

*PARENTING
IN JORDAN:*
**FINDINGS FROM
THE QRF NATIONAL
EARLY CHILDHOOD
SURVEY 2015**



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DISCLAIMER

The views expressed are solely those of the authors and do not represent the views of the Queen Rania Foundation for Education and Development or its affiliations.

METHODOLOGY

A detailed description of the QRF National ECD Survey 2015 methodology is available [here](#).



BPP	Better Parenting Program
CBO	Community-Based Organization
DoS	Department of Statistics
ECCE	Early Childhood Care and Education
ECD	Early Childhood Development
ECED	Early Childhood Education and Development
ERfKE	Education Reform for the Knowledge Economy
ESP	Education Strategic Plan
HRD	Human Resource Development
KG	Kindergarten
MoE	Ministry of Education
MoH	Ministry of Health
MoL	Ministry of Labor
MoSD	Ministry of Social Development
NCFA	National Council for Family Affairs
OECD	Organisation for Economic Co-operation and Development
PoA	Plan of Action
QRF	Queen Rania Foundation of Education and Development
UNICEF	United Nations Children's Fund

WHY SO MANY ACRONYMS?

ECCE: Early Childhood Care and Education

This term is typically used when discussing formal pre-primary provision, including childcare and kindergarten.

ECD: Early Childhood Development

This term is holistic and includes the child's physical, emotional, social and cognitive development (UNESCO, 2002).

ECED: Early Childhood Education and Development

This term combines both the care and education with the child's holistic development. ECED is the term used in Jordan's National Strategy for Human Resource Development.



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PARENTING IN JORDAN: KEY FINDINGS

The Queen Rania Foundation (QRF) Early Childhood Development (ECD) Survey is a nationally representative survey providing a bird's-eye view of the current ECD landscape in Jordan. This report draws on the study's national survey of 1,800 Jordanian mothers to investigate parental perceptions of formal enrollment in early childhood care and education (ECCE), their confidence and capabilities to provide quality care for their children, and the home learning environment they provide to their children. The survey yielded a number of important insights:

1

Despite the fact that the majority of mothers believed that formal pre-primary education is very important, only 20% of mothers of KG1-aged and 3% of mothers of nursery-aged children said their children were enrolled.

2

The top five factors mothers reported considering when enrolling children in formal pre-primary education were: safety and cleanliness (66%), academic programs and teaching methods (48%), qualifications of teachers and caregivers (37%), proximity to home (33%), and cost (35%).

3

More than 4 in 10 mothers reported that they or other members of their family never read to or looked at picture books with their children aged 5 and under. Results also indicated that 65% of households did not have any children's books at all.

4

Approximately 1 in 3 mothers of children aged 4 to 5 reported that they or other members of their family never took their children to a play area or a park and 40% never played sports, active games or exercised with their children.

5

Although more than 7 in 10 mothers disagreed with physical child discipline, more than 6 in 10 reported that their children were physically disciplined at home.

6

Only 7% of mothers reported having ever participated in parenting programs.



INTRODUCTION: **GENERAL BACKGROUND**

The first years of life lay the foundation for prosperous and healthy development for individuals as most of the neural connections in the brain that lead to linguistic, socio-emotional, and cognitive capacities are formed during these years (Center on the Developing Child, 2013). Early experiences with parents and other primary caregivers influence the quality of brain architecture. If such experiences and interactions are absent or are inappropriate, these neural connections will not form and will negatively affect learning outcomes, ultimately leading to disparities among children in learning and behavior (Center on the Developing Child, 2007). For example, neglect, physical abuse or the absence of responsive relationships could lead to toxic effects on brain circuitry and impact educational attainment, health, and success in the future (Center on the Developing Child, 2013). The first five years are crucial because the brain's plasticity decreases with age; it is much easier and more effective to develop the brain architecture of young children than to try to rewire these complex brain circuits in adulthood (Center on the Developing Child, 2007).

International evidence suggests that quality early childhood education programs may have high economic and social returns. Access to early childhood education programs has been found to improve children's school readiness, their educational attainment outcomes, and ultimately increase their lifetime savings through higher wages and increased life expectancy (Fink et al., 2016; Gertler et al., 2014; Walker, Chang, Powell, & Grantham-McGregor, 2005). Research by Garcia, Heckman, Leaf, and Prados (2016) estimated the return on investment in high-quality early childhood programs for children from disadvantaged backgrounds at almost 14% per annum.

As for at-home learning experiences, the relationship between children and their primary caregivers and the home learning environment have been positively associated with several aspects of future well-being including learning outcomes, social competence, behavioral outcomes, sense of self-worth, and a healthier lifestyle (Oats, 2010). Sylva et al. (2010) found that home learning environment activities related to learning, such as reading and drawing, had significant positive effects on cognitive skills.

To ensure that children have an appropriate home learning environment, parents need to feel confident in supporting their child's development. Parenting knowledge, attitudes and practices are formed through several factors such as the gender of the child, the parents' experiences and circumstances including when they were children themselves, attitudes of and advice from other family members and friends, and support provided by institutions in their communities such as parenting programs (National Academies of Sciences, Engineering, and Medicine, 2016). Parenting programs can alleviate parental stress, help both mothers and fathers enjoy their roles, enhance parents' capabilities to support their children's development, and increase parental awareness regarding emotional, behavioral or cognitive concerns such as learning delays (Oats, 2010).



THE JORDANIAN CONTEXT

RESEARCH CONTEXT

In the case of Jordan, there has been some research that addresses the role of parents and their knowledge, behaviors, and attitudes toward child-rearing. The Jordan Population and Family Health Survey, conducted by the Department of Statistics (DoS), provides interesting findings about the home learning environment.^[1] Findings showed that 82% of children aged 3-4 engaged in at least four home learning activities with an adult during the three days preceding the survey. Fathers' involvement was limited to only a couple of activities,^[2] which included taking the child outside the house and playing with the child (DoS & ICF International, 2013).

Another study looked into mothers' knowledge and practices regarding certain developmental milestones for children under the age of 1 (Safadi et al., 2016). The main finding of this study was that Jordanian mothers were more knowledgeable in physical safety skills compared to cognitive, emotional, and parent-child interaction skills. A few other studies looked at different parenting styles (Abu Taleb, 2013), parental stress (Masa'Deh, 2015), and impact of parenting programs such as the United Nations Children's Fund's (UNICEF) Better Parenting Program (BPP)^[3] (Al-Hassan & Lansford, 2011).

