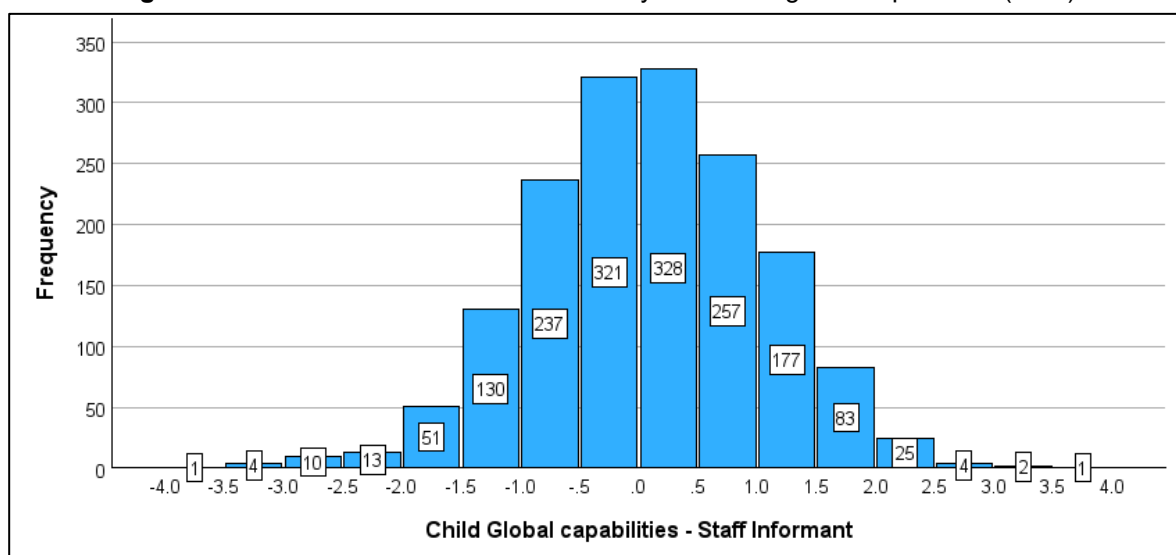
Figure 2.31: Score distribution of Maltese 5-year-olds in global capabilities (Staff)

Table 2.15 and 2.16 presents the Maltese and the IELTS 2025 correlations between assessed early learning and development outcomes and parents' and teachers' perceptions of children's skills. These correlations are positive and significantly larger than 0. In the foundational learning and executive function dimensions, and also in directly assessed social and emotional domains, these correlations are consistently larger with the index of children's global capabilities. This is expected, as the index synthesises information from ECEC staff about children's ability to complete a series of tasks involving emergent literacy or numeracy-tasks commonly encountered in early education settings (e.g. sort a group of objects by shape, size or colours; count in multiples; speak using multiple sentences to explain something) - as well as tasks related to empathy (e.g. draw inferences about how a character felt after listening to a story).

High correlations are also observed between the indices of cognitive and motor skills and the socioemotional skills built from staff reports, on the one hand, and the indirectly assessed domains of trust, pro-social behaviour and non-disruptive behaviour, on the other. Most of these correlations are positive and significantly larger than 0.

Table 2.15: Correlations between assessed early learning and development outcomes and parent and teacher perceptions of children's skills (Data from Malta)

Domains	Cognitive and Motor Skills		Socioemotional Skills		Global Capabilities
	Teacher	Parent	Teacher	Parent	Teacher
Emergent literacy	0.318	0.182	0.238	0.117	0.427
Emergent numeracy	0.334	0.229	0.230	.151	0.477
Inhibition	0.202	0.162	0.152	0.095	0.229
Working memory	0.270	0.146	0.208	0.092	0.390
Mental flexibility	0.270	0.143	0.215	0.098	0.319
Emotion identification	0.255	0.136	0.240	0.094	0.292
Emotional attribution	0.238	0.153	0.217	0.109	0.287
Trust	0.603	0.169	0.616	0.193	0.484
Prosocial behaviour	0.696	0.169	0.797	0.214	0.568
Non-disruptive behaviour	0.146	0.063	0.373	0.103	0.080

Table 2.16: Correlations between assessed early learning and development outcomes and parent and teacher perceptions of children's skills (Data from all participating countries/jurisdictions)

Domains	Cognitive and Motor Skills		Socioemotional Skills		Global Capabilities
	Teacher	Parent	Teacher	Parent	Teacher
Emergent literacy	0.30	0.17	0.21	0.10	0.41
Emergent numeracy	0.35	0.20	0.24	0.11	0.50
Inhibition	0.17	0.10	0.14	0.07	0.21
Working memory	0.27	0.13	0.20	0.09	0.35
Mental flexibility	0.22	0.14	0.18	0.10	0.28
Emotion identification	0.24	0.14	0.20	0.10	0.30
Emotional attribution	0.13	0.07	0.12	0.07	0.16
Trust	0.55	0.17	0.60	0.19	0.45
Prosocial behaviour	0.67	0.21	0.77	0.23	0.56
Non-disruptive behaviour	0.21	0.08	0.40	0.13	0.16

Table 2.17 shows that across the three dimensions, the correlations between assessed early learning and development outcomes of Maltese children and their parents' and teachers' perceptions of children's skills are all positive and significantly larger than 0. Moreover, the perceptions of teachers and staff about children's skills appear more consistent with children's scores than those of parents, as indicated by the higher correlations.

Table 2.17: Correlations between assessed early learning and development outcomes and parent and teacher perceptions of children's skills (Data from Malta)

Dimensions	Cognitive and Motor Skills		Socioemotional Skills		Global Capabilities
	Teacher	Parent	Teacher	Parent	Teacher
Foundation learning	0.350	0.219	0.252	0.143	0.483
Executive function	0.323	0.193	0.250	0.123	0.410
Social emotional growth	0.607	0.209	0.701	0.222	0.537

Table 2.18 shows that across countries and jurisdictions, the perceptions of teachers and staff about children's skills appear more consistent with children's scores than those of parents, as indicated by the higher correlations. These three indices summarising parent and early educator views are also used in subsequent chapters to examine whether gaps observed in the assessed early learning and development outcomes are also visible in the perceptions of these adults.

Table 2.18: Correlations between assessed early learning and development outcomes and parent and teacher perceptions of children's skills (Data from all participating countries/jurisdictions)

Dimensions	Cognitive and Motor Skills		Socioemotional Skills		Global Capabilities
	Teacher	Parent	Teacher	Parent	Teacher
Foundation learning	0.35	0.19	0.24	0.11	0.49
Executive function	0.28	0.16	0.22	0.11	0.36
Social emotional growth	0.56	0.21	0.65	0.22	0.50

2.6 How dimensions of early learning relate to each other

Children's learning and development in the early years is inter-related and mutually reinforcing across their different dimensions. However, while positive correlations are largely documented between these dimensions, research continues to explore potential trade-offs between different types of skills-based, for instance, on concerns between the relative space given to direct instruction versus play in early education settings as well as transfer and co-development dynamics. Although IELS data cannot support an exploration of skills complementarities and trade-offs over time, due to their cross-sectional nature, they provide a unique opportunity to examine how multiple dimensions of early learning and development, and specific domains within these, relate to each other in a large sample of 5-year-olds.

Table 2.19 shows that the relationships between Maltese children's outcomes in different dimensions are positively and significantly related. Composite scores are more strongly correlated between the dimensions of foundational learning and executive function ($r = 0.742$) than between these and the social and emotional development dimension ($r = 0.478$) and $r = 0.477$, respectively). Table 2.20 shows a similar trend across the jurisdictions/countries participating in IELS 2025, where composite scores are more strongly correlated between the dimensions of foundational learning and executive function than between these and the social and emotional development dimension.

Table 2.19: Correlations between the three dimensions (Data from Malta)

	Foundational Learning	Executive Function	Socioemotional Development
Foundational Learning	1	0.742	0.478
Executive Function	0.742	1	0.477
Social Emotional Development	0.478	0.477	1

Table 2.20: Correlations between the dimensions (Data from all participating countries/jurisdictions)

	Functional Learning	Executive Function	Socioemotional Development
Foundational Learning	1	0.64	0.46
Executive Function	0.64	1	0.40
Social Emotional Development	0.46	0.40	1

Within foundational learning, Table 2.21 shows a strong correlation between emergent literacy and emergent numeracy ($r = 0.726$) for Maltese children. Within executive function, correlations between domains are moderate, particularly with inhibition, and higher between working memory and mental flexibility ($r = 0.577$). Within social and emotional development, trust and prosocial behaviour are strongly correlated ($r = 0.762$), while a more modest overlap exists between the two empathy-related domains (emotion identification and emotional attribution) and the two behavioural domains (prosocial and non-disruptive behaviours). Correlations between directly assessed domains (emotion identification and emotional attribution) and indirectly assessed domains (trust, prosocial behaviour and non-disruptive behaviour) are low. For all countries and jurisdictions combined, Table 2.22 shows similar trends.

Notably, correlations between some domains are sometimes higher between rather than within dimensions. For instance, emergent literacy and emergent numeracy have stronger correlations with working memory and mental flexibility than does inhibition. Emotion identification correlates more closely with most foundational learning and executive function domains than with most of the other social and emotional development domains.

Table 2.21: Correlations between the domains (Data from Malta)

	Emergent Literacy	Emergent Numeracy	Inhibition	Working Memory	Mental Flexibility	Emotion identification	Cognitive Attribution	Trust	Prosocial Behaviour	Non-disruptive Behaviour
Emergent Literacy	1	.726	.276	.647	.628	.538	.461	.165	.236	.071
Emergent Numeracy	.726	1	.341	.626	.612	.557	.445	.137	.204	.016
Inhibition	.276	.341	1	.289	.287	.300	.260	.167	.183	.022
Working Memory	.647	.626	.289	1	.577	.453	.317	.195	.259	.109
Mental Flexibility	.628	.612	.287	.577	1	.535	.327	.101	.206	.058
Emotion identification	.538	.557	.300	.453	.535	1	.573	.091	.211	.043
Emotional Attribution	.461	.445	.260	.317	.327	.573	1	.105	.223	.078
Trust	.165	.137	.167	.195	.101	.091	.105	1	.762	.168
Prosocial Behaviour	.236	.204	.183	.259	.206	.211	.223	.762	1	.406
Non-disruptive Behaviour	.071	.016	.022	.109	.058	.043	.078	.168	.406	1

Table 2.22: Correlations between the domains (Data from all participating countries/jurisdictions)

	Emergent Literacy	Emergent Numeracy	Inhibition	Working Memory	Mental Flexibility	Emotion identification	Cognitive Attribution	Trust	Prosocial Behaviour	Non-disruptive Behaviour
Emergent Literacy	1	0.72	0.25	0.58	0.51	0.56	0.38	0.15	0.22	0.09
Emergent Numeracy	0.72	1	0.30	0.62	0.51	0.55	0.34	0.14	0.23	0.10
Inhibition	0.25	0.30	1	0.34	0.32	0.24	0.18	0.10	0.13	0.09
Working Memory	0.58	0.62	0.34	1	0.52	0.45	0.27	0.12	0.21	0.13
Mental Flexibility	0.51	0.51	0.24	0.45	1	0.44	0.24	0.09	0.17	0.11
Emotion identification	0.56	0.55	0.24	0.45	0.44	1	0.55	0.13	0.21	0.09
Emotional Attribution	0.38	0.34	0.18	0.27	0.24	0.55	1	0.06	0.12	0.08
Trust	0.15	0.14	0.10	0.12	0.09	0.13	0.06	1	0.79	0.21
Prosocial Behaviour	0.22	0.23	0.13	0.21	0.17	0.21	0.12	0.79	1	0.43
Non-disruptive Behaviour	0.09	0.10	0.09	0.13	0.11	0.09	0.08	0.21	0.43	1

Table 2.23 displays the correlations between the three dimensions and ten domains of Maltese children. The domains of foundational learning are more strongly correlated with executive function than social emotional development. The domains of executive function are more strongly correlated with foundational learning than social emotional development. The domains of social emotional development are more strongly correlated with foundational learning than executive function. For all countries and jurisdictions combined, Table 2.24 shows similar trends.

In some jurisdictions, correlations between domains deviate significantly from the international average patterns. For instance, the relationship between the foundational learning domains of emergent literacy

and emergent literacy is stronger than average among children in England and the Netherlands, and weaker among children in Ceara, Para and Sao Paulo. In turn, correlations between executive function domains are stronger than average among children in England, and weaker among children in Baku and Sumgait. Meanwhile, children's scores in social and emotional development outcomes are generally more strongly correlated with each other in the Flemish Community.

Table 2.23: Correlations between the dimensions and domains (Data from Malta)

	Foundational Learning	Executive Function	Socioemotional Development
Emergent Literacy	0.941	0.686	0.460
Emergent Numeracy	0.916	0.694	0.426
Inhibition	0.329	0.643	0.292
Working Memory	0.686	0.830	0.417
Mental Flexibility	0.668	0.827	0.385
Emotion identification	0.588	0.565	0.601
Emotional Attribution	0.488	0.393	0.618
Trust	0.163	0.199	0.661
Prosocial Behaviour	0.238	0.282	0.814
Non-disruptive Behaviour	0.049	0.085	0.518

Table 2.24: Correlations between dimensions and domains (Data from all countries/jurisdictions)

	Foundational Learning	Executive Function	Socioemotional Development
Emergent Literacy	0.93	0.58	0.44
Emergent Numeracy	0.93	0.62	0.42
Inhibition	0.29	0.71	0.23
Working Memory	0.64	0.80	0.36
Mental Flexibility	0.55	0.80	0.33
Emotion identification	0.60	0.49	0.61
Emotional Attribution	0.39	0.30	0.56
Trust	0.16	0.13	0.68
Prosocial Behaviour	0.24	0.22	0.79
Non-disruptive Behaviour	0.11	0.14	0.56

Results suggest a strong similarity in the relative positions of children across dimensions of early learning and development, while also showing that a minority of 5-year-olds combine relatively strong skills in one dimension with relatively weak skills in others. Table 2.25 shows that on average, 60.3% of Maltese 5-year-olds in the bottom quarter of the performance distribution in foundational learning are also in the bottom quarter of the distribution in executive function. At the other end, 60.3% of the Maltese children in the top quarter of the distribution in foundational learning are also top scorers in executive function. Furthermore, 86.8% of Maltese children in the top quarter in foundational learning are in the upper half of the executive function performance distribution, and 87.9% of Maltese children in the bottom quarter in foundational learning are in the lower half of the executive function performance distribution. This means the cross-over between high performance in one dimension and low performance

in the other is very small. However, 37.6% of Maltese children in the two intermediate quartiles of the foundational learning distribution were either in the top or bottom quartile of the executive function distribution, indicating more diverse skill bundles for children with intermediate levels of skills. Similar trends emerge across participating countries/jurisdictions.

Table 2.25: Percentage of 5-year-olds across quartiles of performance in foundational learning and executive function (Data from Malta)

		Executive Function			
		Bottom quarter	2nd quarter	3 rd quarter	Top quarter
Foundational Learning	Bottom quarter	60.3%	27.6%	10.3%	1.8%
	2nd quarter	26.6%	36.9%	27.1%	9.4%
	3 rd quarter	10.7%	24.7%	36.2%	28.4%
	Top quarter	2.5%	10.7%	26.5%	60.3%

Children's relative level of foundational learning skills is less strongly correlated with their relative level of social and emotional development skills. Table 2.26 shows that on average, 48.3% of Maltese children in the bottom quarter of the performance distribution in foundational learning, are similarly positioned in social and emotional development, whereas among Maltese top performers, this proportion is 44.7%. Conversely, up to 24.6% of Maltese children with the lowest scores in foundational learning are in the upper half of the distribution in social and emotional development domains, and 28.0% of the Maltese children with the highest scores in the first dimension are in the bottom half of the distribution in the second dimension. Similar trends emerge across participating countries/jurisdictions.

Table 2.26: Percentage of 5-year-olds across quartiles of performance in foundational learning and social emotional development (Data from Malta)

		Social Emotional Development			
		Bottom quarter	2nd quarter	3 rd quarter	Top quarter
Foundational Learning	Bottom quarter	50.2%	25.2%	15.9%	8.7%
	2nd quarter	26.9%	28.5%	25.3%	19.3%
	3 rd quarter	13.8%	27.4%	27.4%	31.4%
	Top quarter	9.0%	19.0%	31.4%	40.6%

Children's relative level of executive function skills is also less strongly correlated with their relative level of social and emotional development skills. Table 2.27 shows that on average, 50.2% of Maltese children in the bottom quarter of the performance distribution in executive function, are similarly positioned in social and emotional development, whereas among Maltese top performers, this proportion is 40.6%. Similar trends emerge across participating countries/jurisdictions.

Table 2.27: Percentage of 5-year-olds across quartiles of performance in executive function and social emotional development (Data from Malta)

		Social Emotional Development			
		Bottom quarter	2nd quarter	3 rd quarter	Top quarter
Executive Function	Bottom quarter	48.3%	25.2%	16.5%	10.0%
	2nd quarter	28.2%	28.6%	26.7%	16.5%
	3 rd quarter	14.8%	26.4%	30.0%	28.8%
	Top quarter	8.8%	19.8%	26.7%	44.7%

While these results represent only aggregate patterns, as they rely on composite scores and international averages, this type of analysis, partially when looking at jurisdiction-specific patterns, can yield important implications for early years and primary education policies. For example, the design of interventions to support young children with early difficulties may vary depending on whether they target children with low skills in a single dimension or several dimensions of early learning and development. Similarly, jurisdictions may derive valuable insights from these joint distributions among 5-year-olds for the design of curricular content and pedagogical practices in the early years of primary school.

3

Equity gaps in early learning

3.1 Introduction

The countries/jurisdictions participating in IELS 2025 vary markedly in their economic development, demographic profiles and social protection systems. These differences impact the available funding and opportunities that public policies can provide to support families and young children. Consequently, there is an uneven distribution of resources and services designed to foster early childhood well-being and development across participating countries/jurisdictions. Chapter 2 showed that most of the variation observed in children's early learning and development outcomes lies within rather than between countries/jurisdictions, emphasising how demographic, socioeconomic, and cultural factors shape the distribution of outcomes across the child populations.

Chapter 3 describes how variation in children's early learning and development differs by gender, socioeconomic status, and immigration and language backgrounds. The chapter considers these factors as central components of children's social identities, while subsequent chapters examine the influence of home environments and of early education and care. This chapter analyses disparities in early childhood development, specifically across gender, socioeconomic, immigration, and linguistic backgrounds, through an equity-focused lens. Unlike the naturally occurring age-related gaps, these gaps are socially conditioned and can represent important policy targets. By applying an equity-focused perspective, the IELS study recognises that early skill development and the distribution of developmental outcomes are shaped by social factors. These outcomes are heavily influenced by circumstances beyond a child's control, such as their socioeconomic status, gender, ethnicity, immigrant background, family structure, or place of residence.

From this viewpoint, highly equitable early education systems are defined by their ability to reduce the negative impact of external circumstances and foster better early learning and developmental outcomes for all children. Section 3.2 examines gender gaps; Section 3.3 investigates socioeconomic gaps and Sections 3.4 and 3.5 explore migration and language gaps in early learning and development.

3.2 Gender gaps in early learning and development

Comprehending how children learn and develop requires acknowledging the role of gender; however, the relationship between a child's gender and their early skills is complex and not entirely predetermined by biology. As children mature, the extent and nature of gender-related skill disparities can evolve, heavily influenced by external factors, primarily the social environment in which they grow up. Studies indicate that gender-based differences emerge in early childhood regarding the speed of skill acquisition. On average, female children tend to develop language, communication, social, and emotional skills more

rapidly than males. Gender gaps in motor skills development do exist, where girls show superior fine motor skills (such as manual dexterity) and boys exhibit stronger gross motor skills (such as jumping, running and climbing).

Gender-distinct social practices within the family are potential catalysts for the unequal development and learning outcomes observed between boys and girls. The time and activities that mothers and fathers engage in with their children can vary depending on the gender of the child. Moreover, children's gender-specific behaviours can prompt parents to adopt different parenting styles for boys and girls, with both these behaviours and parental reactions leading to various interactive differences, such as distinct verbal communication, emotional displays, play styles, or levels of compliance. For instance, the fact that girls and boys reach pretend-play milestones at different times and exhibit differential development in fine and gross motor skills often mirrors societal expectations that guide, encourage, or restrict play behaviour based on gender.

Table 3.1: Percentage of male and female children, grouped by country/jurisdiction

Country/jurisdiction	Female	Male
Baku, Sumgait (Azerbaijan)	47.9%	52.1%
Ceara, Para, Sao Paulo (Brazil)	48.6%	51.4%
England (United Kingdom)	49.7%	50.3%
Flemish Community (Belgium)	49.2%	50.8%
Korea	49.2%	50.8%
Malta	48.7%	51.3%
Netherlands	50.2%	49.8%
United Arab Emirates	49.4%	50.6%
Abu Dhabi (United Arab Emirates)	48.8%	51.2%

Table 3.1 displays the gender distribution across participating countries/jurisdictions. The even gender distribution allows robust comparisons regarding the skills development of boys and girls by age 5.

Table 3.2: Mean scale scores for the three dimensions, grouped by country and gender

Country/jurisdiction	Foundational Learning		Executive Function		Social Emotional Development	
	Female	Male	Female	Male	Female	Male
Baku, Sumgait (Azerbaijan)	500.4	502.5	498.8	495.7	508.4	494.8
Ceara, Para, Sao Paulo (Brazil)	480.9	477.1	467.2	462.3	494.1	467.7
England (United Kingdom)	531.4	519.2	508.2	498.8	526.1	495.4
Flemish Community (Belgium)	483.4	482.7	500.8	494.4	508.6	485.5
Korea	542.5	547.8	572.2	555.3	515.9	487.2
Malta	495.2	486.9	493.5	493.2	519.5	494.2
Netherlands	495.8	490.3	488.1	477.3	509.0	487.3
United Arab Emirates	497.1	486.2	506.8	491.6	519.6	493.9
Abu Dhabi (United Arab Emirates)	486.7	469.8	492.3	474.5	515.2	488.6

Table 3.2 shows that Maltese girls score higher than boys across the three dimensions of early learning and development measured in IELS 2025, with differences being most pronounced in social and emotional development (25.3), followed by foundational learning (8.3) and executive function (0.2). Across countries and jurisdictions, participating in IELS 2025, girls outperform boys across the three

dimensions of early learning and development measured in IELS 2025, with differences being most pronounced in social and emotional development (24.4), followed by executive function (8.4) foundational learning (4.3). Only in Korea did boys scored higher than girls in foundational learning.

Table 3.3: Mean scale scores for foundational learning, grouped by country and gender

Country/jurisdiction	Emergent Literacy		Emergent Numeracy	
	Female	Male	Female	Male
Baku, Sumgait (Azerbaijan)	480.6	484.2	520.1	520.7
Ceara, Para, Sao Paulo (Brazil)	507.5	496.6	454.3	457.6
England (United Kingdom)	544.4	525.4	518.4	512.9
Flemish Community (Belgium)	484.6	481.0	482.2	484.3
Korea	541.9	545.4	543.1	550.1
Malta	485.1	472.9	505.3	500.9
Netherlands	501.7	492.4	489.9	488.3
United Arab Emirates	493.8	481.6	500.4	490.8
Abu Dhabi (United Arab Emirates)	473.3	455.9	500.1	483.6

Table 3.3 shows that Maltese girls score higher than boys in the two domains of foundation learning with differences being most pronounced in emergent literacy (12.2) than emergent numeracy (4.4). Across participating countries/jurisdictions, statistically significant gaps in emergent literacy are only visible among children in the Netherlands, Ceara, Para and Sao Paulo and the United Arab Emirates, at around 10 points, and in England, where the gap reaches 18 points. Emergent numeracy is the domain in which girls and boys have the most similar scores, with significant differences observed only among children in the United Arab Emirates (in favour of girls) and in Korea (in favour of boys).

Table 3.4: Mean scale scores for executive function domains, by country and gender

Country/Jurisdiction	Inhibition		Working Memory		Mental Flexibility	
	F	M	F	M	F	M
Baku, Sumgait (Azerbaijan)	508.0	496.4	488.7	490.0	499.6	500.7
Ceara, Para, Sao Paulo (Brazil)	455.0	452.2	471.8	464.2	474.8	470.4
England (United Kingdom)	498.7	491.7	511.4	504.3	514.4	500.5
Flemish Community (Belgium)	499.2	493.2	500.6	503.1	502.6	486.9
Korea	590.5	563.9	575.0	560.3	551.1	541.7
Malta	488.7	484.2	495.2	498.0	496.6	497.5
Netherlands	492.3	474.7	478.0	474.9	494.0	482.3
United Arab Emirates	511.3	491.4	502.9	492.8	506.3	490.6
Abu Dhabi (United Arab Emirates)	489.3	470.4	492.2	474.9	495.3	478.1

Table 3.4 shows that Maltese girls score higher than boys in inhibition (4.5), while boys score higher than girls in working memory (2.8) and mental flexibility (0.9); however, differences are not significant. Across countries/jurisdictions, the prevalence and magnitude of gender gaps are smaller in the executive function compared to other dimensions. In the three domains, the average gap in favour of girls is about 10 points across jurisdictions; however, in both inhibition and working memory, the differences between girls' and boys' scores are not statistically significant in half or more jurisdictions, including Malta. Gender gaps in executive function domains are largest among children in Korea and the United Arab Emirates.

Table 3.5: Mean scale scores for social emotional development domains, by country/jurisdiction

Country/Jurisdiction	Emotion identification		Emotional Attribution		Trust		Prosocial Behaviour		Non-disruptive Behaviour	
	F	M	F	M	F	M	F	M	F	M
Baku, Sumgait	508.3	494.6	504.8	496.7	496.1	491.1	511.7	490.0	521.2	501.5
Ceara Para Sao Paulo	506.5	476.7	509.5	490.9	478.3	454.5	506.6	463.3	469.8	453.3
England	521.3	485.7	518.9	499.3	523.2	503.1	517.2	477.9	549.9	510.9
Flemish Community	543.5	518.0	512.2	497.3	497.5	482.1	507.0	472.3	482.6	457.7
Korea	488.3	470.1	518.1	495.8	503.1	485.9	519.2	488.8	550.6	495.3
Malta	522.6	493.8	499.7	468.7	516.0	512.2	531.8	505.9	527.4	490.6
Netherlands	511.7	486.2	518.9	491.0	515.6	507.7	492.7	472.9	505.9	478.6
United Arab Emirates	519.6	490.9	506.6	484.1	519.2	500.1	531.7	501.8	521.1	492.4
Abu Dhabi	502.8	468.9	490.0	465.3	525.3	505.8	537.0	507.4	521.0	495.6

Table 3.5 shows that Maltese girls score higher than boys in all the five domains of social emotional development with differences being most pronounced in non-disruptive behaviour (36.8), followed by emotional attribution (31.0), emotion identification (28.8%), prosocial behaviour (25.9) and trust (3.8). On average across jurisdictions, girls' scores are between 25 and 31 points higher than boys' scores in emotion identification, emotional attribution, prosocial behaviour and non-disruptive behaviour, and 14 points higher in trust. In virtually all jurisdictions, gaps are statistically significant and exceed 15 score points in all social and emotional domains except trust. Compared across jurisdictions, gaps in this dimension are often large among children in England and small among children in Baku and Sumgait. In contrast, in other jurisdictions, their size varies inconsistently across domains.

Table 3.6: Descriptive statistics of Maltese 5-year-olds for the three dimensions, by gender

Dimensions	Gender	Standard Deviation	Skewness	Kurtosis
Foundation learning	Female	92.67	0.119	0.534
	Male	89.58	-0.121	0.465
Executive function	Female	76.24	0.159	0.622
	Male	77.98	0.014	1.353
Social emotional development	Female	69.99	-0.118	0.411
	Male	69.30	-0.043	0.265

Table 3.6 shows that outcome scores are most dispersed in foundation learning and least dispersed in social emotional learning and this applies to both Maltese boys and girls. For Maltese girls, the score distributions of foundation learning and executive function are right skewed (positive skewness), while the score distribution of social emotional development is left skewed (negative skewness). For Maltese boys, the score distribution of foundation learning is left skewed (negative skewness), while the score distributions of social emotional development and executive function are symmetric (skewness is close to 0). Moreover, all distribution peaks are higher than the normal distribution (positive kurtosis). Table 3.7 shows that the dispersion in the outcome scores in emergent numeracy and inhibition are less dispersed than the outcome scores of other domains and this applies to both Maltese boys and girls. The score distributions of emergent literacy, inhibition, emotion identification and emotional attribution are slightly left skewed, while the score distributions of the remaining domains are slightly right skewed and this applies to both Maltese boys and girls. The score distributions of the ten domains have peaks higher than the normal distribution (positive kurtosis).

Table 3.7: Descriptive statistics of Maltese 5-year-olds for the ten domains, by gender

Domains	Gender	Standard Deviation	Skewness	Kurtosis
Emergent literacy	Female	108.73	-0.019	0.697
	Male	103.02	-0.214	0.670
Emergent numeracy	Female	90.75	0.065	0.219
	Male	91.27	0.078	0.131
Inhibition	Female	91.02	-0.073	0.955
	Male	92.02	-0.197	1.365
Working memory	Female	105.51	0.125	0.165
	Male	103.81	0.133	0.907
Mental flexibility	Female	105.92	0.401	0.454
	Male	107.18	0.278	0.618
Emotion identification	Female	108.62	-0.133	0.982
	Male	109.72	-0.223	0.266
Emotional attribution	Female	110.69	-0.344	0.903
	Male	114.17	-0.250	0.085
Trust	Female	105.87	0.055	0.165
	Male	103.62	0.145	0.101
Prosocial behaviour	Female	117.09	0.307	0.137
	Male	113.98	0.340	0.132
Non-disruptive behaviour	Female	102.24	0.238	0.058
	Male	100.05	0.108	0.625

It is also important to examine gender gaps at the extremes of the performance distribution because the average spread of scores is greater among boys than girls in most of the early learning and development domains assessed in IELS. This can be done by comparing the average scores in the lowest- and highest-performing 10% of girls and boys within each jurisdiction. Across countries/jurisdictions, the gender gaps, always in favour of girls, are generally larger among children with the weakest performance in the IELS assessments. This pattern holds among children in most jurisdictions in the social and emotional development domains of emotion identification, emotional attribution, and trust; in both the foundational learning domains of emergent literacy and numeracy; and in the executive function domain of working memory in a limited number of jurisdictions, generally those where the average gender gaps are larger. By contrast, across all three dimensions, differences between the highest-performing girls and boys tend to be smaller and less often statistically significant than the average gender gaps.

Table 3.8: Deciles and quartiles of Maltese 5-year-olds for the three dimensions, by gender

Dimensions	Gender	10 th perc.	25 th perc.	50 th perc.	75 th perc.	90 th perc.
Foundation learning	Female	383.78	434.99	494.41	557.41	607.00
	Male	373.28	426.36	487.13	545.74	599.26
Executive function	Female	401.57	442.78	492.16	545.33	595.13
	Male	400.02	436.53	488.06	541.89	591.62
Social emotional development	Female	429.09	477.41	520.08	563.78	607.32
	Male	405.35	449.29	490.42	542.56	584.30

Table 3.9: Deciles and quartiles of Maltese 5-year-olds for the ten domains of early learning, by gender

Domains	Gender	10 th perc.	25 th perc.	50 th perc.	75 th perc.	90 th perc.
Emergent literacy	Female	349.55	418.88	483.63	560.83	612.99
	Male	344.30	401.28	471.35	546.13	598.77
Emergent numeracy	Female	391.23	444.95	506.01	565.11	621.65
	Male	384.20	440.59	496.47	559.62	619.33
Inhibition	Female	376.39	433.58	492.67	550.24	598.96
	Male	372.77	427.17	480.76	533.91	597.83
Working memory	Female	363.36	422.89	498.45	574.42	629.27
	Male	367.72	422.49	495.76	566.81	632.67
Mental flexibility	Female	383.21	427.36	485.57	560.53	642.57
	Male	379.15	426.52	481.89	567.49	639.71
Emotion identification	Female	390.41	453.61	525.47	594.19	659.88
	Male	355.66	418.26	495.50	568.21	628.56
Emotional attribution	Female	351.38	432.14	504.39	569.90	629.51
	Male	311.07	397.06	470.96	545.80	609.64
Trust	Female	383.39	447.26	517.79	588.03	657.89
	Male	383.73	436.35	506.47	577.13	646.37
Prosocial behaviour	Female	393.38	451.40	519.59	607.76	698.88
	Male	366.96	423.87	498.91	576.64	659.98
Non-disruptive behaviour	Female	400.04	451.54	519.66	591.78	664.52
	Male	369.41	426.62	485.99	558.04	623.25

Tables 3.8 and 3.9 display the lower and upper deciles and quartiles of Maltese 5-year-olds for the three dimensions and the ten domains. Gender gaps among Maltese children with the weakest performance is larger in emotion identification and attribution; while gender gaps among Maltese children with the strongest performance is larger in emergent literacy, prosocial behaviour, trust and non-disruptive behaviour. Differences in the perceptions of parents/teachers about the children align with the gender gaps observed in children's assessment scores. Table 3.10 shows that in general, both Maltese parents and Maltese ECEC staff perceive girls as having stronger skills than boys. However, differences between Maltese boys and girls in the scale of global capabilities are negligible. Similar trends emerge across countries/jurisdictions participating in IELS 2025. Differences between boys and girls in the scale of global capabilities are small and not statistically significant in Baku and Sumgait, England, Korea, Malta and the Netherlands, a result that may be explained by dichotomous assessments of each child's capacity to complete specific tasks. Overall, results suggest a large consistency between the gender gaps observed in children's assessments and parents' and teachers' reports about children's skills. Table 3.11 shows significant gender differences in the deciles of parent and ECEC staff perceptions of children's skills, particularly on their cognitive and motor skills as well as their social and emotional skills.

Figures 3.1 to 3.9 show that the three dimensions of early learning and development of Maltese children are positively and significantly related to the three children's skills and this applies to both boys and girls. Tables 3.12 to 3.15 show that the ten domains of early learning and development of Maltese children are positively and significantly related the three children's skills and this applies to both boys and girls. Significant gender gaps of Maltese children exist in two dimensions, including foundational learning and social emotional development; and in six domains, including emergent literacy, inhibition, prosocial behaviour emotion identification, emotional attribution, and non-disruptive behaviour.

Table 3.10: Mean scores of parent and staff perceptions of children's skills, by gender and jurisdiction

Jurisdiction	Gender	Cognitive and Motor Skills		Social and emotional Skills		Global Cap.
		Teacher	Parent	Teacher	Parent	Teacher
Baku, Sumgait (Azerbaijan)	Female	0.00	-0.12	-0.04	-0.11	0.17
	Male	-0.15	-0.20	-0.20	-0.20	0.14
Ceara, Para, Sao Paulo (Brazil)	Female	-0.14	-0.25	-0.12	-0.27	-0.56
	Male	-0.40	-0.48	-0.48	-0.54	-0.71
England (United Kingdom)	Female	-0.22	0.02	-0.12	0.01	-0.04
	Male	-0.49	-0.21	-0.51	-0.26	-0.10
Flemish Comm. (Belgium)	Female	-0.09	-0.01	0.05	0.10	-0.23
	Male	-0.35	-0.20	-0.34	-0.19	-0.32
Korea	Female	0.35	0.18	0.42	0.37	0.37
	Male	0.16	0.02	0.03	0.07	0.38
Malta	Female	0.18	0.24	0.21	0.11	0.10
	Male	0.02	0.00	-0.12	-0.17	0.11
Netherlands	Female	-0.18	-0.06	-0.06	-0.3	0.03
	Male	-0.33	-0.19	-0.34	-0.23	0.07
United Arab Emirates	Female	0.68	0.84	0.62	0.71	0.08
	Male	0.40	0.67	0.29	0.50	-0.09
Abu Dhabi (UAE)	Female	0.70	0.80	0.63	0.66	0.18
	Male	0.41	0.63	0.29	0.46	-0.11

Table 3.11: Deciles of parent and staff perceptions of children's skills, by gender and jurisdiction

Jurisdiction	Gender	Cognitive and Motor Skills				Social and emotional Skills				Global Cap.	
		Teacher		Parent		Teacher		Parent		Teacher	
		10 th	90 th	10 th	90 th	10 th	90 th	10 th	90 th	10 th	90 th
Baku, Sumgait (Azerbaijan)	Female	-1.20	1.37	-1.32	1.39	-1.08	1.23	-1.30	1.43	-1.09	1.45
	Male	-1.45	1.32	-1.36	1.28	-1.32	1.05	-1.29	1.25	-1.12	1.46
Ceara, Para, Sao Paulo (Brazil)	Female	-1.23	1.21	-1.47	1.17	-1.07	1.05	-1.42	1.03	-1.61	0.55
	Male	-1.54	0.84	-1.68	0.85	-1.55	0.70	-1.83	0.72	-1.92	0.44
England (United Kingdom)	Female	-1.29	0.95	-1.21	1.28	-1.21	1.07	-1.25	1.33	-1.31	1.18
	Male	-1.75	0.71	-1.49	1.11	-1.71	0.71	-1.59	1.07	-1.48	1.24
Flemish Comm. (Belgium)	Female	-1.26	1.10	-1.11	1.08	-1.09	1.26	-1.00	1.26	-1.42	0.92
	Male	-1.56	0.89	-1.28	0.90	-1.51	0.84	-1.32	0.92	-1.61	0.97
Korea	Female	-0.76	1.61	-0.96	1.34	-0.82	1.61	-0.83	1.60	-0.74	1.49
	Male	-1.06	1.41	-1.13	1.22	-1.13	1.29	-1.07	1.25	-0.77	1.54
Malta	Female	-1.11	1.73	-1.09	1.56	-0.99	1.67	-1.15	1.38	-1.09	1.36
	Male	-1.29	1.55	-1.30	1.32	-1.37	1.28	-1.36	1.11	-1.13	1.30
Netherlands	Female	-1.28	0.93	-1.10	1.09	-1.11	0.99	-1.07	1.09	-1.13	1.30
	Male	-1.38	0.77	-1.28	0.87	-1.47	0.79	-1.34	0.89	-1.20	1.35
United Arab Emirates	Female	-0.57	1.98	-0.48	2.18	-0.68	2.02	-0.63	2.06	-1.11	1.31
	Male	-0.94	1.78	-0.60	1.93	-1.04	1.69	-0.79	1.77	-1.34	1.20
Abu Dhabi (UAE)	Female	-0.55	2.02	-0.51	2.12	-0.66	2.07	-0.57	1.91	-1.01	1.45
	Male	-0.91	1.80	-0.58	1.90	-1.05	1.64	-0.77	1.73	-1.36	1.14

Figure 3.1: Relationship between foundational learning and cognitive and motor skills, by gender

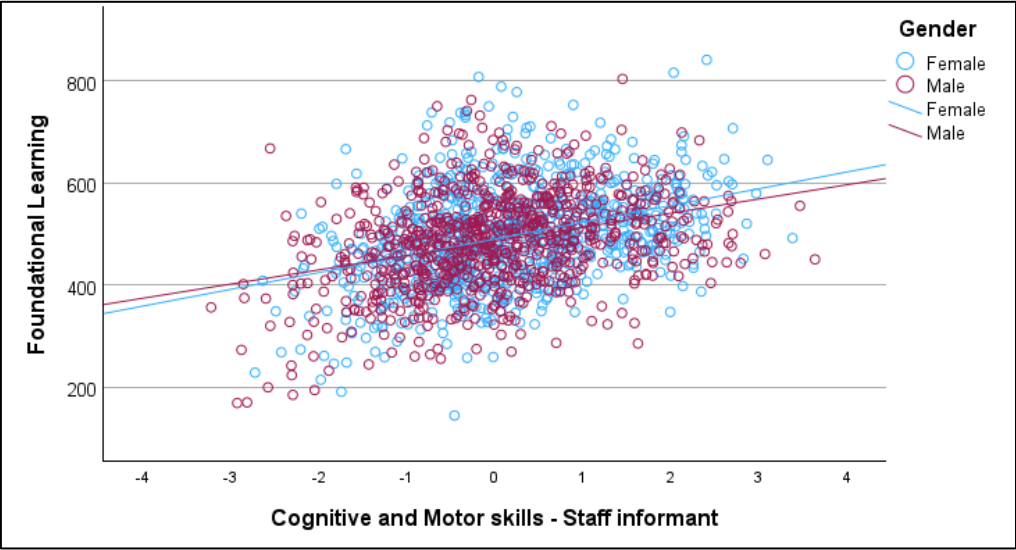


Figure 3.2: Relationship between foundational learning and social and emotional skills, by gender



Figure 3.3: Relationship between foundational learning and child global capabilities, by gender

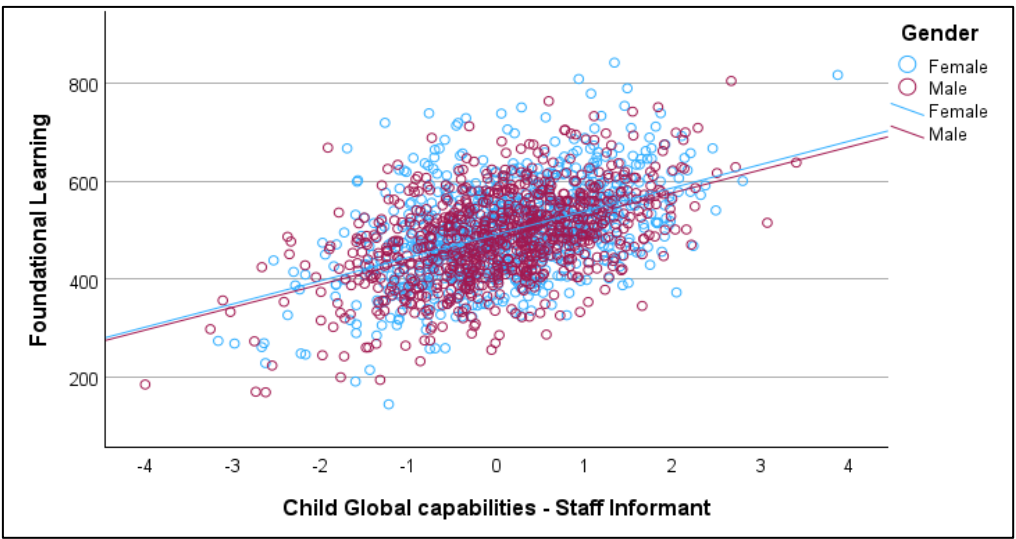


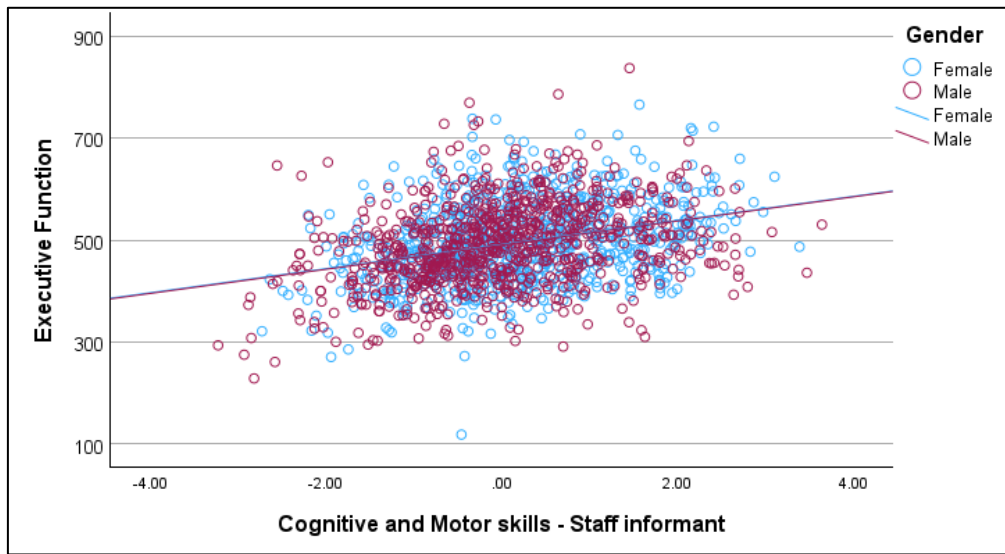
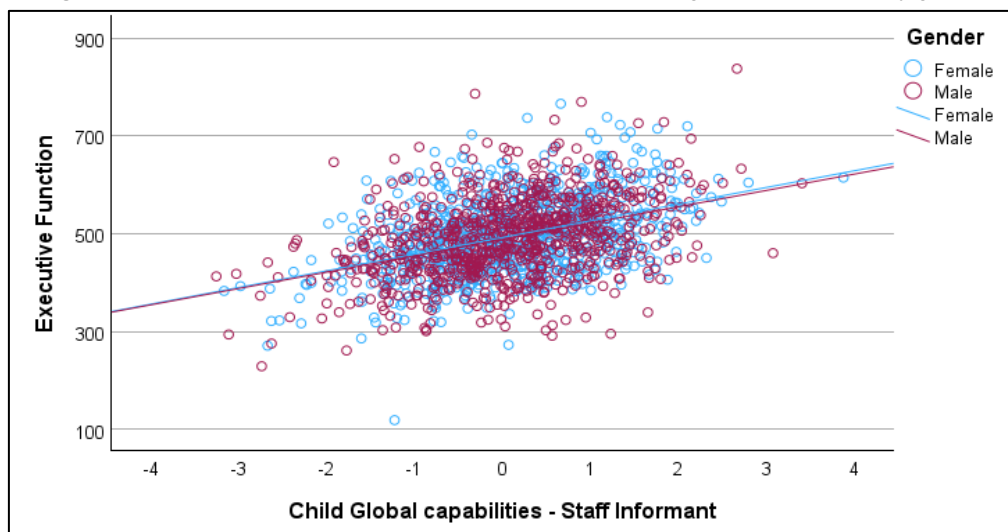
Figure 3.4: Relationship between executive function and cognitive and motor skills, by gender**Figure 3.5:** Relationship between executive function and social and emotional skills, by gender**Figure 3.6:** Relationship between executive function and child global capabilities, by gender

Figure 3.7: Relationship between social emotional development and cognitive and motor skills, by gender

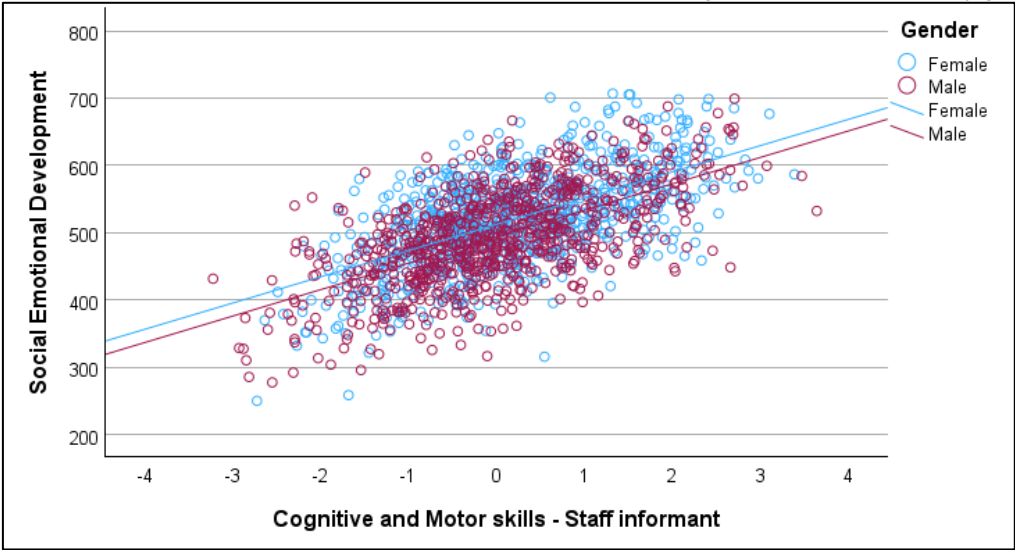


Figure 3.8: Relationship between social emotional development and social and emotional skills, by gender

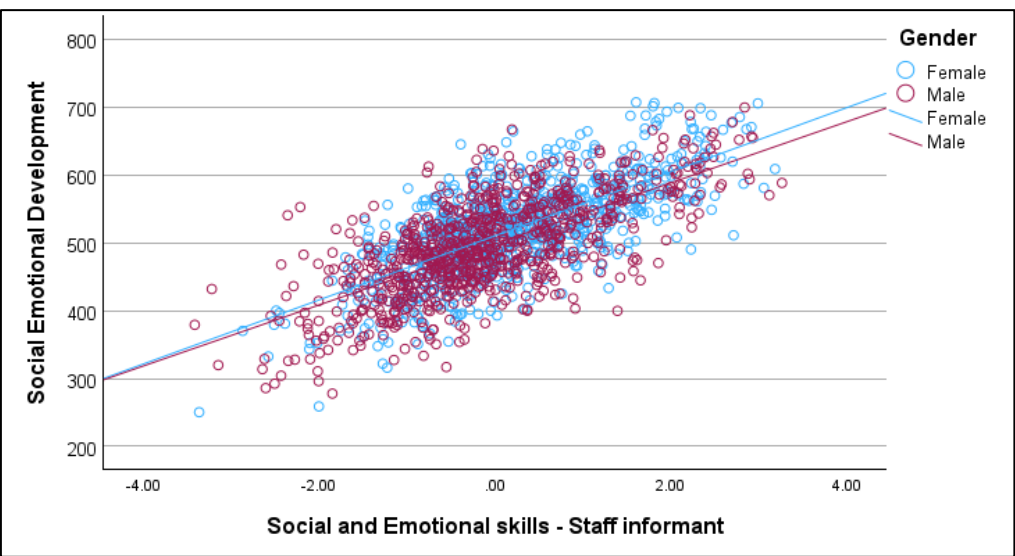


Figure 3.9: Relationship between social emotional development and child global capabilities, by gender

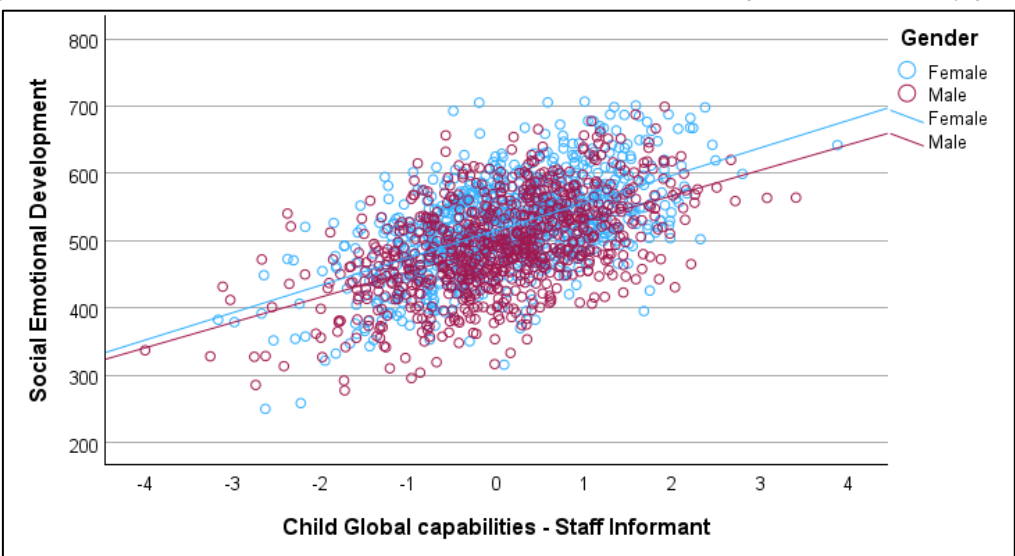


Table 3.12: Correlations between early learning domains and skills of Maltese female 5-year-olds

Domains	Cognitive and Motor Skills		Social and emotional Skills		Global Cap
	Teacher	Parent	Teacher	Parent	Teacher
Emergent literacy	0.342	0.165	0.255	0.113	0.420
Emergent numeracy	0.338	0.225	0.243	0.175	0.471
Inhibition	0.196	0.157	0.154	0.115	0.208
Working memory	0.284	0.108	0.218	0.075	0.405
Mental flexibility	0.248	0.108	0.186	0.094	0.326
Emotion identification	0.233	0.100	0.215	0.089	0.311
Emotional attribution	0.233	0.142	0.207	0.109	0.308
Trust	0.590	0.175	0.620	0.170	0.491
Prosocial behaviour	0.694	0.144	0.794	0.171	0.563
Non-disruptive behaviour	0.106	0.020	0.337	0.039	0.087

Table 3.13: Correlations between early learning domains and skills of Maltese male 5-year-olds

Domains	Cognitive and Motor Skills		Social and emotional Skills		Global Cap.
	Teacher	Parent	Teacher	Parent	Teacher
Emergent literacy	0.285	0.185	0.206	0.103	0.433
Emergent numeracy	0.328	0.229	0.214	0.123	0.482
Inhibition	0.199	0.155	0.136	0.062	0.248
Working memory	0.255	0.180	0.196	0.104	0.374
Mental flexibility	0.291	0.176	0.244	0.102	0.312
Emotion identification	0.258	0.143	0.233	0.066	0.272
Emotional attribution	0.225	0.137	0.196	0.076	0.267
Trust	0.614	0.157	0.616	0.209	0.476
Prosocial behaviour	0.693	0.171	0.795	0.230	0.576
Non-disruptive behaviour	0.163	0.071	0.384	0.129	0.068

Table 3.14: Correlations between early learning dimensions and skills of Maltese female 5-year-olds

Dimensions	Cognitive and Motor Skills		Social and emotional Skills		Global Cap.
	Teacher	Parent	Teacher	Parent	Teacher
Foundation learning	0.365	0.206	0.268	0.151	0.475
Executive function	0.324	0.161	0.247	0.123	0.421
Social emotional growth	0.597	0.173	0.697	0.185	0.564

Table 3.15: Correlations between early learning dimensions and skills of Maltese male 5-year-olds

Dimensions	Cognitive and Motor Skills		Social and emotional Skills		Global Cap.
	Teacher	Parent	Teacher	Parent	Teacher
Foundation learning	0.329	0.222	0.226	0.121	0.491
Executive function	0.319	0.217	0.248	0.115	0.400
Social emotional growth	0.609	0.212	0.690	0.220	0.520

3.3 Socioeconomic gaps in early learning and development

Socioeconomic status (SES) is a combined measure of the child's family economic and social position relative to others, based on income, education, and occupation. It determines access to resources, opportunities for upward mobility, and shapes overall quality of life, including health and housing. Families' socioeconomic status shapes children's health, cognitive, and social and emotional development from before birth into adulthood, through a range of mechanisms that include differences in time and material investments, parenting practices, and stress exposure.

In IELS 2025, a child's socioeconomic background is measured by an index combining information about their parents' highest levels of education and occupational status, home learning environment and the household's income, all collected through the IELS parent questionnaire. The index enables comparisons between children with different socioeconomic profiles. In this report, children are considered socioeconomically advantaged if they are among the 25% with the highest values on the index in their jurisdiction, and socioeconomically disadvantaged if they are among the 25% with the lowest values.

Figure 3.10: Percentage of Maltese mothers of 5-year-olds, by level of education

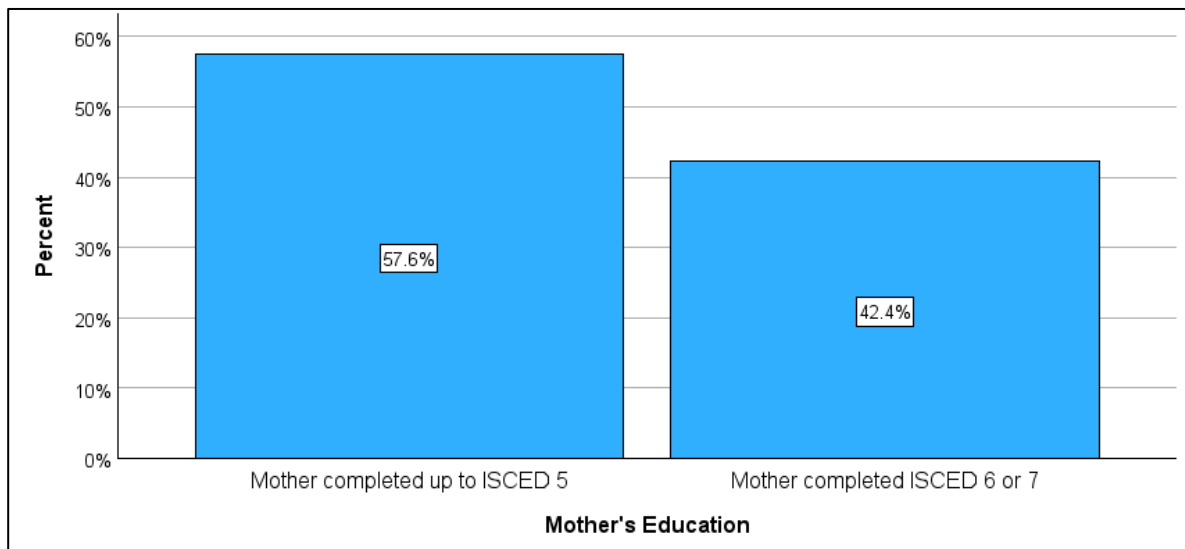


Figure 3.11: Occupation score distribution of Maltese parents of 5-year-olds

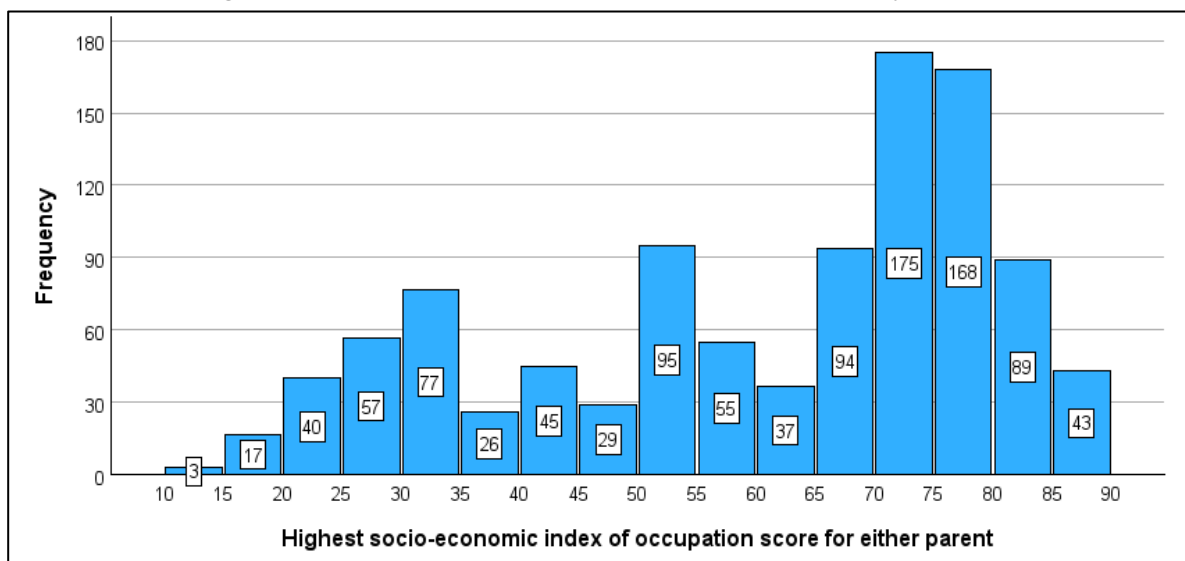
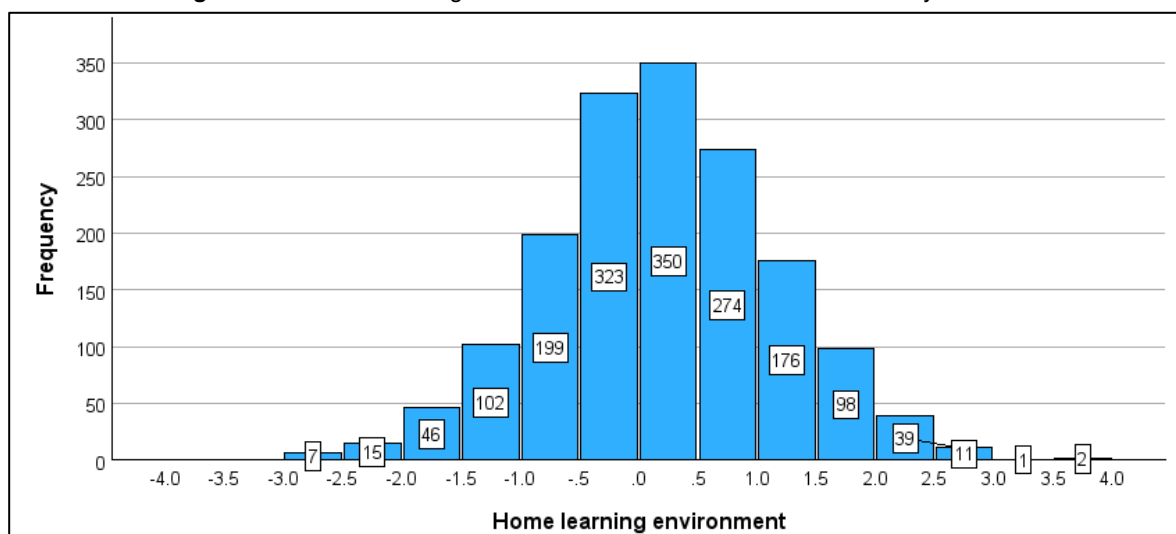
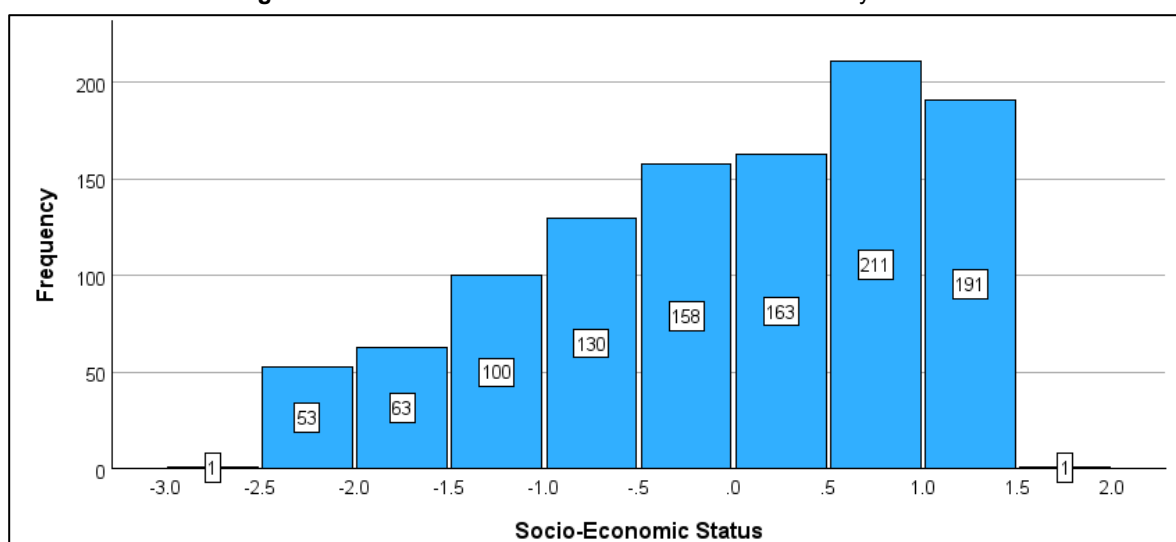


Figure 3.12: Home learning environment score distribution of Maltese 5-year-olds**Figure 3.13:** Socioeconomic score distribution of Maltese 5-year-olds

The analysis relies on the IELS index of socioeconomic status derived from Item Response Theory. This index is centred within each country/jurisdiction to a mean of zero; however, the standard deviation can vary and serve as a proxy of the variation in children's socioeconomic conditions within each of the IELS 2025 national samples. Figures 3.10 shows that 42.4% of Maltese mothers have tertiary education. Figures 3.11 to 3.13 display the parent occupation, home learning environment and socioeconomic score distributions of Maltese 5-year-olds. The extent of variation in socioeconomic status is largest among children in England, Malta, the Belgian Flemish community and the Netherlands, and lowest among children in Korea.

In IELS 2025, children's socioeconomic background accounts for a small but non-negligible share of the variation in their early learning and development outcomes. This system-level socioeconomic gradient is more pronounced in the foundational learning dimension, accounting for 12% of the variation in emergent numeracy and 9% of the variation in emergent numeracy associated with children's socioeconomic backgrounds, on average across jurisdictions. This association is strongest in England, the Netherlands, the Flemish Community and lowest in Baku and Sumgait and the United Arab Emirates. In the executive function and social and emotional development dimensions, however, children's socioeconomic background accounts for less than 5% of the variation in outcomes in any of the corresponding domains.

Another relevant equity indicator is the size of the gaps in children's outcomes between socio economically advantaged and disadvantaged children within each jurisdiction. Across dimensions of early learning and development, these gaps consistently favour children from families with a higher socioeconomic status. This provides evidence that differences in children's learning and development related to socioeconomic inequalities are already visible and sizeable by age 5.

Table 3.16: Mean scale scores for the three dimensions of early learning, by country and SES

Country/jurisdiction	Foundational Learning		Executive Function		Social Emotional Development	
	Socioeconomically advantaged	Socioeconomically disadvantaged	Socioeconomically advantaged	Socioeconomically disadvantaged	Socioeconomically advantaged	Socioeconomically disadvantaged
Baku, Sumgait (Azerbaijan)	538.1	464.8	510.9	483.9	513.4	488.1
Ceara, Para, Sao Paulo (Brazil)	511.7	442.7	483.0	445.3	488.2	468.4
England (United Kingdom)	567.1	477.8	526.1	479.7	536.8	482.1
Flemish Community (Belgium)	525.9	437.0	524.1	470.4	522.0	466.7
Korea	575.3	515.5	576.3	549.5	505.3	490.9
Malta	528.3	454.7	511.1	477.5	518.2	492.1
Netherlands	527.5	460.3	505.5	462.	515.1	481.0
United Arab Emirates	527.8	454.6	518.3	480.33	523.1	490.1
Abu Dhabi (United Arab Emirates)	508.1	455.1	501.3	472.0	516.6	489.2

Table 3.16 shows that socioeconomic gaps of Maltese 5-year-olds are most substantial in the foundational learning dimension. On average, socioeconomically advantaged Maltese children score 73.6, 33.6 and 26.1 points above their disadvantaged peers in foundational learning, executive function and social emotional development respectively.

Table 3.17: Mean scale scores for foundational learning, grouped by country and SES

Country/jurisdiction	Emergent Literacy		Emergent Numeracy	
	Socioeconomic ally advantaged	Socioeconomic ally disadvantaged	Socioeconomic ally advantaged	Socioeconomic ally disadvantaged
Baku, Sumgait (Azerbaijan)	513.6	450.9	562.5	478.7
Ceara, Para, Sao Paulo (Brazil)	526.6	471.8	496.7	413.7
England (United Kingdom)	576.2	487.4	558.1	468.2
Flemish Community (Belgium)	528.4	436.1	523.5	437.8
Korea	571.6	517.4	578.9	513.6
Malta	517.3	446.3	539.3	463.1
Netherlands	531.9	463.5	523.0	457.0
United Arab Emirates	520.3	456.3	535.4	452.8
Abu Dhabi (United Arab Emirates)	492.1	443.9	524.0	466.4

Table 3.17 shows that the socioeconomic gap of Maltese 5-year-olds in emergent numeracy (76.2) is marginally larger than the socioeconomic gap in emergent literacy (71.0). On average across countries, socioeconomically advantaged children score 70 and 79 points above their disadvantaged peers in the emergent literacy and emergent numeracy domains, respectively. These differences are the smallest (54 and 65 score points, respectively) among children in Korea, and the largest (over 85 score points in both domains) among children in England and the Belgian Flemish community. Among children in Ceara, Para and Sao Paulo, the gap is relatively small in emergent literacy, but is relatively larger in emergent numeracy. In Korea, a strong average performance is compatible with comparatively small socioeconomic gaps in this dimension.

Table 3.18: Mean scale scores for executive function domains, by country and SES

Country/Jurisdiction	Inhibition		Working Memory		Mental Flexibility	
	Socioeconomic ally advantaged	Socioeconomic ally disadvantaged	Socioeconomic ally advantaged	Socioeconomic ally disadvantaged	Socioeconomic ally advantaged	Socioeconomic ally disadvantaged
Baku, Sumgait (Azerbaijan)	504.9	499.0	508.9	467.1	519.0	485.7
Ceara, Para, Sao Paulo (Brazil)	469.8	437.4	491.7	444.9	487.4	453.7
England (United Kingdom)	508.9	480.2	534.3	478.2	534.9	480.7
Flemish Community (Belgium)	505.9	484.0	535.6	468.3	530.7	458.8
Korea	582.0	571.0	588.3	546.6	558.4	531.0
Malta	491.4	482.5	523.4	473.0	518.5	477.1
Netherlands	498.1	474.0	506.7	447.7	511.6	467.2
United Arab Emirates	510.3	493.5	524.7	470.6	519.8	476.9
Abu Dhabi (United Arab Emirates)	488.3	473.6	512.7	465.4	502.8	477.0

Table 3.19: Mean scale scores for social emotional development domains, by country/jurisdiction

Country/Jurisdiction	Emotion identification		Emotional Attribution		Trust		Prosocial Behaviour		Non-disruptive Behaviour	
	Socioeconomically advantaged	Socioeconomically disadvantaged	Socioeconomically advantaged	Socioeconomically disadvantaged	Socioeconomically advantaged	Socioeconomically disadvantaged	Socioeconomically advantaged	Socioeconomically disadvantaged	Socioeconomically advantaged	Socioeconomically disadvantaged
Baku, Sumgait	518.1	481.9	512.8	487.3	504.3	481.9	525.6	476.5	506.0	512.9
Ceara Para Sao Paulo	506.3	469.6	504.2	488.7	469.5	460.6	497.8	468.4	463.1	454.4
England	529.6	478.5	522.5	500.0	540.8	478.4	529.4	456.1	561.6	497.7
Flemish Community	572.3	481.6	529.8	472.3	504.7	469.2	519.0	455.9	484.0	454.6
Korea	483.1	471.9	503.0	505.8	497.4	483.0	509.1	489.3	534.0	504.4
Malta	523.4	490.4	506.3	464.8	514.8	507.3	529.5	500.8	516.8	497.1
Netherlands	522.8	478.5	517.6	489.7	525.5	495.0	501.0	461.8	508.8	479.8
United Arab Emirates	527.4	478.4	512.6	473.6	522.5	500.0	528.0	505.6	524.8	492.8
Abu Dhabi	506.9	465.4	494.9	464.2	529.6	500.7	536.5	506.2	515.2	509.2

Table 3.18 shows that the socioeconomic gap of Maltese 5-year-olds in working memory (50.3) and mental flexibility (41.4) is significantly larger than the socioeconomic gap in inhibition (8.9). Across countries and jurisdictions, socioeconomic gaps are smaller in executive function domains than in foundational learning domains. On average across jurisdictions, the score differences between socioeconomically advantaged and disadvantaged children amount to 52 points in working memory, 43 points in mental flexibility, and 19 points in inhibition, the domain in which these socioeconomic gaps are smallest across the ten outcomes assessed by IELS, despite comparable levels of overall variation.

Table 3.19 shows that the socioeconomic gap of Maltese 5-year-olds in emotional attribution (41.5), emotion identification (33.0), prosocial behaviour (28.7) and non-disruptive behaviour (19.7) are considerably larger than the socioeconomic gap in trust (7.5). On average across jurisdictions, in the social and emotional development dimension, socioeconomic gaps are smaller than in foundational learning, although relatively large in emotion identification and prosocial behaviour (in both cases, over 40 points on average) compared to the emotional attribution, trust, and non-disruptive behaviour domains (in all three cases, below 30 score points, on average). The differences in social and emotional development domains associated with families' relative socioeconomic position are generally smaller among children in Korea, Malta, Baku and Sumgait (Azerbaijan) and Ceara, Para and Sao Paulo.

Figure 3.14: Relationship between foundational learning and socioeconomic status, by gender

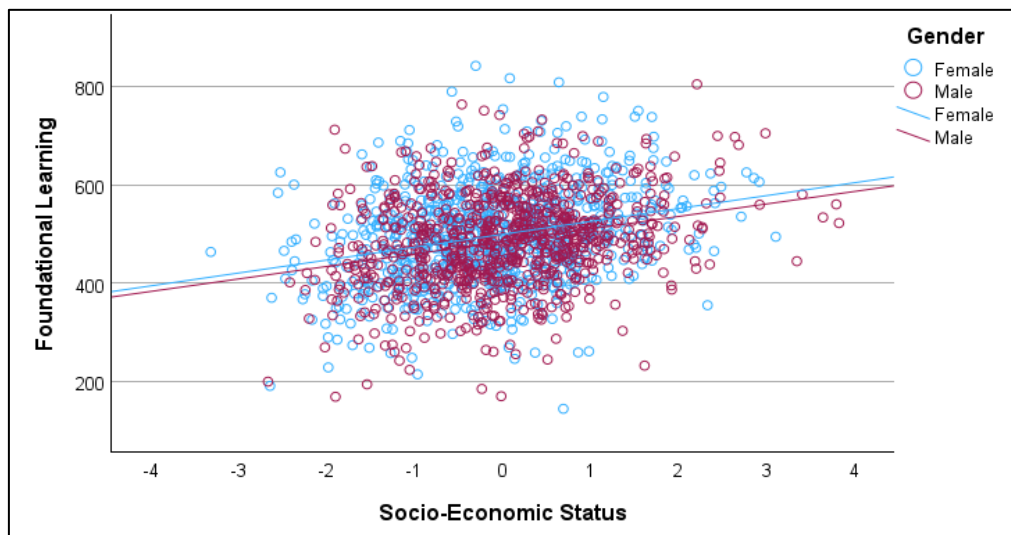
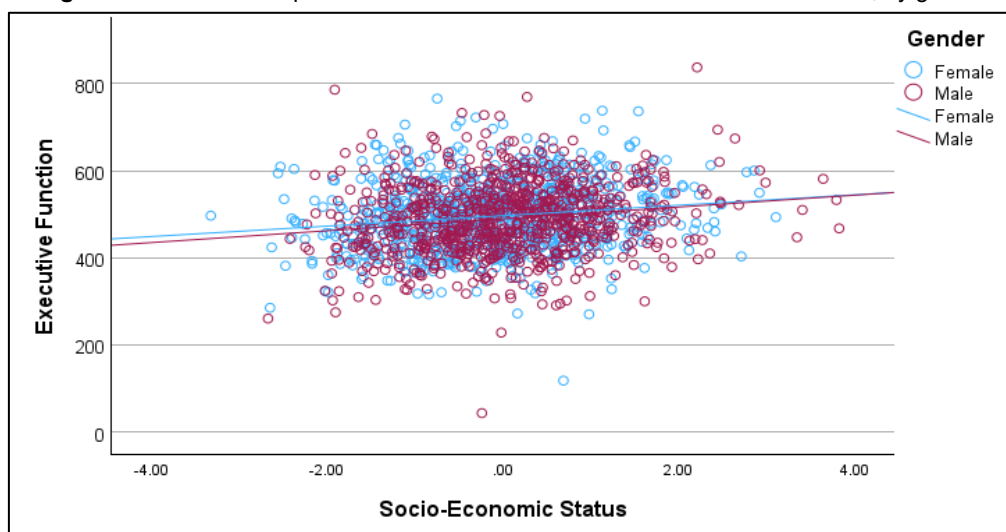


Figure 3.15: Relationship between executive function and socioeconomic status, by gender**Figure 3.16:** Relationship between social emotional development and socioeconomic status, by gender

Overall, the magnitude of socioeconomic gaps across jurisdictions mirrors the degree of variation in children's socioeconomic circumstances, as captured by the standard deviation of the IELS index of socioeconomic status, which is lowest in Korea and highest in England, Malta, the Belgian Flemish community and the Netherlands. Figures 3.14 to 3.16 display positive and significant relationships between the three dimensions of early learning and development of Maltese children and socioeconomic status and this applies for both male female children.

Table 3.20: Mean scores of parent and staff perceptions of children's skills, by SES and jurisdiction

Jurisdiction	SES	Cognitive and Motor Skills		Social and emotional Skills		Global Cap.
		Teacher	Parent	Teacher	Parent	Teacher
Baku, Sumgait (Azerbaijan)	SES advantaged	0.21	0.16	0.13	0.09	0.48
	SES disadvantaged	-0.36	-0.43	-0.40	-0.35	-0.17

Equity gaps in early learning

Ceara, Para, Sao Paulo (Brazil)	SES advantaged	-0.08	-0.07	-0.24	-0.14	-0.37
	SES disadvantaged	-0.51	-0.72	-0.66	-0.50	-0.91
England (United Kingdom)	SES advantaged	0.04	0.47	0.46	0.00	0.44
	SES disadvantaged	-0.88	-0.91	-0.93	-0.74	-0.73
Flemish Comm. (Belgium)	SES advantaged	0.12	0.16	0.17	0.10	0.13
	SES disadvantaged	-0.64	-0.59	-0.47	-0.46	-0.79
Korea	SES advantaged	0.42	0.25	0.33	0.34	0.60
	SES disadvantaged	0.01	-0.10	0.03	0.04	0.08
Malta	SES advantaged	0.32	0.40	0.25	0.18	0.44
	SES disadvantaged	-0.14	-0.49	-0.64	-0.15	-0.26
Netherlands	SES advantaged	0.05	0.26	0.22	0.05	0.46
	SES disadvantaged	-0.59	-0.73	-0.72	-0.48	-0.38
United Arab Emirates	SES advantaged	0.66	0.98	0.85	0.56	0.32
	SES disadvantaged	0.36	0.45	0.31	0.34	-0.27
Abu Dhabi (UAE)	SES advantaged	0.22	0.33	0.27	0.15	0.31
	SES disadvantaged	-0.34	-0.44	-0.44	-0.29	-0.43

Figure 3.17: Relationship between cognitive and motor skills and socioeconomic status, by gender

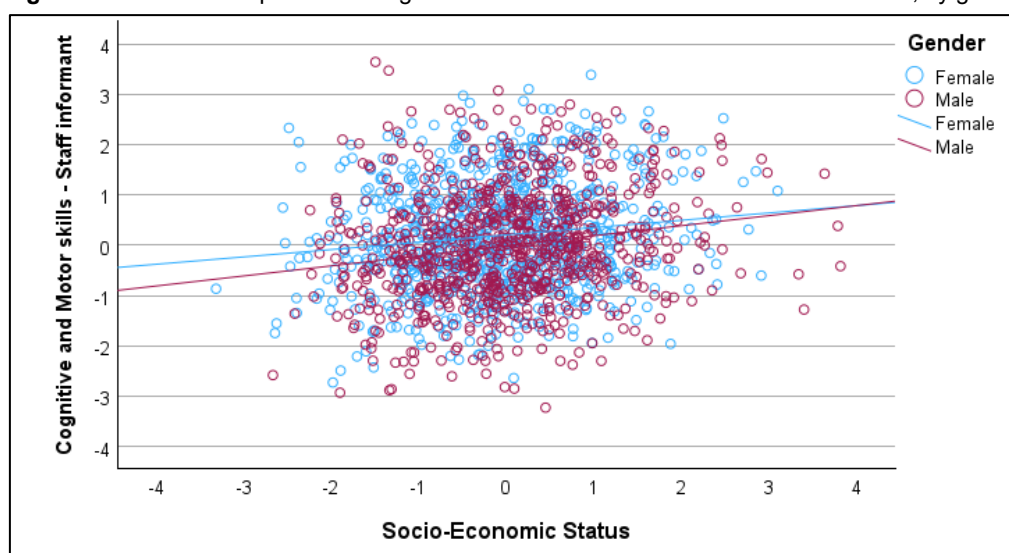
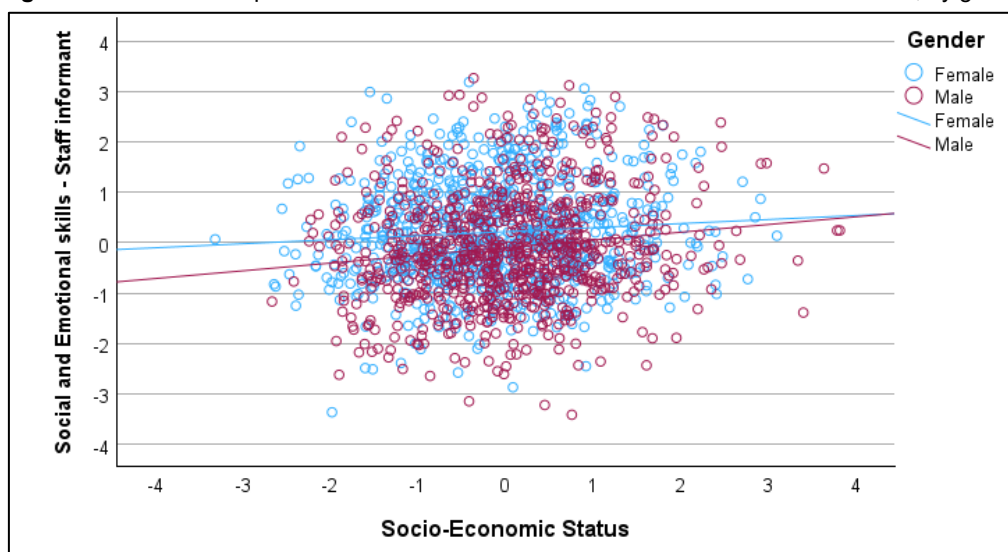
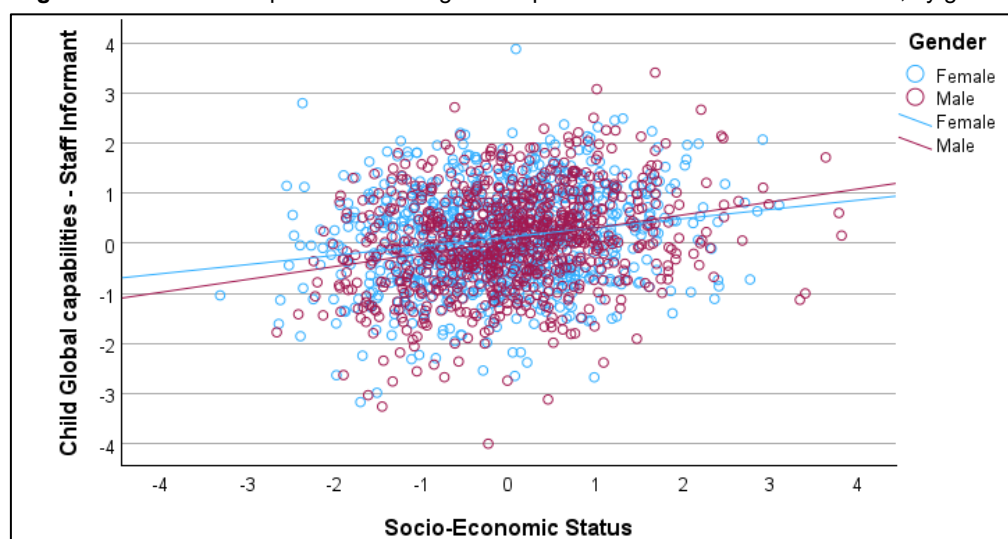


Figure 3.18: Relationship between social and emotional skills and socioeconomic status, by gender**Figure 3.19:** Relationship between child global capabilities and socioeconomic status, by gender

The perceptions held by parents and teachers about children's skills are consistently associated with children's socioeconomic backgrounds. Table 3.20 shows that according to Maltese teachers, children's socioeconomic gaps in socioeconomic skills (0.89) and child global capabilities (0.70) are larger than the socioeconomic gap in cognitive and motor skills (0.46). According to Maltese parents, children's socioeconomic gap in cognitive and motor skills (0.89) is larger than the socioeconomic gap in socioeconomic skills (0.33). Across all the jurisdictions in IELS 2025, significant differences in cognitive and motor skills, social and emotional skills and global capabilities are observed when adults report on socioeconomically advantaged or disadvantaged children, and always in the direction of advantaged children being perceived to have stronger skills than disadvantaged peers. While parental perceptions can be heavily conditioned by the socioeconomic position they share with their own children, this result holds also for ECEC staff, who generally encounter children from more diverse socioeconomic backgrounds as part of their work in the ECEC system. Figures 3.17 to 3.19 shows that cognitive and motor skills, social and emotional skills and child global capabilities are positively and significantly related to socioeconomic status and this applies to both Maltese male and female 5-year-olds.