POLICY CONTEXT

Parenting has been highlighted as a critical factor in ECD in Jordan, especially given the lack of public provision of formal center-based ECCE below the KG level. The majority of nurseries in Jordan are private or Ministry of Education (MoE)-based nurseries privately funded and managed by teachers working at that school to care for their children. There are smaller numbers of work-based or CBO-run nurseries, which also typically charge fees (Ghawi et al., 2018).

Several recent national strategies have included specific initiatives related to parenting. The first national ECD Strategy in Jordan, launched in 2000, discussed the importance of parenting, from pregnancy to children under nine years of age (MoE, National Council for Family Affairs [NCFA]

[1] In this survey, respondents were asked about the involvement of parents in one of the following six activities with their children aged 3 to 4: reading books or looking at children's books; telling stories; singing songs; taking children outside the home, compound, or yard; playing with children; and spending time with children naming, counting, or drawing things.

[2] The survey did not cover the reasons for the limited involvement of fathers.

[3] The BPP program is one of the largest parenting programs in Jordan. It was designed based on the 1996 national Knowledge, Attitudes, and Practices Survey.



& UNICEF, 2000). Consequently, two main plans of action (PoA) were drafted and implemented by several ministries, the NCFA, UNICEF, and other organizations. These PoAs aligned with the two phases of the Education Reform for Knowledge Economy (ERfKE) projects (2003–2009, 2009–2016). While the first PoA did not have a specific focus on parenting, in the second PoA (2011–2015) two of the five main themes addressed parental needs explicitly: “maternal and child health and nutrition” and “family and community involvement.” Some of the policies and programs within the latter theme included expanding and revising the BPP, creating a database for all parenting programs in Jordan, developing coordination mechanisms between them and leveraging media to promote for successful parenting programs (MoE, NCFA & UNICEF, 2011).^[4] However, implementation of strategies related to parenting in Jordan has been challenged by the fragmentation of policy mandates across multiple ministries, including the MoE, Ministry of Social Development (MoSD), Ministry of Health (MoH), and Ministry of Labor (MoL). This has led to duplication of efforts and gaps in provision and oversight (National Committee for Human Resource Development, 2016).

Their Majesties King Abdullah II and Queen Rania launched the 2016–2025 Human Resource Development (HRD) Strategy in September 2016 which included an entire component on early childhood education and development (ECED). The importance of raising awareness among parents and providing them with the necessary education and training was manifested in two proposed projects: (1) ECED 5.1: Improve training outreach to parents and other primary caregivers; and (2) ECED 5.2: Mobilize families to better support learning and early childhood development at home and increase their engagement in their child’s formal learning^[5] (National Committee for Human Resource Development, 2016). More recently, the MoE launched the Education Strategic Plan (ESP) 2018–2022, which is a shorter-term strategic plan based off the HRD strategy. One of the ESP’s priority domains is ECED, which includes raising awareness about health, nutrition and social protection among parents (MoE, 2018).

PROGRAMMATIC CONTEXT

Since 1996 UNICEF has been working on the BPP, one of the largest parenting programs in the Kingdom. The program, implemented by 13 national partners, aims to enhance parents’ knowledge, attitudes, and behaviors related to caring for young children. The program was revisited and redesigned in 2003 to ensure a more holistic approach to ECD by including issues such as child protection, abuse, and neglect (Brown, as cited in Al-Hassan & Lansford, 2011).

By 2017, the BPP helped provide 400,000 children with a more nurturing home environment through training their parents (Britto, 2017). There are several other parenting programs in Jordan, such as the Child Safety Program implemented by the Jordan River Foundation,^[6] the Parent Involvement Program for public KG schools at the MoE, and smaller programs with various organizations such as the Children’s Museum of Jordan.

[4] The second PoA listed some of the achievements of the first PoA.
<http://ncfa.org.jo:85/NCFA/sites/default/files/Publications/ECD-Arabic.pdf>

[5] For more details on the projects, see pages 88–89 of the HRD Strategy.
<http://www.mohe.gov.jo/en/documents/national-hrd-strategy.pdf>

[6] See <https://www.jordanriver.jo/en/programs/protecting-children>



RESEARCH OBJECTIVES AND QUESTIONS

To fill in some of the knowledge gaps about the parenting practices and attitudes in Jordan, QRF conducted a national survey of Jordanian mothers as part of its National ECD Survey 2015. While only mothers of Jordanian nationality were included,^[7] the survey had a broad reach, reaching 1,800 mothers with at least one child aged 5 or below^[8] across all regions and governorates in Jordan.^[9] The main research questions of the survey were:

- 1 What proportion of mothers report enrolling their children in formal early childhood programs?
- 2 What are mothers' perceptions and attitudes towards these programs?
- 3 To what extent is the home environment conducive to learning?
- 4 What are mothers' perceptions of their abilities to offer a stimulating learning environment at home?
- 5 How common is participation in parenting programs and is there demand for these programs from mothers?

[7] Insufficient data on the population of non-Jordanian households prior to the 2015 Census (especially given the influx of refugees from Syria) prevented QRF from establishing an accurate sampling frame from which to select a representative sample of non-Jordanian households. For more details see the [methodology](#) document.

[8] It is important to highlight that while early childhood covers children from birth to age 8, this report focused on children aged 5 years or below; this includes KGI and nursery levels.

[9] For more details about the sample, please refer to the [methodology](#) document.



FINDINGS

Analysis of the QRF National ECD Survey data provided some new insights on each of the key research objectives for the study, including patterns of enrollment in early childhood programs, mothers' perceptions, attitudes and knowledge of ECD, the nature of the home learning environment, and mothers' access to resources such as parenting programs.

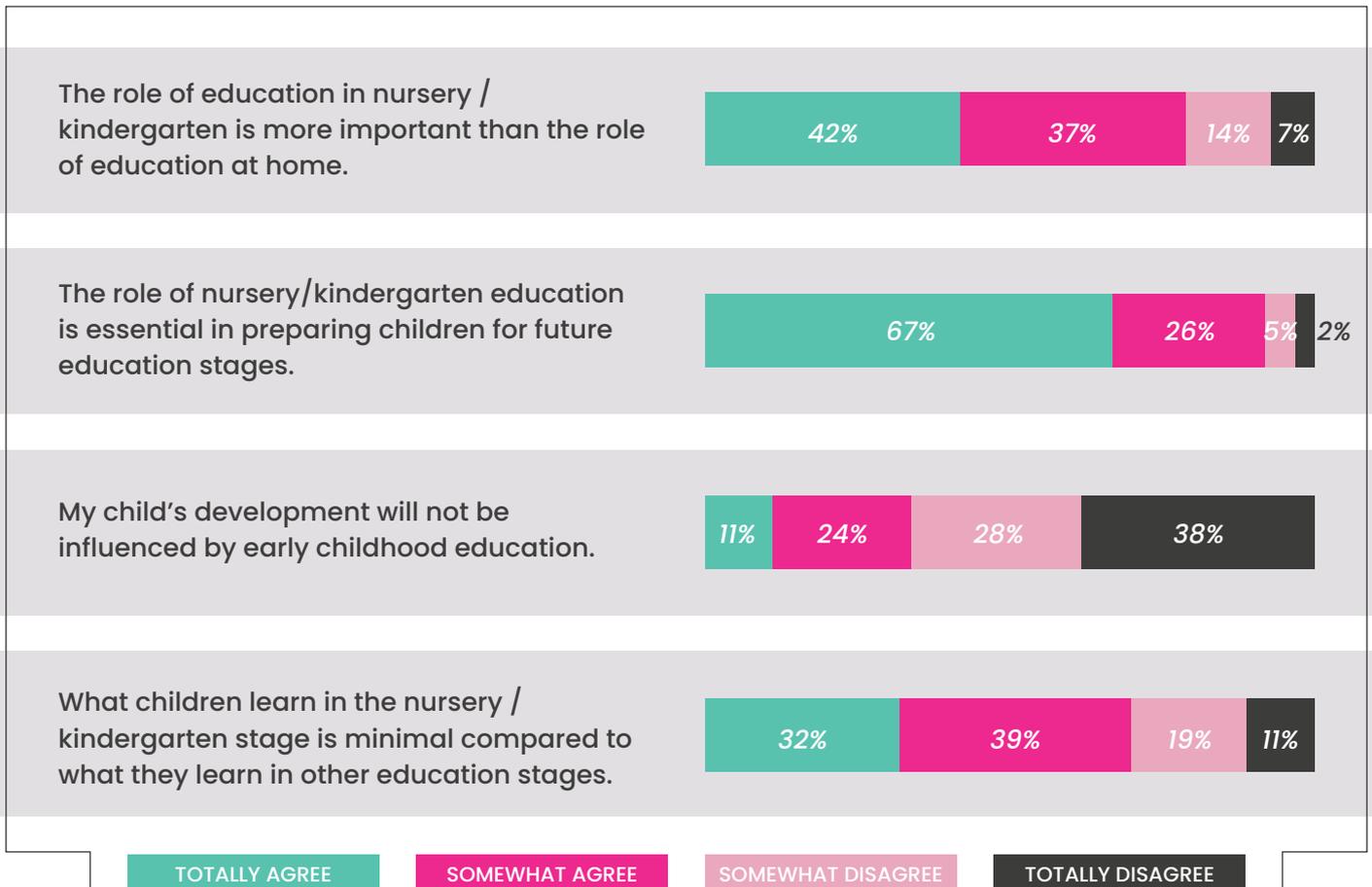
FORMAL ENROLLMENT IN EARLY CHILDHOOD PROGRAMS

PERCEPTIONS AND ATTITUDES ABOUT FORMAL EARLY CHILDHOOD CARE AND EDUCATION

The QRF National ECD Survey questionnaire for mothers included a number of questions designed to measure perceptions of the importance of formal ECCE enrollment. Nearly all mothers agreed that formal childcare is important: 96% of mothers said formal childcare was "important" or "very important", and these findings were consistent across variation in maternal age, employment status, educational level, and region. Additionally, 93% of mothers agreed that the role of nursery/ KG education is essential in preparing children for future educational levels (Figure 1). Interestingly, almost 80% of mothers reported that the role of education in nursery or KG is more important than the role of education at home, which could indicate that they either underestimate the impact of the home environment or they do not have the tools or knowledge to maximize the benefits of this environment where children spend most of their time during the first six years of life.



FIGURE 1: MOTHERS' RESPONSES TO ATTITUDINAL STATEMENTS ABOUT THE IMPORTANCE OF FORMAL ECCE PROGRAMMING



Despite reported agreement regarding the importance of early childhood education, mothers saw it as less important than other education stages. For example, 1 in 3 mothers “agreed” or “strongly agreed” with the statement that the “child’s development will not be influenced by education at the nursery/ KG level.” The survey also showed that 70% agreed with the statement that “what children learn in this stage is minimal compared to what they learn later.” This could be partially due to a tendency towards an acquiescent response style in survey-taking.^[10] However, the survey results collectively demonstrate that awareness of the importance of ECCE is not widespread or consistent.

[10] Refer to the study limitations section in the [methodology](#) document for more details on respondents’ response styles.

REPORTED FORMAL ENROLLMENT

Mothers' reports of formal ECCE enrollment corroborated existing data about low enrollment prior to KG2 in Jordan. While there are no recent figures at the nursery level, KG1 net enrollment according to MoE data is 13% (MoE, 2017). In the QRF National ECD Survey, 20% of mothers reported that their KG1-aged children were enrolled in formal preschool, and 3% reported their nursery-aged children were enrolled in nursery. ^[11] ^[12] The 3% of mothers reporting nursery enrollment contrasts starkly with the average enrollment rate of children aged 2 and 3 years in Organisation for Economic Co-operation and Development (OECD) countries, which is 34% and 71%, respectively (OECD, 2016a).^[13]

DECIDING FACTORS FOR ENROLLING IN ECCE

More than 50% of mothers whose children are not enrolled in formal pre-primary education said that it is more of a luxury than an essential priority. This may not be surprising given the lack of public provision and financial constraints for Jordanian families, as 74% of mothers agreed with the statement that paying for early childhood programs is a problem. More than half (51%) of mothers agreed that quality nursery and kindergarten programs were not accessible to everyone regardless of income and socioeconomic background.^[14] Jordan also has one of the lowest rates of female labor force participation worldwide (14%) (International Labour Organization, 2018), which may be related to the 20% of mothers reporting they prefer to educate their children at home. A lack of awareness of the importance of early childhood education may also be a factor. Figure 2 highlights the reasons mothers reported for not enrolling their children in formal ECCE.

[11] Approximately 1% of mothers reported that their nursery-aged children were enrolled in KG1, making formal enrollment for nursery-aged children in nursery specifically only 2%. Similarly, the percentage of KG1-aged children enrolled in KG1 specifically is 17% because 2.5% of KG1-aged children were enrolled in nursery.