In alignment with PISA, IELS 2025 defines developmentally resilient children as those from low socioeconomic backgrounds (i.e. in the bottom quarter of the distribution of the index of socioeconomic status within their country/jurisdiction) who nevertheless achieve strong early learning and development outcomes (i.e. whose scores are in the top quarter of the distribution of a early learning domain within their country/jurisdiction). These children are considered developmentally resilient because, despite the unfavourable socioeconomic conditions in which they grow up, they have developed strong early skills. Given the strong association between socioeconomic status and early learning and development, developmentally resilient children exceed expectations and achieve better outcomes in IELS 2025 than would be predicted by their socioeconomic circumstances. Within jurisdictions, the percentage of resilient children is another indicator of the extent to which early learning and development are associated with socioeconomic status, where higher levels of resilience among disadvantaged children can be interpreted as a sign of a weaker relationship between children's circumstances and outcomes.

Table 3.21: Percentage share of resilient children in each domain of foundational learning

Country/Jurisdiction	Emergent Literacy	Emergent Numeracy	Foundational Learning
Baku, Sumgait (Azerbaijan)	16.6%	14.5%	14.7%
Ceara Para Sao Paulo (Brazil)	14.9%	14.1%	13.7%
England (United Kingdom)	11.7%	10.0%	9.7%
Flemish Community (Belgium)	8.9%	8.6%	7.9%
Korea	15.8%	15.0%	14.6%
Malta	15.2%	10.7%	12.5%
Netherlands	13.0%	11.7%	11.6%
United Arab Emirates	15.8%	13.9%	14.2%
Abu Dhabi (United Arab Emirates)	18.5%	17.5%	17.3%

Table 3.21 shows the percentage of developmentally resilient disadvantaged children in foundational learning and its domains. The percentage share of Maltese resilient 5-year-olds in foundational learning is 12.5%, where the percentage share in emergent literacy (15.2%) is larger than the percentage share in emergent numeracy (10.7%). On average across countries/jurisdictions, between 10% and 15% of socioeconomically disadvantaged children perform strongly in the domains of foundational learning, with variation of more than 5% between the jurisdictions with the highest and lowest shares of developmentally resilient children.

Table 3.22: Percentage share of resilient children in each domain of executive function

Country/Jurisdiction	Inhibition	Working Memory	Mental Flexibility	Executive Function
Baku, Sumgait (Azerbaijan)	23.5%	18.1%	19.5%	18.7%
Ceara Para Sao Paulo (Brazil)	19.3%	15.6%	16.7%	15.2%
England (United Kingdom)	19.4%	15.0%	16.8%	16.1%
Flemish Community (Belgium)	20.3%	13.1%	13.6%	13.0%
Korea	22.8%	18.3%	21.4%	19.9%
Malta	23.2%	17.6%	18.9%	18.4%
Netherlands	22.3%	16.3%	17.3%	17.0%
United Arab Emirates	22.2%	17.3%	16.8%	16.8%
Abu Dhabi (United Arab Emirates)	22.9%	19.9%	20.7%	19.5%

Table 3.23: Percentage share of resilient children in each domain of social emotional development

Country/Jurisdiction	Emotion identification	Emotional Attribution	Trust	Prosocial Behaviour	Non-disruptive Behaviour	Social Emotional Development
Baku, Sumgait (Azerbaijan)	16.8%	22.4%	20.6%	17.9%	25.4%	17.5%
Ceara Para Sao Paulo (Brazil)	19.1%	21.2%	23.4%	19.7%	21.4%	18.8%
England (United Kingdom)	17.1%	23.6%	15.2%	13.3%	16.0%	12.3%
Flemish Community (Belgium)	11.9%	16.7%	17.9%	14.7%	20.5%	12.8%
Korea	22.9%	25.5%	21.7%	21.0%	20.5%	20.0%
Malta	20.4%	19.8%	22.7%	19.7%	21.2%	17.8%
Netherlands	15.5%	21.2%	18.7%	16.2%	20.5%	14.8%
United Arab Emirates	16.9%	20.9%	22.3%	22.1%	21.1%	17.1%
Abu Dhabi (United Arab Emirates)	18.5%	20.5%	20.4%	19.1%	26.1%	17.8%

Table 3.24: Percentage share of resilient children in each domain of children's skills

Country/Jurisdiction	Cognitive and Motor Skills		Social and emotional Skills		Global Cap.
	Teacher	Parent	Teacher	Parent	Teacher
Baku, Sumgait (Azerbaijan)	16.3%	17.2%	15.5%	18.1%	16.6%
Ceara Para Sao Paulo (Brazil)	16.9%	16.4%	17.7%	19.2%	15.0%
England (United Kingdom)	10.1%	6.8%	12.3%	7.5%	9.6%
Flemish Community (Belgium)	13.4%	13.4%	14.6%	16.3%	10.7%
Korea	17.8%	19.7%	18.3%	21.8%	19.2%
Malta	17.8%	10.7%	17.8%	9.9%	14.4%
Netherlands	14.0%	9.8%	14.5%	9.7%	11.9%
United Arab Emirates	22.1%	19.1%	23.7%	17.5%	17.4%
Abu Dhabi (United Arab Emirates)	16.1%	14.1%	16.8%	15.0%	14.4%

Table 3.22 shows the percentage of developmentally resilient disadvantaged children in executive function and its domains. The percentage share of Maltese resilient 5-year-olds in executive function is 18.4%, where the percentage share in inhibition (23.2%) is larger than the percentage shares in mental flexibility (18.9%) and working memory (17.6%). On average across countries/jurisdictions, between 16% and 22% of socioeconomically disadvantaged children perform strongly in the domains of executive functions

Table 3.23 shows the percentage of developmentally resilient disadvantaged children in social emotional development and its domains. The percentage share of Maltese resilient 5-year-olds in social emotional development is 17.8%, where the percentage share in trust (22.7%) is larger than the percentage shares in non-disruptive behaviour (21.2%), emotion identification (20.4%) emotional attribution (19.8%) and prosocial behaviour (19.7%). On average across countries/jurisdictions, between 16% and 22% of socioeconomically disadvantaged children perform strongly in the domains of social emotional development.

Table 3.24 shows the percentage of developmentally resilient disadvantaged children in the three children's skills. According to Maltese teachers, the percentage shares of resilient 5-year-olds in cognitive and motor skills (17.8%) and social and emotional skills (17.8%) are larger than the percentage share in global capabilities (14.4%). According to Maltese parents, the percentage share of resilient 5-year-olds in cognitive and motor skills (10.7%) is marginally higher than the percentage share in social and emotional skills (9.9%). On average across countries and jurisdictions, between 14% and 17% of socioeconomically disadvantaged children perform strongly in cognitive and motor skills, social and emotional skills, and global capabilities.

3.4 Migration gaps in early learning and development

International migration involves over 281 million people, including 36 million children, (roughly 3.6% of the global population) as reported by UNICEF in 2020. This migration is driven by labour, family reunification, and displacement. By 2022, 145 million people living in OECD countries were born abroad, an increase of 25% from 2012. Over this period, the share of foreign-born residents increased in nearly all OECD countries, and by 2022, immigrants represented more than 10% of the population in two-thirds of these countries. Meanwhile, forced displacement continues to rise, with children disproportionately represented among refugee populations. While permanent, high-level migration declined in 2024, humanitarian and temporary labour movements remain historically high. Between 2010 and 2024, the number of displaced children globally nearly tripled, rising from approximately 17.0 million to 48.8 million.

These trends are also reflected in the make-up of children attending ECEC programs. Data from TALIS Starting Strong 2024 show that children with an immigration background represent more than 10% of the children attending over one quarter of pre-primary settings in 11 out of 15 participating entities. In the Belgian Flemish community, immigrant children accounted for over 50% of the children in 1 of every 6 settings. And in Germany, Norway and Turkey, refugee children represented between 10% and 50% of the children in more than 1 in every 20 settings.

Children from immigrant families frequently encounter compounded obstacles, including systemic inequities, language barriers, and cultural differences, that negatively influence their initial schooling and overall development. These challenges often manifest as lower enrolment in early education, reduced proficiency in the host language, and social exclusion, which can lead to poorer long-term academic, economic, and health outcomes. Immigrant children are less likely to access high-quality early childhood programs due to barriers such as limited programme availability, insufficient bilingual or culturally responsive services, and a lack of institutional outreach tailored to their families, limiting children's access to early learning and development opportunities.

On the other hand, it is crucial to acknowledge that, in most nations, the immigrant population is highly heterogeneous rather than a uniform, population group. Children with an immigrant background are a diverse group, characterized by wide variations in their home country, cultural and linguistic traditions, socioeconomic situations, and their residence duration in the host nation. Intersecting social identities means immigrant children can sometimes face a double disadvantage if they are more likely than non-immigrant children to experience socioeconomic hardship, which can compound the effects of having to navigate cultural and social barriers. In some cases, though, immigrant children may come from relatively affluent and educated families, which highlights the importance to account for socioeconomic status when examining the relationship between an immigration background and children's outcomes.

A significant consequence of international migration is the rise in multilingual children, a trend that in certain nations intersects with existing multiple official languages rooted in longstanding historical and cultural traditions. In both contexts, language diversity may result in a more limited command of the main language used in early education among children with an immigrant background. This is the case when another language is predominantly spoken by families that have recently arrived in the host country. Since language is crucial to early development, supporting multilingual children is essential for creating fairness in education. Opportunities for early language development can differ between monolingual and multilingual children, depending partly on how much they are exposed to the majority language in their home environments. Moving away from perspectives that view linguistic diversity as a limitation, modern studies increasingly emphasize that multilingual children can flexibly leverage their entire range of languages to meet social and cognitive challenges.

Reducing negative impacts on early development of children from immigrant or linguistically diverse backgrounds is essential for educational equity and fostering social cohesion in host communities. By ensuring that immigrant children get a solid foundation in their new country's school system is a key pathway for social integration. In IELS 2025, children with an immigration background are defined as children having two parents born outside the jurisdiction in which the child participated in IELS (or one parent, in the case where information on one parent was provided). Among children with an immigration background, a further distinction can be made between first- and second-generation migration, depending on whether only the parents or both the parents and the child were born outside the IELS jurisdiction. Figure 3.20 display the mother's level of education of Maltese 5-year-olds, grouped by immigration background. Figures 3.21 to 3.23 show the mean scores for parent occupation, home learning environment and SES of Maltese 5-year-olds, stratified by immigration background.

Figure 3.20: Mother's level of education, by immigration background

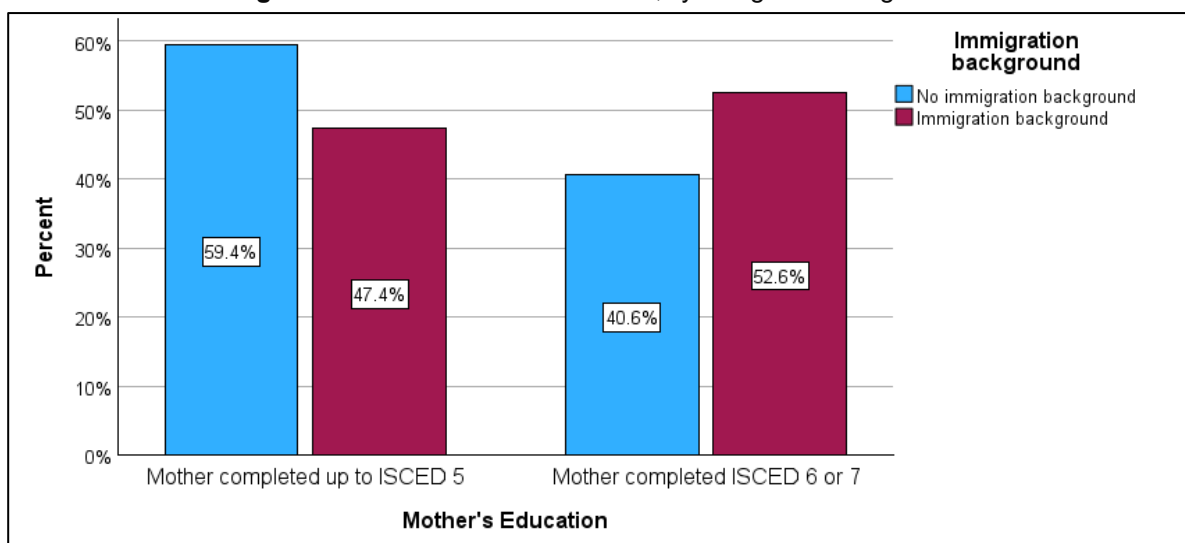


Figure 3.21: Highest occupation score of either parent, by immigration background

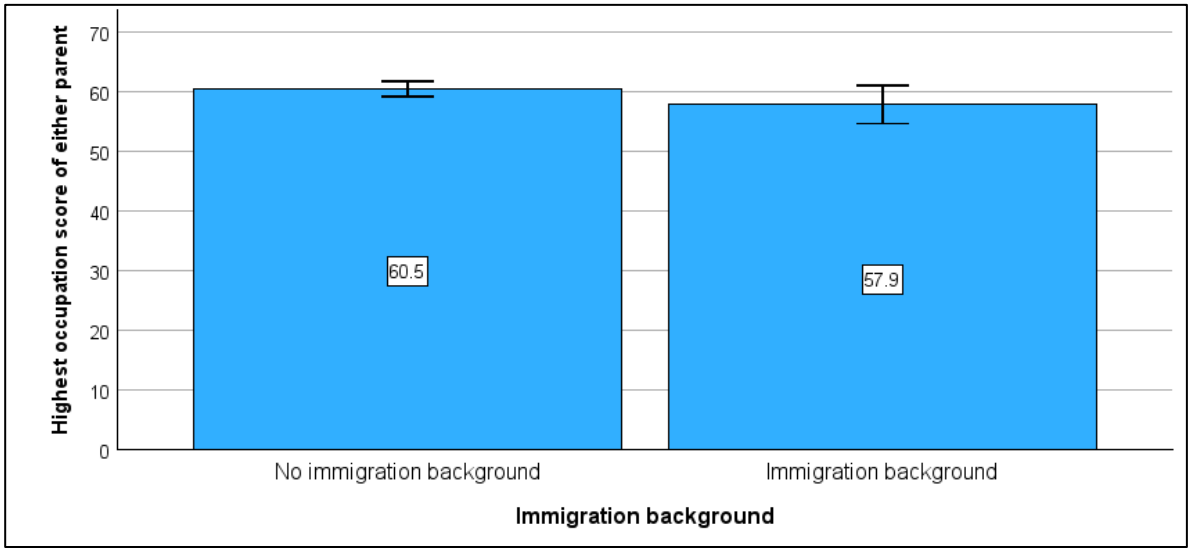


Figure 3.22: Home learning environment score, by immigration background

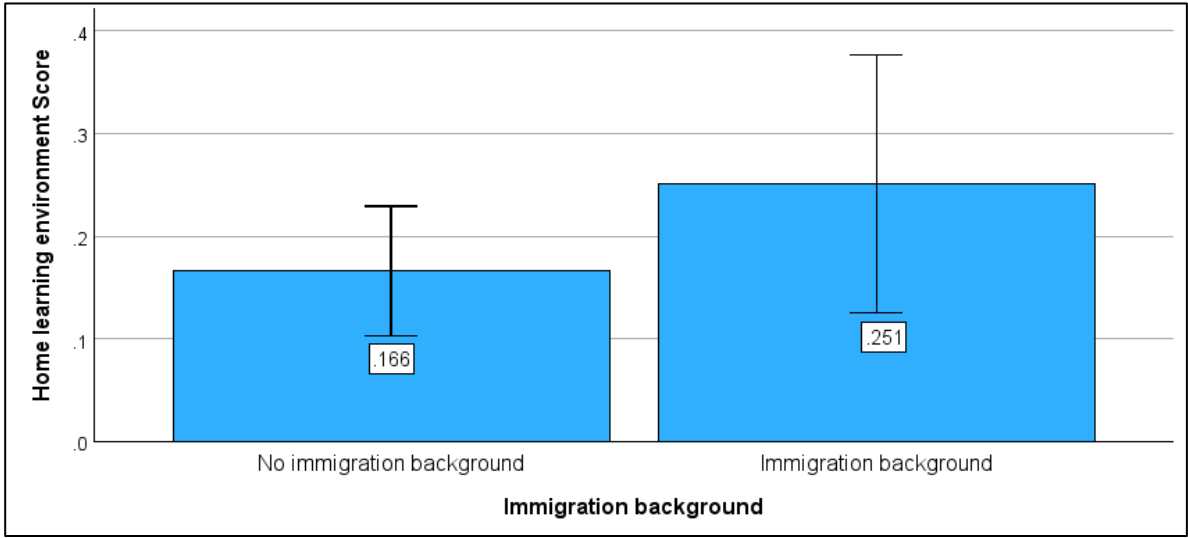


Figure 3.23: Socioeconomic score, by immigration background

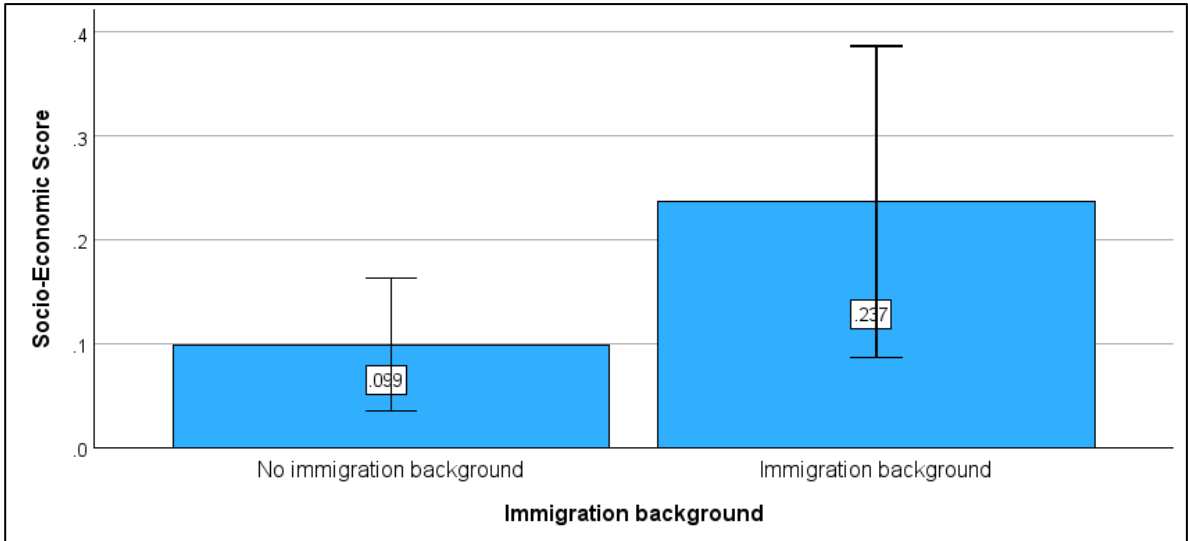


Table 3.25: Percentage of native and immigrant children, by country/jurisdiction

Country/jurisdiction	Native	Second generation immigrant	First generation immigrant
Baku, Sumgait (Azerbaijan)	98.1%	1.4%	0.4%
Ceara, Para, Sao Paulo (Brazil)	99.4%	0.3%	0.3%
England (United Kingdom)	73.7%	17.1%	9.1%
Flemish Community (Belgium)	80.5%	14.8%	4.7%
Korea	98.1%	1.7%	0.2%
Malta	83.5%	9.8%	6.7%
Netherlands	90.2%	6.8%	3.0%
United Arab Emirates	40.8%	26.0%	33.2%
Abu Dhabi (United Arab Emirates)	39.2%	34.8%	26.0%

Table 3.25 shows substantial variation across jurisdictions in the shares of children with an immigration background in the IELS 2025 samples. At one extreme, almost 59.2% of the participating children in the United Arab Emirates have an immigration background, of which more than half are first-generation migrants. The majority of migrants in England (17.1%) and the Belgian Flemish community (14.8%) are second-generation migrants. In Malta, the percentage of second-generation migrants (9.8%) is larger than the percentage of first-generation migrants (6.7%). The most homogeneous child populations in IELS 2025 are found in Korea, Ceara, Para and Sao Paulo, and Baku and Sumgait, where less than 2% of participating 5-year-olds have an immigration background.

Across countries/jurisdictions and domains of assessment, gaps between children with and without an immigration background in the early learning and development outcomes included in IELS 2025 are small and inconsistent, compared to gaps in other equity dimensions. Differences in outcomes by immigration background are larger and more often statistically significant in foundational learning domains, but rare in the executive function and social and emotional development dimensions. Gaps in early learning and development domain and children's skills between native and immigrant 5-year-olds take into account children's socioeconomic status and home language.

Table 3.26: Gaps in foundational learning domains between native and immigrant 5-year-olds

Country/Jurisdiction	Emergent Literacy	Emergent Numeracy	Foundational Learning
Baku, Sumgait (Azerbaijan)	-19.4	-8.5	-14.0
England (United Kingdom)	-49.3	-28.8	-39.1
Flemish Community (Belgium)	-39.6	-26.9	-33.3
Korea	-8.3	-1.1	-4.7
Malta	-6.7	29.7	11.5
Netherlands	-50.0	-33.0	-41.5
United Arab Emirates	4.8	20.5	12.6
Abu Dhabi (United Arab Emirates)	-3.7	1.1	-1.3

Table 3.26 shows that after accounting for children's socioeconomic and linguistic backgrounds, Maltese 5-year-olds with an immigrant background scored 29.7 points higher than their native counterparts in emergent numeracy. On the other hand, Maltese native 5-year-olds scored 6.7 points higher than their immigrant counterparts in emergent literacy. On average, across countries/jurisdictions, the mean scores in emergent literacy and emergent numeracy of children with an immigration background are 24.1 points

and 6.9 points lower, respectively, than their native counterparts. These gaps are largest among children in the Belgian Flemish Community, the Netherlands and England. Gaps in emergent numeracy in favour of children with an immigration background are also observed among children in UAE. Figure 3.24 shows the relationship between foundational learning and SES of Maltese 5-year-olds, by immigration background.

Figure 3.24: Relationship between foundational learning and socioeconomic status, by immigration background

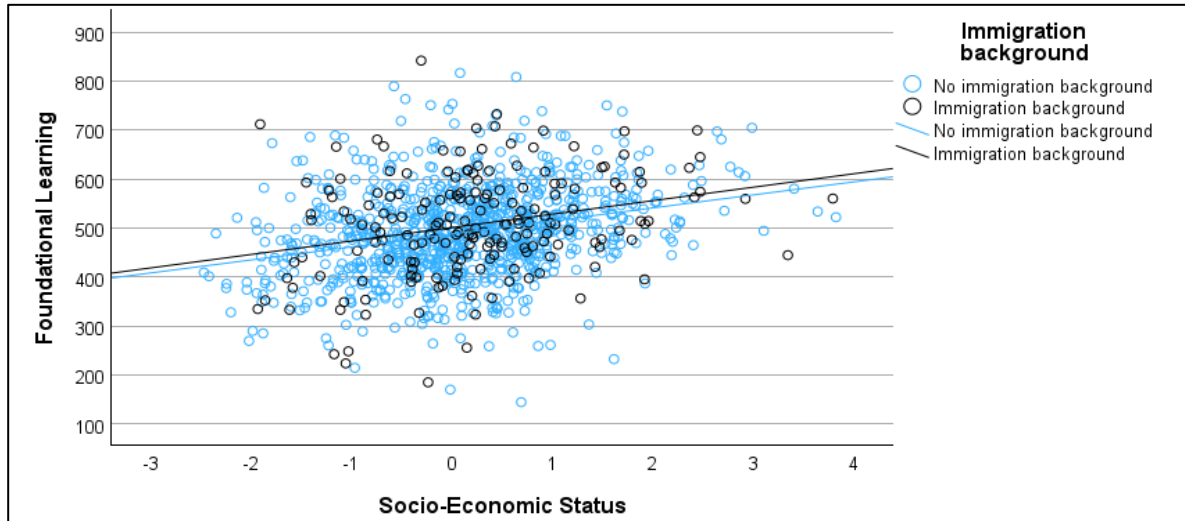
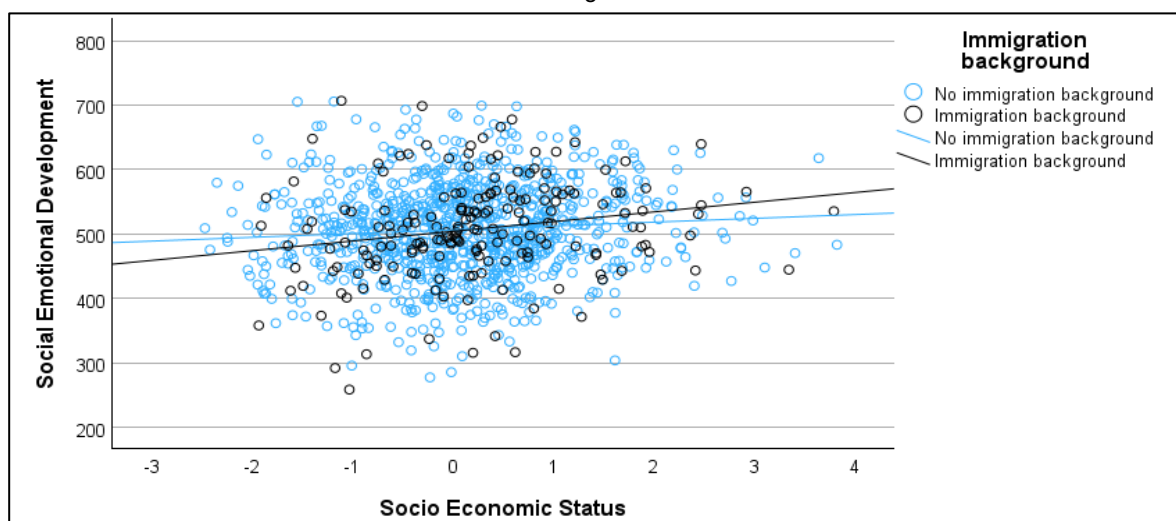


Table 3.27 shows that after accounting for children's socioeconomic and linguistic backgrounds, Maltese 5-year-olds with an immigrant background scored 19.6 points and 6.7 points higher than their native counterparts in emotional attribution and emotion identification respectively. On the other hand, Maltese native 5-year-olds scored 14.9 points, 8.9 points and 2.5 points higher than children with an immigrant background in prosocial behaviour, trust and non-disruptive behaviour. On average, across countries and jurisdictions, the mean scores in prosocial behaviour, trust, emotion identification and emotion identification of children with an immigration background are 11.6 points, 11.1 points, 6.5 points and 5.8 points lower, respectively, than their native counterparts; however, the mean score in non-disruptive behaviour of children with an immigration background is 2.6 points higher than their native counterparts. Figure 3.25 shows the relationship between social and emotional development and SES of Maltese 5-year-olds, by immigration background.

Table 3.27: Gaps in social emotional development domains between native and immigrant 5-year-olds

Country/Jurisdiction	Emotion identification	Emotional Attribution	Trust	Prosocial Behaviour	Non-disruptive Behaviour	Social Emotional Development
Baku, Sumgait (Azerbaijan)	-12.8	-21.1	19.3	14.7	27.2	5.5
England (United Kingdom)	-18.2	-11.2	-36.2	-25.0	7.7	-16.6
Flemish Community (Belgium)	-28.3	-19.6	-19.3	-24.6	3.2	-17.7
Korea	3.1	-11.0	-15.0	-11.0	-24.7	-11.7
Malta	6.7	19.6	-8.9	-14.9	-2.5	0.0
Netherlands	-18.8	-14.9	-14.4	-21.4	-4.7	-14.8
United Arab Emirates	22.9	17.8	-3.3	1.4	11.5	10.1
Abu Dhabi (United Arab Emirates)	17.4	3.8	26.2	27.8	-3.8	14.3

Figure 3.25: Relationship between social and emotional growth and socioeconomic status, by immigration background**Table 3.28:** Gaps in executive function domains between native and immigrant 5-year-olds

Country/Jurisdiction	Inhibition	Working Memory	Mental Flexibility	Executive Function
Baku, Sumgait (Azerbaijan)	12.6	-6.6	-17.7	-3.9
England (United Kingdom)	6.7	4.4	-10.7	0.1
Flemish Community (Belgium)	6.7	-23.8	-6.6	-7.9
Korea	-0.5	-2.2	20.5	6.0
Malta	9.5	-1.4	19.6	9.2
Netherlands	8.9	-25.2	-15.5	-10.6
United Arab Emirates	-2.3	4.2	4.1	2.0
Abu Dhabi (United Arab Emirates)	1.0	9.5	-4.3	2.1

Figure 3.26: Relationship between executive function and socioeconomic status, by immigration background

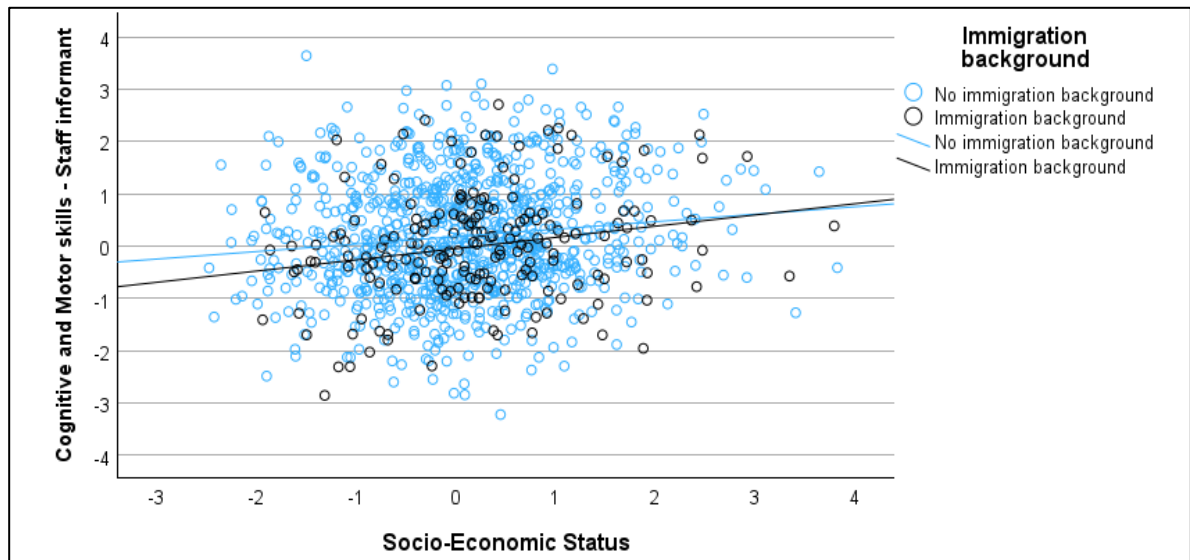
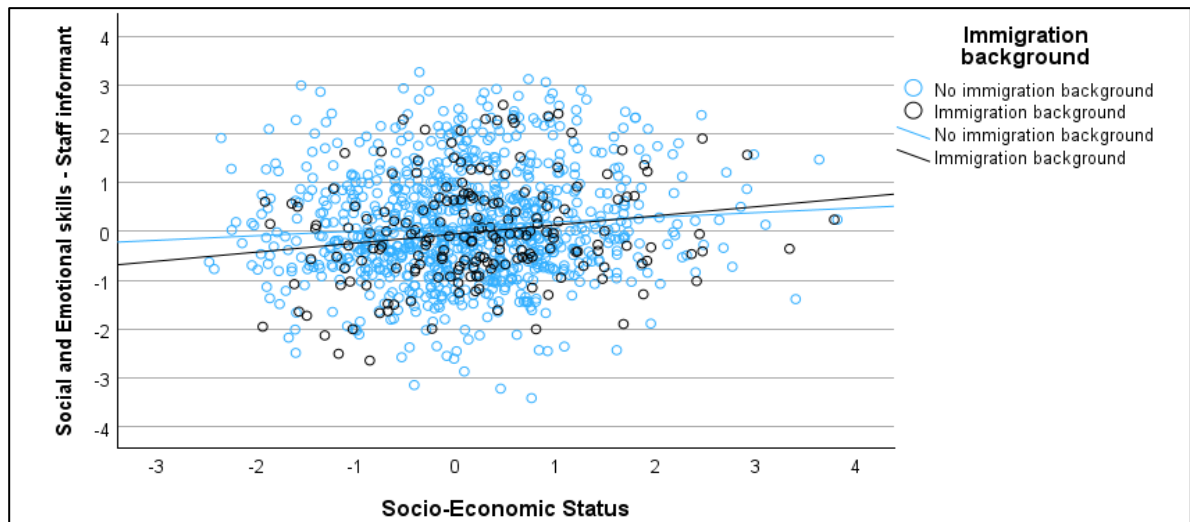
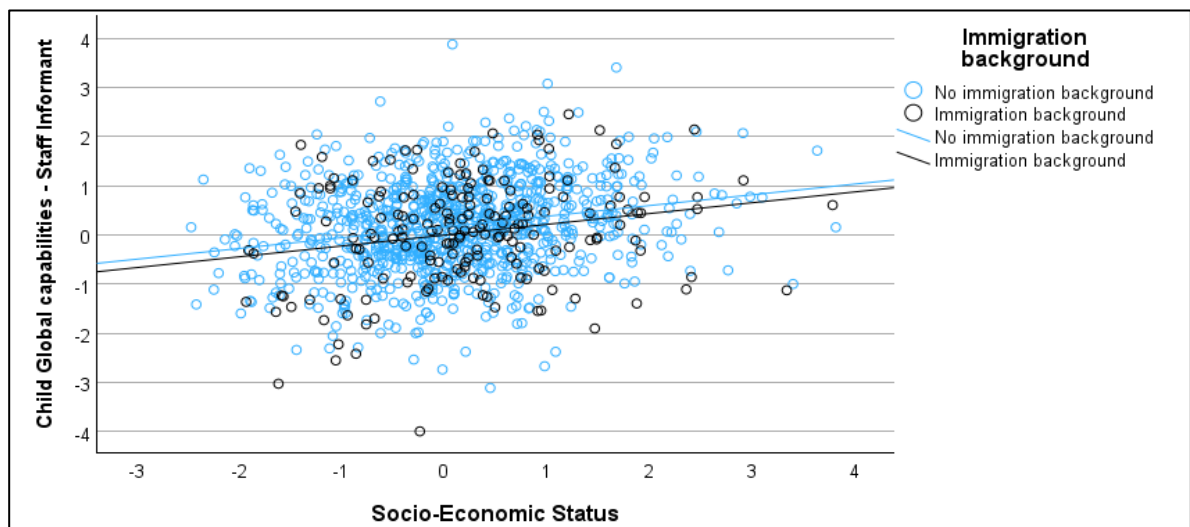
Table 3.28 shows that after accounting for children's socioeconomic and linguistic backgrounds, Maltese 5-year-olds with an immigrant background scored 19.6 points and 9.5 points higher than their native counterparts in mental flexibility and inhibition respectively. On the other hand, Maltese native 5-year-

olds scored 1.4 points higher than children with an immigrant background immigrant counterparts in working memory. On average, across countries/jurisdictions, the mean scores in working memory and mental flexibility of children with an immigration background are 7.2 points and 0.9 points lower, respectively, than their native counterparts; however, the mean score in inhibition of children with an immigration background is 5.9 points higher than their native counterparts. These gaps are largest among children in the Baku and Sumgait, Malta and the Netherlands. Figure 3.26 shows the relationship between executive function and SES of Maltese 5-year-olds, by immigration background.

Table 3.29: Gaps in children's skill domains between native and immigrant 5-year-olds

Country/Jurisdiction	Cognitive and Motor Skills		Social and emotional Skills		Global Cap.
	Teacher	Parent	Teacher	Parent	Teacher
Baku, Sumgait (Azerbaijan)	0.17	0.00	0.05	0.11	0.01
England (United Kingdom)	-0.19	0.44	-0.17	0.41	-0.27
Flemish Community (Belgium)	-0.34	0.26	-0.20	0.30	-0.30
Korea	-0.15	0.06	-0.02	0.16	-0.14
Malta	-0.16	0.12	-0.11	0.22	-0.17
Netherlands	-0.37	0.17	-0.27	0.41	-0.40
United Arab Emirates	0.03	-0.14	-0.05	-0.10	0.11
Abu Dhabi (United Arab Emirates)	0.37	-0.08	0.25	-0.05	0.26

Table 3.29 displays the gaps in children's skill domains between native and immigrant 5-year-olds. The perceptions of parents and teachers concerning the relative level of skills of children with and without an immigration background show little consistency with the actual gaps observed in IELS 2025 assessments. When teachers' views on their children's skills are compared based on whether the child has an immigration background, native children tend to be perceived as having stronger skills than immigrant children, except in the United Arab Emirates, where the opposite holds. However, when this comparison is made based on parental views, children with an immigration background are perceived to have stronger skills than native children in several jurisdictions, including England, Flemish community, Malta, Korea and the Netherlands. One possible explanation is that, compared with parents', teachers' perceptions of children's skills place greater weight on learning and developmental progression than on actual outcomes. Figures 3.27 to 3.29 show the relationship between child skills and SES, by immigration background.

Figure 3.27: Relationship between cognitive and motor skills and socioeconomic status, by immigration background**Figure 3.28:** Relationship between social and emotional skills and socioeconomic status, by immigration background**Figure 3.29:** Relationship between child global capabilities and socioeconomic status, by immigration background

3.5 Language gaps in early learning and development

The prevalence of multilingualism in IELS 2025 samples varies widely across jurisdictions. Table 3.30 shows that 56.8% of Maltese children and 88.5% of their parents/guardians speak another language at home, which is not the language of assessment. These percentages should be interpreted with caution since the language of assessment was not the same for all Maltese 5-year-olds. In fact, 69.9% of Maltese 5-year-olds were assessed in English, while the remaining 30.1% of the children were assessed in Maltese, depending on the choice made by the ECEC centre. By contrast, in Korea and Ceara, Para and Sao Paulo virtually all children speak the same language in their homes and their ECEC centres. Across jurisdictions, more than one in four children in IELS 2025 have two parents for whom the main language used at home differs from the language of assessment. In each jurisdiction, this percentage is higher than that of children speaking primarily another language. This result may be explained by the adoption by children of the language used in their ECEC centres. In Malta, English is the primary language of education, used in schools for instruction, books, and examinations. Additionally, it is used for social media, TV, and communication with foreign residents and tourists.

Table 3.30: Percentage of parents/children speaking a different language used in the test, by jurisdiction

Country/jurisdiction	Parent	Child
Baku, Sumgait (Azerbaijan)	15.0%	13.7%
Ceara, Para, Sao Paulo (Brazil)	0.8%	0.4%
England (United Kingdom)	22.7%	10.5%
Flemish Community (Belgium)	26.5%	15.7%
Korea	2.5%	0.4%
Malta	88.5%	56.8%
Netherlands	18.7%	9.1%
United Arab Emirates	44.9%	31.3%
Abu Dhabi (United Arab Emirates)	44.5%	33.5%

Figures 3.30 to 3.33 show that Maltese 5-year-olds who speak the language of assessment are more likely to have mothers with tertiary education than their counterparts speaking another language. Moreover, they tend to have a higher socioeconomic status, live in a better home learning environment, and have parents that tend to have better occupations.

Figure 3.30: Mother's level of education, by language often spoken at home

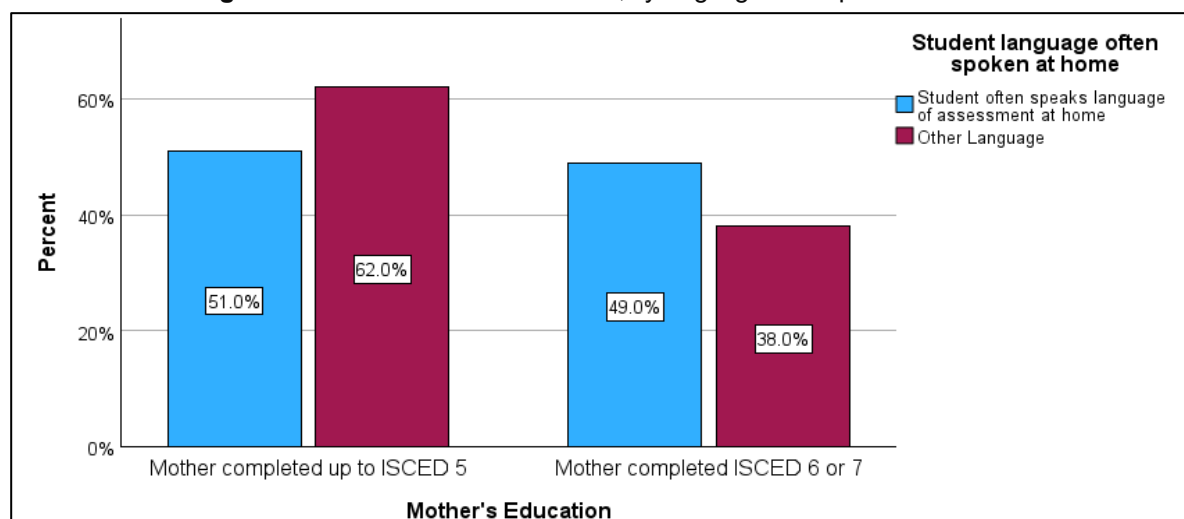
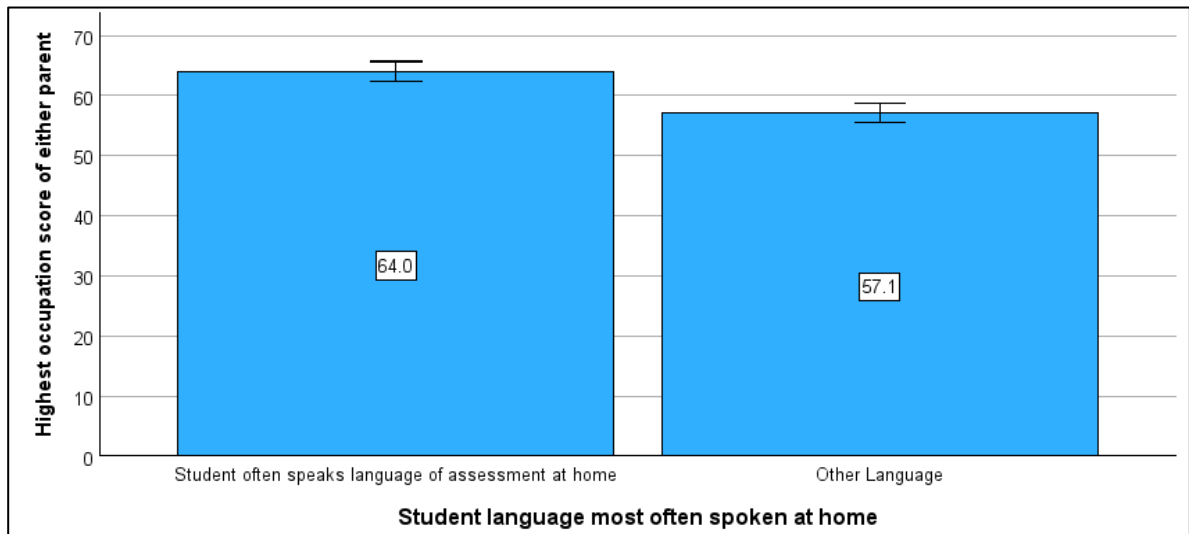
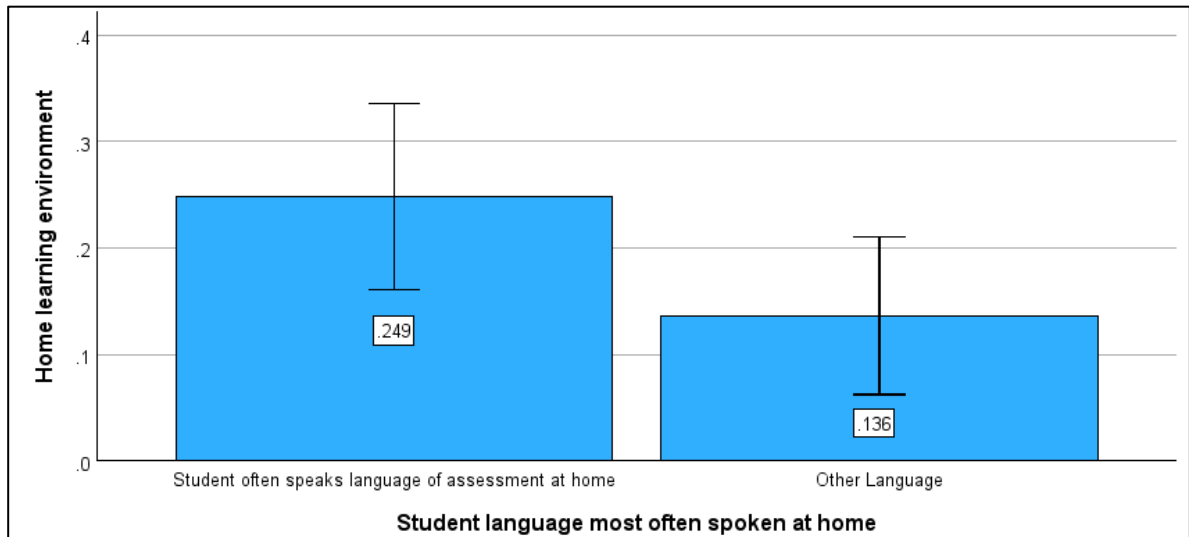
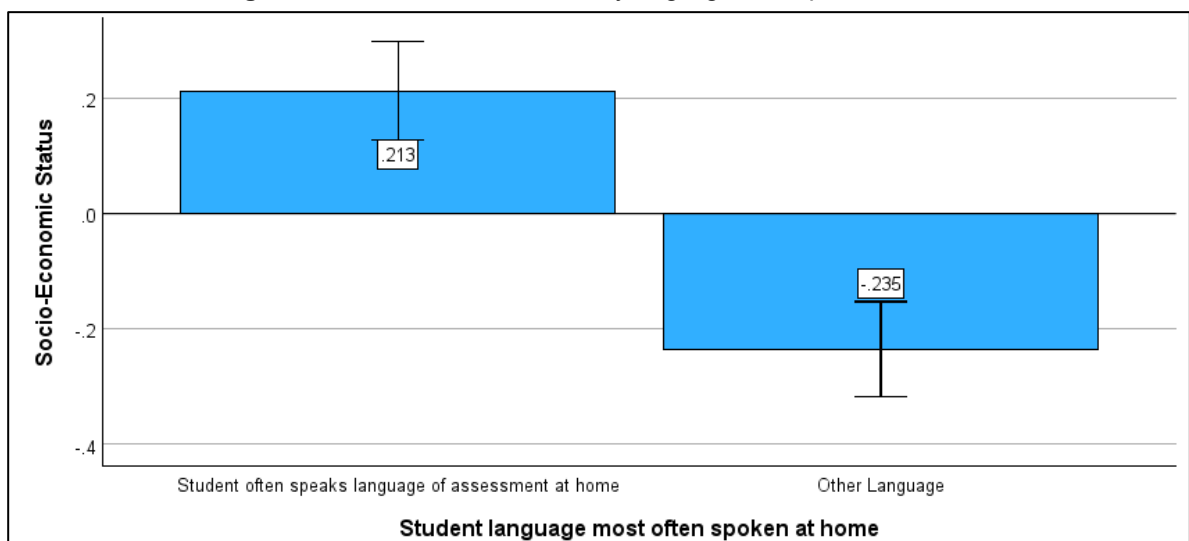


Figure 3.31: Highest occupation score of either parent, by language often spoken at home**Figure 3.32:** Home learning environment score, by language often spoken at home**Figure 3.33:** Socioeconomic score, by language often spoken at home

Tables 3.31 to 3.33 display the gaps in the domains of foundational learning, executive function, and social and emotional development for each country/jurisdiction, stratified by the primary language 5-year-olds speak at home.

Table 3.31: Gaps in foundational learning domains, by language primarily spoken at home

Country/Jurisdiction	Emergent Literacy	Emergent Numeracy	Foundational Learning
Baku, Sumgait (Azerbaijan)	-41.0	-38.4	-39.7
England (United Kingdom)	50.7	28.4	39.5
Flemish Community (Belgium)	85.1	52.2	68.7
Malta	27.3	26.5	26.9
Netherlands	65.0	36.9	51.0
United Arab Emirates	18.1	0.5	9.3
Abu Dhabi (United Arab Emirates)	14.6	8.4	11.5

Table 3.32: Gaps in executive function domains, by language primarily spoken at home

Country/Jurisdiction	Inhibition	Working Memory	Mental Flexibility	Executive Function
Baku, Sumgait (Azerbaijan)	-8.9	-15.6	-3.5	-20.8
England (United Kingdom)	-14.4	-5.5	-7.1	0.7
Flemish Community (Belgium)	4.00	47.7	35.4	31.5
Malta	6.00	-6.3	-16.5	-6.1
Netherlands	12.1	43.	33.0	22.7
United Arab Emirates	9.6	2.1	7.0	5.3
Abu Dhabi (United Arab Emirates)	5.8	2.8	7.1	4.9

Table 3.33: Gaps in social emotional development domains, by language primarily spoken at home

Country/Jurisdiction	Emotion identification	Emotional Attribution	Trust	Prosocial Behaviour	Non-disruptive Behaviour	Social Emotional Development
Baku, Sumgait (Azerbaijan)	-5.5	-14.0	16.3	-16.9	23.7	0.7
England (United Kingdom)	8.3	-1.2	17.0	-6.8	-7.0	2.1
Flemish Community (Belgium)	53.8	26.7	12.4	25.1	-10.1	21.6
Malta	4.7	11.5	-21.6	-26.9	-1.2	-6.7
Netherlands	29.2	24.8	-0.3	18.6	-3.1	13.9
United Arab Emirates	6.7	-1.1	17.8	12.5	-0.6	7.1
Abu Dhabi (United Arab Emirates)	4.3	9.9	-10.6	-15.8	1.3	-2.2

Table 3.31 to 3.33 show that Maltese children who speak the language of assessment (Maltese or English) at home score significantly higher in emergent literacy and emergent numeracy than their counterparts speaking another language. On the other hand, Maltese children who speak another language at home

score significantly higher in prosocial behaviour and trust than their counterparts who speak the language of assessment.

On average across jurisdictions, the mean scores of children whose primary language at home is the same as the language of assessment in IELS exceed those of children speaking a different language in the foundational learning domains of emergent literacy (34.2) and emergent numeracy (17.7); in the executive function domain of working memory (10.9); and in the social and emotional development domain of emotion identification (16.2), after accounting for children's socioeconomic status. Overall, however, few statistically significant differences are observed between the two groups across the remaining domains assessed in IELS 2025. Gaps in favour of children with a different home language are observed only among children in Baku and Sumgait and Malta, in three domains in each jurisdiction. Unsurprisingly, gaps by home language are most consistent in emergent literacy in favour of children speaking the same language at home and in their ECEC centre, particularly among children in Belgian Flemish community (85.1), the Netherlands (65.0) and England (50.7).

Table 3.34 shows that the perceptions of parents and teachers about children's skills differ little when referring to children primarily speaking at home the language of assessment in IELS or another language. On average across countries/jurisdictions, only the scale of child global competences, based on ECEC staff perceptions, shows that mean scores differ significantly between the two groups of children. On this measure, ECEC staff tend to perceive children who primarily speak the language of assessment at home as having stronger skills than children speaking another language. This is consistent with corresponding gaps in emergent literacy and emergent numeracy assessments in some jurisdictions, as well as with the paucity of significant gaps in executive function and social and emotional development dimensions.

Table 3.34: Gaps in children's skill domains. by language primarily spoken at home

Country/Jurisdiction	Cognitive and Motor Skills		Social and emotional Skills		Global Cap.
	Teacher	Parent	Teacher	Parent	Teacher
Baku, Sumgait (Azerbaijan)	-0.48	-0.60	-0.44	-0.63	-0.19
England (United Kingdom)	0.05	-0.09	-0.05	-0.08	0.12
Flemish Community (Belgium)	0.39	-0.09	0.15	-0.20	0.65
Malta	-0.15	0.07	-0.19	0.10	0.02
Netherlands	0.25	-0.23	0.14	-0.21	0.36
United Arab Emirates	0.08	0.23	0.09	0.17	0.09
Abu Dhabi (United Arab Emirates)	-0.20	0.11	-0.16	-0.02	-0.13

Figure 3.34: Relationship between foundational learning and socioeconomic status, by language spoken at home

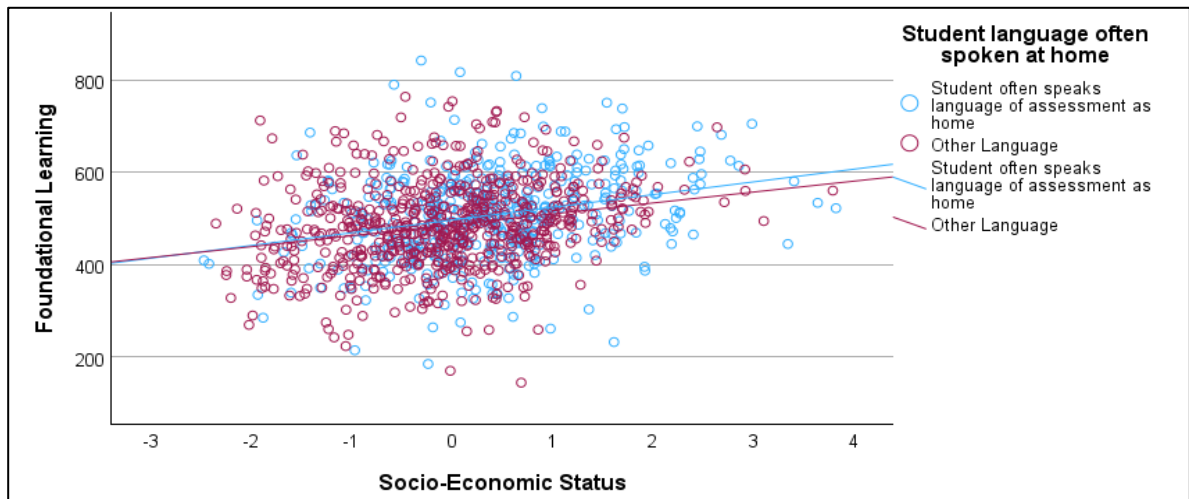


Figure 3.35: Relationship between executive function and socioeconomic status, by language spoken at home

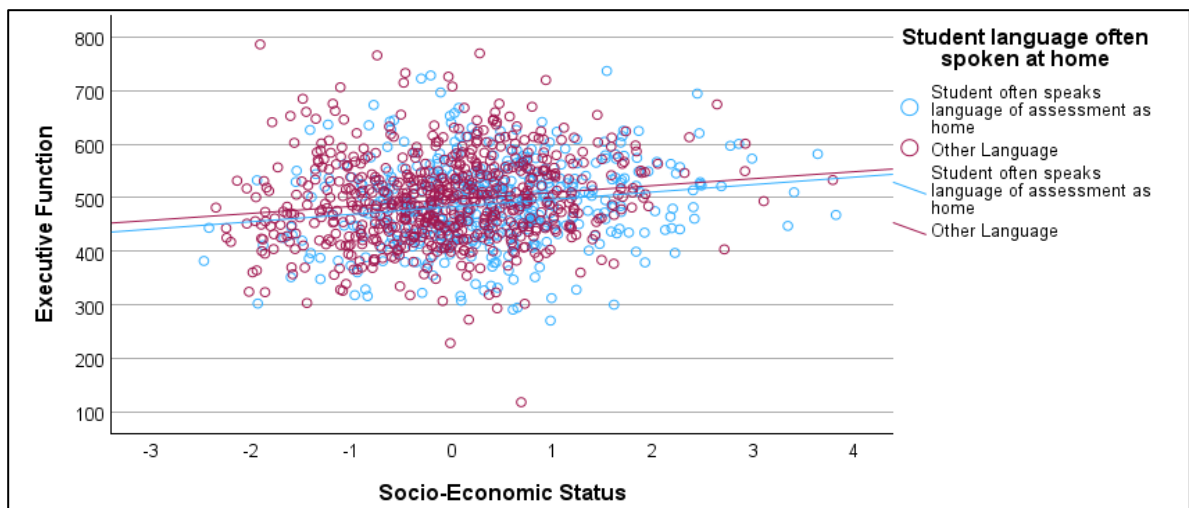
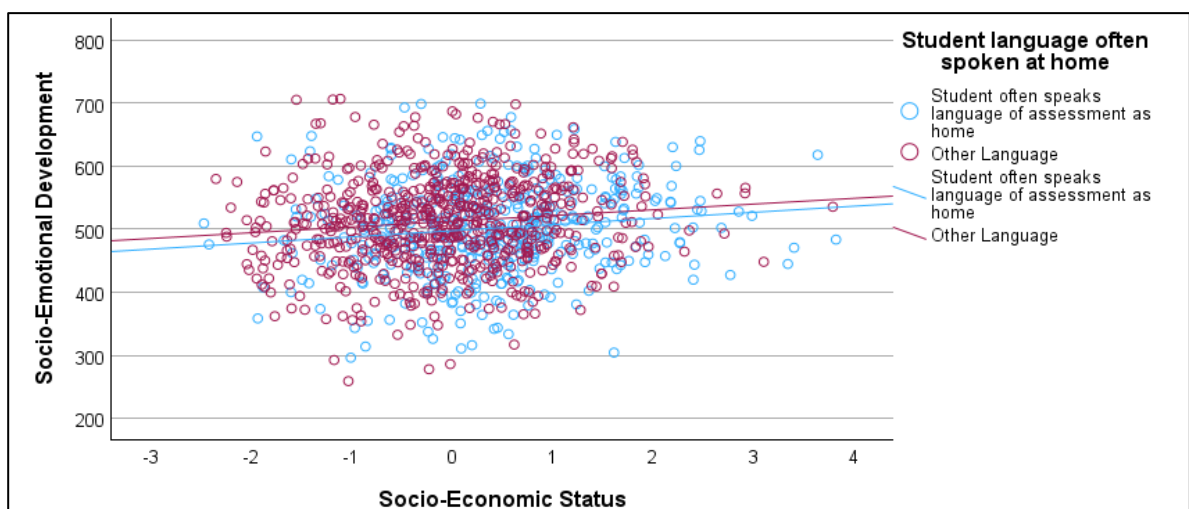


Figure 3.36: Relationship between social and emotional growth and socioeconomic status, by language spoken at home



Figures 3.34 to 3.36 display the relationships between early learning and development and socioeconomic status, grouped by language spoken at home. Figures 3.37 to 3.39 show the relationships between children's skills and socioeconomic status, stratified by language spoken at home.

Figure 3.37: Relationship between cognitive and motor skills and socioeconomic status, by language spoken at home

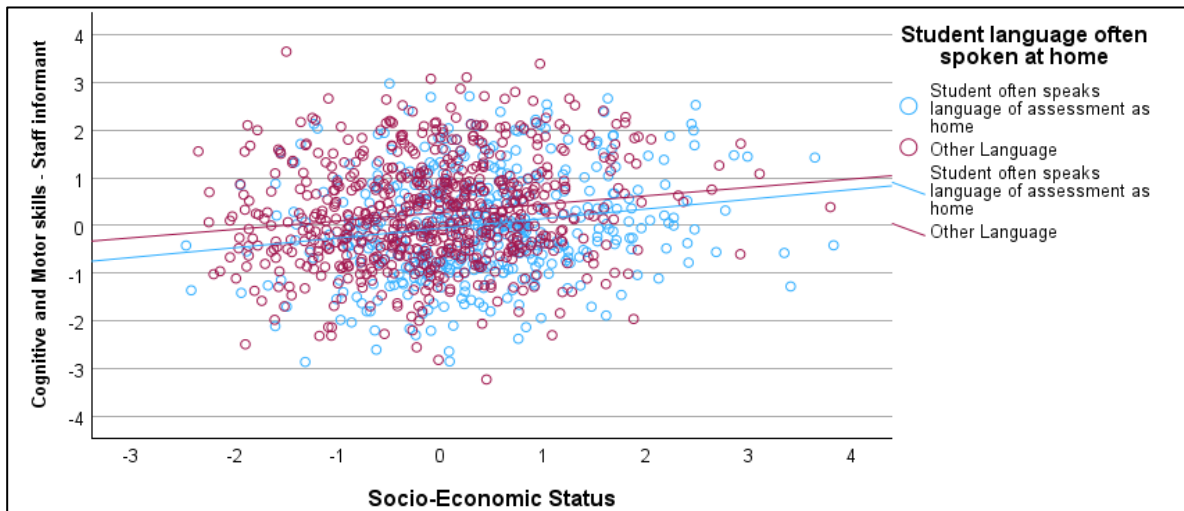


Figure 3.38: Relationship between social and emotional skills and socioeconomic status, by language spoken at home

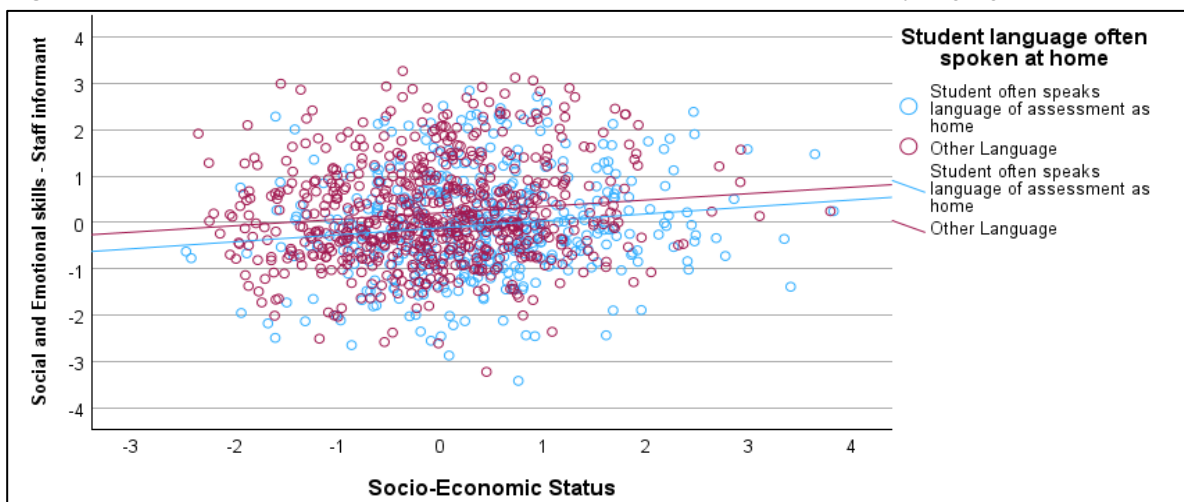
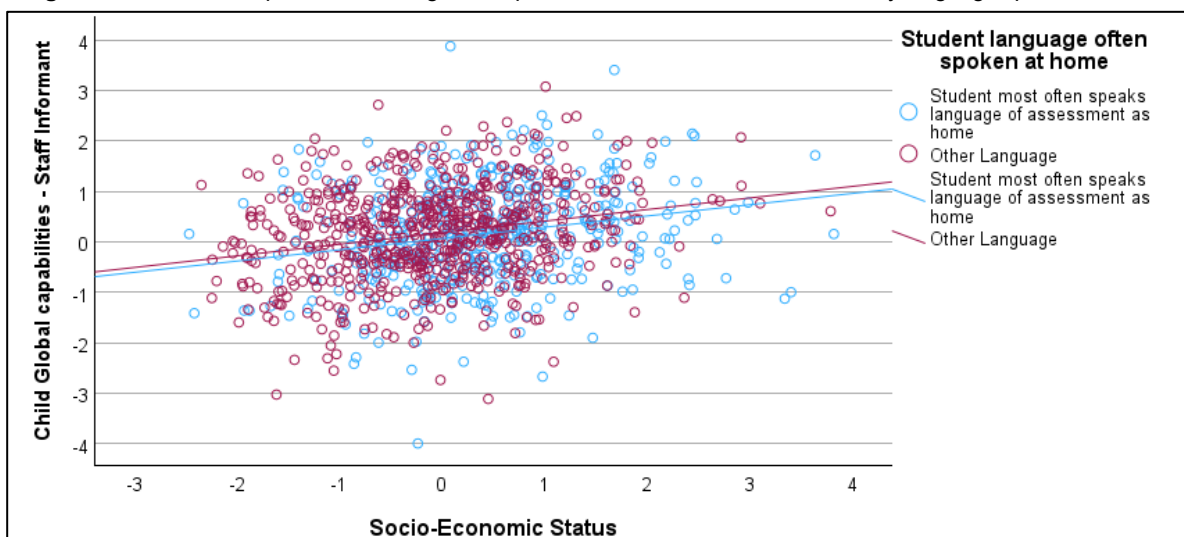


Figure 3.39: Relationship between child global capabilities and socioeconomic status, by language spoken at home



4

Home environment and children's early learning

4.1 Introduction

The home environment plays a fundamental role in shaping a child's learning and developmental path. The opportunities available to children depend largely on the material, time, and cultural resources their families can provide. Differences in a child's early cognitive, social, and emotional development begin to emerge within the family setting during infancy, well before external social institutions (e.g. schools or childcare centres) start to influence their lives.

Family environments are crucial to both ecological models of human development and viewpoints regarding how educational success is passed down through generations. These frameworks discriminate influences that link families' characteristics to children's outcomes. While broader socioeconomic and demographic circumstances represent indirect or distal factors, the children's immediate, day-to-day interactions and experiences are considered direct or proximal factors. Parents' values and beliefs mediate effects between these two other levels. The methodology used in the first two cycles of IELS was to gather data on both general background variables (which indirectly affect child outcomes) and process-related variables (which have a direct impact).

This chapter explores the relationship between home settings and early childhood development and learning outcomes in IELS 2025. Section 4.2 examines parental levels of education and household structure as key indirect influences on children's outcomes. Section 4.3 investigates the activities parents undertake with their child, and Section 4.4 discusses parental levels of engagement in early childhood and education. These analyses investigate comprehensively the causes of socioeconomic disparities in child outcomes, recognising that families' socioeconomic status has a strong impact on home learning environments.

4.2 Parental levels of education and household structure

Parent's educational backgrounds influence children's learning and development in several ways. Higher levels of schooling equip parents with sufficient knowledge to comprehend environmental factors that

foster children's development and skills for positive growth. This includes, for example, a stronger understanding of child development processes, improved linguistic and numerical skills among parents, and increased self-assurance in their caregiving abilities. Family structure can have a huge impact on children's early learning and development outcomes. This is expected when changes occur in the family composition (e.g. divorce or re-partnering), which create instability and stress for children, including through reduced resources or lower-quality interactions with other family members. As family arrangements become increasingly varied, a wide range of factors mediate the relationships between household composition and children's outcomes and wellbeing. It is crucial that changes in family structures do not inherently harm children.

Table 4.1: Percentage of single mothers and average number of siblings, by country/jurisdiction

Country/jurisdiction	Single parents	Average number of siblings
Baku, Sumgait (Azerbaijan)	5.46%	1.21
Ceara, Para, Sao Paulo (Brazil)	16.35%	1.35
England (United Kingdom)	9.20%	1.29
Flemish Community (Belgium)	4.52%	1.34
Korea	4.34%	0.96
Malta	5.28%	1.02
Netherlands	3.22%	1.37
United Arab Emirates	2.76%	1.89
Abu Dhabi (United Arab Emirates)	2.11%	1.90

The 5-year-old participants in IELS 2025 live in diverse family contexts. Table 4.1 shows that across countries/jurisdictions, on average 94.08% of the children lived with two parents, while 16.35% of children in Ceara, Para and Sao Paulo, 9.20% of children in England, 5.46% in Baku and Sumgait, and 5.28% in Malta live in single-parent households. Across jurisdictions, children most often had one sibling, and the average number of siblings tended to be smaller in Korea (0.96) and Malta (1.02), and larger in the United Arab Emirates (1.89). Table 4.2 shows that, on average, almost two-thirds of the mothers of IELS 2025 children were in their thirties in 2025. In the majority of jurisdictions, including Malta, mothers most frequently were between 35 and 39 years of age, with also close to a third of mothers in the United Arab Emirates, the Belgian Flemish community, and Baku and Sumgait being aged 30 to 35 years old and over a third of mothers in Ceara, Para and Sao Paulo being in their twenties. The largest proportion of mothers aged over 40 years is observed in Korea (45.82%).

Table 4.2: Mother's age, by country/jurisdiction

Country/jurisdiction	23 years or less	24-29 years	30-34 years	35-39 years	40-44 years	45 years or more
Baku, Sumgait (Azerbaijan)	0.77%	24.86%	37.76%	24.89%	8.86%	2.86%
Ceara, Para, Sao Paulo (Brazil)	6.27%	30.05%	26.56%	21.62%	12.12%	3.39%
England (United Kingdom)	0.10%	10.62%	27.38%	34.27%	21.82%	5.82%
Flemish Community (Belgium)	0.05%	7.20%	31.39%	40.81%	16.62%	3.93%
Korea	0.00%	1.54%	14.10%	38.53%	38.02%	7.80%
Malta	0.38%	6.76%	25.68%	40.78%	21.92%	4.47%
Netherlands	0.15%	3.33%	24.75%	47.73%	20.67%	3.37%
United Arab Emirates	0.12%	10.11%	29.83%	33.63%	19.48%	6.82%
Abu Dhabi (United Arab Emirates)	0.05%	9.31%	30.30%	33.86%	20.04%	6.44%

Table 4.3 shows that in the United Arab Emirates, the Belgian Flemish community, England, Korea, and Malta, children in IELS 2025 most commonly had mothers who had completed tertiary education (undergraduate or postgraduate degree). In the Netherlands, Baku and Sumgait, and Ceara, Para and Sao Paulo, a majority of children had mothers whose highest level of attainment was either upper secondary education; post-secondary, non-tertiary education; or short-cycle tertiary education. On average across jurisdictions, these two levels represent the highest educational attainment of over 80% of the mothers of the children in the study. Lower levels of maternal education were less frequent, but over 20% of children in England, Malta, and Ceara, Para and Sao Paulo had mothers whose highest attainment was primary or lower secondary education (ISCED levels 1 or 2). Table 4.4% shows an almost identical pattern of educational attainments observed among fathers.

Table 4.3: Mother's education level, by country/jurisdiction

Country/jurisdiction	Primary	Lower secondary	Upper secondary	Post-secondary	Under-graduate degree	Post-graduate degree
Baku, Sumgait (Azerbaijan)	2.91%	11.16%	34.04%	21.70%	23.59%	6.59%
Ceara, Para, Sao Paulo (Brazil)	11.18%	16.79%	46.13%	6.69%	18.30%	0.91%
England (United Kingdom)	9.86%	12.27%	19.82%	9.34%	26.49%	22.22%
Flemish Community (Belgium)	1.78%	5.30%	17.00%	16.08%	34.85%	25.00%
Korea	0.13%	0.45%	16.83%	26.33%	46.61%	9.65%
Malta	0.94%	20.73%	18.52%	16.76%	23.06%	19.99%
Netherlands	0.79%	4.96%	30.63%	33.83%	10.18%	19.60%
United Arab Emirates	0.77%	1.43%	16.06%	12.41%	47.66%	21.67%
Abu Dhabi (United Arab Emirates)	0.10%	1.11%	12.15%	13.13%	52.20%	21.31%

Table 4.4: Father's education level, by country/jurisdiction

Country/jurisdiction	Primary	Lower secondary	Upper secondary	Post-secondary	Under-graduate degree	Post-graduate degree
Baku, Sumgait (Azerbaijan)	1.27%	9.23%	38.79%	15.47%	28.82%	6.42%
Ceara, Para, Sao Paulo (Brazil)	16.43%	17.06%	44.93%	7.03%	13.23%	1.31%
England (United Kingdom)	13.41%	15.28%	17.81%	11.37%	25.30%	16.83%
Flemish Community (Belgium)	1.96%	5.58%	25.49%	18.55%	25.46%	22.97%
Korea	0.15%	0.43%	15.70%	22.03%	50.46%	11.22%
Malta	1.94%	32.44%	21.86%	13.91%	15.60%	14.24%
Netherlands	1.17%	7.83%	37.65%	27.13%	9.84%	16.38%
United Arab Emirates	0.63%	2.30%	14.39%	12.46%	47.01%	23.20%
Abu Dhabi (United Arab Emirates)	0.24%	0.89%	11.54%	14.06%	46.96%	26.29%

Given that, on average, mothers tend to spend more time and interact more actively with children than fathers, particularly during the early years of their lives, the association between parental education and children's early learning and development outcomes in IELS 2025 is examined through the lens of the mother's rather than the father's level of education. Mother's education was categorised into three levels. Mothers with primary or lower secondary levels (ISCED 1 and 2) had a low level of education; mothers

with higher secondary, post-secondary, or short cycle tertiary levels (ISCED 3, 4 and 5) had an intermediate level of education; while mothers with a bachelor's degree, master's degree, and PhD (ISCED 6, 7, and 8) had a high level of education. In subsequent analyses, mothers with a low level of education will be considered the reference category. Positive differences imply that 5-year-olds whose mothers have a high or intermediate level of education have larger mean scores in early learning and development outcomes than 5-year-olds whose mothers have a low level of education (ISCED 1 and 2).

Table 4.5: Differences in mean scores in the three dimensions, by country and mother education

Country/jurisdiction	Foundational learning		Executive function		Social and emotional development	
	ISCED 3-5	ISCED 6-8	ISCED 3-5	ISCED 6-8	ISCED 3-5	ISCED 6-8
Baku, Sumgait (Azerbaijan)	28.4	56.8	12.9	20.0	4.6	15.7
Ceara, Para, Sao Paulo (Brazil)	17.3	50.1	11.4	31.0	1.1	8.7
England (United Kingdom)	32.2	57.0	8.8	24.3	16.8	25.3
Flemish Community (Belgium)	32.0	80.9	8.0	42.0	20.9	46.1
Korea	48.6	72.6	26.7	38.1	19.7	27.3
Malta	15.3	42.3	6.5	18.7	7.4	22.8
Netherlands	41.0	62.3	18.6	30.2	14.0	23.1
United Arab Emirates	16.3	52.1	18.0	34.5	25.1	41.0
Abu Dhabi (United Arab Emirates)	28.9	59.3	13.9	29.9	13.7	26.3

Table 4.5 displays the differences in mean scores in foundational learning, executive function, and social and emotional development between mothers having a low level of education and mothers having a higher level of education. Maltese 5-year-olds whose mothers have a high level of education (ISCED 6 to 8) score 42.3, 18.7, and 22.8 points more in foundational learning, executive summary, and social and emotional development respectively than 5-year-olds whose mothers have a low level of education (ISCED 1 to 2). Moreover, Maltese 5-year-olds whose mothers have an intermediate level of education (ISCED 3 to 5) score 15.3, 6.5, and 7.4 points more in foundational learning, executive summary, and social and emotional development respectively than 5-year-olds whose mothers have a low level of education. Across countries and jurisdictions, differences in mean scores between the two groups of children are larger in foundational learning than executive function and social and emotional development.

Table 4.6: Differences in mean scores for foundational learning, by country and mother education

Country/jurisdiction	Emergent literacy		Emergent numeracy	
	ISCED 3-5	ISCED 6-8	ISCED 3-5	ISCED 6-8
Baku, Sumgait (Azerbaijan)	24.9	50.1	31.9	63.6
Ceara, Para, Sao Paulo (Brazil)	12.4	37.6	22.1	62.6
England (United Kingdom)	34.6	58.9	29.7	55.1
Flemish Community (Belgium)	39.9	91.2	24.1	70.6
Korea	51.3	75.0	45.9	70.2
Malta	14.7	42.4	15.8	42.1
Netherlands	42.5	64.5	39.4	60.1
United Arab Emirates	18.9	49.8	13.7	54.3
Abu Dhabi (United Arab Emirates)	29.9	58.7	27.8	59.8

Table 4.6 displays the differences in mean scores in emergent literacy and emergent numeracy between mothers having a low level of education and mothers having a higher level of education. Maltese 5-year-olds whose mothers have a high level of education score 42.4 and 44.1 points more in emergent literacy and emergent numeracy respectively than 5-year-olds whose mothers have a low level of education. Moreover, Maltese 5-year-olds whose mothers have an intermediate level of education score 14.7 and 15.8 points more in emergent literacy and emergent numeracy respectively than 5-year-olds whose mothers have a low level of education. Gaps in favour of children from mothers with higher levels of education are most pronounced in Korea, the Netherlands, and the Belgian Flemish community.

Table 4.7: Differences in mean scale scores for executive function domains, by country and gender

Country/jurisdiction	Inhibition		Working memory		Mental flexibility	
	ISCED 3-5	ISCED 6-8	ISCED 3-5	ISCED 6-8	ISCED 3-5	ISCED 6-8
Baku, Sumgait (Azerbaijan)	6.4	5.3	21.0	31.1	11.4	23.4
Ceara, Para, Sao Paulo (Brazil)	9.9	30.3	14.4	44.0	10.0	18.7
England (United Kingdom)	5.9	13.6	19.0	41.5	1.6	17.9
Flemish Community (Belgium)	-6.9	7.5	23.5	65.2	7.4	53.4
Korea	23.8	25.8	37.0	53.8	19.3	34.8
Malta	-1.6	1.3	8.6	28.0	12.4	26.7
Netherlands	1.8	7.1	36.0	50.7	17.9	32.9
United Arab Emirates	13.5	18.6	22.0	46.6	18.5	38.3
Abu Dhabi (United Arab Emirates)	6.6	13.7	22.7	45.1	12.3	30.8

Table 4.7 shows that Maltese 5-year-olds whose mothers have a high level of education score 28.0 and 26.7 points more in working memory and mental flexibility respectively than 5-year-olds whose mothers have a low level of education. Moreover, Maltese 5-year-olds whose mothers have an intermediate level of education score 8.6 and 12.4 points more in working memory and mental flexibility respectively than 5-year-olds whose mothers have a low level of education. Differences in mean inhibitions scores of Maltese children are negligible when stratified by mothers' level of education. Gaps in favour of children of mothers with higher levels of education are most pronounced in Korea.

Table 4.8: Differences in mean scale scores for social and emotional growth domains, by jurisdiction

Country/jurisdiction	Emotion identification		Emotional attribution		Trust		Pro-social behaviour		Non-disruptive behaviour	
	ISCED 3-5	ISCED 6-8	ISCED 3-5	ISCED 6-8	ISCED 3-5	ISCED 6-8	ISCED 3-5	ISCED 6-8	ISCED 3-5	ISCED 6-8
Baku, Sumgait	12.7	21.0	5.7	8.1	1.5	21.0	8.4	41.8	-5.5	-13.8
Ceara, Para, Sao Paulo	4.8	14.7	3.7	6.1	-4.5	7.1	-0.7	19.6	2.1	-4.0
England	15.2	32.1	7.0	19.5	31.0	26.4	20.4	20.1	10.3	28.5
Flemish Community	35.8	82.9	38.3	61.1	11.5	20.5	14.1	43.1	5.0	23.0
Korea	12.4	20.4	29.3	29.8	29.9	30.2	34.2	41.3	-7.2	15.0
Malta	6.0	19.5	8.4	33.4	1.1	0.0	8.9	27.4	12.4	33.9
Netherlands	28.4	45.6	8.8	16.3	5.3	12.3	16.6	22.5	10.9	18.6
United Arab Emirates	34.9	64.7	5.7	33.0	30.9	35.1	31.1	36.3	22.8	35.9
Abu Dhabi	18.8	37.6	13.4	25.9	13.3	19.0	16.6	31.5	6.4	17.2

Table 4.8 shows that Maltese 5-year-olds whose mothers have a high level of education score 19.5, 33.4, 27.4, and 33.9 points more in emotion identification, emotional attribution, pro-social behaviour and non-disruptive behaviour respectively than 5-year-olds whose mothers have a low level of education. Moreover, Maltese 5-year-olds whose mothers have an intermediate level of education score 6.0, 8.4, 8.9 and 12.4 points more in emotion identification, emotional attribution, pro-social behaviour, and non-disruptive behaviour respectively than 5-year-olds whose mothers have a low level of education. Differences in mean trust scores of Maltese children are negligible when stratified by mothers' level of education. Gaps in favour of children from mothers with higher levels of education are most pronounced in the Belgian Flemish community and the United Arab Emirates.