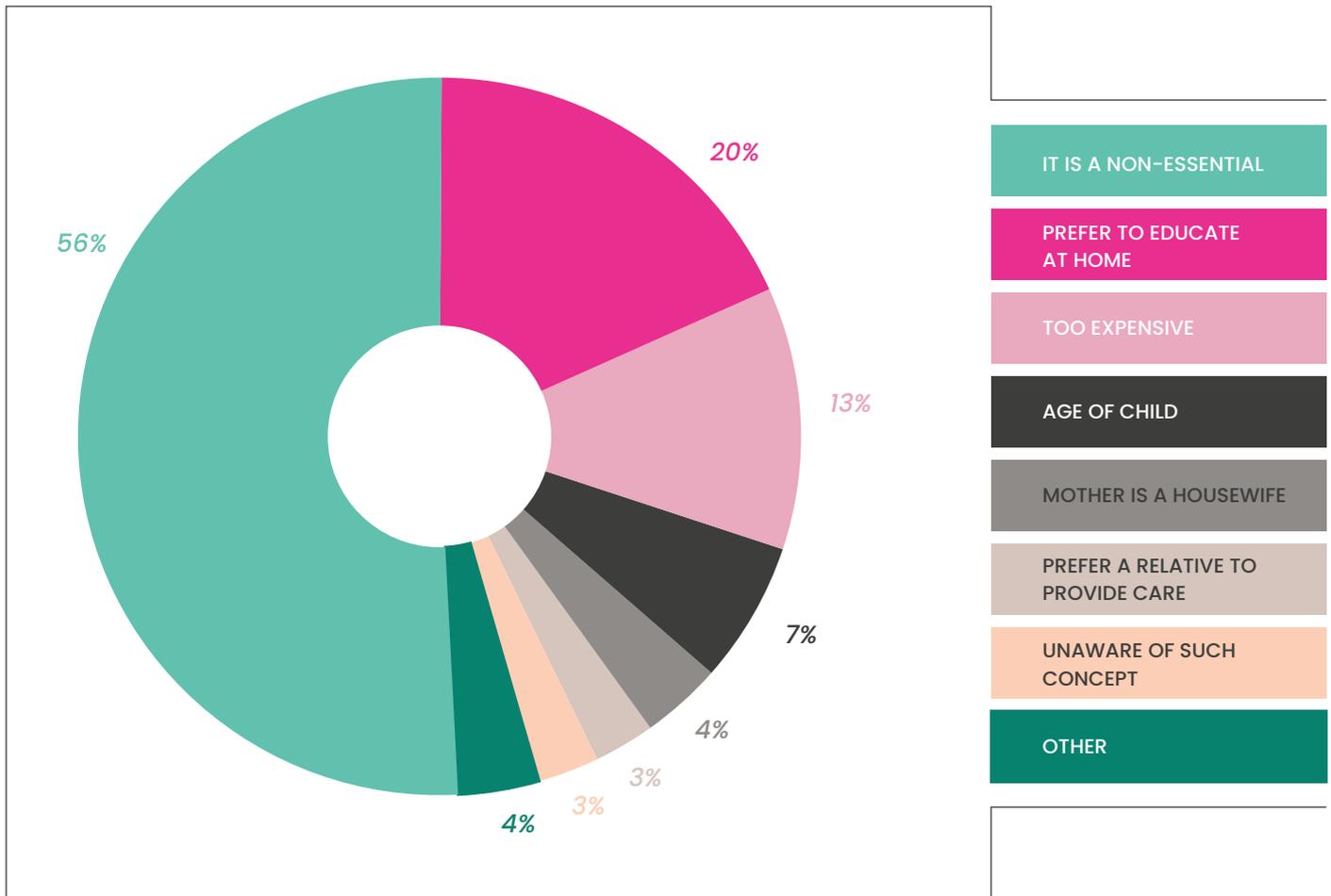
[12] Mothers' responses to the survey questions were with regard to one selected child that was selected using the next birthday method. However, for the enrollment questions, mothers were asked to refer to all children aged 5 or below in their household (1,800 mothers responding about a total of 2,621 children).

[13] OECD figures are from 2014.

[14] Mothers were asked for their level of agreement on statements: "I am going to list you a few statements regarding nursery and kindergarten education in general, and I want you to tell me how much you agree using a scale from 1 to 4 where 1 is totally disagree, 2 is somewhat disagree, 3 is somewhat agree, and 4 is totally agree," and the exact wording for the item was "Quality nursery / kindergarten programs are accessible to everyone, regardless of income and socioeconomic background."



FIGURE 2: MOTHER-REPORTED REASONS FOR NOT ENROLLING THEIR CHILDREN IN A KG OR NURSERY [15]

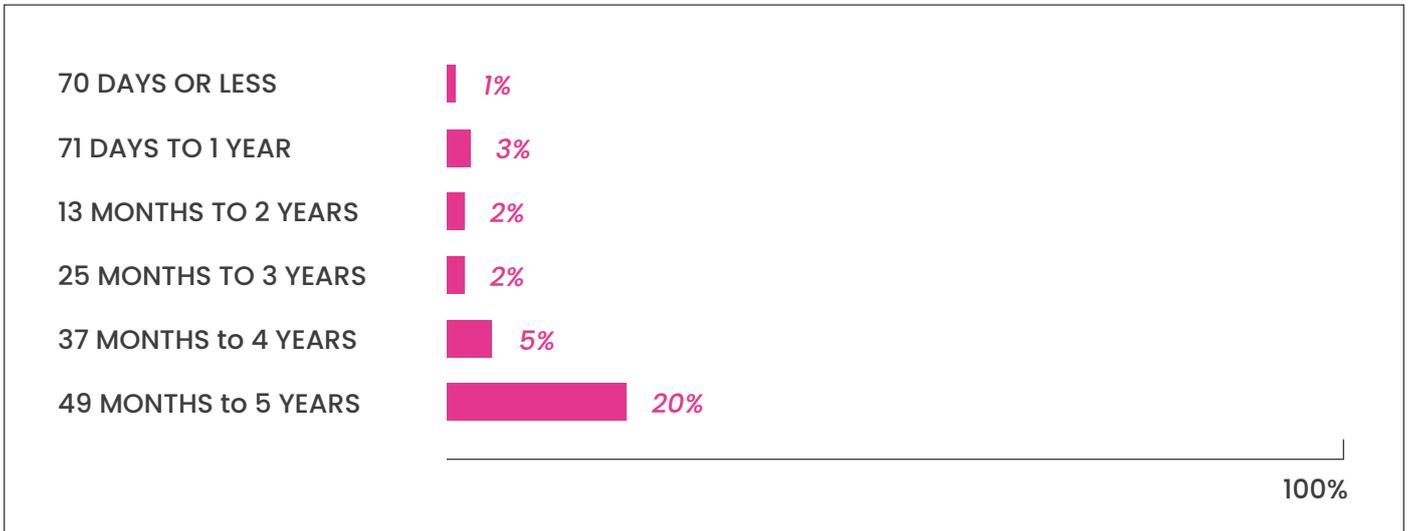


When asked about the factors that could encourage them to enroll their children in formal ECCE programs, nearly a third of mothers referred to the child's age and development (30%). This could indicate that mothers believe that their children are too young to be enrolled in ECCE programs or be apart from their families, especially at the nursery age. Figure 3 shows how reported enrollment is indeed much higher for older children.