Figure 4.1: Relationship between foundational learning and socioeconomic status, by mother education

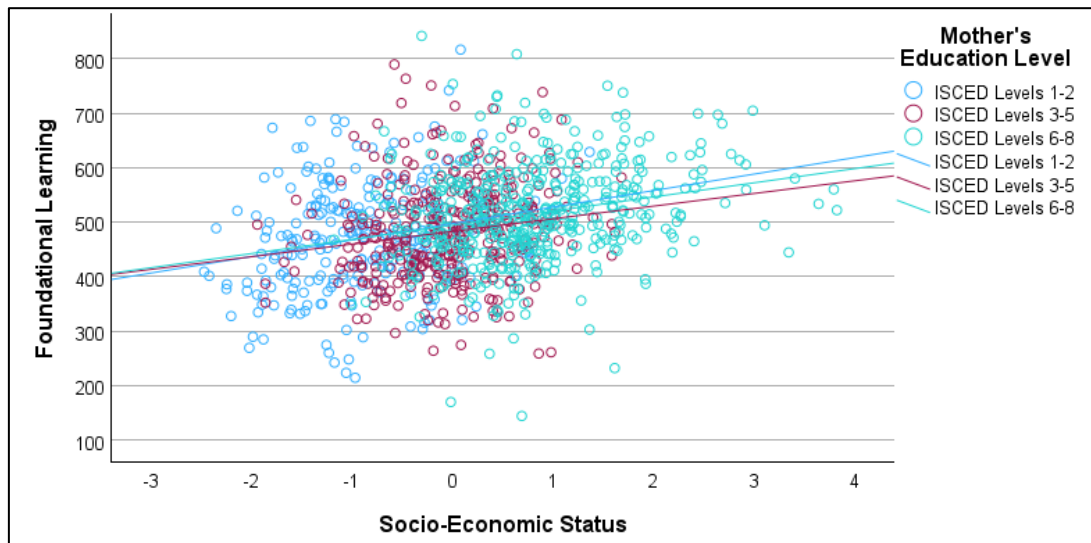


Figure 4.2: Relationship between executive function and socioeconomic status, by mother education

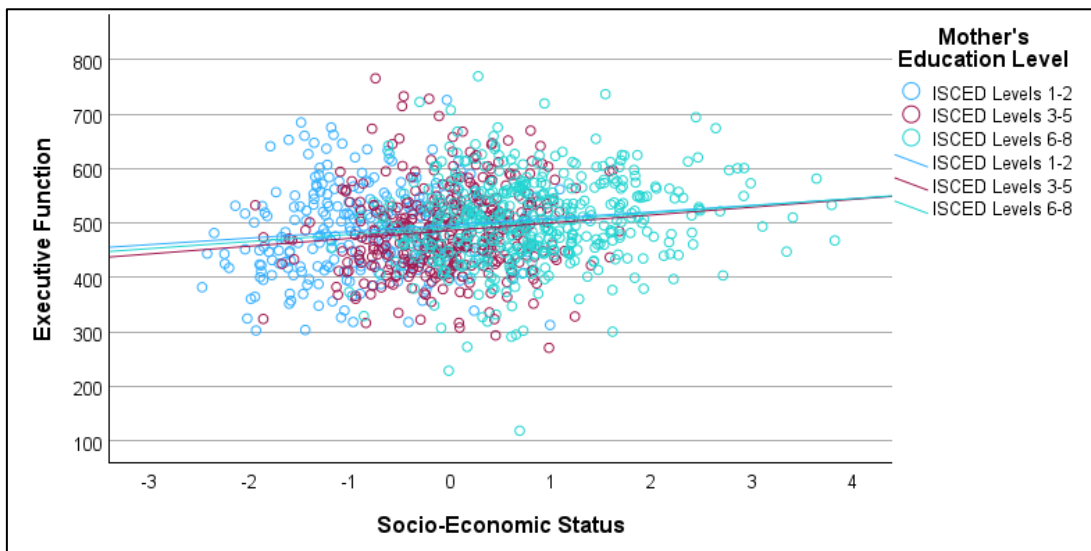
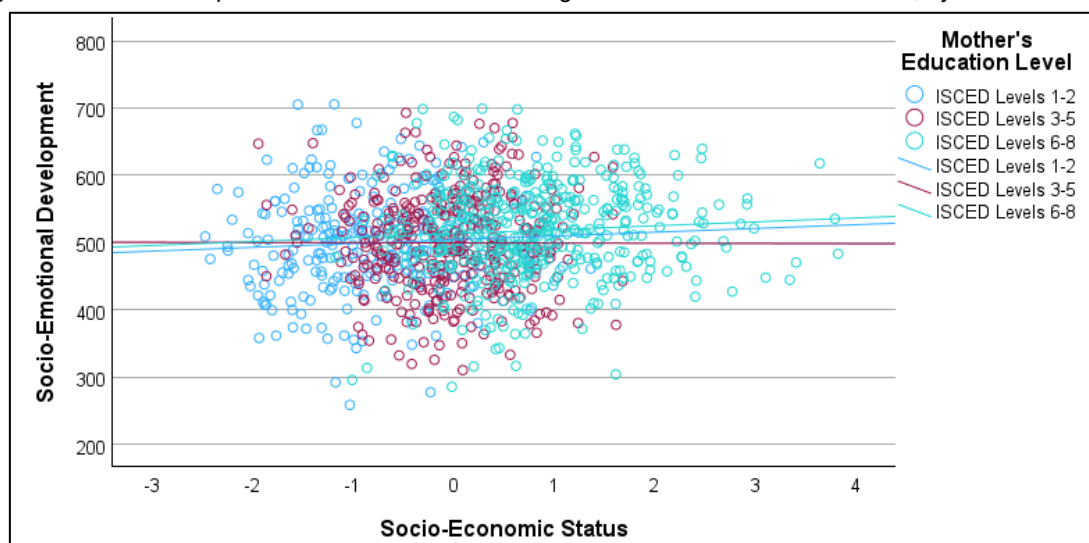


Figure 4.3: Relationship between social and emotional growth and socioeconomic status, by mother education

Figures 4.1 to 4.3 display the relationships between each dimension and the family's socioeconomic status, stratified by mother's level of education. Most relationships are positive and significant and this applies to the three groups of Maltese 5-year-olds stratified by mothers' level of education.

In IELS 2025, on average across jurisdictions, 6.4% of the children lived in single-parent households at the time of data collection; this proportion was highest in Ceara, Para and Sao Paulo (16.4%), and England (9.2%). In a subsequent analysis, single parent structures will be considered as the reference category. Positive differences imply that 5-year-olds living in a two-parent family structure have larger mean scores in early learning and development outcomes than 5-year-olds living in a one-parent family structure.

Table 4.9: Difference in mean scores in foundational learning domains between types of family structures

Country/jurisdiction	Emergent literacy	Emergent numeracy	Foundational learning
Baku, Sumgait (Azerbaijan)	-11.8	-1.7	-6.7
Ceara, Para, Sao Paulo (Brazil)	12.5	22.4	17.4
England (United Kingdom)	19.6	20.4	20.0
Flemish Community (Belgium)	2.7	26.7	14.7
Korea	17.7	38.0	27.9
Malta	-6.9	8.4	0.7
Netherlands	16.1	16.6	16.3
United Arab Emirates	32.0	38.6	35.3
Abu Dhabi (United Arab Emirates)	21.9	26.9	24.4

Table 4.10: Difference in mean scores in social and emotional development domains between family structures

Country/jurisdiction	Emotion identification	Emotional attribution	Trust	Pro-social behaviour	Non-disruptive behaviour	Social and emotional development
Baku, Sumgait (Azerbaijan)	-6.0	-23.2	-.9	3.3	-6.3	-6.6
Ceara, Para, Sao Paulo (Brazil)	29.6	-3.2	14.5	18.7	14.7	14.9
England (United Kingdom)	-1.2	20.7	-8.9	2.4	44.1	11.4
Flemish Community (Belgium)	36.4	19.9	8.4	28.5	30.8	24.8
Korea	12.6	-1.5	5.2	15.1	20.6	10.4
Malta	14.8	-30.7	-9.1	0.4	-2.1	-5.3
Netherlands	30.8	11.1	6.7	11.2	20.3	16.0
United Arab Emirates	66.3	42.8	-15.1	-9.0	23.2	21.6
Abu Dhabi (United Arab Emirates)	26.2	-18.3	-20.4	-12.3	-5.4	-6.0

Tables 4.9 to 4.11 show that comparisons of outcomes for Maltese children living with two parents and one parent show minor and inconsistent differences in their scores across the 10 domains of assessment. Notably, the few differences observed in some jurisdictions tend to become non-statistically significant after accounting for the socioeconomic status of the family. Gaps in favour of children living in a two-parent structure are most pronounced in the United Arab Emirates in emergent literacy and numeracy, emotion identification and attribution, and in mental flexibility; in Korea in emergent numeracy; in England in non-disruptive behaviour; and in the Netherlands in mental flexibility and emotion identification.

Table 4.11: Difference in mean scores in executive function domains between types of family structures

Country/jurisdiction	Inhibition	Working memory	Mental flexibility	Executive function
Baku, Sumgait (Azerbaijan)	4.2	1.5	12.2	6.0
Ceara, Para, Sao Paulo (Brazil)	1.4	10.2	6.3	6.0
England (United Kingdom)	-3.6	15.5	2.7	4.9
Flemish Community (Belgium)	16.4	33.2	-14.6	11.7
Korea	17.1	30.2	16.8	21.4
Malta	-16.3	-9.1	14.5	-3.6
Netherlands	24.3	26.7	35.8	28.9
United Arab Emirates	15.4	18.9	33.8	22.7
Abu Dhabi (United Arab Emirates)	-7.6	32.4	17.7	14.2

Figure 4.4: Relationship between foundational learning and socioeconomic status, by family structure

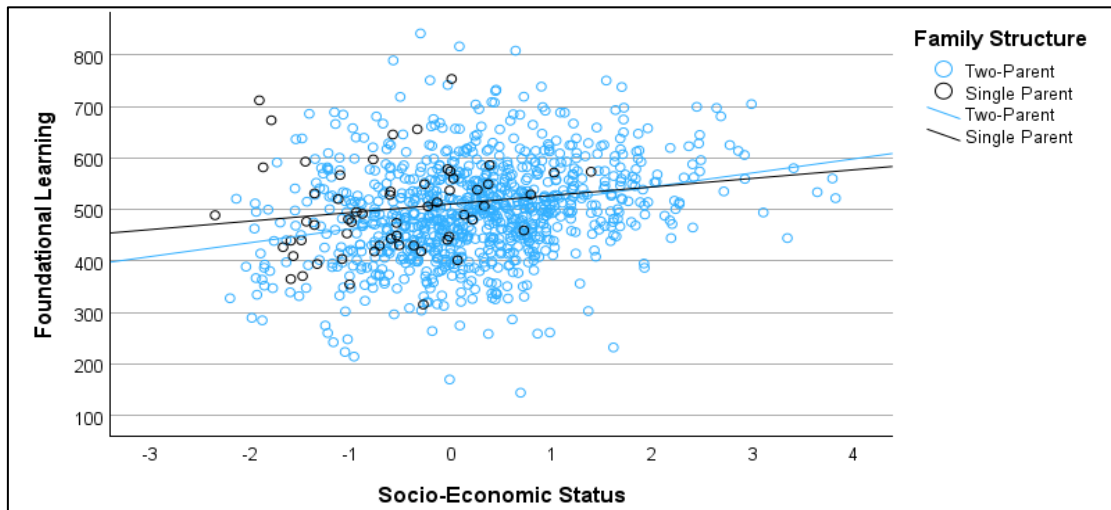


Figure 4.5: Relationship between executive function and socioeconomic status, by family structure

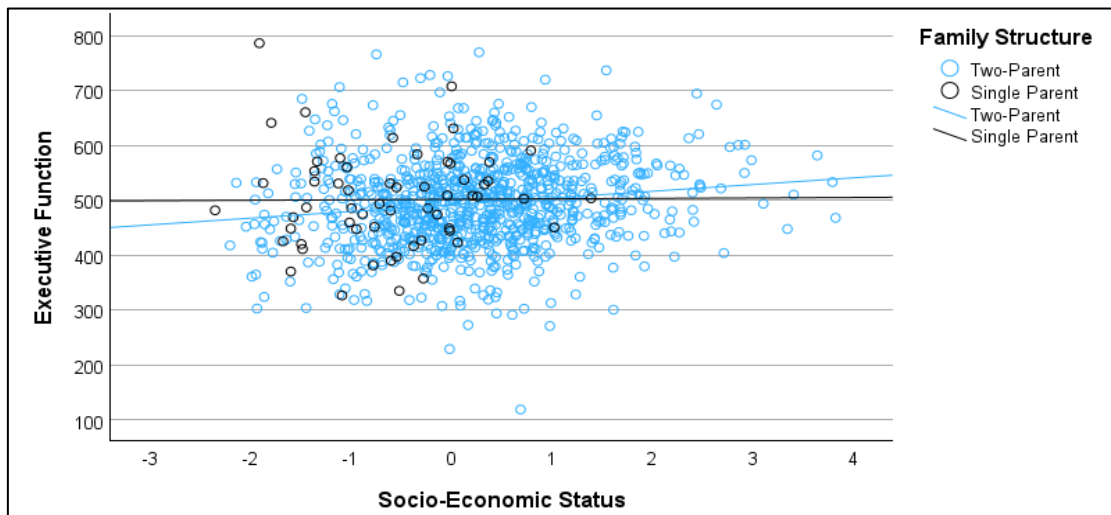
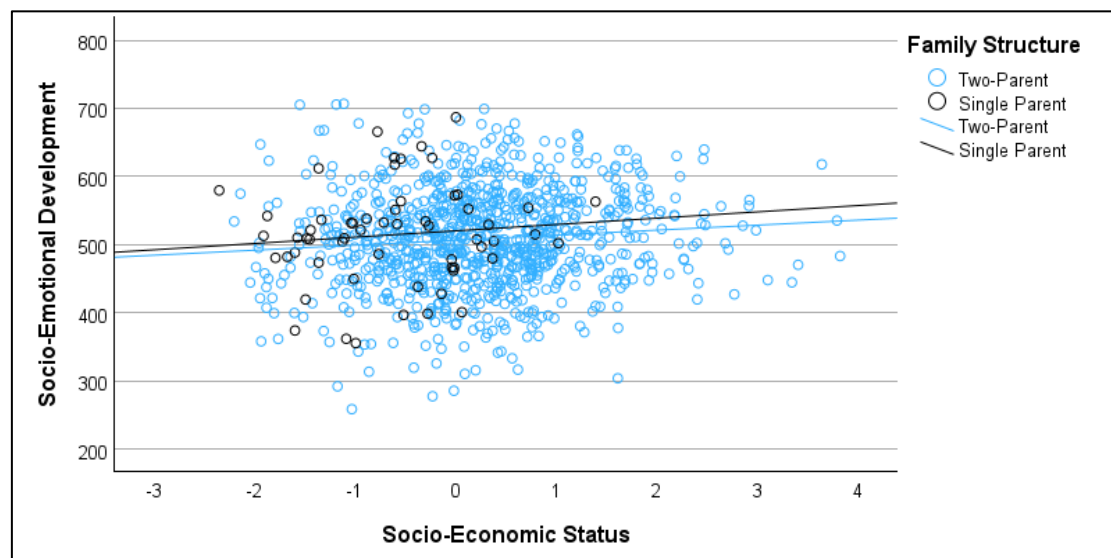


Figure 4.6: Relationship between social and emotional development and socioeconomic status, by family structure



Figures 4.4 to 4.6 display the relationships between each dimension and the family's socioeconomic status, stratified by family structure. Most relationships are positive and significant and this applies to the two groups of Maltese 5-year-olds stratified by family structure.

4.3 Parent-child activities with a developmental focus

To gather information on the home learning environment, IELS 2025 asked parents/guardians about the frequency with which family members undertake various activities with the child in a typical week. Tables 4.12 to 4.17 display the different types of interactions between the children and their parents with a focus on development, such as reading to the child from a book, having conversations about the child's feelings, engaging in imaginative or pretend play, helping children learn letters or numbers, doing digital educational activities, going to a library, and engaging in special or extra-cost activities outside the home (e.g. sports, ballet, language lessons). The items were extracted from research on self-reported measures of home learning environments and adapted for closer alignment with the early years.

Table 4.12: Parent-child activities with a learning and developmental purpose

Country/jurisdiction	Do activities with your child that help them to learn letters of the alphabet			Do activities with your child that help them to learn numbers		
	Less than once weekly	1-2 days a week	3 or more days a week	Less than once weekly	1-2 days a week	3 or more days a week
Baku, Sumgait	7.9%	14.9%	77.2%	6.6%	13.7%	79.7%
Ceara, Para, Sao Paulo	23.3%	29.6%	47.1%	22.2%	31.5%	46.3%
England	10.6%	32.1%	57.2%	9.9%	34.6%	55.5%
Flemish Community	27.3%	37.4%	35.2%	24.5%	39.6%	35.9%
Korea	13.5%	30.8%	55.7%	13.3%	31.0%	55.7%
Malta	10.8%	26.7%	62.5%	9.0%	27.3%	63.7%
Netherlands	23.2%	38.4%	38.4%	20.4%	41.8%	37.8%
United Arab Emirates	11.1%	26.7%	62.1%	10.8%	26.7%	62.5%
Abu Dhabi (UAE)	12.6%	23.7%	63.7%	12.2%	23.1%	64.7%

Table 4.13: Parent-child activities with a learning and developmental purpose

Country/jurisdiction	Do educational activities with your child on computer, tablet, smartphone			Do imaginative or pretend play with your child (e.g. chef or shopkeeper)		
	Less than once weekly	1-2 days a week	3 or more days a week	Less than once weekly	1-2 days a week	3 or more days a week
Baku, Sumgait	36.9%	29.2%	34.0%	27.5%	29.9%	42.6%
Ceara, Para, Sao Paulo	62.1%	18.7%	19.2%	41.4%	25.6%	33.0%
England	38.1%	31.7%	30.2%	14.2%	31.3%	54.4%
Flemish Community	59.4%	25.1%	15.5%	33.0%	35.3%	31.7%
Korea	44.7%	22.9%	32.4%	27.2%	37.9%	34.9%
Malta	37.6%	27.5%	34.9%	25.4%	29.5%	45.1%
Netherlands	65.6%	21.7%	12.7%	24.2%	34.0%	41.8%
United Arab Emirates	28.8%	30.9%	40.3%	21.8%	28.2%	50.0%
Abu Dhabi (UAE)	29.8%	29.9%	40.3%	21.2%	28.5%	50.2%

Table 4.14: Parent-child activities with a learning and developmental purpose

Country/jurisdiction	Do things outside with your child like walking, playing games, swimming			Draw pictures and paint with your child		
	Less than once weekly	1-2 days a week	3 or more days a week	Less than once weekly	1-2 days a week	3 or more days a week
Baku, Sumgait	16.4%	36.3%	47.4%	9.9%	24.8%	65.4%
Ceara, Para, Sao Paulo	29.0%	34.4%	36.6%	23.3%	35.3%	41.4%
England	10.2%	39.9%	49.8%	17.1%	37.9%	45.0%
Flemish Community	12.2%	46.8%	41.0%	24.1%	39.7%	36.2%
Korea	12.2%	44.3%	43.5%	21.5%	41.9%	36.6%
Malta	18.8%	45.0%	36.2%	24.2%	35.1%	40.7%
Netherlands	4.5%	30.4%	65.0%	20.3%	40.5%	39.2%
United Arab Emirates	14.2%	34.0%	51.9%	13.7%	31.3%	54.9%
Abu Dhabi (UAE)	13.7%	32.4%	53.9%	15.3%	30.1%	54.6%

Table 4.15: Parent-child activities with a learning and developmental purpose

Country/jurisdiction	Go to the library with your child			Have conversations about how and why your child feels that way		
	Less than once weekly	1-2 days a week	3 or more days a week	Less than once weekly	1-2 days a week	3 or more days a week
Baku, Sumgait	88.6%	7.0%	4.4%	8.2%	19.0%	72.7%
Ceara, Para, Sao Paulo	95.4%	3.1%	1.6%	21.2%	22.7%	56.0%
England	89.5%	8.8%	1.6%	3.4%	14.1%	82.5%
Flemish Community	94.0%	5.4%	0.5%	5.5%	16.1%	78.4%
Korea	80.7%	17.6%	1.7%	3.6%	14.5%	81.9%
Malta	91.4%	5.4%	3.2%	5.8%	14.7%	79.5%
Netherlands	91.9%	7.9%	0.3%	4.3%	17.0%	78.7%
United Arab Emirates	88.3%	7.9%	3.7%	5.7%	13.1%	81.2%
Abu Dhabi (UAE)	86.7%	8.8%	4.4%	6.3%	11.7%	81.9%

Table 4.16: Parent-child activities with a learning and developmental purpose

Country/jurisdiction	Play with numbers, counters, measuring, or shapes with your child			Read from a book with your child		
	Less than once weekly	1-2 days a week	3 or more days a week	Less than once weekly	1-2 days a week	3 or more days a week
Baku, Sumgait	11.5%	23.3%	65.2%	20.9%	30.1%	49.1%
Ceara, Para, Sao Paulo	41.0%	28.1%	30.9%	52.8%	32.8%	14.4%
England	19.2%	35.2%	45.6%	4.1%	13.3%	82.6%
Flemish Community	33.0%	36.3%	30.7%	22.4%	22.9%	54.7%
Korea	22.5%	36.4%	41.1%	16.5%	28.8%	54.8%
Malta	18.3%	32.9%	48.7%	11.5%	28.2%	60.3%
Netherlands	20.8%	40.4%	38.8%	5.6%	12.6%	81.8%
United Arab Emirates	16.2%	30.3%	53.5%	31.4%	34.3%	34.3%
Abu Dhabi (UAE)	16.3%	29.1%	54.6%	31.6%	34.0%	34.4%

Table 4.17: Parent-child activities with a learning and developmental purpose

Country/jurisdiction	Sing songs, poems, or nursery rhymes with your child			Take your child to a special or extra-cost activity outside of home		
	Less than once weekly	1-2 days a week	3 or more days a week	Less than once weekly	1-2 days a week	3 or more days a week
Baku, Sumgait	12.8%	26.0%	61.3%	68.5%	17.5%	14.0%
Ceara, Para, Sao Paulo	32.5%	25.8%	41.7%	78.1%	14.3%	7.5%
England	11.3%	23.4%	65.3%	43.9%	39.1%	17.0%
Flemish Community	19.2%	28.8%	52.0%	28.0%	59.7%	12.4%
Korea	18.0%	31.3%	50.7%	39.7%	25.1%	35.2%
Malta	18.2%	26.3%	55.5%	32.6%	44.6%	22.8%
Netherlands	15.6%	25.9%	58.5%	16.7%	72.3%	11.1%
United Arab Emirates	14.2%	23.1%	62.7%	58.8%	23.0%	18.2%
Abu Dhabi (UAE)	13.6%	24.2%	62.2%	59.25	23.7%	17.1%

Parents/guardians were asked to indicate the number of times per week that family members engage in these activities using a 5-point Likert scale, ranging from 'never', 'less than once weekly', '1-2 times weekly', '3-4 times weekly' to '5-7 times a week'. Table 4.12 shows that the percentages of Maltese parents who help their children learn letters of the alphabet (62.5%) and numbers (63.7%) at least three times weekly exceed the IELS averages (54.4% and 54.6% respectively). Table 4.13 shows that the percentages of Maltese parents who do digital educational activities (34.9%) and engage in imaginative or pretend play with their children (45.1%) at least three times weekly exceed the IELS averages (27.4% and 41.7% respectively). Table 4.14 shows that the percentages of Maltese parents who do things outside like walking, playing games, and swimming (36.2%) and draw pictures and paint with their children (40.7%) at least three times weekly are smaller than the IELS averages (46.4% and 44.9% respectively). Table 4.15 shows that the percentages of Maltese parents who go to the library (3.2%) and chat with their children about how they feel and why they feel that way (79.5%) at least three times weekly exceed the IELS averages (2.1% and 76.4% respectively). Table 4.16 shows that the percentages of Maltese parents who play with numbers, counters, measurements, or shapes (48.7%) and read a book with their children (60.3%) at least three times weekly exceed the IELS averages (44.3% and 54.0% respectively). Table 4.17 shows that the percentages of Maltese parents who sing songs, poems, or nursery rhymes (55.5%) and take their children to a special or extra-cost activity outside home (22.8%) at least three times weekly exceed the IELS averages (55.0% and 17.3% respectively).

Across jurisdictions, the most common activity taking place at least three times weekly, on average, is parents' chats with their children about their feelings (76.4%). The least common activity is going to the library and attending extra-curricular lessons with their children at least three times weekly (2.1%). On average, between 40% and 56% of children engage with their parents at least three times weekly in a range of activities with a literacy or numeracy component (e.g. reading from a book, singing songs or poems, playing with numbers) or involving motor development (e.g. physical activities outside), in both cases including play-based interactions. Specific patterns of parent-child activities are observed in some jurisdictions. For instance, a high frequency of activities to help children learn letters and numbers is more often reported by parents in Baku and Sumgait and less often by parents in the Belgian Flemish Community and the Netherlands.

A home learning environment index was generated that combines information from all these items to facilitate aggregate analysis with increased reliability. The index can be seen as a summary measure of the frequency of parent-child interactions with a deliberate developmental purpose, where larger scores indicate a higher prevalence of parent-child interactions. To investigate the impact of the family socioeconomic status on the home learning environment, family socioeconomic status was categorised

into four levels (advantaged, mildly advantaged, mildly disadvantaged, disadvantaged). In a subsequent analysis, socioeconomically disadvantaged children will be considered the reference category. Positive differences imply that socioeconomically advantaged children have larger mean scores in a home learning environment than socioeconomically disadvantaged 5-year-olds.

Table 4.18 shows that the mean home learning environment score of socioeconomically advantaged Maltese 5-year-olds is 0.93 scale points higher than the mean score of socioeconomically disadvantaged children, and this difference is significant. This indicates that parents of Maltese children with higher levels of education, occupational status, and income tend to engage more frequently with their children in these types of activities. This is in line with research showing that parents with a high socioeconomic status spend more time with their children, especially at younger ages, often at the expense of their own leisure time. In IELS 2025, this socioeconomic difference in home learning environments is more visible in England, the Netherlands, and Malta, and less pronounced in the United Arab Emirates and Korea.

Table 4.18: Mean home learning environment scores, by socioeconomic status and household structure

Country/jurisdiction	Advantaged	Mildly advantaged	Mildly disadvantaged	Two-parent family structure
Baku, Sumgait (Azerbaijan)	0.70	0.55	0.28	0.15
Ceara, Para, Sao Paulo (Brazil)	0.69	0.46	0.21	0.12
England (United Kingdom)	1.30	1.14	0.64	0.16
Flemish Community (Belgium)	0.74	0.73	0.46	0.04
Korea	0.59	0.40	0.30	0.27
Malta	0.93	0.85	0.62	0.36
Netherlands	0.94	0.84	0.65	0.00
United Arab Emirates	0.58	0.37	0.30	0.26
Abu Dhabi (United Arab Emirates)	0.81	0.54	0.52	-0.39

To investigate the impact of the family structure on the home learning environment, the single parent structures will be considered the reference category. Table 4.18 shows that the mean home learning environment score of Maltese 5-year-olds living in a two-parent family structure is 0.36 scale points higher than the mean score of children living in a one-parent structure, and this difference is significant. This agrees with research showing that the combined effort of two parents enhances the time they spend with their children and improves parent-child interactions.

Figure 4.7: Relationship between home learning environment and socioeconomic status, by family structure

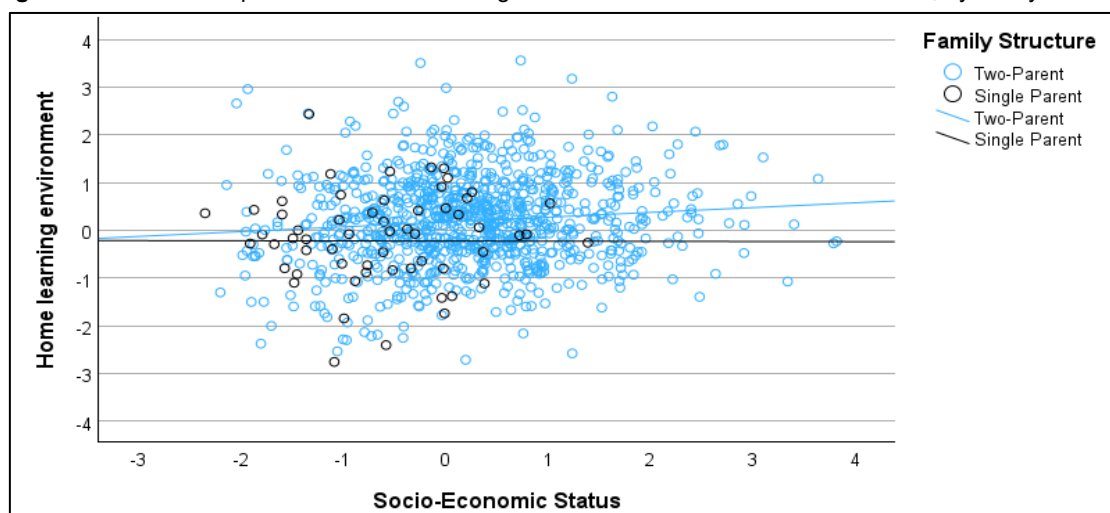
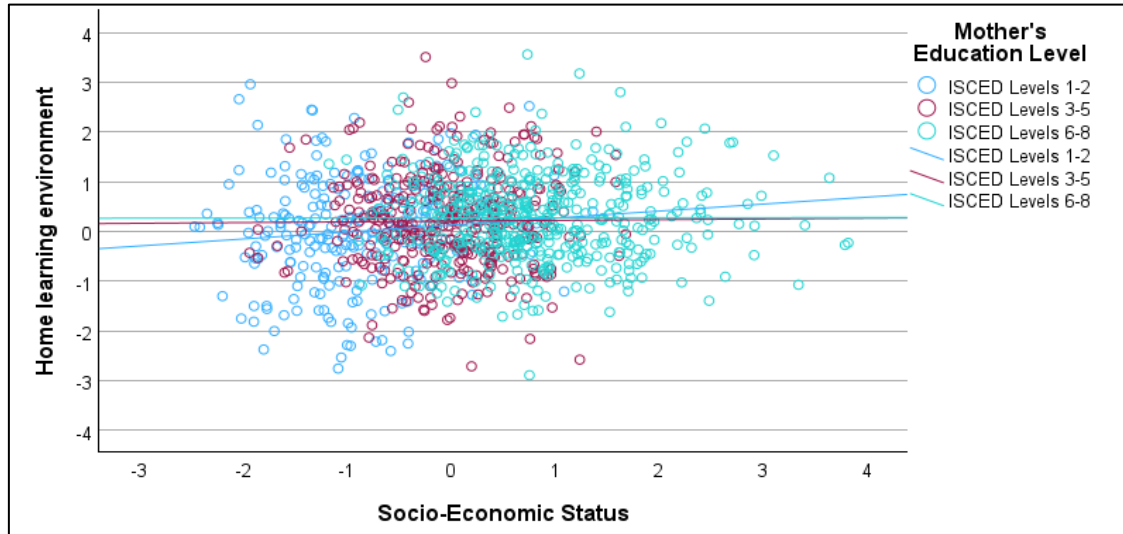


Figure 4.8: Relationship between home learning environment and socioeconomic status, by mother's education



Figures 4.7 and 4.8 display the relationships between the home learning environment of Maltese 5-year-olds and their family socioeconomic status, stratified by family structure and mother's education. Most of these relationships are positive and significant and this applies to the groups of Maltese 5-year-olds stratified by family structure and mother's education.

To investigate the relationships between the early learning and development dimensions/domains with the home learning environment, regression analysis was used to estimate the increase in the outcome score for every 1-unit increase in the home learning environment score, given that other effects are kept constant. Tables 4.19 to 4.21 show that for Maltese 5-year-olds, an enhanced home learning environment has a positive impact on foundational learning and social and emotional development but hardly any impact on executive function. For every 1-unit increase in the home learning environment score, the emergent literacy and numeracy scores are expected to increase by 4.5 and 6.3 scale points respectively, given that other effects are kept fixed. For every 1-unit increase in the home learning environment score, the emotion identification, emotional attribution, trust, pro-social, and non-disruptive behaviour scores are expected to increase by 2.7, 1.9, 4.8, 7.7, and 4.9 scale points, given that other effects are kept fixed. This implies that a higher frequency of parent-child activities enhances foundational learning and social and emotional development.

Table 4.19: Regression coefficients (relating foundational learning domains with home learning environment)

Country/jurisdiction	Emergent literacy	Emergent numeracy	Foundational learning
Baku, Sumgait (Azerbaijan)	12.0	13.9	13.0
Ceara, Para, Sao Paulo (Brazil)	7.3	8.4	7.9
England (United Kingdom)	10.4	8.0	9.2
Flemish Community (Belgium)	3.7	4.4	4.1
Korea	11.8	12.4	12.1
Malta	4.5	6.3	5.4
Netherlands	2.0	2.4	2.2
United Arab Emirates	9.4	7.2	8.3
Abu Dhabi (United Arab Emirates)	7.2	5.9	6.5

Table 4.20: Regression coefficients (relating executive function domains with home learning environment)

Country/jurisdiction	Inhibition	Working memory	Mental flexibility	Executive function
Baku, Sumgait (Azerbaijan)	3.3	7.2	5.4	5.3
Ceara, Para, Sao Paulo (Brazil)	9.5	1.6	3.9	5.0
England (United Kingdom)	5.0	4.5	7.0	5.5
Flemish Community (Belgium)	-3.2	-2.4	6.9	0.4
Korea	-0.2	2.8	8.1	3.6
Malta	0.9	-0.4	1.6	0.7
Netherlands	1.1	-3.5	2.2	-0.1
United Arab Emirates	1.2	6.2	6.1	4.5
Abu Dhabi (United Arab Emirates)	3.9	6.0	5.2	5.0

Table 4.21: Regression coefficients (relating social and emotional growth domains with home learning environment)

Country/jurisdiction	Emotion identification	Emotional attribution	Trust	Pro-social behaviour	Non-disruptive behaviour	Social and emotional development
Baku, Sumgait (Azerbaijan)	4.2	4.5	6.7	12.2	-1.5	5.2
Ceara, Para, Sao Paulo (Brazil)	9.7	2.6	7.5	9.8	4.1	6.7
England (United Kingdom)	7.0	1.2	27.1	31.9	19.1	17.3
Flemish Community (Belgium)	8.5	-0.3	3.5	9.9	7.5	5.8
Korea	3.9	3.7	3.5	7.4	7.4	5.2
Malta	2.7	1.9	4.8	7.7	4.9	4.4
Netherlands	-1.6	1.0	11.3	8.2	3.5	4.5
United Arab Emirates	7.1	4.8	14.1	11.8	0.8	7.7
Abu Dhabi (United Arab Emirates)	6.3	5.6	11.2	9.9	-0.5	6.5

Tables 4.19 to 4.21 shows the results of the unadjusted regression models, where no confounding factors are taken into account. Across countries/jurisdiction, the positive relationship between early learning and development and the home learning environment is more consistent in the foundational learning domains of emergent literacy and emergent numeracy, and in the social and emotional development domains of trust and pro-social behaviour, where it holds for at least half of the participating jurisdictions, with an average magnitude of around 10 scale points. In the majority of cases, the relationship between children's outcomes and the home learning environment index weakens when socioeconomic status is taken into account in the regression model fits. However, in jurisdictions including Baku and Sumgait, and Korea, it remains positive and significant across several domains.

In some domains, the frequency of parent-child activities becomes negatively associated with children's early learning and development outcomes when families' socioeconomic status is taken into account. This occurs in the Belgian Flemish Community, the Netherlands, and England, in several domains, including emergent literacy and emergent numeracy, working memory, emotion identification and emotional attribution. This change in the pattern of relationship may reflect compensatory behaviours by parents (e.g. a stronger engagement in some activities when children's early literacy or numeracy

skills are perceived as being low). Another potential explanation is that, in these jurisdictions, increases in the index of home learning environment reflect primarily a greater frequency of relatively uncommon activities (such as using digital tools for recreational purposes) that may have a marginally negative impact on children's outcomes, rather than more frequent engagement in other, already common types of activities (such as reading to children from a book) that may have more of a positive impact. This would indicate differential impacts across the activities included in the home learning environment index.

IELS 2025 provides information on reading-related resources and practices in home environments through questions to parents about the number of children's books available at home, and about the frequency with which parents read to children from books on a weekly basis. Previous IELS results display a positive impact of this activity, which represents one of the components of the IELS home learning environment index, across domains of children's early learning and development. To investigate the impact of the number of children's books available at home on early learning and development outcomes, the number of children's books available at home was categorised into three levels (less than 25 books, 25-50 books, more than 50 books). In a subsequent analysis, having less than 25 children's books at home will be considered the reference category. Positive differences imply that 5-year-olds having more than 25 books at home have larger mean scores in early learning and development outcomes than children having less than 25 children's books.

Table 4.22: Number of children's books at home and foundation learning outcomes

Country/jurisdiction	Have at least 50 books at home		Have 25 to 50 books at home	
	Emergent literacy	Emergent numeracy	Emergent literacy	Emergent numeracy
Baku, Sumgait (Azerbaijan)	79.2	80.5	40.2	50.5
Ceara, Para, Sao Paulo (Brazil)	20.0	54.4	18.0	13.3
England (United Kingdom)	85.2	67.7	50.1	35.2
Flemish Community (Belgium)	74.4	61.6	51.2	42.3
Korea	25.2	34.1	-12.8	-5.2
Malta	51.9	29.7	40.5	23.6
Netherlands	77.8	53.4	44.8	31.1
United Arab Emirates	55.0	71.0	32.4	37.5
Abu Dhabi (United Arab Emirates)	56.7	77.7	36.6	47.4

Table 4.23: Number of children's books at home and executive function outcomes

Country/jurisdiction	Have at least 50 books at home		Have 25 to 50 books at home	
	Working memory	Mental flexibility	Working memory	Mental flexibility
Baku, Sumgait (Azerbaijan)	52.1	33.3	34.9	24.0
Ceara, Para, Sao Paulo (Brazil)	43.5	29.0	18.2	3.0
England (United Kingdom)	33.5	33.8	30.0	17.9
Flemish Community (Belgium)	58.9	58.5	40.9	38.5
Korea	19.5	27.7	-1.7	11.8
Malta	8.0	24.5	11.7	25.2
Netherlands	51.3	30.6	28.3	20.8
United Arab Emirates	33.1	29.1	15.7	8.6
Abu Dhabi (United Arab Emirates)	34.6	25.5	19.5	9.4

Table 4.24: Number of children's books at home and social and emotional development outcomes

Country/jurisdiction	Have at least 50 books at home		Have 25 to 50 books at home	
	Emotion identification	Emotional attribution	Emotion identification	Emotional attribution
Baku, Sumgait (Azerbaijan)	17.9	8.5	16.0	18.5
Ceara, Para, Sao Paulo (Brazil)	9.7	6.9	7.0	-8.7
England (United Kingdom)	38.3	25.2	10.5	19.7
Flemish Community (Belgium)	59.2	19.6	42.1	17.0
Korea	8.9	4.4	-12.4	3.9
Malta	13.7	21.0	9.6	3.2
Netherlands	43.9	12.3	28.1	3.8
United Arab Emirates	29.7	17.1	10.8	2.7
Abu Dhabi (United Arab Emirates)	44.7	45.0	17.2	26.1

Tables 4.22 to 4.24 show that Maltese 5-years-olds who avail of more than 50 children's books score higher in emergent literacy (51.9), emergent numeracy (29.7), working memory (8.0), mental flexibility (24.5), emotion identification (13.7), and emotional attribution (21.0) than children who avail of less than 25 books. Moreover, Maltese 5-years-olds who avail of 25 to 50 children's books score higher in emergent literacy (40.5), emergent numeracy (23.6), working memory (11.7), mental flexibility (25.2), emotion identification (9.6), and emotional attribution (3.2) than children who avail of less than 25 books. These results also hold after accounting for families' socioeconomic status.

Across countries/jurisdictions, a positive and statistically significant association exists between the number of children's books available at home and children's outcomes in several early learning and development domains. Across jurisdictions, the mean scores of children with access to more than 50 children's books at home are between 20 and 40 scale points higher than the mean scores of children with less than 25 books available in their homes in the foundational learning domains of emergent literacy and emergent numeracy, and the executive function domains of working memory and mental flexibility. These results also hold after accounting for families' socioeconomic status. While the number of children's books in itself represents a resource rather than a direct process or interaction, these results suggest that the availability of such books reflects not just families' economic resources, but also the variety and quality of the inputs for parent-child reading activities and parents' value for such interactions.

To investigate the impact of the number of times books are read weekly to 5-year-olds by their parents on early learning and development outcomes, this weekly reading frequency was categorised into three levels (three times or more weekly, 1-2 times weekly, less than once weekly). In a subsequent analysis, reading books to 5-year-olds less than once weekly will be considered the reference category. Positive differences imply that when the parent-child reading activity is more than once weekly, their children score higher in early learning and development outcomes than when the parent-child reading activity is less than once weekly.

Table 4.25: Frequency of parent-child reading activity and foundation learning outcomes

Country/jurisdiction	Reading at least 3 times weekly		Reading 1-2 times weekly	
	Emergent literacy	Emergent numeracy	Emergent literacy	Emergent numeracy
Baku, Sumgait (Azerbaijan)	27.1	36.9	19.7	27.4
Ceara, Para, Sao Paulo (Brazil)	18.4	27.6	11.3	7.6
England (United Kingdom)	61.4	44.7	17.6	11.1
Flemish Community (Belgium)	43.1	35.3	10.5	8.7
Korea	31.2	32.4	3.0	7.4
Malta	34.9	18.3	3.5	-4.8
Netherlands	65.4	42.8	28.0	16.5
United Arab Emirates	24.1	28.5	5.6	-1.7
Abu Dhabi (United Arab Emirates)	11.6	15.8	6.8	7.1

Table 4.26: Frequency of parent-child reading activity and executive function outcomes

Country/jurisdiction	Reading at least 3 times weekly		Reading 1-2 times weekly	
	Working memory	Mental flexibility	Working memory	Mental flexibility
Baku, Sumgait (Azerbaijan)	22.4	9.3	18.9	9.0
Ceara, Para, Sao Paulo (Brazil)	12.0	3.3	-3.5	5.8
England (United Kingdom)	30.2	43.2	10.8	27.2
Flemish Community (Belgium)	30.8	28.0	9.1	.8
Korea	12.8	20.4	4.6	5.5
Malta	11.0	14.3	-1.7	-1.8
Netherlands	26.5	15.8	7.4	-4.8
United Arab Emirates	7.5	12.9	-2.1	2.0
Abu Dhabi (United Arab Emirates)	8.2	5.4	5.6	4.5

Tables 4.25 to 4.27 show that when parent-child reading activity is at least three times weekly, Maltese 5-years-olds score higher in emergent literacy (34.9), emergent numeracy (18.3), working memory (11.0), mental flexibility (14.3), emotion identification (16.8), and emotional attribution (11.5) than when parent-child reading activity is less than once weekly. Differences in early learning and development outcomes are negligible when parent-child reading activity is 1-2 times weekly or less than once weekly. These trends also hold after accounting for families' socioeconomic status.

Across countries/jurisdictions, a low frequency of parent-child reading activities is associated with lower scores in foundational learning domains, relative to children whose parents read to them three times or more per week. In regression models that do not account for families' socioeconomic background, different levels of parental engagement in reading activities with children are related to substantially larger score-differences between children in all 10 early learning domains. The score difference between the two groups of children in emergent literacy and emergent numeracy is 11.6 and 65.4 points respectively, in working memory and mental flexibility is 3.3 and 43.2 points respectively, and in emotion identification and emotional attribution is 4.3 and 42.4 points respectively. Overall, results suggest that frequent (i.e. every other day or more often) joint reading activities with parents are beneficial for children, particularly in the foundational learning dimension. These trends also hold after accounting for families' socioeconomic status.

Table 4.27: Frequency of parent-child reading activity and social and emotional development outcomes

Country/jurisdiction	Reading at least 3 times weekly		Reading 1-2 times weekly	
	Emotion identification	Emotional attribution	Emotion identification	Emotional attribution
Baku, Sumgait (Azerbaijan)	16.2	7.7	14.5	9.8
Ceara, Para, Sao Paulo (Brazil)	11.5	4.6	8.9	5.6
England (United Kingdom)	37.9	10.4	22.4	-2.2
Flemish Community (Belgium)	42.4	16.8	13.3	5.1
Korea	13.1	4.3	-1.3	-3.8
Malta	16.8	11.5	3.9	4.5
Netherlands	38.2	19.3	14.5	11.6
United Arab Emirates	15.6	12.4	2.3	8.5
Abu Dhabi (United Arab Emirates)	13.1	12.6	6.1	10.9

Table 4.16 shows that on average across jurisdictions, 54.0% of parents report reading to their child from a book three days or more in a typical week, with this percentage being highest in England (82.6%) and the Netherlands (81.8%) and lowest in Ceara, Para and Sao Paulo (14.4%). Table 4.28 shows that in all participating jurisdictions, the frequency of these reading activities is higher in socioeconomically advantaged families than in disadvantaged families.

Table 4.28: Children's books at home and frequency of parent-child reading activities, by SES background

Country/jurisdiction	Having more than 50 books		Reading at least 3 times weekly	
	Advantaged children	Disadvantaged children	Advantaged children	Disadvantaged children
Baku, Sumgait (Azerbaijan)	6.3%	0.5%	53.9%	43.1%
Ceara, Para, Sao Paulo (Brazil)	7.4%	0.8%	22.2%	7.1%
England (United Kingdom)	73.0%	20.9%	92.1%	66.9%
Flemish Community (Belgium)	46.7%	10.7%	72.1%	33.2%
Korea	86.0%	60.9%	66.6%	38.3%
Malta	58.3%	17.9%	73.8%	39.2%
Netherlands	58.4%	18.9%	89.3%	67.8%
United Arab Emirates	15.9%	3.2%	42.3%	23.8%
Abu Dhabi (United Arab Emirates)	12.3%	2.8%	39.7%	24.9%

Moreover, Table 4.28 shows that the percentage gap between socioeconomically advantaged and disadvantaged Maltese 5-year-olds is 40.4% for families having more than 50 books at home and 34.6% for parent-child reading activity at least three times weekly. Similar patterns are observed across countries and jurisdictions.

Through parental reports, IELS 2025 provides information on the frequency with which 5-year-olds use digital devices, as well as on the frequency of parent-child joint digital activities with an educational purpose, which is another component of the home learning environment index.

Table 4.29 shows that on average across jurisdictions, 45.5% of 5-year-olds are reported to use a digital device every day, a slight increase from the international mean of IELS 2018 (42.3%) with a different

set of participating countries, but consistent with the increase reported by parents in England between the two cycles (from 39.2% to 42.3%). In IELTS 2025, the percentage of children reported as daily users of digital devices ranges from 24.3% in the Netherlands to 65.9% in Malta. Table 4.30 shows that in almost all countries/jurisdictions, parents with low socioeconomic status are more likely to report that their children use digital devices every day than parents with high socioeconomic status. A plausible explanation is that these children have less access to alternative cost-intensive recreational activities, which may lead to more passive device use. Percentage differences are most conspicuous in Malta, England, the Belgian Flemish community, and Korea.

Table 4.29: Percentage of children using digital tools, by frequency of use

Country/jurisdiction	Never or hardly ever	At least once monthly	At least once weekly	Every day
Baku, Sumgait (Azerbaijan)	9.4%	7.8%	36.9%	45.8%
Ceara, Para, Sao Paulo (Brazil)	11.5%	5.4%	32.8%	50.4%
England (United Kingdom)	6.6%	9.7%	41.4%	42.3%
Flemish Community (Belgium)	12.1%	11.5%	37.8%	38.6%
Korea	8.0%	7.5%	40.2%	44.3%
Malta	3.8%	6.0%	24.3%	65.9%
Netherlands	9.4%	8.7%	57.6%	24.3%
United Arab Emirates	5.1%	5.6%	36.9%	52.5%
Abu Dhabi (United Arab Emirates)	5.3%	5.6%	37.5%	51.6%

Table 4.30: Frequency of children using digital tools every day, by socioeconomic background

Country/jurisdiction	Advantaged children	Disadvantaged children
Baku, Sumgait (Azerbaijan)	41.4%	46.9%
Ceara, Para, Sao Paulo (Brazil)	50.2%	48.4%
England (United Kingdom)	34.5%	54.8%
Flemish Community (Belgium)	29.0%	46.6%
Korea	38.9%	52.7%
Malta	56.2%	77.9%
Netherlands	20.1%	28.8%
United Arab Emirates	51.0%	54.0%
Abu Dhabi (United Arab Emirates)	51.7%	52.4%

To investigate the impact of the frequency of children's use of digital tools on early learning outcomes, this frequency of digital use was categorised into three levels (every day, at least weekly but not every day, rarely). In a subsequent analysis, rare use of digital tools by 5-year-olds will be considered the reference category. Positive differences imply that children who make frequent use of digital tools score higher in early learning and development domains than children who rarely use digital tools. Negative differences indicate that children who make frequent use of digital tools score lower in early learning and development domains than children who rarely use digital tools.

Table 4.31: Frequency of children's use of digital tools and foundation learning outcomes

Country/jurisdiction	Use digital devices every day		Use digital devices at least weekly	
	Emergent literacy	Emergent numeracy	Emergent literacy	Emergent numeracy
Baku, Sumgait (Azerbaijan)	-4.0	-9.4	5.0	14.0
Ceara, Para, Sao Paulo (Brazil)	-19.0	-8.0	-14.0	5.2
England (United Kingdom)	-31.4	-27.3	-14.7	-18.9
Flemish Community (Belgium)	-25.3	-18.0	-19.3	-6.2
Korea	-14.4	-7.3	-7.2	9.8
Malta	-19.9	-22.6	-3.2	-0.3
Netherlands	-20.5	2.9	-13.1	-2.9
United Arab Emirates	-4.6	-5.1	0.5	-3.2
Abu Dhabi (United Arab Emirates)	-20.9	-24.3	-5.5	-6.9

Table 4.32: Frequency of children's use of digital tools and executive function outcomes

Country/jurisdiction	Use digital devices every day		Use digital devices at least weekly	
	Working memory	Mental flexibility	Working memory	Mental flexibility
Baku, Sumgait (Azerbaijan)	7.9	-0.4	20.0	2.9
Ceara, Para, Sao Paulo (Brazil)	-3.2	-13.1	-5.2	-11.2
England (United Kingdom)	-1.8	-7.4	2.3	-3.4
Flemish Community (Belgium)	-9.6	-10.2	1.8	-0.4
Korea	6.5	-5.0	22.5	16.0
Malta	-8.7	-13.1	-10.8	-9.8
Netherlands	18.7	15.5	-4.4	4.2
United Arab Emirates	18.6	2.6	19.5	1.9
Abu Dhabi (United Arab Emirates)	3.4	-1.2	18.7	3.5

Table 4.33: Frequency of children's use of digital tools and social and emotional development outcomes

Country/jurisdiction	Use digital devices every day		Use digital devices at least weekly	
	Emotion identification	Emotional attribution	Emotion identification	Emotional attribution
Baku, Sumgait (Azerbaijan)	-5.1	-2.6	3.2	0.8
Ceara, Para, Sao Paulo (Brazil)	-9.2	-9.4	0.9	-7.7
England (United Kingdom)	-3.8	-6.7	-5.8	1.3
Flemish Community (Belgium)	-26.3	-5.5	-15.1	2.5
Korea	2.4	4.3	11.5	7.1
Malta	12.5	-39.3	29.1	-26.0
Netherlands	-12.7	-3.9	-19.4	-12.6
United Arab Emirates	-4.1	0.7	-1.5	0.2
Abu Dhabi (United Arab Emirates)	-13.2	-4.8	-4.5	-0.7

Tables 4.31 to 4.33 show that Maltese 5-year-olds who use digital tools daily score lower in emergent literacy, emergent numeracy, working memory, mental flexibility, and emotional attribution but score

higher in emotion identification. Consistent with results from IELS 2018, analyses of the association between children's frequency of digital device use and their early learning and development yield few statistically significant results after families' socioeconomic status is taken into account, except in Korea where moderate use is positively associated with children's scores in several domains.

Table 4.34: Frequency of parent-child educational activities with digital tools and foundation learning outcomes

Country/jurisdiction	Digital use at least 3 times weekly		Digital use 1-2 times weekly	
	Emergent literacy	Emergent numeracy	Emergent literacy	Emergent numeracy
Baku, Sumgait (Azerbaijan)	8.4	2.7	11.1	11.1
Ceara, Para, Sao Paulo (Brazil)	-4.9	-1.9	-3.9	6.7
England (United Kingdom)	-29.5	-23.4	-16.4	-11.2
Flemish Community (Belgium)	-46.3	-36.9	-25.0	-11.8
Korea	12.5	15.5	-0.9	2.2
Malta	-10.1	-8.8	-7.6	-6.0
Netherlands	-38.5	-24.0	-15.9	-7.3
United Arab Emirates	3.3	-1.0	-0.7	-6.5
Abu Dhabi (United Arab Emirates)	-11.4	-9.4	-1.1	5.8

Table 4.35: Frequency of parent-child educational activities with digital tools and executive function outcomes

Country/jurisdiction	Digital use at least 3 times weekly		Digital use 1-2 times weekly	
	Working memory	Mental flexibility	Working memory	Mental flexibility
Baku, Sumgait (Azerbaijan)	7.8	1.4	10.1	4.6
Ceara, Para, Sao Paulo (Brazil)	-4.3	1.8	-4.4	-1.2
England (United Kingdom)	-6.4	-5.3	-2.1	-5.4
Flemish Community (Belgium)	-31.9	-25.4	-11.3	-13.8
Korea	4.8	5.1	3.0	3.8
Malta	1.0	-3.8	2.2	-2.6
Netherlands	-23.7	-11.4	-10.5	-1.0
United Arab Emirates	8.6	4.2	4.2	-4.9
Abu Dhabi (United Arab Emirates)	3.1	5.7	8.8	3.4

Table 4.36: Frequency of parent-child educational activities with digital tools and social and emotional growth outcomes

Country/jurisdiction	Digital use at least 3 times weekly		Digital use 1-2 times weekly	
	Emotion identification	Emotional attribution	Emotion identification	Emotional attribution
Baku, Sumgait (Azerbaijan)	-1.7	2.4	9.5	11.1
Ceara, Para, Sao Paulo (Brazil)	8.5	2.2	-0.8	-6.9
England (United Kingdom)	-9.8	-7.6	-4.2	-5.4
Flemish Community (Belgium)	-41.0	-30.9	-17.9	-8.0
Korea	5.7	6.0	-3.1	-1.6
Malta	-1.0	-5.6	-6.1	-11.1
Netherlands	-24.7	-9.2	-9.1	-6.0
United Arab Emirates	-0.9	0.8	-6.4	-1.8
Abu Dhabi (United Arab Emirates)	-3.3	-0.4	-1.5	3.2

Table 4.13 shows that on average across jurisdictions, 27.4% of parents report using digital tools to do educational activities with their children at least three times weekly. This percentage is highest in the United Arab Emirates (40.3%) and Malta (34.9%), and lowest in the Belgian Flemish community (15.5%) and Ceara, Para and Sao Paulo (19.2%). To investigate the impact of parent-child educational activities with digital tools on early learning and development outcomes, this weekly parent-child digital interaction was categorised into three levels (three times or more weekly, 1-2 times weekly, less than once weekly). In a subsequent analysis, infrequent parent-child activities with digital tools will be considered the reference category. Positive differences imply that children living in families where parent-child interactions with digital tools are frequent score higher in early learning and development outcomes than children living in families where parent-child interaction with digital tools is occasional.

Concerning parent-child joint digital activities with an educational purpose, Tables 4.34 to 4.36 show a weak and inconsistent pattern of association with children's early learning outcomes across countries and jurisdictions. Engaging in this type of interaction three days or more a week, relative to less than once a week or never, is in some domains associated with lower children's scores in the Netherlands, the Belgian Flemish community and England, and with higher scores in Korea. These trends remain the same after taking socioeconomic status into account.

4.4 Parental involvement in early childhood and education

By connecting home and school environments, family involvement in Early Childhood and Care (ECEC) strengthens the contexts where children develop their skills, promoting early learning and development. By fostering strong ties between home and school/early childhood centre, families and educators can cultivate a mutual commitment to a child's academic and emotional growth through open communication and unified, collaborative efforts. Parents bring distinct knowledge of their child's needs, cultural background, and preferences, and early educators can provide pointers for activities at home (e.g. reading, play, open conversations) that reinforce ECEC experiences, strengthen cognitive self-regulation, and enhance social and emotional skills.

Parental involvement is demonstrated by the frequency and quality of their contact with early education centres, which usually aligns with the centres' established programs and activities. Information on the intensity of parental involvement in ECEC is gathered, in IELS 2025, through a question addressed to the ECEC staff members who know the participating 5-year-olds best in the centre they attend.

Table 4.37: Parental involvement in ECEC activities

Country/jurisdiction	Strongly involved	Moderately involved	Slightly involved	Not involved at all
Baku, Sumgait (Azerbaijan)	61.0%	30.6%	7.0%	1.5%
Ceara, Para, Sao Paulo (Brazil)	41.1%	37.5%	17.2%	4.1%
England (United Kingdom)	32.5%	38.6%	21.2%	7.7%
Flemish Community (Belgium)	37.9%	35.7%	19.5%	6.9%
Korea	42.0%	39.3%	16.6%	2.2%
Malta	49.2%	34.7%	13.4%	2.8%
Netherlands	35.4%	50.4%	12.0%	2.1%
United Arab Emirates	42.3%	37.9%	16.8%	3.0%
Abu Dhabi (United Arab Emirates)	47.4%	34.6%	14.6%	3.4%

Table 4.37 shows the percentage of Maltese parents who are strongly involved (49.2%), moderately involved (34.7%), slightly involved (13.4%) and not involved (2.8%) in their children's ECEC centres. Across jurisdictions, 42.7% of parents are strongly involved in the activities taking place at their child's ECEC centre, 38.1% are moderately involved, and 19.3% are slightly or not involved at all, according to ECEC staff. This pattern is largely consistent across countries/jurisdictions, although strong parental involvement is more frequently reported by educators in Baku and Sumgait (61.0%), while lower levels of involvement are more commonly reported by ECEC staff in the Belgian Flemish Community (37.9%) and England (32.5%).

To investigate the impact of parental involvement in ECEC centres on early learning and development outcomes, this involvement was categorised into two levels (high involvement, low involvement). In a subsequent analysis, low parental involvement will be considered the reference category. Positive differences imply that children whose parents are considerably involved in ECEC activities score higher in early learning and development outcomes than children whose parents are less involved.

Table 4.38: Parental involvement in ECEC activities, by socioeconomic background

Country/jurisdiction	Parental involvement is high		Parental involvement is low	
	Advantaged children	Disadvantaged children	Advantaged children	Disadvantaged children
Baku, Sumgait (Azerbaijan)	62.8%	53.1%	6.2%	11.0%
Ceara, Para, Sao Paulo (Brazil)	52.2%	33.9%	14.3%	28.5%
England (United Kingdom)	44.4%	26.0%	18.9%	35.7%
Flemish Community (Belgium)	54.3%	21.2%	11.7%	42.5%
Korea	44.6%	36.6%	15.4%	24.1%
Malta	54.7%	40.7%	13.4%	23.5%
Netherlands	42.6%	26.6%	10.4%	20.2%
United Arab Emirates	48.2%	33.1%	15.8%	27.1%
Abu Dhabi (United Arab Emirates)	53.6%	41.8%	14.4%	21.5%

Table 4.38 shows that the share of Maltese parents who are highly involved in their child's ECEC centre is 14.0% higher among socioeconomically advantaged families than among disadvantaged families. On the other hand, the share of Maltese parents who have low involvement in their child's ECEC centre is 10.1% lower among socioeconomically advantaged families than among disadvantaged families. Across countries/jurisdictions, a clear socioeconomic gap is observed in parental involvement in ECEC centres. On average, the share of parents who are strongly involved in their child's ECEC centre is 16.6% higher among socioeconomically advantaged families than among disadvantaged families, with differences significant in all jurisdictions, while the opposite pattern applies broadly to low levels of involvement.

In IEELS 2025, in the majority of jurisdictions and domains of assessment, large and significant gaps in early learning and development outcomes exist between 5-year-olds whose parents have high involvement in their ECEC centres and peers whose parents are less involved. Tables 4.39 to 4.41 show that gaps between Maltese children stratified by parental levels of involvement in ECEC activities are largest and most significant in pro-social behaviour (60.3), trust (41.1), and non-disruptive behaviour (17.6). Across countries/jurisdictions, differences between children according to parental levels of involvement in ECEC activities are largest and significant in the social and emotional development dimension, particularly in trust (38.9), pro-social behaviour (55.3), and non-disruptive behaviour (24.1) which were indirectly assessed through parental reports.

Table 4.39: Parental involvement in the child's ECEC centre and foundational learning

Country/jurisdiction	Emergent literacy	Emergent numeracy	Foundational learning
Baku, Sumgait (Azerbaijan)	10.8	31.4	21.1
Ceara, Para, Sao Paulo (Brazil)	17.4	22.3	19.8
England (United Kingdom)	35.9	39.5	37.7
Flemish Community (Belgium)	42.4	37.8	40.1
Korea	23.2	25.1	24.2
Malta	19.5	18.4	18.9
Netherlands	28.1	23.9	26.0
United Arab Emirates	15.3	22.0	18.7
Abu Dhabi (United Arab Emirates)	7.1	4.6	5.9

Table 4.40: Parental involvement in the child's ECEC centre and executive function

Country/jurisdiction	Inhibition	Working memory	Mental flexibility	Executive function
Baku, Sumgait (Azerbaijan)	5.4	19.7	5.9	10.3
Ceara, Para, Sao Paulo (Brazil)	18.2	21.6	8.8	16.2
England (United Kingdom)	9.6	22.6	30.6	21.0
Flemish Community (Belgium)	10.6	28.8	32.6	24.0
Korea	11.6	16.0	23.7	17.1
Malta	18.5	24.9	3.7	15.7
Netherlands	14.4	16.9	2.1	11.1
United Arab Emirates	3.7	12.6	12.0	9.4
Abu Dhabi (United Arab Emirates)	3.3	6.7	-0.7	3.1

Table 4.41: Parental involvement in the child's ECEC centre and social emotional development

Country/jurisdiction	Emotion identification	Emotional attribution	Trust	Pro-social behaviour	Non-disruptive behaviour	Social and emotional development
Baku, Sumgait (Azerbaijan)	9.7	4.8	36.5	58.8	18.3	25.6
Ceara, Para, Sao Paulo (Brazil)	15.5	7.9	29.9	55.6	20.1	25.8
England (United Kingdom)	16.5	1.5	33.4	46.9	34.4	26.5
Flemish Community (Belgium)	40.3	24.7	35.0	64.0	27.7	38.3
Korea	13.0	7.9	42.1	53.3	35.8	30.4
Malta	0.5	8.6	41.1	60.3	17.6	25.6
Netherlands	5.8	18.8	28.3	31.9	16.9	20.3
United Arab Emirates	18.9	12.0	65.2	71.4	22.5	38.0
Abu Dhabi (United Arab Emirates)	10.0	2.7	69.3	76.3	15.2	34.7

Gaps are also observed across most jurisdictions, but smaller in magnitude in the foundational learning domains of emergent literacy (24.1) and emergent numeracy (27.5), and in the executive function domain of working memory (20.4). In these two dimensions, differences are most consistent among 5-year-olds in the Belgian Flemish community and England. When taking the families' socioeconomic status into account, these gaps decrease slightly but are not eliminated.

5

Early Childhood Education, Care and Support for Children

5.1 Introduction

Early childhood education and care (ECEC) from infancy to pre-school drives foundational development, serving as a vital policy tool for fostering early-years equality in opportunities. Accessible ECEC settings significantly boost cognitive, social, and emotional learning. These settings are essential in laying the groundwork for long-term educational success, wellbeing, and skill development. Moreover, they create equitable life opportunities, especially for disadvantaged children. Many countries have strengthened their ECEC policies in recent decades, resulting in higher enrolment rates, a more balanced dual focus on care and education, and tighter regulations to improve quality. Though the provision of early childhood education and care does not guarantee success for every child, due to variations in programme quality, increasing access to high-quality ECEC raises overall school readiness. By fostering positive interactions among peers and creating better environments for advanced, comprehensive curricula, high-quality ECEC strengthens the long-term benefits of early learning and development.

Due to growing diversity in child populations, ECEC policies are increasingly prioritising targeted support for children facing specific challenges, such as developmental hurdles or limited familiarity with the educational setting. Special supports and services to address these early challenges can reduce the need for remedial or special education in later stages of schooling.

Section 5.2 explores how ECEC participation varies by age and socioeconomic status. Despite rising overall attendance in ECEC centres, significant gaps persist. Data highlights that children from disadvantaged backgrounds are less likely to be enrolled in quality, regulated ECEC, particularly in the first two years of infancy. Section 5.3 compares children's developmental and learning outcomes between Maltese ECEC settings. Section 5.4 examines how the varying duration of ECEC participation relates to children's developmental and learning outcomes, specifically analysing if these impacts vary for socioeconomically advantaged and disadvantaged children. Section 5.5 investigates how often different early-life challenges appear among 5-year-olds, together with how frequently they access specialised support services.

5.2 Participation in Early Childhood Education and Care (ECEC)

Given that participation gaps persist by age and socioeconomic status, it is important that early childhood education and care must be widely available, accessible, and affordable to provide lasting benefits. Children from lower socioeconomic backgrounds are less likely to utilise early childhood education and

care, particularly in regulated centres that provide expensive high-quality provisions. Gaps are largest for children under 3 years of age, but inequalities also persist among children aged 3-5 years. Children from disadvantaged backgrounds tend to attend fewer hours, although the difference in service intensity is less pronounced. Barriers to ECEC participation arise from a combination of individual and contextual factors, generally divided into two main categories. Direct barriers are immediate, tangible limitations such as high costs, inconvenient locations, or inconvenient hours, while indirect barriers involve subtler, systemic, or social influences like institutional bias, social norms, and familial perspectives. Combined together, direct and indirect barriers shape whether families, especially disadvantaged ones, can participate in ECEC.

In IELS 2025, ECEC systems vary greatly between countries/jurisdictions in governance, quality, and access. In terms of governance, some of these jurisdictions have split systems in which ECEC services for different age groups are governed by different authorities, while others, including Malta, have an integrated system with one leading authority being responsible for all ECEC services. Average enrolment rates for children aged 3-5 years also vary markedly, ranging from 50.2% in Baku and Sumgait to more than 95.7% in Korea. In Malta, enrolment rates are 85.6% for 3-year-olds and 90.5% for 5-year-olds. Enrolment in ECEC is generally not mandatory, with the exceptions of Ceara, Para and Sao Paulo, and the Belgian Flemish Community, where it is compulsory from ages 4 and 5, respectively. Jurisdictions also set different age cut-offs for children to begin attending primary school. For instance, in both England and the Netherlands, this occurs shortly before or by the time children turn 5, while in the rest of the jurisdictions, most 5-year-olds are still enrolled in pre-primary programmes.

The parent questionnaire provides important information regarding children's attendance of different types of early care and education arrangements starting from birth up to the time of assessment (5 years). This information is used to identify the starting age and the number of years children attended ECEC programmes prior to the school year in which they took part in IELS 2025. The chapter also draws on data about the number of hours that children attended ECEC settings in the two school years prior to the assessment.

Table 5.1: Participation in ECEC services, by age

Country/jurisdiction	Under 1 year	1 year	2 years	3 years	4 years	5 years
Baku, Sumgait (Azerbaijan)	0.0%	21.8%	15.2%	30.8%	9.0%	23.2%
Ceara, Para, Sao Paulo (Brazil)	10.4%	5.0%	25.9%	20.8%	8.9%	29.0%
England (United Kingdom)	19.2%	19.0%	24.3%	21.5%	6.5%	9.5%
Flemish Community (Belgium)	0.0%	74.5%	16.1%	4.0%	1.6%	3.8%
Korea	12.9%	38.8%	26.7%	10.0%	3.3%	8.3%
Malta	19.3%	24.3%	39.3%	7.6%	3.3%	6.2%
Netherlands	0.0%	0.0%	28.6%	14.1%	56.7%	0.6%
United Arab Emirates	4.7%	1.3%	9.3%	24.7%	38.7%	21.3%

Table 5.1 shows that 82.9% of Maltese children started attending formal and regulated ECEC services before age 3, which is significantly larger than the IELS 2025 average (54.6%). The reason for this high participation rate is the Free Childcare Scheme that provides free childcare services to working or studying Maltese parents/guardians with children from 3 months up to 3 years of age. It is designed to support work-life balance and encourage participation in the workforce. 19.3% of Maltese infants were enrolled in ECEC centres during their first year of life, 24.3% started at age 1, and 39.3% started at age 2. Across countries/jurisdictions, the corresponding percentages are 8.3%, 23.1%, and 23.2% indicating that, on average, Maltese infants attend early childhood education and care services at a younger age than other

jurisdictions, excluding the Belgian Flemish community. Among the minority of Maltese children who started attending ECEC later, at the pre-primary level, 7.6% started at age 3, 3.3% started at age 4, and 6.2% started at age 5. These percentages are significantly smaller than the corresponding IELS 2025 percentages (16.7%, 13.2%, and 15.5% respectively). This translates to an average of more than two and a half years in ECEC experience by the time of assessment. Cumulatively, on average across jurisdictions, 31.4% of all children in IELS 2025 were enrolled by age 1, 54.6% were enrolled by age 2, and 71.3% were enrolled by age 3.

However, reflecting different institutional and social contexts, jurisdictions vary markedly in the typical age at which children started attending formal and regulated ECEC services. For instance, 19.3% of Maltese children and 19.2% of English children started attending ECEC before turning 1, while in many other jurisdictions virtually no children participate in ECEC at that age. This is the case for the Belgian Flemish community, where most children (74.5%) started attending ECEC at age 1, making it one of the two jurisdictions (with Korea) where more than half of children attend ECEC by that age. At the other end, the share of children who enrolled in ECEC for the first time at ages 4 or 5 is highest in the United Arab Emirates (60.0%), the Netherlands (57.3%), Ceara, Para and Sao Paulo (37.9%), and Baku and Sumgait (32.2%). As a result of these divergent participation patterns, the average duration of attendance in ECEC by the time of the IELS assessment was longer among children in the Belgian Flemish community, England, Korea, and Malta (all over 3 years), intermediate among children in Baku and Sumgait, and Ceara, Para and Sao Paulo (between 2 and 3 years), and shorter among children in the Netherlands and the United Arab Emirates (under 2 years).

Table 5.2: Participation in ECEC services, by age and socioeconomic background

Jurisdiction	<1 year		1 year		2 years		3 years		4 years		5 years	
	Advantaged	Disadvantaged	Advantaged	Disadvantaged	Advantaged	Disadvantaged	Advantaged	Disadvantaged	Advantaged	Disadvantaged	Advantaged	Disadvantaged
Azerbaijan	0.0	0.0	20.6	29.1	23.8	12.9	35.4	27.2	7.2	11.5	13.1	19.3
Brazil	7.5	12.7	9.2	4.9	29.9	23.3	22.8	20.3	11.0	15.2	19.5	23.5
England	22.1	13.2	31.5	6.3	19.1	34.8	18.3	28.5	2.3	6.4	6.9	10.9
Belgium (Flemish)	0.0	0.0	89.1	55.8	8.3	24.8	1.9	10.3	0.0	2.3	0.7	6.9
Korea	12.2	15.3	41.0	33.4	26.5	28.1	13.5	15.7	2.0	2.9	4.8	4.7
Malta	19.1	12.7	27.0	17.9	39.6	35.1	8.5	23.1	3.2	3.0	2.5	8.1
Netherlands	0.0	0.0	0.0	0.0	21.6	37.6	13.9	16.0	64.3	44.8	0.3	1.6
UAE	5.2	5.8	1.6	1.3	14.1	3.4	32.8	13.7	32.3	51.2	14.0	24.6
Abu Dhabi	4.9	4.7	2.3	1.9	8.5	4.3	33.2	11.4	37.1	57.1	14.0	20.5

Aggregate patterns of participation in ECEC mask substantial variation between children from different socioeconomic groups. Table 5.2 shows a higher percentage of Maltese socioeconomically advantaged infants (85.7%) than socioeconomically disadvantaged infants (65.7%) participating in formal ECEC before age 3. This trend is also visible in other jurisdictions, with the exception of the Netherlands, where the percentage of disadvantaged 5-year-olds (37.6%) attending ECEC centres before age 3 exceeds the percentage of advantaged peers (21.6%). Socioeconomic differences in levels of enrolment are stark by age 1 in England, the Belgian Flemish Community, and Malta, with the percentage of children having started to attend ECEC being between 15% and 30% higher among socioeconomically advantaged

children than among disadvantaged children. Meanwhile, in jurisdictions with a typical later starting age, such as the United Arab Emirates, these differences become visible only by ages 2 to 3.

Table 5.3: Participation in ECEC services, by socioeconomic background

Country/jurisdiction	Advantaged children	Disadvantaged children	Difference in mean ECEC durations
Baku, Sumgait (Azerbaijan)	2.32	2.21	0.11
Ceara, Para, Sao Paulo (Brazil)	2.21	2.09	0.12
England (United Kingdom)	3.32	2.59	0.73
Flemish Community (Belgium)	3.85	3.20	0.65
Korea	3.34	3.28	0.06
Malta	3.43	2.90	0.53
Netherlands	1.57	1.90	-0.33
United Arab Emirates	1.73	1.23	0.50
Abu Dhabi (UAE)	1.63	1.24	0.39

Table 5.3 shows that Maltese socioeconomically advantaged infants attend ECEC settings for 0.53 years longer than their disadvantaged counterparts. On average across jurisdictions, children from socioeconomically advantaged backgrounds attend ECEC settings for 0.29 years longer than their disadvantaged peers. In England, the Belgian Flemish Community, Malta, and the United Arab Emirates, the difference is around 0.5 years longer, whereas in Baku and Sumgait, Ceara, Para and Sao Paulo, and Korea, there are no statistically significant differences in the mean durations between the two groups.

Table 5.4: Intensity of participation in formal ECEC, by age

Country/jurisdiction	Did not attend		Attended less than 15 hours weekly		Attended 15-30 hours weekly		Attended more than 30 hours weekly	
	3 yrs	4 yrs	3 yrs	4 yrs	3 yrs	4 yrs	3 yrs	4 yrs
Baku, Sumgait (Azerbaijan)	51.2	60.4	12.2	8.7	14.2	11.4	22.5	19.6
Ceara, Para, Sao Paulo (Brazil)	9.2	26.9	9.1	10.1	55.7	38.8	25.9	24.1
England (United Kingdom)	20.9	12.0	9.6	20.7	40.1	49.4	29.5	17.9
Flemish Community (Belgium)	1.3	1.9	0.7	1.6	4.7	9.7	93.4	86.8
Korea	0.8	1.9	6.7	7.3	28.5	32.7	64.0	58.1
Malta	5.3	6.7	1.3	2.6	44.1	46.3	49.3	44.4
Netherlands	3.6	32.5	2.9	30.9	65.7	28.5	27.7	8.0
United Arab Emirates	54.4	64.6	8.3	8.5	20.5	15.8	16.8	11.1
Abu Dhabi (UAE)	57.1	67.6	7.4	7.5	18.0	13.1	17.4	11.9

Among children participating in ECEC, gaps exist in many countries/jurisdictions regarding the intensity of participation, as measured by the number of hours that children attend pre-primary education settings at ages 3 and 4. Table 5.4 shows that the percentages of 3-year-olds and 4-year-olds attending at least 15 hours weekly in formal ECEC (93.4% and 90.7% respectively) exceed the percentages of their peers attending less than 15 hours weekly (1.3% and 2.6% respectively) or not attending at all (5.3% and 6.7% respectively). The converse is true for United Arab Emirates, Abu Dhabi, Baku, and Sumgait.

Tables 5.5 and 5.6 display the intensity of participation of 3-year and 4-year-olds in formal ECEC, by socioeconomic background. In Baku and Sumgait, the Belgian Flemish Community, England, and Korea, the percentage of both 3-year and 4-year-olds attending pre-primary education for more than 30

hours a week is 9% higher among socioeconomically advantaged children than among disadvantaged children. Malta is an exception to this pattern, with the weekly number of hours of attendance being higher among socioeconomically disadvantaged children at both ages.

Table 5.5: Intensity of participation of 3-year-olds in formal ECEC, by socioeconomic background

Country/jurisdiction	Did not attend		Attended less than 15 hours weekly		Attended less than 15-30 hours weekly		Attended more than 30 hours weekly	
	Advantaged	Disadvantaged	Advantaged	Disadvantaged	Advantaged	Disadvantaged	Advantaged	Disadvantaged
Baku, Sumgait (Azerbaijan)	40.2	59.6	12.2	10.8	18.2	9.6	29.4	20.0
Ceara, Para, Sao Paulo (Brazil)	3.4	11.7	5.2	10.1	62.3	51.7	29.1	26.5
England (United Kingdom)	26.2	15.8	6.4	18.7	36.2	48.0	31.2	17.5
Flemish Community (Belgium)	0.5	4.1	0.1	1.1	1.3	7.4	98.1	87.4
Korea	0.1	1.4	4.0	11.6	25.4	27.6	70.5	59.4
Malta	5.3	6.5	0.7	2.1	55.9	34.8	38.0	56.6
Netherlands	2.1	5.0	2.3	3.9	65.9	71.1	29.7	20.0
United Arab Emirates	45.0	64.6	9.3	6.8	26.7	10.9	19.0	17.7
Abu Dhabi (UAE)	49.0	71.4	7.3	8.1	22.9	10.3	20.8	10.2

Table 5.6: Intensity of participation of 4-year-olds in formal ECEC, by socioeconomic background

Country/jurisdiction	Did not attend		Attended less than 15 hours weekly		Attended less than 15-30 hours weekly		Attended more than 30 hours weekly	
	Advantaged	Disadvantaged	Advantaged	Disadvantaged	Advantaged	Disadvantaged	Advantaged	Disadvantaged
Baku, Sumgait (Azerbaijan)	50.8	68.2	8.2	8.3	15.2	7.1	25.7	16.5
Ceara, Para, Sao Paulo (Brazil)	17.0	32.5	7.7	11.1	46.6	33.7	28.7	22.7
England (United Kingdom)	8.6	17.2	19.4	27.8	46.2	49.2	25.9	5.8
Flemish Community (Belgium)	0.1	6.2	0.5	3.6	5.7	13.1	93.7	77.1
Korea	1.7	2.6	4.6	11.9	29.5	31.8	64.1	53.8
Malta	7.9	10.9	1.9	3.9	55.1	34.2	35.1	51.1
Netherlands	33.0	31.3	25.8	34.6	30.8	24.8	10.4	9.3
United Arab Emirates	54.0	75.3	10.7	5.5	23.0	7.5	12.3	11.7
Abu Dhabi (UAE)	59.7	81.9	8.8	3.9	17.7	6.7	13.9	7.5

5.3 Types of Maltese ECEC settings and children's early learning

High-quality early childhood education and care, characterised by qualified, stable staff and low staff-child ratios, significantly improves cognitive, social-emotional, and physical development, particularly for disadvantaged children, by boosting school readiness and long-term academic success.

Formal, structured centres with well-trained staff enhance social behaviour and reduce hyperactivity compared to low-quality care. Moreover, high-quality programmes are linked to better educational attainment and fewer behavioural problems later in life, and reduce the gap in cognitive and socioemotional development.

Table 5.7 shows that Maltese 5-year-olds attending independent ECEC settings score significantly higher in foundational learning and executive function than children attending church and state ECEC settings. However, mean socioemotional growth scores vary marginally between the types of ECEC settings.

Table 5.7: Mean early learning and development scores, stratified by ECEC setting

Dimension	ECEC setting	Sample size	Mean score	Std. deviation	P-value
Foundational learning	State	993	478.5	95.87	<0.001
	Church	466	502.2	94.31	
	Independent	185	529.8	79.91	
Executive function	State	993	487.6	81.40	0.002
	Church	466	498.8	79.82	
	Independent	185	507.4	74.05	
Socioemotional development	State	993	508.5	73.33	0.148
	Church	466	511.5	68.96	
	Independent	185	514.4	71.30	

Table 5.8: Mean foundational learning scores, stratified by ECEC setting

Domain	ECEC setting	Sample size	Mean score	Std. deviation	P-value
Emergent literacy	State	993	461.5	110.95	<0.001
	Church	466	497.9	110.74	
	Independent	185	525.6	92.04	
Emergent numeracy	State	993	479.0	111.28	<0.001
	Church	466	495.6	95.81	
	Independent	185	506.4	90.91	

Table 5.9: Mean early social and emotional development scores, stratified by ECEC setting

Domain	ECEC setting	Sample size	Mean score	Std. deviation	P-value
Emotional identification	State	993	505.9	116.24	0.469
	Church	466	509.2	110.54	
	Independent	185	516.8	100.62	
Emotional attribution	State	993	475.8	112.20	<0.001
	Church	466	481.0	107.13	
	Independent	185	518.4	113.52	
Trust	State	993	517.0	108.07	0.364
	Church	466	508.6	105.68	
	Independent	185	511.9	108.42	
	State	993	513.2	118.24	0.103

Prosocial behaviour	Church	466	523.7	117.71	0.048
	Independent	185	529.9	124.13	
Non-disruptive behaviour	State	993	501.9	106.97	
	Church	466	531.1	104.39	
	Independent	185	490.9	102.08	

Table 5.10: Mean early learning and development scores, stratified by ECEC setting

Domain	ECEC setting	Sample size	Mean score	Std. deviation	P-value
Inhibition	State	993	485.4	93.03	0.099
	Church	466	482.5	90.63	
	Independent	185	499.4	87.50	
Working memory	State	993	485.4	110.70	<0.001
	Church	466	519.4	107.55	
	Independent	185	503.7	108.47	
Mental flexibility	State	993	494.2	110.11	0.008
	Church	466	496.6	109.94	
	Independent	185	521.3	102.09	

Table 5.8 shows that Maltese 5-year-olds attending independent ECEC settings score significantly higher in emergent literacy and emergent numeracy than children attending church settings, who in turn score significantly higher than children attending state settings.