[15] Total exceeds 100% because mothers were given the opportunity to provide more than one answer.

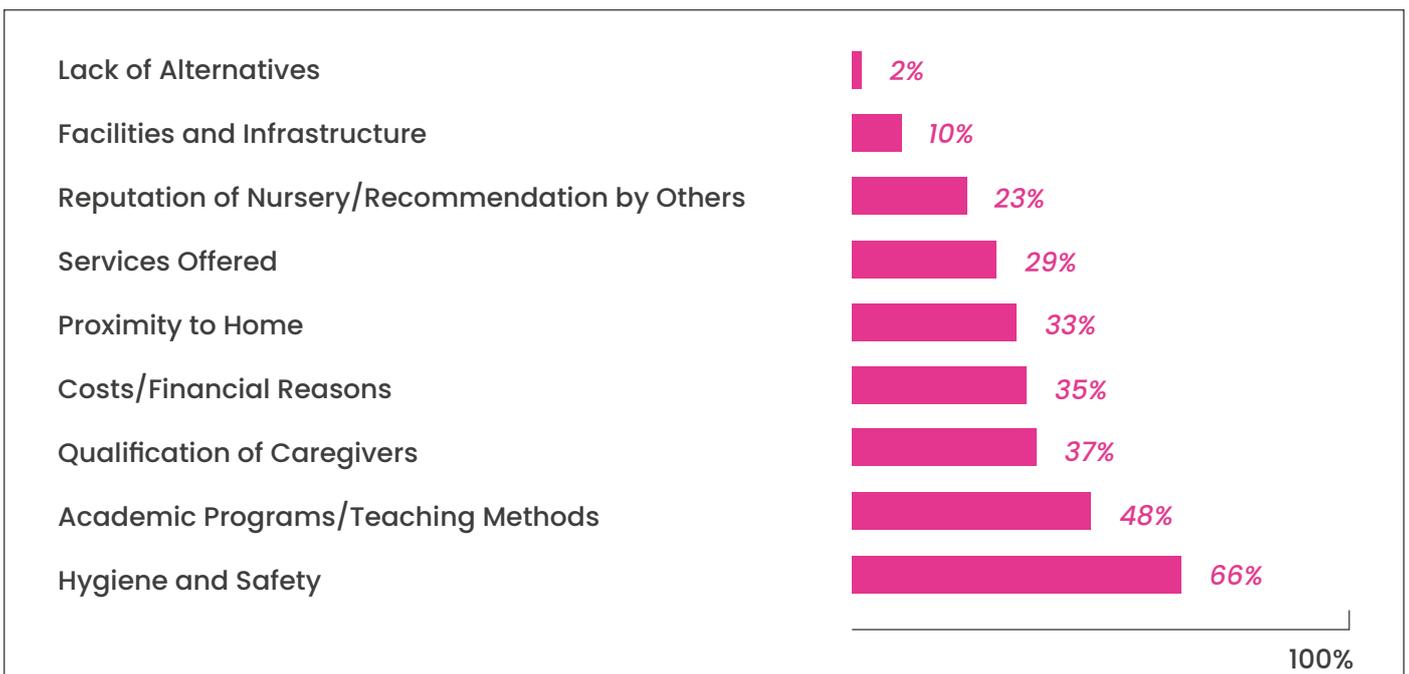


FIGURE 3: MOTHER-REPORTED CHILD ENROLLMENT IN FORMAL PRE-PRIMARY EDUCATION, BY CHILD AGE



The survey also looked into positive factors that would encourage mothers to enroll their children in KG or nursery. Mothers were given a list of items from which they indicated the main selection criteria for choosing a KG or nursery for their children. Figure 4 lists their top considerations, such as safety and cleanliness, educational approach, and educator qualifications.

FIGURE 4: MOTHER-REPORTED FACTORS THAT WOULD ENCOURAGE THEM TO ENROLL THEIR CHILDREN IN KG OR NURSERY



Four percent of mothers reported withdrawing their children from formal pre-primary care or education, and the reasons reported for withdrawing their children aligned with the factors they reported influencing ECCE enrollment decisions more broadly. The main reasons reported for withdrawing children were proximity to home, mistreatment of children at the settings, parents being unable to afford it anymore, and unqualified caregivers and teachers.

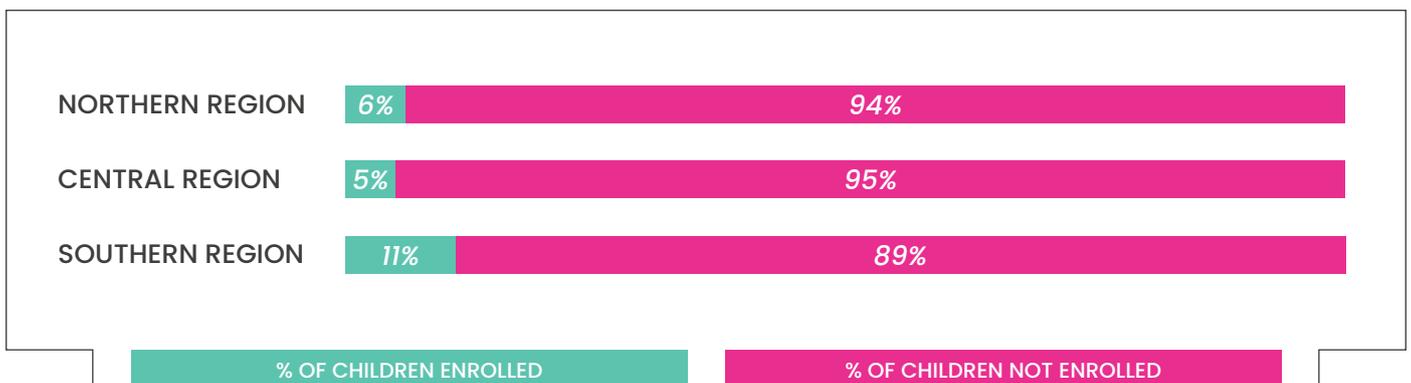
Given that a significant proportion of mothers reported that financial costs were an important factor in enrollment decisions, the fees paid is an important area of investigation. Mothers reported paying an average of JOD 42 monthly for their child's ECD services. Table 1 shows the reported average fees paid by parents per region.