Figure 5.1: Mean early learning and development scores, stratified by ECEC setting type

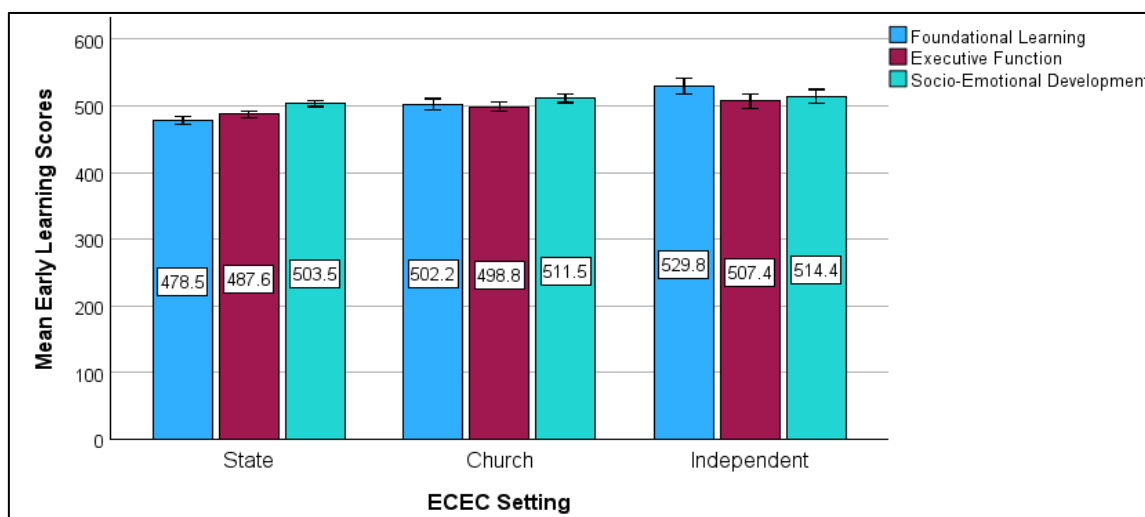


Figure 5.2: Mean foundational learning scores, stratified by ECEC setting type

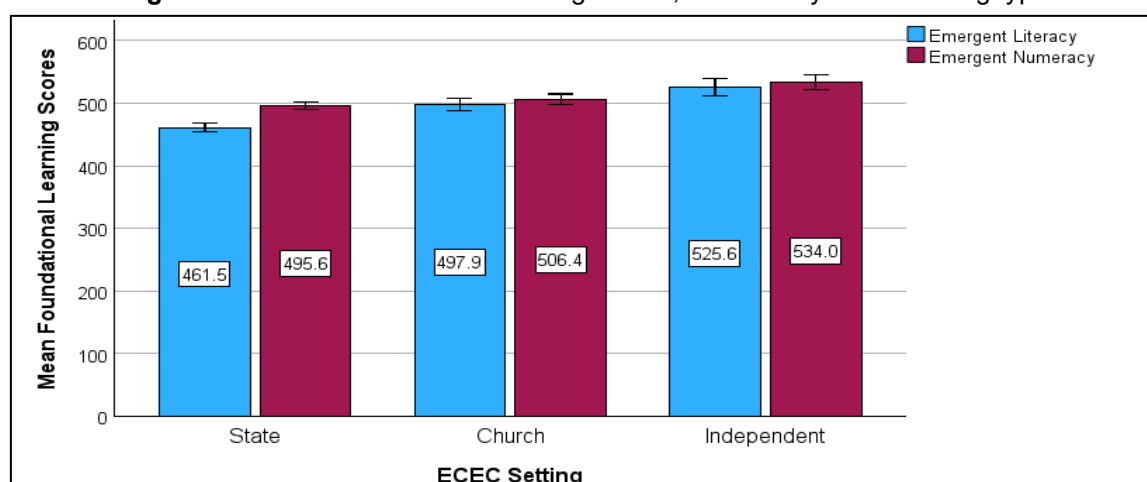


Figure 5.3: Mean executive function scores, stratified by ECEC setting type

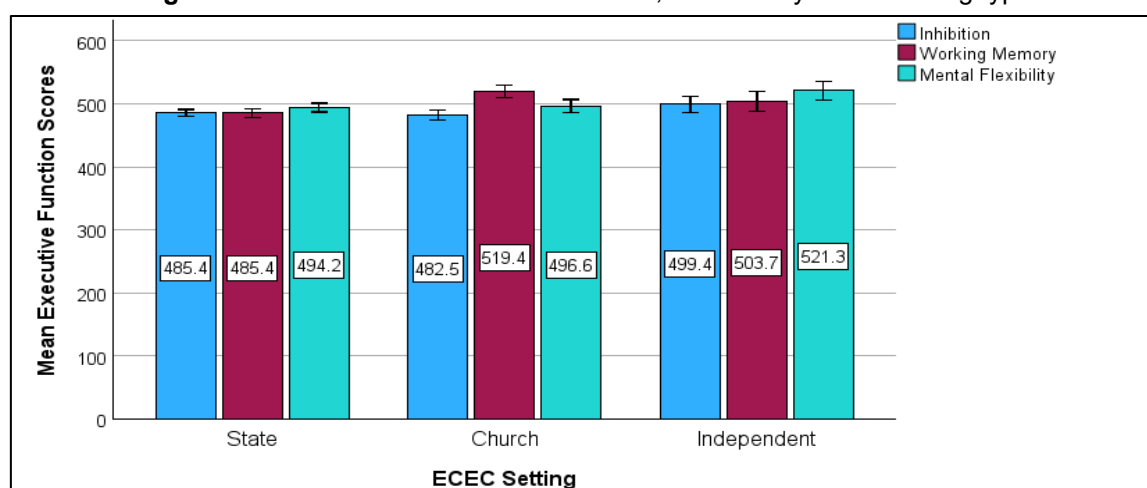


Figure 5.4: Mean socioemotional development scores, stratified by ECEC setting type

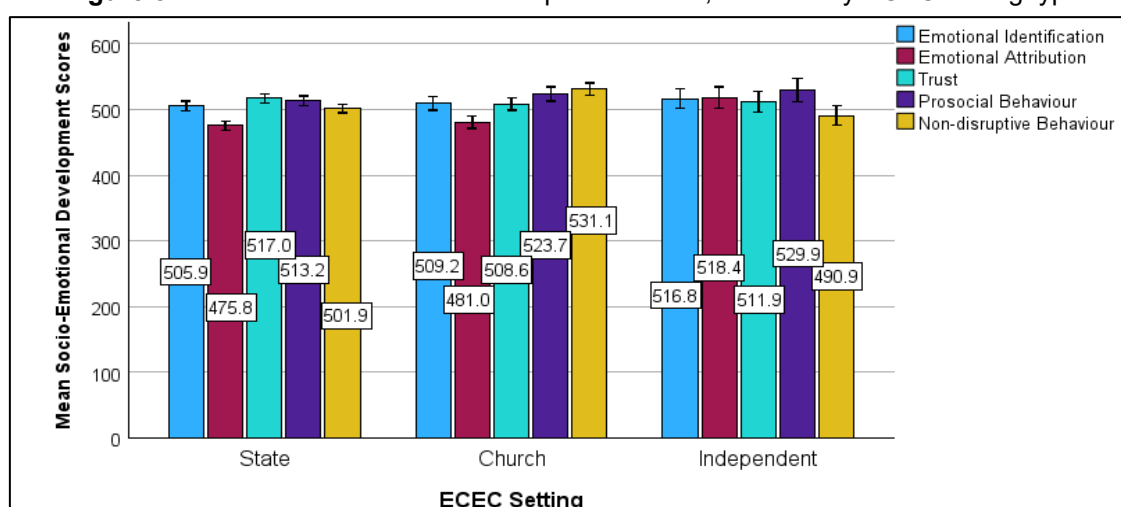


Table 5.9 shows that Maltese 5-year-olds attending independent ECEC settings score significantly higher in emotional attribution than children attending state and church settings. On the other hand, Maltese 5-year-olds attending church ECEC settings score significantly higher in non-disruptive behaviour than children attending state and independent settings. Mean scores in emotional identification, trust and prosocial behaviour scores vary marginally between the types of ECEC settings.

Table 5.10 shows that Maltese 5-year-olds attending independent ECEC settings score significantly higher in mental flexibility than children attending state and church settings. On the other hand, Maltese 5-year-olds attending church ECEC settings score significantly higher in working memory than children attending independent settings, who in turn score significantly higher than children attending state settings. However, mean inhibition scores vary marginally between the ECEC settings.

Figures 5.1 to 5.3 show the 95% confidence intervals of mean scores for foundational learning, executive function, and socioemotional development dimensions. When two confidence intervals overlap indicates that mean scores vary marginally (difference is not significant). On the other hand, when two confidence intervals do not overlap indicates that mean scores vary significantly.

5.4 Participation duration in ECEC and children's early learning

Overall, the patterns of participation in ECEC among children in IELS 2025 are in line with socioeconomic differentials in many European OECD countries regarding high-intensity participation in regulated services, where structural conditions tend to be more conducive to high-quality provision. Results show that, by the time of the IELS 2025 assessment, these experiences had been more common for infants from socioeconomically advantaged families than for peers from less advantaged backgrounds. IELS 2025 provides a unique opportunity to examine how children's participation in ECEC influences early skills development from a comparative perspective. This is illustrated through the association between the number of years that 5-year-olds attended ECEC and their scores in the 10 domains of early learning and development assessed in IELS 2025.

Tables 5.11 to 5.13 show that the relationships between length of attendance of ECEC and early learning and development outcomes of Maltese 5-year-olds is generally positive, although weak, from a statistical significance standpoint, particularly after accounting for socioeconomic background. For every additional year in an ECEC setting, mean scores in early learning outcomes of Maltese 5-year-olds are expected to increase by 8.62 in emergent literacy, 10.23 in emergent numeracy, 5.69 in inhibition, 9.38 in working memory, 10.78 in mental flexibility, 7.49 in emotional identification, 4.18 in emotional attribution, 6.13 in trust, and 11.06 in prosocial behaviour. On the other hand, non-disruptive behaviour is weakly and negatively related to attendance duration in ECEC settings.

Table 5.11: Relationship between foundational learning and attendance duration in ECEC

Country/jurisdiction	Emergent literacy	Emergent numeracy	Foundational learning
Baku, Sumgait (Azerbaijan)	0.69	-4.68	-2.00
Ceara, Para, Sao Paulo (Brazil)	1.50	-2.77	-0.64
England (United Kingdom)	6.91	3.55	5.23
Flemish Community (Belgium)	34.24	25.38	29.81
Korea	1.62	3.63	2.62
Malta	8.62	10.23	9.43
Netherlands	-8.48	-3.76	-6.12
United Arab Emirates	6.96	9.63	8.29
Abu Dhabi (United Arab Emirates)	8.68	13.95	11.32

Table 5.12: Relationship between executive function and attendance duration in ECEC

Country/jurisdiction	Inhibition	Working memory	Mental flexibility	Executive function
Baku, Sumgait (Azerbaijan)	0.20	0.76	1.85	0.93
Ceara, Para, Sao Paulo (Brazil)	7.09	-1.29	0.09	1.97
England (United Kingdom)	-5.01	-0.50	0.99	-1.51
Flemish Community (Belgium)	4.16	28.52	22.90	18.53
Korea	2.88	1.54	-0.41	1.34
Malta	5.69	9.38	10.78	8.62
Netherlands	4.67	-2.15	-4.64	-0.71
United Arab Emirates	0.10	1.93	4.76	2.26
Abu Dhabi (United Arab Emirates)	2.82	1.90	4.34	3.02

Table 5.13: Relationship between socioemotional development and attendance duration in ECEC

Country/jurisdiction	Emotional identification	Emotional attribution	Trust	Prosocial behaviour	Non-disruptive behaviour	Socioemotional development
Baku, Sumgait (Azerbaijan)	0.93	-3.23	7.19	4.39	-4.78	0.90
Ceara, Para, Sao Paulo (Brazil)	-10.63	-1.67	3.88	2.05	-1.93	-1.66
England (United Kingdom)	0.14	-0.01	5.21	-0.35	-5.30	-0.06
Flemish Community (Belgium)	30.71	15.67	9.09	14.58	-5.49	12.91
Korea	0.42	-2.54	3.51	2.52	0.25	0.83
Malta	7.49	4.18	6.13	11.06	-0.61	5.65
Netherlands	-7.06	-6.92	-3.60	-3.08	-1.79	-4.49
United Arab Emirates	4.00	-0.79	6.26	3.19	-0.21	2.49
Abu Dhabi (United Arab Emirates)	7.00	6.72	1.13	-2.11	-4.09	1.73

Figure 5.5: Relationship between foundational learning and attendance duration in ECEC, by type of setting

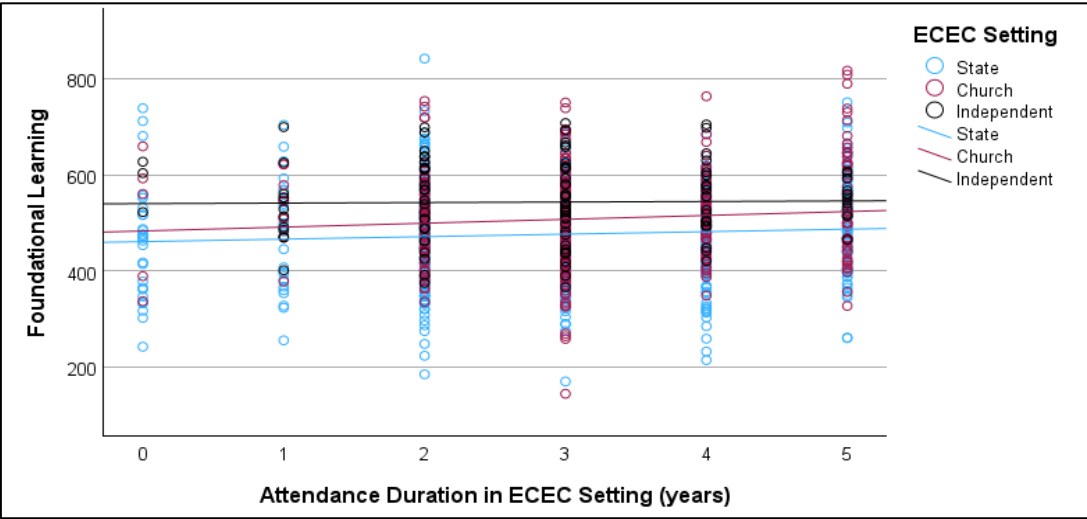


Figure 5.6: Relationship between foundational learning and attendance duration in ECEC, by type of setting

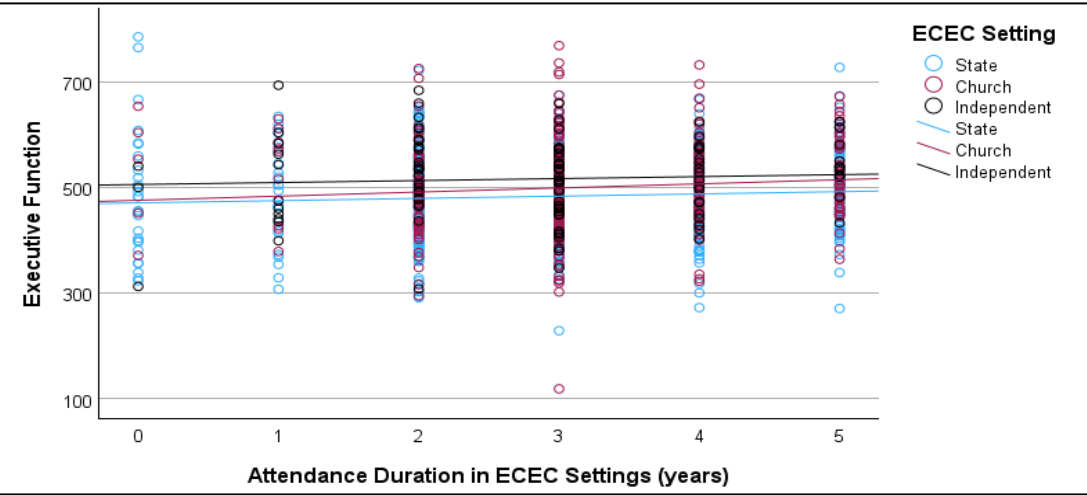
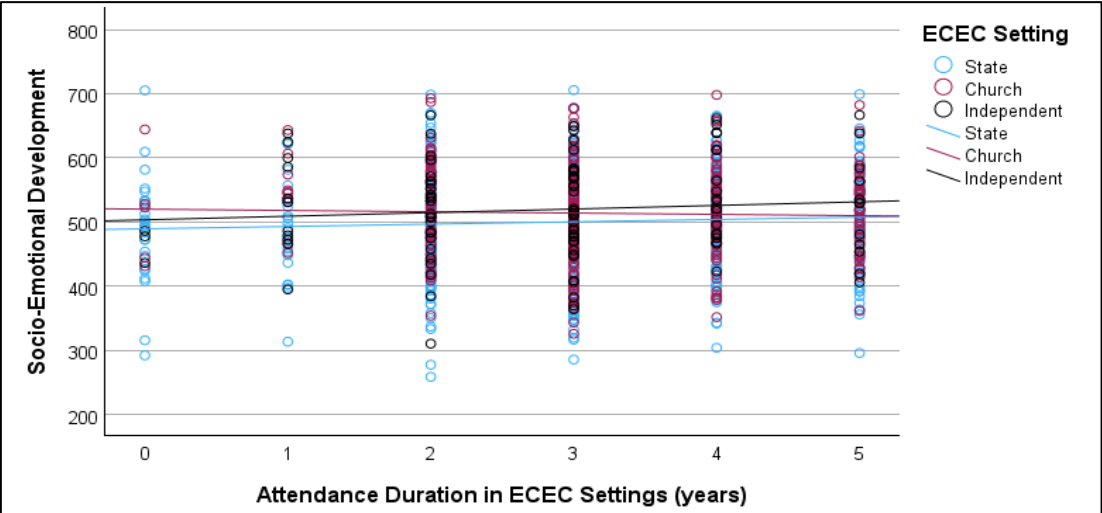


Figure 5.7: Relationship between socioemotional growth and attendance duration in ECEC, by type of setting



Across countries/jurisdictions, the association between length of attendance of ECEC and children's outcomes at age 5 varies in strength. The relationship is stronger and more often significant in the foundational learning domains of emergent literacy and emergent numeracy, where an additional year of ECEC is associated with 7-point and 5-point increases in scores, respectively, on average and without considering children's socioeconomic status. A similar result applies to a subset of executive function and social and emotional development domains, including working memory, mental flexibility, trust, and prosocial behaviour. By contrast, on average across jurisdictions, the association is negative and statistically significant with children's scores in non-disruptive behaviour. Figures 5.5 to 5.7 display the relationships between early learning and development outcomes and attendance duration of Maltese 5-year-olds in ECEC, stratified by the type of ECEC setting.

When comparing results across jurisdictions, this relationship must be interpreted considering the variation in the average duration of children's participation in ECEC services before the time of assessment, because an additional year of ECEC may have different implications depending on the typical experience of children within a jurisdiction. Tables 5.14 to 5.16 show that in many domains of assessment, particularly in emergent literacy and emergent numeracy, the relationship is generally stronger (in both magnitude and statistical significance) in jurisdictions where children have, on average, attended ECEC for a longer time (over 3.25 years).

Table 5.14: Relationship between foundational learning and ECEC duration (attendance started before age 3)

Country/jurisdiction	Emergent literacy	Emergent numeracy	Foundational learning
Baku, Sumgait (Azerbaijan)	-2.99	-18.04	-10.52
Ceara, Para, Sao Paulo (Brazil)	8.69	-2.32	3.18
England (United Kingdom)	9.83	-1.18	4.33
Flemish Community (Belgium)	88.19	63.63	75.91
Korea	9.39	12.83	11.11
Malta	6.85	12.78	9.81
Netherlands	-10.25	-3.16	-6.71
United Arab Emirates	22.92	23.84	23.38
Abu Dhabi (United Arab Emirates)	18.51	28.15	23.33

Table 5.15: Relationship between executive function and ECEC duration (attendance started before age 3)

Country/jurisdiction	Inhibition	Working memory	Mental flexibility	Executive function
Baku, Sumgait (Azerbaijan)	-11.84	8.00	-0.46	-1.43
Ceara, Para, Sao Paulo (Brazil)	16.17	1.24	-3.16	4.75
England (United Kingdom)	-13.90	-10.22	-4.54	-9.56
Flemish Community (Belgium)	0.40	64.27	57.31	40.66
Korea	11.21	9.19	0.58	6.99
Malta	-4.77	11.17	22.70	9.70
Netherlands	7.42	-4.79	-2.99	-0.12
United Arab Emirates	4.21	2.95	9.50	5.55
Abu Dhabi (United Arab Emirates)	7.94	-1.03	6.17	4.36

Table 5.16: Relationship between socioemotional growth and ECEC duration (attendance started before age 3)

Country/jurisdiction	Emotional identification	Emotional attribution	Trust	Prosocial behaviour	Non-disruptive behaviour	Socioemotional development
Baku, Sumgait (Azerbaijan)	-8.86	-10.29	21.68	16.27	-18.07	0.15
Ceara, Para, Sao Paulo (Brazil)	-29.64	-2.79	13.97	5.93	-9.60	-4.43
England (United Kingdom)	-2.41	2.35	7.00	-7.16	-25.69	-5.18
Flemish Community (Belgium)	83.15	41.25	17.73	35.25	-12.16	33.04
Korea	0.80	-8.06	13.62	13.73	1.45	4.31
Malta	6.93	0.30	8.60	25.94	-0.22	8.31
Netherlands	-9.83	-10.45	-3.93	-5.47	-8.49	-7.63
United Arab Emirates	8.42	-2.75	18.54	4.02	-3.23	5.00
Abu Dhabi (United Arab Emirates)	5.61	3.34	3.84	-10.74	-11.61	-1.91

This is most clearly the case for the Belgian Flemish Community, but also for England, Malta, and Korea. Conversely, the association tends to be weaker in the Netherlands, Baku and Sumgait, and Ceara, Para and Sao Paulo jurisdictions where children's average experience in ECEC is shorter (less than 2.5 years). However, there are exceptions to this pattern, such as the United Arab Emirates, where the relationship is often strong relative to other jurisdictions despite a comparatively short average of attendance duration in ECEC. Similar results are obtained when children's length of participation in ECEC is operationalised as a binary comparison between children who had started attending before and after 3 years. These results show that early learning and development gains become more pronounced the longer children attend ECEC before the age of 5 years.

Another important consideration for early-years policies is whether ECEC contributes to reducing early inequalities in children's learning and development outcomes, particularly between 5-year-olds from different socioeconomic backgrounds. Figures 5.9 to 5.10 display weak evidence that the relationships between the participation duration in ECEC and early learning and development outcomes of Maltese 5-year-olds is different for socioeconomically advantaged and disadvantaged children since both lines are fairly parallel; however, this is not the case for Figure 5.8.

Figure 5.8: Relationship between foundational learning and attendance duration in ECEC, by family SES

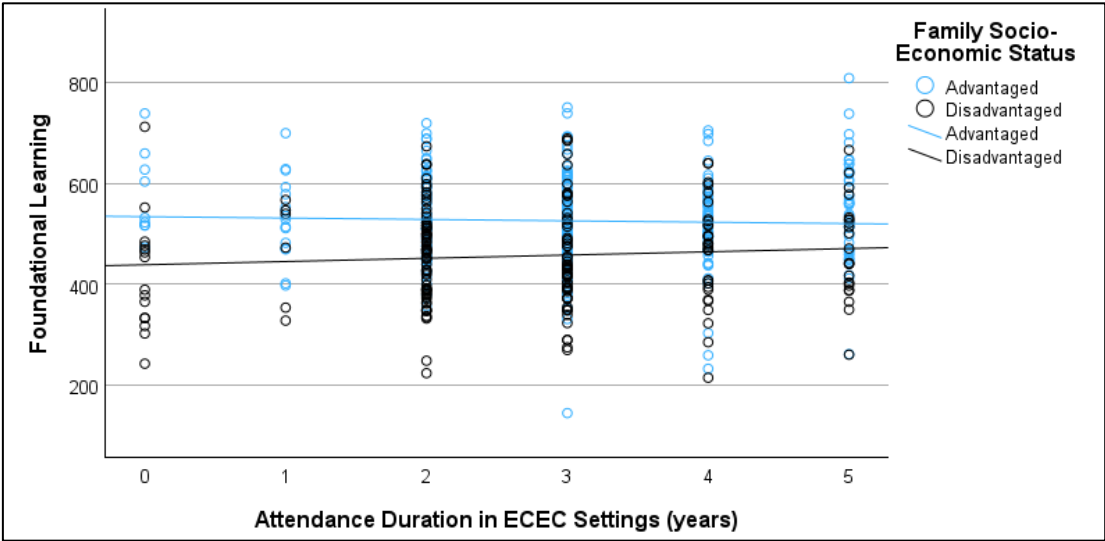


Figure 5.9: Relationship between executive function and attendance duration in ECEC, by family SES

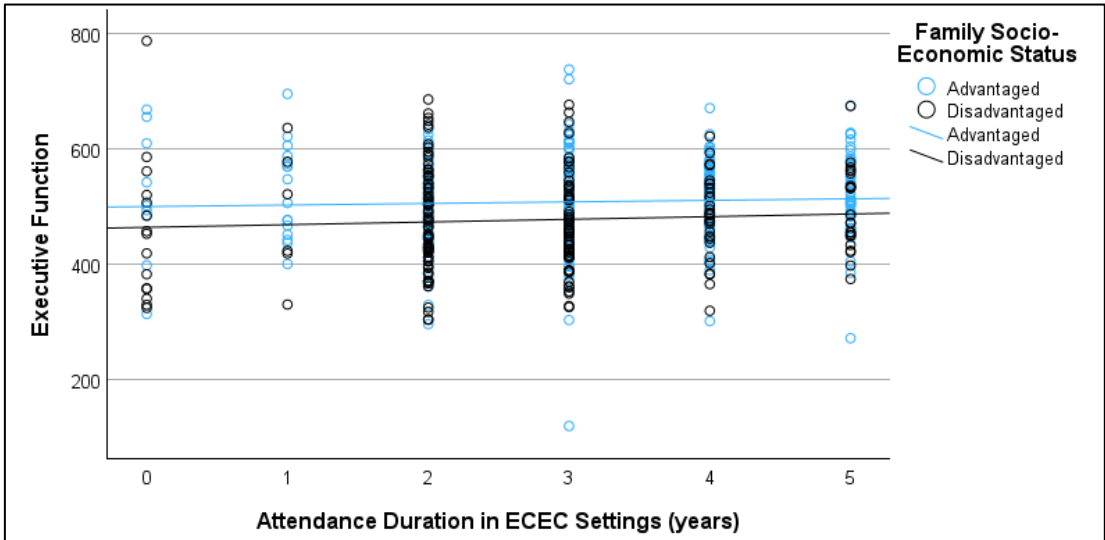
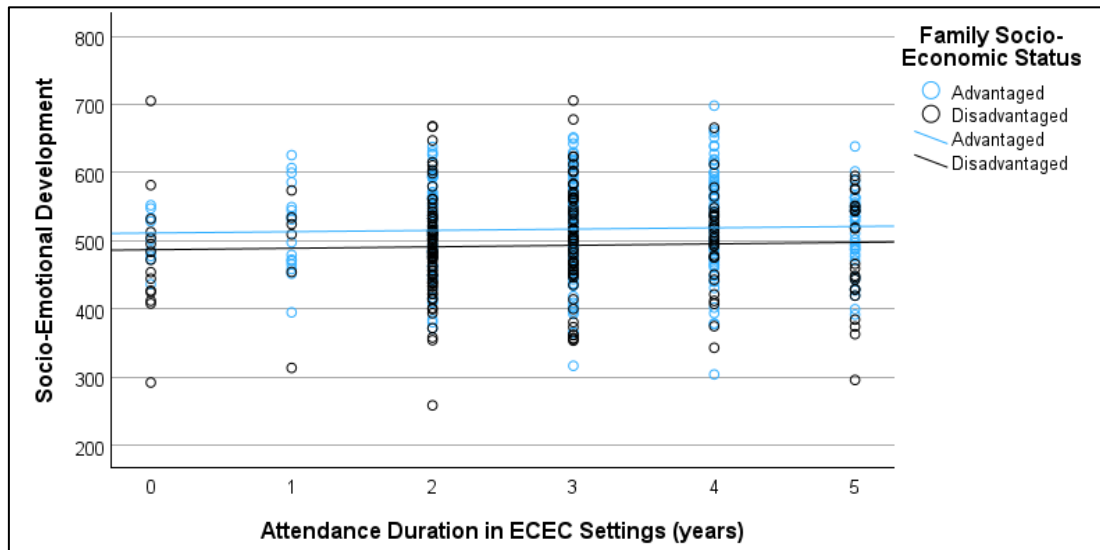


Figure 5.10: Relationship between socioemotional growth and attendance duration in ECEC, by family SES



Across countries and jurisdictions, the relationships between early learning outcomes and attendance duration in ECEC are mostly weak and non-statistically significant. However, relevant insights on the question of whether ECEC mitigates or reinforces gaps in children's outcomes may be derived from the sign that the difference in this association takes in specific jurisdictions, and which is consistent with differential patterns of participation in ECEC between advantaged and disadvantaged children. Figures 5.11 to 5.12 clearly show that for emergent literacy and emergent numeracy the regression line for socioeconomically disadvantaged Maltese 5-year-olds has a positive gradient, while the regression line for socioeconomically advantaged children has a negative gradient. Similar trends occurred in England, the Belgian Flemish community, Korea, and the United Arab Emirates, where gains in foundational learning domains from an additional year of ECEC are weaker for socioeconomically advantaged children than their disadvantaged peers. Conversely, gains appear larger for advantaged children in the Netherlands, Baku and Sumgait, and Ceara, Para and Sao Paulo.

Figure 5.11: Relationship between emergent literacy and attendance duration in ECEC, by family SES

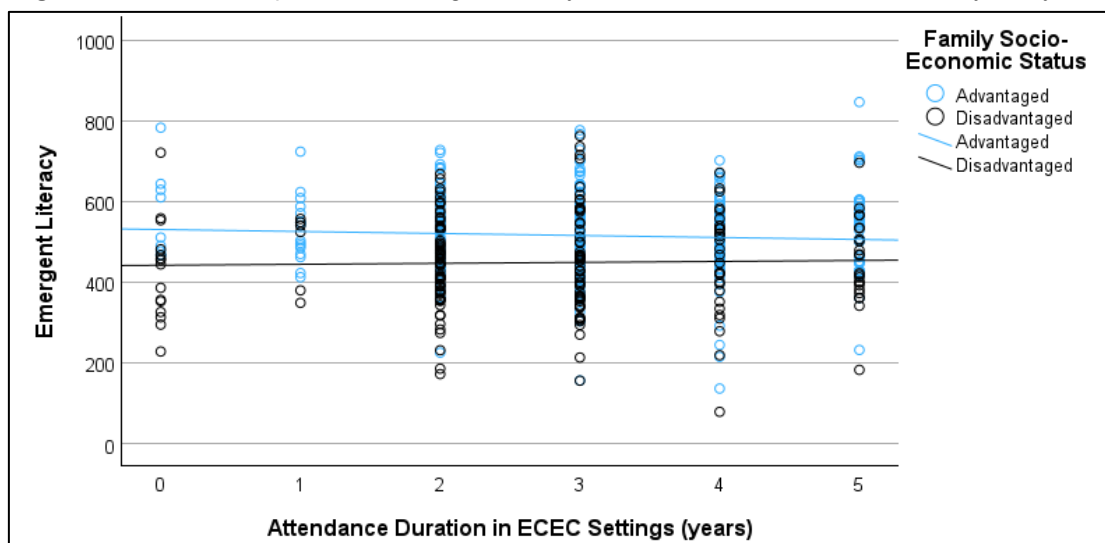
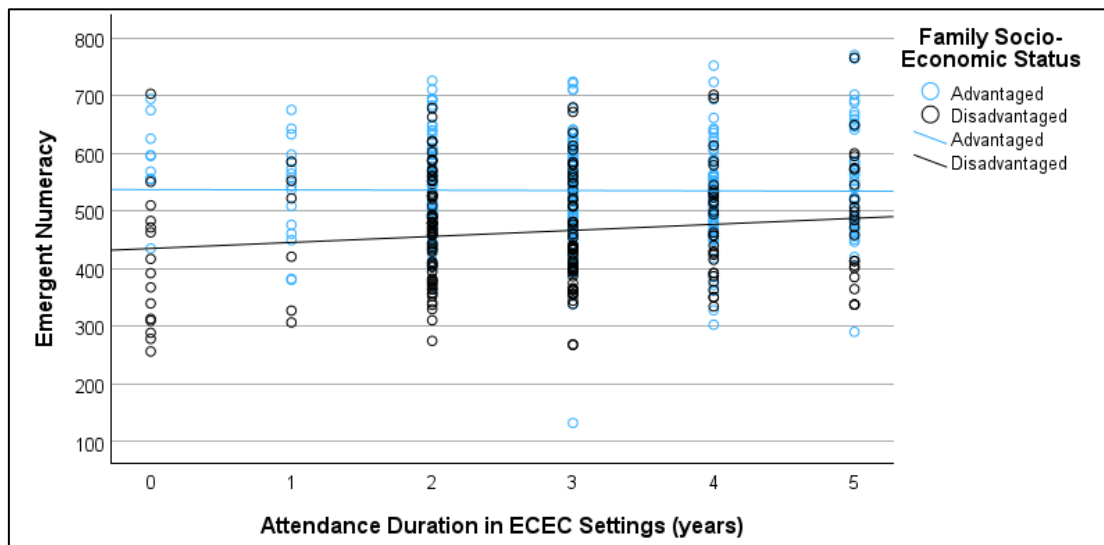


Figure 5.12: Relationship between emergent numeracy and attendance duration in ECEC, by family SES

Despite weakness in terms of statistical significance, overall this would suggest that ECEC may be mitigating inequalities in foundational learning outcomes in jurisdictions where socioeconomically disadvantaged children begin to participate earlier or at the same time as advantaged peers (Baku and Sumgait, and the Netherlands), while, on the contrary, it may be contributing to socioeconomic gaps in those outcomes in jurisdictions where it is advantaged children who start attending at earlier ages and with more intensity than disadvantaged peers (England, the Belgian Flemish Community, Korea, Malta, and the United Arab Emirates). Indeed, the lack of statistical significance of these results precludes unambiguous interpretations about the potential differential impacts of the length of participation in ECEC for diverse groups of children. Further analysis with larger samples and more detailed information on the quality of the different types of ECEC settings that children attend would be needed to corroborate these findings.

5.5 Support for children experiencing early challenges

Globally, the population of young children participating in ECEC is becoming increasingly diverse. This trend is driven by both the expansion and improved accessibility of ECEC services, alongside rising international migration and forced displacement. Equity ensures that all 5-year-olds have similar opportunities to succeed, while inclusion focuses on modifying educational systems to fit individual needs, rather than force children to adapt to existing school structures, particularly those facing challenges. In addition to expanding access to ECEC, fostering inclusive learning and development involves implementing targeted support systems. These approaches tailor assistance to the unique requirements of individual children or provide specialised support to the ECEC settings themselves.

Effective early childhood policies often merge general education and care services with specialised support for children with specific needs. In 12 out of the 15 ECEC systems participating in the TALIS Starting Strong 2024 survey at the pre-primary level, and in 5 out of 8 systems at the level of settings for children under age 3, over 66% of setting leaders reported that children with special learning needs were enrolled in their settings. Background information provided by the jurisdictions participating in IELS 2025 verifies that policy mandates require young children with special education needs to be integrated into mainstream ECEC environments. Consequently, these settings are required to modify

their approaches, offering enhanced pedagogical support, specialised programs, and collaborating with expert services.

IELS 2025 asked parents on whether their child had ever experienced a number of issues or difficulties, which are conceptualised as risk factors negatively associated with children's early learning and development. These include whether their child was premature or had a low birthweight; hearing or vision difficulties (that cannot be corrected by a hearing aid or glasses); mobility difficulties; learning difficulties (e.g. speech or language delay, intellectual disability); or social, emotional, or behavioural difficulties. In addition, IELS 2025 asked the ECEC staff who know the child best to provide information about different types of additional supports or services that the child has received. These included speech therapy, physiotherapy or occupational therapy, psychological or behavioural management support, learning support, and support with the language of assessment as the child's second language. These supports are likely to be provided through or at least in coordination with the ECEC centre attended by the child.

This section combines parental and ECEC staff reports to describe the prevalence of different types of early difficulties and the provision of special supports among children in IELS 2025. Additionally, it examines support with the language of assessment among children primarily speaking another language at home. Overall, this lens aligns with a shift from disability-focused special education to inclusive early education approaches that no longer require clinical labels or formal diagnoses to provide targeted support to young children.

Table 5.17: Percentage of 5-year-olds with early developmental and learning difficulties

Country/jurisdiction	Child experienced low birth weight	Child experienced hearing difficulty	Child experienced vision difficulty	Child experienced mobility difficulty	Child experienced learning difficulty	Child experienced SEBD difficulties
Baku, Sumgait (Azerbaijan)	10.1%	0.3%	1.9%	0.8%	7.7%	5.5%
Ceara, Para, Sao Paulo (Brazil)	12.0%	1.1%	1.0%	1.4%	17.9%	20.1%
England (United Kingdom)	7.6%	1.5%	2.7%	1.6%	10.2%	14.4%
Flemish Community (Belgium)	10.0%	1.2%	1.6%	1.7%	10.6%	10.3%
Korea	9.2%	0.0%	0.4%	0.1%	5.4%	1.3%
Malta	8.9%	0.7%	2.0%	1.1%	17.4%	14.8%
Netherlands	9.7%	1.6%	0.9%	1.7%	6.0%	4.3%
United Arab Emirates	8.1%	0.8%	1.4%	0.3%	5.3%	4.5%
Abu Dhabi (United Arab Emirates)	8.0%	0.6%	1.5%	0.2%	5.4%	4.5%

Table 5.17 shows that 17.4% of Maltese 5-year-olds are reported by their parents to have experienced learning difficulties; 14.8% have experienced social, emotional, or behavioural difficulties; 8.9% have been born prematurely or with a low birth weight; 2.0% have experienced vision difficulties; 1.1% have experienced mobility difficulties; and 0.7% have experienced hearing difficulties by the time of assessment. The IELS 2025 averages are 10.1%, 9.4%, 9.4%, 1.5%, 1.1%, and 0.9% respectively. While the prevalence of premature and low-weight births is remarkably similar across jurisdictions, there are large differences in the frequency of early learning and early social, emotional, or behavioural problems. For instance, about three times as many children are reported to have experienced early learning difficulties in Ceara, Para and Sao Paulo, and Malta compared to Korea, the Netherlands, and

the United Arab Emirates. This suggests that cultural values and institutions influence the understandings and definitions that parents use to characterise these experiences in different jurisdictions.

Table 5.18: Percentage of 5-year-olds with early developmental and learning difficulties, by family SES

Country/jurisdiction	Child experienced low birth weight		Child experienced learning difficulty		Child experienced SEBD difficulties		Speaks a language at home different from assessment language	
	Advantaged children	Disadvantaged children	Advantaged children	Disadvantaged children	Advantaged children	Disadvantaged children	Advantaged children	Disadvantaged children
Baku, Sumgait	10.0%	10.2%	6.3%	9.9%	4.7%	7.7%	26.5%	5.3%
Ceara, Para, Sao Paulo	10.3%	14.1%	13.9%	22.4%	17.5%	24.4%	0.6%	0.7%
England	8.2%	11.8%	6.1%	15.2%	8.6%	24.7%	9.7%	10.4%
Flemish Community	8.3%	9.6%	4.7%	20.0%	5.4%	18.2%	8.5%	28.7%
Korea	8.8%	9.7%	3.4%	7.3%	0.8%	1.7%	0.3%	0.3%
Malta	7.3%	12.2%	16.9%	18.7%	11.5%	19.5%	40.9%	74.6%
Netherlands	8.4%	12.5%	2.2%	9.2%	2.1%	5.9%	8.1%	19.8%
United Arab Emirates	7.6%	9.8%	5.0%	5.7%	4.5%	4.0%	36.4%	22.0%
Abu Dhabi (UAE)	8.0%	10.4%	4.5%	5.0%	4.8%	2.5%	39.6%	22.1%

The prevalence of these difficulties, as reported by parents, varies significantly by the family's socioeconomic background. Table 5.18 shows that on average across jurisdictions, the percentage of children from disadvantaged families reported to have experienced early learning or social, emotional, and behavioural difficulties is twice as large than among children from advantaged backgrounds, with these differences being more pronounced in England and the Belgian Flemish Community. Moreover, in many countries including Malta, the percentage of children speaking a different language at home is also higher among socioeconomically disadvantaged children, although in Baku and Sumgait and the United Arab Emirates the reverse pattern holds. Overall, results indicate that children from low socioeconomic backgrounds are also more likely to experience other risk factors that compound their level of disadvantage towards achieving strong early learning and development outcomes.