TABLE 1: FEES PAID TO NURSERIES AND KGS IN JORDAN, NATIONALLY AND PER REGION

	NATIONAL LEVEL (JOD)	CENTRAL REGION (JOD)	NORTHERN REGION (JOD)	SOUTHERN REGION (JOD)
Mean	42	65	24	22
Median	25	35	20	20
n	132	61	39	34

The proportion of mothers who reported their children were enrolled in formal ECCE was generally low. However, there were interesting disparities in reported enrollment by region. At both the nursery and KG1 levels, mothers from the South reported the highest enrollment rates (Figure 5). This geographic variation merits further investigation.

FIGURE 5: MOTHER-REPORTED KG1 AND NURSERY ENROLLMENT BY REGION



THE HOME LEARNING ENVIRONMENT

The first few years of life, during which children spend most of their time with their parents, grandparents, siblings, or wider family, are some of the most important developmental years in life as they are directly linked to future well-being, educational attainment, increased wages and lifetime savings (Feinstein and Duckworth, 2006; Fink et al., 2017). A study conducted by Melhuish et al. (2008) measured the effects of 14 different home activities on numeracy and literacy. The activities that were positively linked with higher achievement in literacy and numeracy were reading frequently to children, going to the library, painting and drawing, being taught letters and numbers, and being taught songs, poems, and rhymes. The study also found that the effects of the home learning environment on educational attainment are higher than the standard proxy measures of parental education and socio-economic status.

The Programme for International Student Assessment (PISA) has also enabled exploration of links between parental engagement and learning outcomes. PISA data has shown that parent-child activities when children are entering school, such as reading books to children and talking about things parents had done, are associated with reading performance and instilling an enjoyment of reading at the age of 15. The parent-child activity most strongly related to better reading scores was reading to children in their early years. Results from PISA also suggest that activities where parents put words into a broader context, such as the activities listed above instead of playing with isolated alphabet toys, increased children's enjoyment of reading (OECD, 2012).

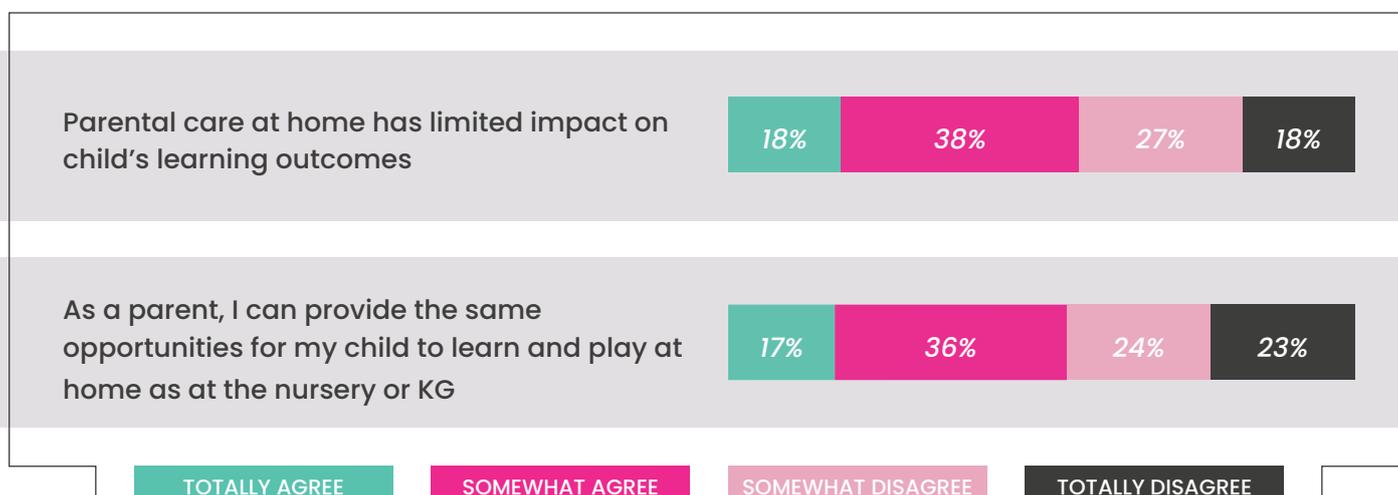
ATTITUDES ABOUT THE HOME LEARNING ENVIRONMENT

Given the importance of the home learning environment, the QRF National ECD Survey explored the attitudes of Jordanian mothers about their ability to provide a high-quality learning environment at home.^[16] As previously mentioned, 79% of mothers agreed that the role of education in nursery or kindergarten is more important than the role of education at home. More than half of the mothers (55%) also agreed with the statement that the home environment has a limited impact on a child's learning outcomes, and only 1 in 5 mothers completely disagreed with this statement (Figure 6). These beliefs could be related to their capacities or abilities in providing a stimulating home learning environment, as almost half of mothers (47%) reported that they felt incapable of providing the same opportunities for their children to learn and play at home when compared to nurseries or KGs.

[16] The exact statement used in the survey item was "The role of education in nursery/kindergarten is more important than the role of education at home."



FIGURE 6: MOTHERS' RESPONSES TO ATTITUDINAL STATEMENTS REGARDING THE HOME LEARNING ENVIRONMENT^[17]



PERCEPTIONS ON THE IMPORTANCE OF PLAY

Before asking about activities parents conduct with their children at home, the survey explored the perceived importance of play, since it contributes significantly to the development of children. There have been many studies on the relationship between play and children's development: Karpov (2005) showed that play contributes to the development of self-regulation among children; Diamond, Barnett, Thomas & Munro (2007) and Hyson, Copple & Jones (2007) found that children in preschools which followed the play-based "Tools of the Mind" curriculum scored higher in executive function skills compared to preschools that followed instruction-based curricula; and Barker et al., (2014) showed that cognitive self-regulation can be predicted by the amount of less-structured time for children aged 6 to 7 years such as sightseeing, visiting museums, and free play; and Darling-Hammond & Snyder (as cited in Whitebread et. al, 2017) concluded that children Germany who attended play-based kindergartens outperformed their peers who attended regular early learning centers in reading, maths, and social-emotional adjustment in school by Grade 4.

The survey asked mothers whether they believe that direct instruction is better than activities and about their perceptions regarding the importance of exploring and playing in developing linguistic and mathematical abilities of children.^[18] More than half of mothers (53%) agreed with the statement that young children learn best through direct instruction and not through activities. Further analysis found that the higher the mother's level of education, the less likely

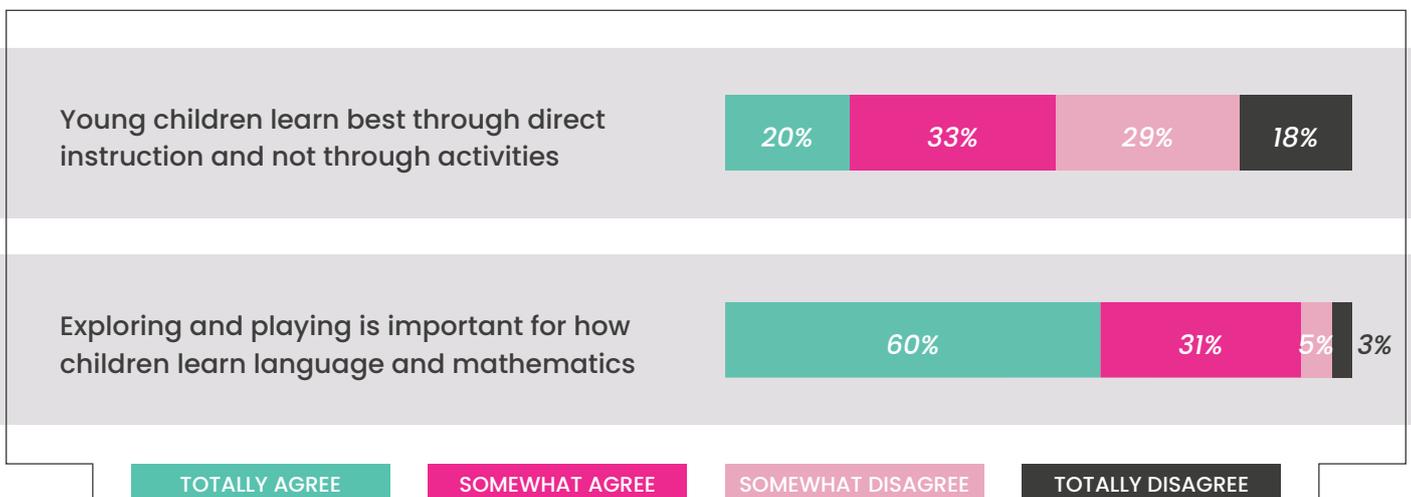
[17] Totals exceed 100% due to rounding.

[18] The survey did not provide a definition of direct instruction.



she would agree that learning through direct instruction is better than learning through activities. However, 91% of mothers agreed that exploring and playing are important for how children learn language and mathematics (Figure 7). While these two findings might seem contradictory, differences in responses to the two items could be due to the broad invocation of learning in the direct instruction statement, whereas the statement about exploration and play was linked specifically to academic learning. Another potential explanation is an underlying tendency to agree with the statements as previously mentioned.

FIGURE 7: MOTHERS' RESPONSES TO ATTITUDINAL STATEMENTS REGARDING HOW CHILDREN LEARN



HOME LEARNING ACTIVITIES

Ninety-two percent of mothers stated that they or another member of their family participate in at least one of the following activities with their children: reading to children or looking at children's books with them; taking children to play with others; teaching songs or music to children; teaching arts and crafts to children; playing sports or active games or exercising with children; taking children to a museum or a cultural center; taking children to a play area or a park; and teaching letters, words, or numbers to children.

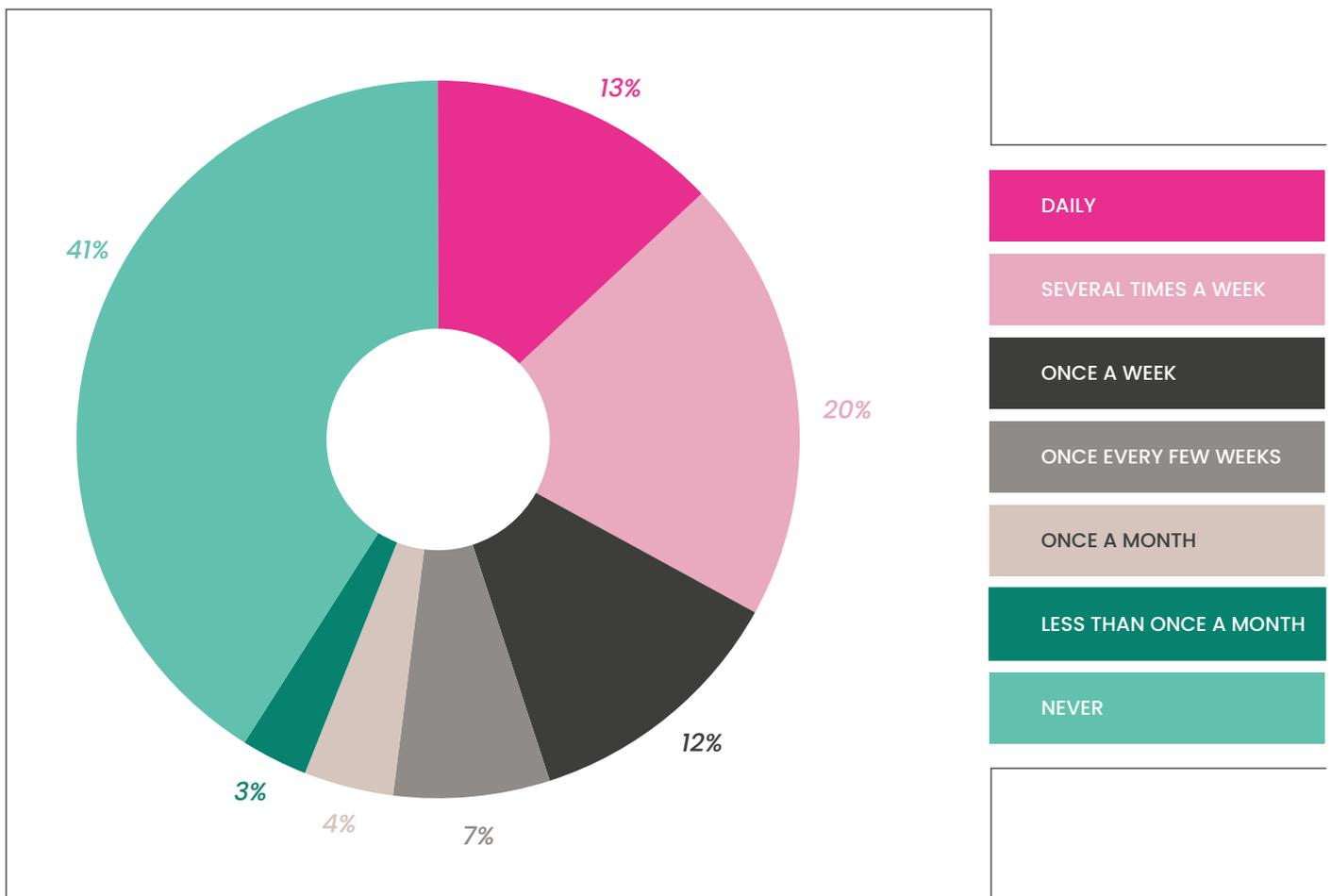
Out of these activities, reading to children is one of the most important. Studies have shown that while access to books is critical for reading success, reading to children is more important (Save the Children US, 2013). Reading has been linked to achievements in other academic subject areas as well as future success in adulthood (Cunningham & Stanovich; OECD; Smith, Mikulecky, Kibby, & Dreher, as cited in OECD, 2016b). Reading to children positively affects their vocabulary, phonological awareness, and word reading (Niklas & Schneider, 2013; Skwarchuk, Sowinski, & LeFevre, 2014). An Australian study found that reading to children has significant positive effects on numeracy and literacy and that the more frequently children are read to the higher these gains are. Reading to children aged 4 to 5 years three to five days per week has been estimated