Table 5.19: Percentage of 5-year-olds with difficulties receiving additional support

Country/jurisdiction	Child was supported by speech therapy	Child was supported by physiotherapy	Child was supported psychologically	Child was supported in learning	Child was supported in assessment language	Child was given other support
Baku, Sumgait (Azerbaijan)	7.0%	3.1%	5.5%	45.6%	12.5%	49.6%
Ceara, Para, Sao Paulo (Brazil)	5.0%	3.6%	7.3%	4.3%	1.1%	11.8%
England (United Kingdom)	12.2%	2.0%	5.5%	29.2%	6.5%	35.1%
Flemish Community (Belgium)	13.8%	4.2%	5.5%	31.3%	13.0%	41.2%
Korea	6.4%	1.1%	3.6%	11.9%	5.5%	19.4%
Malta	15.7%	6.7%	7.6%	8.6%	5.2%	21.5%
Netherlands	17.5%	4.4%	3.8%	9.3%	9.7%	27.2%
United Arab Emirates	5.2%	2.0%	4.2%	13.7%	12.1%	18.0%
Abu Dhabi (United Arab Emirates)	3.5%	1.3%	2.8%	16.5%	14.7%	19.4%

Table 5.20: Percentage of 5-year-olds with difficulties receiving support, by family SES

Country/jurisdiction	Speech therapy		Physiotherapy		Psychological support		Learning support		Support in assessment language		Other support	
	Advantaged	Disadvantaged	Advantaged	Disadvantaged	Advantaged	Disadvantaged	Advantaged	Disadvantaged	Advantaged	Disadvantaged	Advantaged	Disadvantaged
Baku, Sumgait	6.7	4.8	3.0	3.4	4.6	5.5	48.5	44.1	21.5	6.8	51.8	46.4
Ceara, Para, Sao Paulo	5.6	5.6	3.6	3.8	7.1	7.4	2.4	4.4	2.3	0.4	12.1	11.7
England	11.2	16.3	1.2	3.3	3.4	6.6	25.1	36.4	6.7	7.1	31.3	41.2
Flemish Community	10.8	13.7	3.2	5.0	4.7	8.6	16.0	48.0	5.3	21.6	27.1	56.1
Korea	3.5	9.6	0.9	0.9	3.5	3.1	15.4	10.8	8.1	4.1	21.1	20.6
Malta	12.6	17.3	5.6	4.9	7.1	9.1	7.4	8.8	4.0	5.7	19.2	23.1
Netherlands	14.1	21.5	4.6	4.1	3.0	3.2	3.9	15.4	7.5	13.4	21.0	34.5
United Arab Emirates	5.5	5.1	1.8	2.9	4.3	3.8	12.4	15.1	12.2	11.9	17.4	18.9
Abu Dhabi	3.8	2.3	1.5	1.5	1.8	2.1	16.7	23.0	15.5	14.1	19.0	25.5

Different types of additional supports to sustain early learning and development were provided to children in IELS 2025. Table 5.19 shows that 15.7% of Maltese 5-year-olds have received speech therapy, 8.6% have received support in learning, 7.6% have received psychological support, 6.7% have received physiotherapy, 5.2% have received support in the assessment language (Maltese or English), and 21.5% have received other types of special support. Across jurisdictions, the most frequent of these is targeted learning support, where more than 29% of children in Baku and Sumgait, England, and the Belgian Flemish community are reported to have received this support. On average, 28.0% of the children in the study received some type of special support other than with the language of assessment.

Table 5.20 shows that in most jurisdictions, children who are reported to have experienced early learning or early social, emotional, or behavioural difficulties are much more likely to also have received additional supports to address these difficulties. Similarly, children primarily speaking a different language at home are generally much more likely to have received additional support with the language of instruction in their ECEC centres. Overall, results suggest an adequate targeting of these supports to the children exposed to a greater number of risk factors.

Table 5.21: Relationship between early learning and development outcomes and child support

Country/jurisdiction	Foundational learning		Executive function		Socioemotional development	
	Supported	Not supported	Supported	Not supported	Supported	Not supported
Baku, Sumgait (Azerbaijan)	503.1	498.2	495.5	498.5	496.3	506.5
Ceara, Para, Sao Paulo (Brazil)	446.3	484.7	444.0	468.0	448.6	485.3
England (United Kingdom)	498.4	536.4	484.5	505.8	474.2	526.9
Flemish Community (Belgium)	452.3	503.0	474.0	513.8	465.6	516.7
Korea	533.7	548.0	550.7	566.4	482.7	505.8
Malta	458.6	503.1	464.3	504.0	460.3	519.1
Netherlands	468.5	508.1	471.0	491.3	482.6	505.7
United Arab Emirates	473.3	494.3	484.8	502.8	478.9	512.7
Abu Dhabi (United Arab Emirates)	445.1	479.2	463.2	486.0	478.2	503.8

Table 5.22: Relationship between foundational learning outcomes and child support

Country/jurisdiction	Emergent literacy		Emergent numeracy	
	Supported	Not supported	Supported	Not supported
Baku, Sumgait (Azerbaijan)	484.1	479.6	522.2	516.8
Ceara, Para, Sao Paulo (Brazil)	469.8	509.5	422.8	459.9
England (United Kingdom)	505.7	548.1	491.1	524.8
Flemish Community (Belgium)	451.3	503.6	453.2	502.4
Korea	532.7	546.3	534.6	549.8
Malta	438.4	492.9	478.8	513.3
Netherlands	471.2	513.6	465.8	502.7
United Arab Emirates	467.8	491.6	478.7	496.9
Abu Dhabi (United Arab Emirates)	434.3	466.4	455.9	492.1

Tables 5.21 to 5.24 show that children having received additional supports have significantly lower average scores in the 10 domains of early learning and development assessed in IELS 2025 as compared to children not having received such supports, in virtually all cases and jurisdictions. This is an expected result given that supports target children who more often experience early learning and social, emotional, or behavioural difficulties, and more often come from disadvantaged backgrounds.

Table 5.23: Relationship between executive function outcomes and child support

Country/jurisdiction	Inhibition		Working memory		Mental flexibility	
	Supported	Not supported	Supported	Not supported	Supported	Not supported
Baku, Sumgait (Azerbaijan)	498.5	505.4	488.1	491.4	499.8	498.7
Ceara, Para, Sao Paulo (Brazil)	436.5	456.9	435.6	472.7	459.9	474.2
England (United Kingdom)	478.1	496.5	486.3	510.1	489.1	510.8
Flemish Community (Belgium)	480.8	505.3	473.8	519.9	467.2	516.2
Korea	569.5	578.2	550.1	571.6	532.6	549.3
Malta	467.7	493.5	466.2	507.2	458.9	511.3
Netherlands	474.8	490.2	458.3	488.3	479.8	495.3
United Arab Emirates	489.4	505.7	485.1	499.8	479.8	502.8
Abu Dhabi (United Arab Emirates)	466.6	483.6	460.0	484.9	463.0	489.7

Table 5.24: Relationship between socioemotional development outcomes and child support

Country/jurisdiction	Emotional identification		Emotional attribution		Trust		Prosocial behaviour		Non-disruptive behaviour	
	Supported	Not supported	Supported	Not supported	Supported	Not supported	Supported	Not supported	Supported	Not supported
Baku, Sumgait	493.6	508.3	491.8	510.3	491.0	496.2	498.9	501.5	506.4	516.3
Ceara, Para, Sao Paulo	457.7	500.3	479.5	502.9	428.0	470.1	432.6	490.8	445.3	462.6
England	475.1	517.6	499.5	510.9	468.1	542.7	446.4	521.1	482.0	542.4
Flemish Community	495.1	554.3	487.0	520.9	449.2	511.6	447.4	514.0	449.1	482.9
Korea	474.6	479.9	499.7	508.8	469.6	500.5	477.8	509.9	491.7	529.6
Malta	469.7	524.1	440.8	494.5	473.4	524.4	451.7	535.4	466.0	517.2

Netherlands	483.3	509.8	493.5	510.9	495.9	520.4	462.6	490.8	477.5	496.7
United Arab Emirates	482.0	511.6	469.6	500.3	482.4	515.4	482.1	523.6	478.4	512.7
Abu Dhabi	456.7	490.5	439.9	480.1	497.4	517.0	506.0	523.3	490.9	508.2

High-quality early childhood education and special care is a critical support for vulnerable infants, offering significant long-term developmental, academic, and health advantages. More importantly, the same comparison, restricted to the group of children reported to have experienced early difficulties, shows that the scores of children having received additional supports are also lower than those of children not having received these supports. Table 5.25 shows that the same result applies to the provision of support with the language of assessment among children with a different home language with regard to early literacy and numeracy outcomes. However, this is not the case for Maltese 5-year-olds. This result has to be interpreted with caution since the language of assessment was not the same for all children (either English or Maltese). Indeed, most of the 60.9% of Maltese 5-year-olds whose language of assessment was English did not require support during the assessment, despite their home language being Maltese. Although IELS 2025 data does not allow to distinguish the severity of different types of early difficulties or challenges with the language of assessment, these findings likely reflect selection effects by which these additional supports are provided to the children experiencing the greater challenges.

Table 5.25: Relationship between foundational learning outcomes and child support in language of assessment

Country/jurisdiction	Emergent literacy		Emergent numeracy		Foundational learning	
	Yes	No	Yes	No	Yes	No
Baku, Sumgait (Azerbaijan)	513.8	477.7	552.8	515.0	533.3	496.3
Ceara, Para, Sao Paulo (Brazil)	/	505.9	/	457.0	/	481.4
England (United Kingdom)	490.9	536.6	473.8	515.3	482.3	525.9
Flemish Community (Belgium)	404.9	493.7	422.1	491.2	413.5	492.5
Korea	560.5	543.4	574.7	546.0	567.6	544.7
Malta	486.2	482.0	501.0	506.8	493.6	494.4
Netherlands	449.1	508.2	452.4	497.5	450.8	502.9
United Arab Emirates	477.1	489.4	491.3	494.9	484.2	492.1
Abu Dhabi (United Arab Emirates)	439.9	463.9	463.2	489.2	451.5	476.6

Figure 5.13: Relationship between foundational learning and family SES, by prior supervision and care attendance

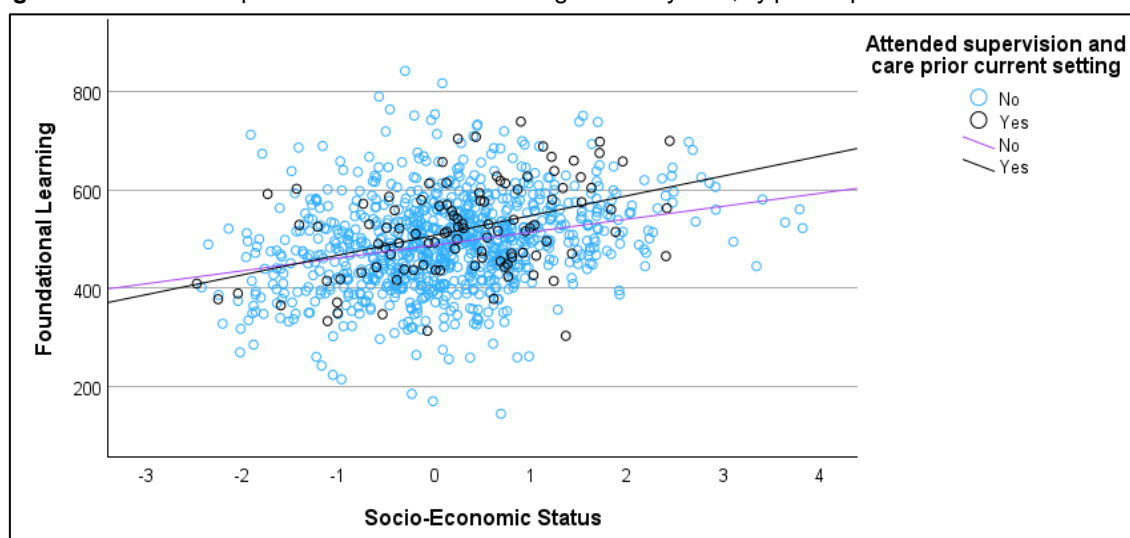


Figure 5.14: Relationship between executive function and family SES, by prior supervision and care attendance

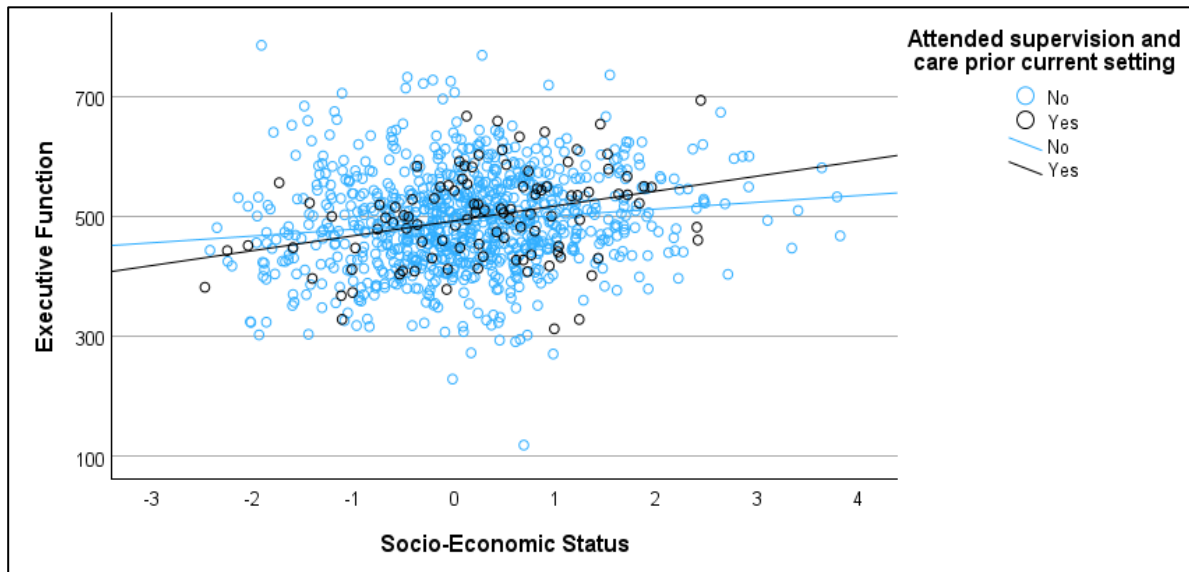
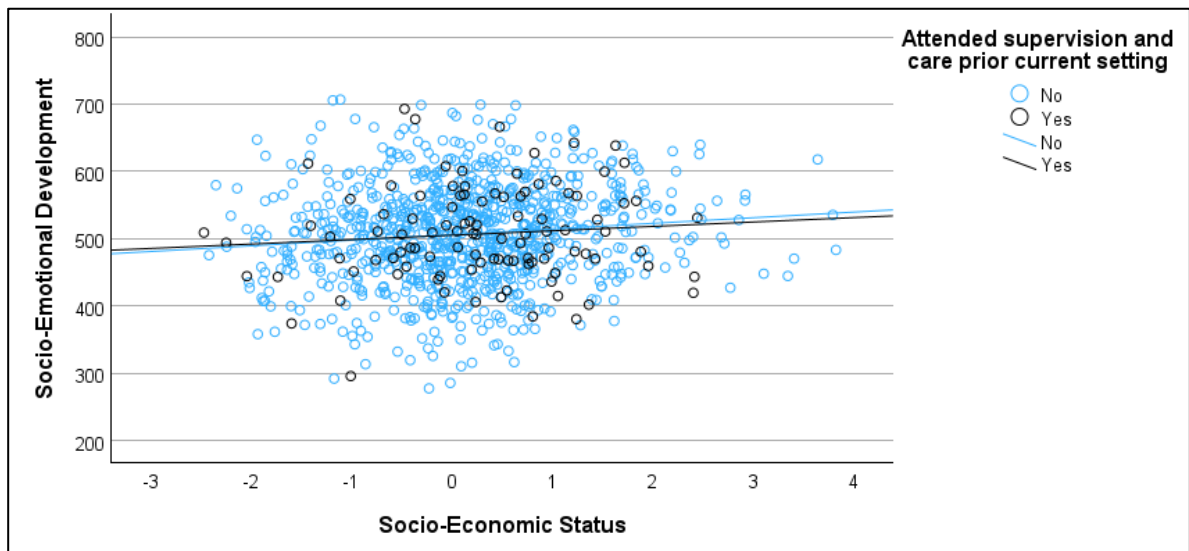


Figure 5.15: Relationship between socioemotional growth and family SES, by prior supervision and care attendance



Figures 5.13 to 5.15 display positive and significant relationships between the three dimensions of early learning and development of Maltese 5-year-olds and family socioeconomic status and this applies to all children, regardless of whether they received prior supervision and care.

APPENDIX

A. Teacher/Staff Questionnaire

Are you?	Frequency	Percentage
Female	220	99.1%
Male	2	0.9%

How old are you?	Frequency	Percentage
20-24	10	4.6%
25-29	55	24.8%
30-39	79	35.6%
40-49	51	23.0%
50-59	23	10.4%
60 years or older	4	1.8%

What is the highest level of formal education?	Frequency	Percentage
ISCED level 7 – Master's or equivalent level	64	28.8%
ISCED level 6 - Bachelor's or equivalent level	134	60.4%
ISCED level 5 - Short-cycle tertiary education	18	8.1%
ISCED level 4 - Post-secondary, non-tertiary	2	0.9%
ISCED level 3 - Upper secondary education	4	1.8%

Which of the following types of educational specialisations have you attained?	Frequency	Percentage
Childcare or long day care	127	74.3%
Preschool	80	58.4%
Primary school	165	88.7%
Special education	13	12.5%
Other education specialisation	33	28.9%

How many years of experience do you have as a teacher/educator in total?	Frequency	Percentage
Fewer than 2 years	10	4.9%
2 to 5 years	34	16.5%
6 to 10 years	57	27.7%
11 to 20 years	59	28.6%
More than 20 years	46	22.3%

How many years of experience do you have as a teacher/educator at this school?	Frequency	Percentage
Fewer than 2 years	31	15.5%
2 to 5 years	52	26.0%
6 to 10 years	52	26.0%
11 to 20 years	39	19.5%
More than 20 years	26	13.0%

What is your current employment status as a teacher/educator?	Frequency	Percentage
Part-time (less than 90% of full-time hours)	0	0.0%
Full-time (more than 90% of full-time hours)	222	100.0%

How long have you known this child?	Frequency	Percentage
Less than 1 month	9	0.6%
At least 1 month but less than 3 months	35	2.3%
At least 3 months but less than 6 months	1284	85.7%
At least 6 months but less than 1 year	165	11.0%
1 year or less	6	0.4%

In your opinion, how involved are this child's parents?	Frequency	Percentage
Strongly involved	719	48.0%
Moderately involved	476	31.8%
Slightly involved	211	14.1%
Not involved at all	44	2.9%
I do not know enough to make a judgement	47	3.1%

To your knowledge, does the child receive any of the following supports?	Yes	No
Speech therapy	15.7%	84.3%
Physiotherapy	6.7%	93.3%
Psychological support	7.6%	92.4%
Learning support	8.6%	91.4%
Support in assessment language	5.2%	94.8%

To your knowledge, is the child able to do the following?	Yes	No	Not Sure
Draw inferences	70.1%	17.0%	12.9%
Speak using multiple sentences	77.3%	19.4%	3.4%
Recognise the sounds	49.7%	23.1%	27.2%
Sort a group of objects	95.1%	2.5%	2.4%
Identify at least three different shapes	93.2%	3.1%	3.7%
Count to 20	82.8%	11.3%	6.5%
Count in multiples	14.4%	51.1%	34.5%
Recognise numbers up to 20	74.4%	12.9%	12.7%
Do simple addition using objects	86.3%	5.9%	7.8%

How is this child developing in social skills?	Frequency	Percentage
Much less than average	64	4.3%
Somewhat less than average	195	13.1%
Average	647	43.3%
Somewhat more than average	345	23.1%
Much more than average	242	16.2%

How is this child developing in mood and emotion control?	Frequency	Percentage
Much less than average	68	4.6%
Somewhat less than average	197	13.2%
Average	676	45.3%
Somewhat more than average	328	22.0%
Much more than average	224	15.0%

Appendix

How is this child developing in trust?	Frequency	Percentage
Much less than average	33	2.2%
Somewhat less than average	138	9.2%
Average	752	50.4%
Somewhat more than average	323	21.6%
Much more than average	246	16.5%

How is this child developing in empathy?	Frequency	Percentage
Much less than average	41	2.8%
Somewhat less than average	154	10.3%
Average	675	45.3%
Somewhat more than average	356	23.9%
Much more than average	263	17.7%

How is this child developing in positive social behaviour?	Frequency	Percentage
Much less than average	43	2.9%
Somewhat less than average	126	8.5%
Average	637	42.8%
Somewhat more than average	378	25.4%
Much more than average	305	20.5%

How is this child developing in self-control?	Frequency	Percentage
Much less than average	119	8.0%
Somewhat less than average	306	20.5%
Average	542	36.4%
Somewhat more than average	291	19.5%
Much more than average	232	15.6%

How is this child developing in peer relationships?	Frequency	Percentage
Much less than average	49	3.3%
Somewhat less than average	115	7.7%
Average	660	44.3%
Somewhat more than average	372	24.9%
Much more than average	295	19.8%

How is this child developing in gross motor skills?	Frequency	Percentage
Much less than average	45	3.0%
Somewhat less than average	99	6.6%
Average	721	48.3%
Somewhat more than average	330	22.1%
Much more than average	297	19.9%

How is this child developing in fine motor skills?	Frequency	Percentage
Much less than average	43	2.9%
Somewhat less than average	125	8.4%
Average	662	44.5%
Somewhat more than average	335	22.5%
Much more than average	323	21.7%

How is this child developing in expressive language skills?	Frequency	Percentage
Much less than average	101	6.8%
Somewhat less than average	237	15.9%
Average	536	36.0%
Somewhat more than average	328	22.0%
Much more than average	288	19.3%

How is this child developing in receptive language skills?	Frequency	Percentage
Much less than average	70	4.7%
Somewhat less than average	210	14.1%
Average	600	40.2%
Somewhat more than average	324	21.7%
Much more than average	287	19.2%

How is this child developing in numeracy skills?	Frequency	Percentage
Much less than average	38	2.5%
Somewhat less than average	137	9.2%
Average	601	40.3%
Somewhat more than average	364	24.4%
Much more than average	352	23.6%

How often does this child understand others' feelings?	Frequency	Percentage
Never	15	1.0%
Rarely	52	3.5%
Sometimes	315	21.1%
Often	662	44.4%
Always	447	30.0%

How often is this child helpful to other children?	Frequency	Percentage
Never	28	1.9%
Rarely	79	5.3%
Sometimes	307	20.7%
Often	619	41.7%
Always	453	30.5%

Appendix

How often is this child emotionally moved?	Frequency	Percentage
Never	69	4.6%
Rarely	236	15.9%
Sometimes	518	34.9%
Often	436	29.3%
Always	227	15.3%

How often does this child dislike it when asked questions?	Frequency	Percentage
Never	460	30.9%
Rarely	513	34.4%
Sometimes	354	23.8%
Often	132	8.9%
Always	31	2.1%

How often does this child prevent other children doing their own activities?	Frequency	Percentage
Never	745	50.0%
Rarely	442	29.7%
Sometimes	228	15.3%
Often	62	4.2%
Always	12	0.8%

How often does this child get upset when you don't give much attention?	Frequency	Percentage
Never	612	41.1%
Rarely	481	32.3%
Sometimes	254	17.1%
Often	105	7.1%
Always	37	2.5%

How often does this child try to comfort others?	Frequency	Percentage
Never	72	4.8%
Rarely	195	13.1%
Sometimes	542	36.3%
Often	448	30.0%
Always	235	15.8%

How often does this child approach familiar adults?	Frequency	Percentage
Never	44	3.0%
Rarely	155	10.4%
Sometimes	450	30.2%
Often	536	36.0%
Always	304	20.4%

How often is this child confident around adults?	Frequency	Percentage
Never	20	1.3%
Rarely	126	8.5%
Sometimes	385	25.8%
Often	592	39.7%
Always	367	24.6%

How often is this child curious?	Frequency	Percentage
Never	28	1.9%
Rarely	111	7.5%
Sometimes	381	25.6%
Often	508	34.1%
Always	460	30.9%

How often does this child consider other people's feelings?	Frequency	Percentage
Never	51	3.4%
Rarely	133	8.9%
Sometimes	481	32.3%
Often	512	34.4%
Always	312	21.0%

How often does this child say nice or friendly things to other children?	Frequency	Percentage
Never	55	3.7%
Rarely	140	9.4%
Sometimes	458	30.8%
Often	510	34.3%
Always	326	21.9%

How often does this child join in with other children playing?	Frequency	Percentage
Never	31	2.1%
Rarely	70	4.7%
Sometimes	230	15.5%
Often	625	42.1%
Always	530	35.7%

How often is this child unaware of other people's emotions?	Frequency	Percentage
Never	500	33.6%
Rarely	526	35.3%
Sometimes	319	21.4%
Often	112	7.5%
Always	31	2.1%

Appendix

How often is this child friendly towards others?	Frequency	Percentage
Never	14	0.9%
Rarely	48	3.2%
Sometimes	246	16.6%
Often	663	44.7%
Always	511	34.5%

How often does this child require reassurance from adults?	Frequency	Percentage
Never	102	6.9%
Rarely	313	21.0%
Sometimes	573	38.5%
Often	338	22.7%
Always	161	10.8%

How often is this child hesitant when making requests?	Frequency	Percentage
Never	232	15.6%
Rarely	451	30.3%
Sometimes	512	34.5%
Often	223	15.0%
Always	68	4.6%

How often does this child greet unfamiliar children friendly?	Frequency	Percentage
Never	102	6.9%
Rarely	213	14.4%
Sometimes	509	34.3%
Often	446	30.1%
Always	213	14.4%

How often does this child tease other children?	Frequency	Percentage
Never	712	47.8%
Rarely	358	24.0%
Sometimes	276	18.5%
Often	119	8.0%
Always	24	1.6%

How often is this child confident with other children?	Frequency	Percentage
Never	19	1.3%
Rarely	72	4.8%
Sometimes	369	24.8%
Often	622	41.9%
Always	403	27.1%

How often does this child fight with other children?	Frequency	Percentage
Never	652	43.9%
Rarely	442	29.8%
Sometimes	280	18.9%
Often	93	6.3%
Always	18	1.2%

How often is this child interested in many different things?	Frequency	Percentage
Never	29	2.0%
Rarely	137	9.2%
Sometimes	441	29.7%
Often	444	29.9%
Always	435	29.3%

How often is this child not easily reassured if anxious?	Frequency	Percentage
Never	383	25.8%
Rarely	516	34.8%
Sometimes	379	25.6%
Often	148	10.0%
Always	57	3.8%

How often does this child respond positively to others' happiness?	Frequency	Percentage
Never	21	1.4%
Rarely	75	5.0%
Sometimes	388	26.0%
Often	576	38.6%
Always	431	28.9%

How often does this child like to learn new things?	Frequency	Percentage
Never	16	1.1%
Rarely	89	6.0%
Sometimes	343	23.1%
Often	495	33.3%
Always	542	36.5%

How often does this child openly approaches familiar adults when needs help?	Frequency	Percentage
Never	32	2.2%
Rarely	107	7.2%
Sometimes	418	28.1%
Often	546	36.7%
Always	385	25.9%

Appendix

How often is this child initially cautious with unfamiliar adults?	Frequency	Percentage
Never	118	7.9%
Rarely	345	23.2%
Sometimes	642	43.2%
Often	278	18.7%
Always	104	7.0%

How often is this child unresponsive to people feeling sad?	Frequency	Percentage
Never	576	38.7%
Rarely	524	35.2%
Sometimes	272	18.3%
Often	85	5.7%
Always	30	2.0%

B. Parent Questionnaire

Child's gender	Frequency	Percentage
Female	537	47.9%
Male	585	52.1%

Child's year of birth	Frequency	Percentage
2019	1121	100.0%
2020	0	0.0%

How often does your child use a digital device?	Frequency	Percentage
Never or hardly ever	43	3.8%
At least once a month but not every week	67	6.0%
At least once a week but not every day	273	24.3%
Everyday	740	65.9%

Has your child ever experienced:	Frequency	Percentage
Low birth weight	98	8.9%
Hearing difficulties	7	0.7%
Vision difficulties	22	2.0%
Mobility difficulties	12	1.1%
Learning difficulties	191	17.4%
Social, emotional and/or behavioural difficulties	163	14.8%

How is your child developing in social skills?	Frequency	Percentage
Much less than average	24	2.2%
Somewhat less than average	60	5.4%
Average	448	40.3%
Somewhat more than average	399	35.9%
Much more than average	180	16.2%

How is your child developing in mood and emotion control?	Frequency	Percentage
Much less than average	31	2.8%
Somewhat less than average	144	13.0%
Average	611	55.1%
Somewhat more than average	243	21.9%
Much more than average	80	7.2%

How is your child developing in trust?	Frequency	Percentage
Much less than average	26	2.3%
Somewhat less than average	72	6.5%
Average	525	47.4%
Somewhat more than average	342	30.9%
Much more than average	143	12.9%

Appendix

How is your child developing in empathy?	Frequency	Percentage
Much less than average	25	2.3%
Somewhat less than average	41	3.7%
Average	352	31.8%
Somewhat more than average	384	34.7%
Much more than average	304	27.5%

How is your child developing in positive social behaviour?	Frequency	Percentage
Much less than average	20	1.8%
Somewhat less than average	48	4.3%
Average	402	36.3%
Somewhat more than average	392	35.4%
Much more than average	245	22.1%

How is your child developing in self-control?	Frequency	Percentage
Much less than average	40	3.6%
Somewhat less than average	148	13.4%
Average	518	46.8%
Somewhat more than average	289	26.1%
Much more than average	111	10.0%

How is your child developing in peer relationships?	Frequency	Percentage
Much less than average	25	2.3%
Somewhat less than average	65	5.9%
Average	384	34.7%
Somewhat more than average	360	32.5%
Much more than average	274	24.7%

How is your child developing in gross motor skills?	Frequency	Percentage
Much less than average	22	2.0%
Somewhat less than average	40	3.6%
Average	373	33.6%
Somewhat more than average	334	30.1%
Much more than average	340	30.7%

How is your child developing in fine motor skills?	Frequency	Percentage
Much less than average	17	1.5%
Somewhat less than average	46	4.2%
Average	380	34.3%
Somewhat more than average	345	31.1%
Much more than average	320	28.9%

How is your child developing in expressive language skills?	Frequency	Percentage
Much less than average	31	2.8%
Somewhat less than average	67	6.1%
Average	347	31.3%
Somewhat more than average	359	32.4%
Much more than average	303	27.4%

How is your child developing in receptive language skills?	Frequency	Percentage
Much less than average	22	2.0%
Somewhat less than average	49	4.4%
Average	373	33.7%
Somewhat more than average	389	35.2%
Much more than average	273	24.7%

How is your child developing in numeracy skills?	Frequency	Percentage
Much less than average	18	1.6%
Somewhat less than average	37	3.3%
Average	348	31.4%
Somewhat more than average	355	32.0%
Much more than average	350	31.6%

Did your child regularly attend childminders/nannies prior to current school?	Frequency	Percentage
Yes	104	10.5%
No	882	89.5%

Did your child regularly attend early childhood education prior to current school?	Frequency	Percentage
Yes	747	68.2%
No	349	31.8%

Did your child regularly attend kindergarten prior to current school?	Frequency	Percentage
Yes	1034	94.1%
No	65	5.9%

Did your child regularly attend childminders/nannies at the age of 5?	Frequency	Percentage
Yes	61	21.4%
No	224	78.6%

Did your child regularly attend kindergarten at the age of 5?	Frequency	Percentage
Yes	781	72.6%
No	295	27.4%

Did your child regularly attend childminders/nannies at the age of 4?	Frequency	Percentage
Yes	69	25.9%
No	197	74.1%

Appendix

Did your child regularly attend kindergarten at the age of 4?	Frequency	Percentage
Yes	1026	95.4%
No	49	4.6%

Did your child regularly attend childminders/nannies at the age of 3?	Frequency	Percentage
Yes	99	35.6%
No	179	64.4%

Did your child regularly attend kindergarten at the age of 3?	Frequency	Percentage
Yes	975	91.3%
No	93	8.7%

Did your child regularly attend childminders/nannies at the age of 2?	Frequency	Percentage
Yes	95	32.2%
No	200	67.8%

Did your child regularly attend early childhood education at the age of 2?	Frequency	Percentage
Yes	711	86.1%
No	115	13.9%

Did your child regularly attend childminders/nannies at the age of 1?	Frequency	Percentage
Yes	69	22.0%
No	244	78.0%

Did your child regularly attend early childhood education at the age of 1?	Frequency	Percentage
Yes	365	44.5%
No	455	55.5%

Did your child regularly attend childminders/nannies before the age of 1?	Frequency	Percentage
Yes	51	15.8%
No	271	84.2%

Did your child regularly attend early childhood education before the age of 1?	Frequency	Percentage
Yes	151	22.8%
No	511	77.2%

In a typical week, how often is your child cared for by a nanny?	Frequency	Percentage
Not at all	1027	97.0%
1 day	15	1.4%
More than 1 day	17	1.6%

In a typical week, how often is your child cared for by grandparents?	Frequency	Percentage
Not at all	510	47.1%
1 day	275	25.4%
More than 1 day	298	27.5%

In a typical week, how often is your child cared for by other relatives or friends?	Frequency	Percentage
Not at all	913	85.8%
1 day	92	8.6%
More than 1 day	59	5.5%

In a typical week, how often is your child cared for by another childcare service?	Frequency	Percentage
Not at all	912	85.3%
1 day	27	2.5%
More than 1 day	130	12.2%

In a typical week, how often is your child cared for by yourself with other parents?	Frequency	Percentage
Not at all	664	61.7%
1 day	177	16.4%
More than 1 day	235	21.8%

In a typical week, how often did your child attend a Kindergarten this year?	Frequency	Percentage
Did not attend	335	%
Attended less than 15 hours per week	14	%
Attended between 15 and 30 hours per week	289	%
Attended more than 30 hours per week	411	%

In a typical week, how often did your child attend a Kindergarten a year ago?	Frequency	Percentage
Did not attend	58	5.4%
Attended less than 15 hours per week	17	1.6%
Attended between 15 and 30 hours per week	469	44.0%
Attended more than 30 hours per week	521	48.9%

In a typical week, how often did your child attend a Kindergarten two years ago?	Frequency	Percentage
Did not attend	69	6.4%
Attended less than 15 hours per week	35	3.2%
Attended between 15 and 30 hours per week	504	46.7%
Attended more than 30 hours per week	471	43.7%

In a typical week, how often do you read from a book with your child?	Frequency	Percentage
Never	24	2.2%
Less than once a week	103	9.3%
1-2 days in a week	312	28.2%
3-4 days in a week	329	29.7%
5-7 days in a week	338	30.6%

Appendix

In a typical week, how often do you tell a story to your child?	Frequency	Percentage
Never	93	8.4%
Less than once a week	287	26.0%
1-2 days in a week	379	34.3%
3-4 days in a week	237	21.4%
5-7 days in a week	109	9.9%

In a typical week, how often do you draw pictures and paint with your child?	Frequency	Percentage
Never	48	4.4%
Less than once a week	219	19.8%
1-2 days in a week	387	35.1%
3-4 days in a week	302	27.4%
5-7 days in a week	147	13.3%

In a typical week, how often do you have conversation about how your child feels and why your child feels that way?	Frequency	Percentage
Never	16	1.4%
Less than once a week	49	4.4%
1-2 days in a week	162	14.7%
3-4 days in a week	301	27.3%
5-7 days in a week	576	52.2%

In a typical week, how often do you sing songs, poems or nursery rhymes with your child?	Frequency	Percentage
Never	62	5.6%
Less than once a week	139	12.6%
1-2 days in a week	290	26.3%
3-4 days in a week	312	28.3%
5-7 days in a week	301	27.2%

In a typical week, how often do imaginative or pretend play with your child (e.g. playing the role of a chef or a shopkeeper)?	Frequency	Percentage
Never	71	6.4%
Less than once a week	209	19.0%
1-2 days in a week	326	29.5%
3-4 days in a week	312	28.3%
5-7 days in a week	186	16.8%

In a typical week, how often do you play with numbers, counters, measuring, or shapes with your child?	Frequency	Percentage
Never	37	3.3%
Less than once a week	167	15.1%
1-2 days in a week	364	32.9%
3-4 days in a week	337	30.4%
5-7 days in a week	202	18.3%

In a typical week, how often do you do things outside with your child like walking, ball games, swimming or cycling?	Frequency	Percentage
Never	20	1.8%
Less than once a week	177	17.0%
1-2 days in a week	500	45.0%
3-4 days in a week	271	23.6%
5-7 days in a week	139	12.6%

In a typical week, how often do you do activities with your child that help them to learn letters of the alphabet?	Frequency	Percentage
Never	17	1.5%
Less than once a week	103	9.3%
1-2 days in a week	295	26.7%
3-4 days in a week	416	37.7%
5-7 days in a week	274	24.8%

In a typical week, how often do you do activities with your child that help them to learn numbers?	Frequency	Percentage
Never	18	1.6%
Less than once a week	82	7.4%
1-2 days in a week	301	27.3%
3-4 days in a week	416	37.7%
5-7 days in a week	285	25.9%

In a typical week, how often do you do educational activities with your child on a computer, tablet or smartphone?	Frequency	Percentage
Never	153	13.9%
Less than once a week	261	23.7%
1-2 days in a week	303	27.5%
3-4 days in a week	241	21.8%
5-7 days in a week	145	13.1%

In a typical week, how often do you go to the library with your child?	Frequency	Percentage
Never	679	61.6%
Less than once a week	328	29.8%
1-2 days in a week	59	5.4%
3-4 days in a week	26	2.4%
5-7 days in a week	10	0.9%

In a typical week, how often do you take your child to a special or extra-cost activity outside of home?	Frequency	Percentage
Never	246	22.3%
Less than once a week	114	10.3%
1-2 days in a week	493	44.6%
3-4 days in a week	195	17.6%
5-7 days in a week	57	5.2%

Appendix

About how many children's books are there in your home, including from a public library or a school library?	Frequency	Percentage
None	14	1.3%
1 to 10 books	118	10.6%
11 to 25 books	208	18.8%
26 to 50 books	309	27.9%
51 to 100 books	271	24.5%
More than 100 books	188	17.0%

Who is the first parent/guardian in relation to the study child?	Frequency	Percentage
Mother or female guardian	995	90.1%
Father or male guardian	101	9.1%
Grandmother	6	0.5%
Grandfather	1	0.1%
Other (e.g. aunt, uncle)	1	0.1%

Who is the second parent/guardian in relation to the study child?	Frequency	Percentage
Mother or female guardian	122	11.7%
Father or male guardian	897	85.8%
Grandmother	22	2.1%
Grandfather	1	0.1%
Other (e.g. aunt, uncle)	3	0.3%

Who is completing this survey?	Frequency	Percentage
Parent/Guardian 1	1045	79.4%
Parent/Guardian 2	265	20.1%
Other	6	0.5%

How many mothers, including step/foster mothers, live at home with your child?	Frequency	Percentage
None	94	8.6%
One	965	88.8%
Two	9	0.8%
Three or more	19	1.7%

How many fathers, including step/foster fathers, live at home with your child?	Frequency	Percentage
None	123	11.6%
One	921	86.6%
Two	7	0.7%
Three or more	13	1.2%

How many grandparents live at home with your child?	Frequency	Percentage
None	753	86.5%
One	45	5.2%
Two	66	7.6%
Three or more	7	0.8%

How many others (e.g. aunt, uncle, cousin, friend) live at home with your child?	Frequency	Percentage
None	769	87.8%
One	63	7.2%
Two	26	3.0%
Three or more	18	2.1%

Were your child born in Malta?	Frequency	Percentage
Yes	1005	91.3%
No	96	8.7%

Were your second parent/guardian born in Malta?	Frequency	Percentage
Yes	802	74.1%
No	280	25.9%

How many siblings does your child have?	Frequency	Percentage
None	306	27.7%
One	557	50.4%
Two	168	15.2%
Three	47	4.2%
Four	11	1.0%
Three or more	17	1.5%

What is the language most often spoken at home by your child?	Frequency	Percentage
English	476	43.2%
Maltese	626	56.8%

What is the language most often spoken at home by first parent guardian?	Frequency	Percentage
English	134	12.1%
Maltese	970	87.9%

What is the language most often spoken at home by second parent guardian?	Frequency	Percentage
English	118	10.9%
Maltese	960	89.1%

How old is the first parent/guardian?	Frequency	Percentage
23 years or younger	9	0.8%
24-29 years	83	7.5%
30-34 years	273	24.7%
35-39 years	431	38.9%
40-44 years	248	22.4%
45-49 years	49	4.4%
50 years and older	14	1.3%

Appendix

Were your first parent/guardian born in Malta?	Frequency	Percentage
Yes	852	77.5%
No	248	22.5%

How old is the second parent/guardian?	Frequency	Percentage
23 years or younger	7	0.6%
24-29 years	43	4.0%
30-34 years	181	16.7%
35-39 years	391	36.1%
40-44 years	292	27.0%
45-49 years	114	10.5%
50 years and older	54	5.0%

What is the highest level of education completed by first parent/guardian?	Frequency	Percentage
Primary education or less	17	1.5%
Secondary education	244	22.1%
Junior college / Higher secondary / Certificate at MCAST / ITS / sixth form	206	18.7%
Certificate at university / Diploma level	179	16.2%
Bachelor's degree or equivalent	249	22.6%
Master's or Doctoral degree or equivalent	207	18.8%

What is the highest level of education completed by second parent/guardian?	Frequency	Percentage
Primary education or less	28	2.6%
Secondary education	375	34.8%
Junior college / Higher secondary / Certificate at MCAST / ITS / sixth form	223	20.7%
Certificate at university / Diploma level	150	13.9%
Bachelor's degree or equivalent	166	15.4%
Master's or Doctoral degree or equivalent	136	12.6%

Which is the current employment situation of first parent/guardian?	Frequency	Percentage
Not working	141	12.9%
In volunteer work or other non-paid work	41	3.7%
In casual or non-regular work	30	2.7%
In regular part-time work (less than 50% of full-time hours)	96	8.8%
In regular part-time work (between 50% and 90% of full-time hours)	155	14.1%
In regular full-time work	633	57.8%

Which is the current employment situation of second parent/guardian?	Frequency	Percentage
Not working	43	4.1%
In volunteer work or other non-paid work	7	0.7%
In casual or non-regular work	17	1.6%
In regular part-time work (less than 50% of full-time hours)	47	4.5%
In regular part-time work (between 50% and 90% of full-time hours)	29	2.8%
In regular full-time work	910	86.4%

What is your annual household income?	Frequency	Percentage
Less than €8100	43	4.5%
€8100 or more but less than €13400	40	4.1%
€13400 or more but less than €20100	91	9.4%
€20100 or more but less than €28800	118	12.2%
€28800 or more but less than €42700	231	23.9%
€42700 or more	442	45.8%