to have the same effect on the child's reading skills as being around six months older, and this increases to around one year when children are read to six to seven days per week (Kalb & van Ours, 2012).

In Jordan, around 41% of mothers reported that they or another member of their family never read to or looked at picture books with their children and only 1 in 3 mothers reported reading to their child more than once a week (Figure 8).

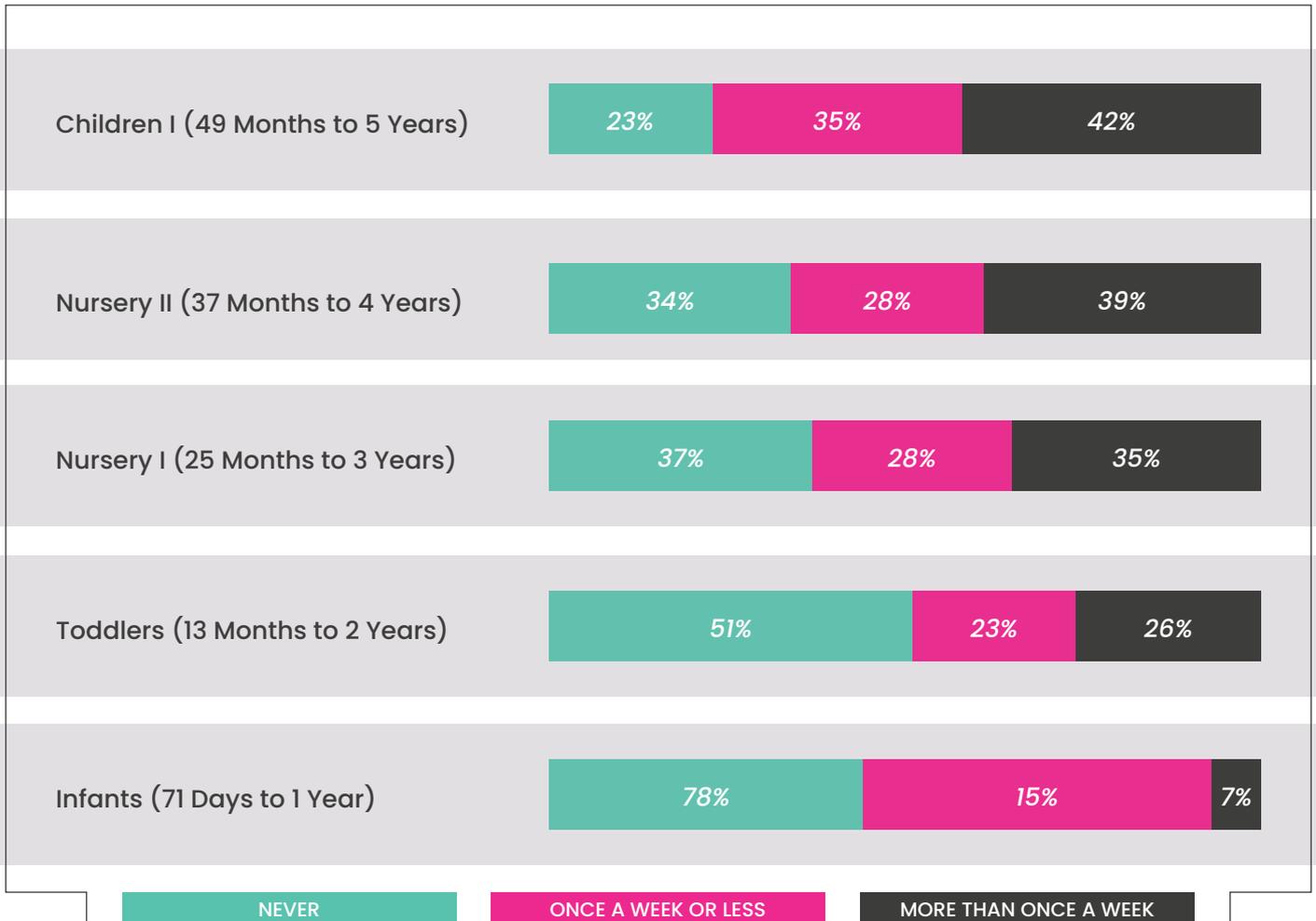
FIGURE 8: PERCENTAGE OF MOTHERS WHO REPORTED THEY OR ANOTHER FAMILY MEMBER READ TO OR LOOKED AT PICTURE BOOKS WITH THEIR CHILD, BY FREQUENCY



While mothers reported higher rates of reading with children aged 3 to 5 years, the proportion of mothers who reported they or another member of their family read to their children aged 4 to 5 years more than once a week was still only 42% (Figure 9).



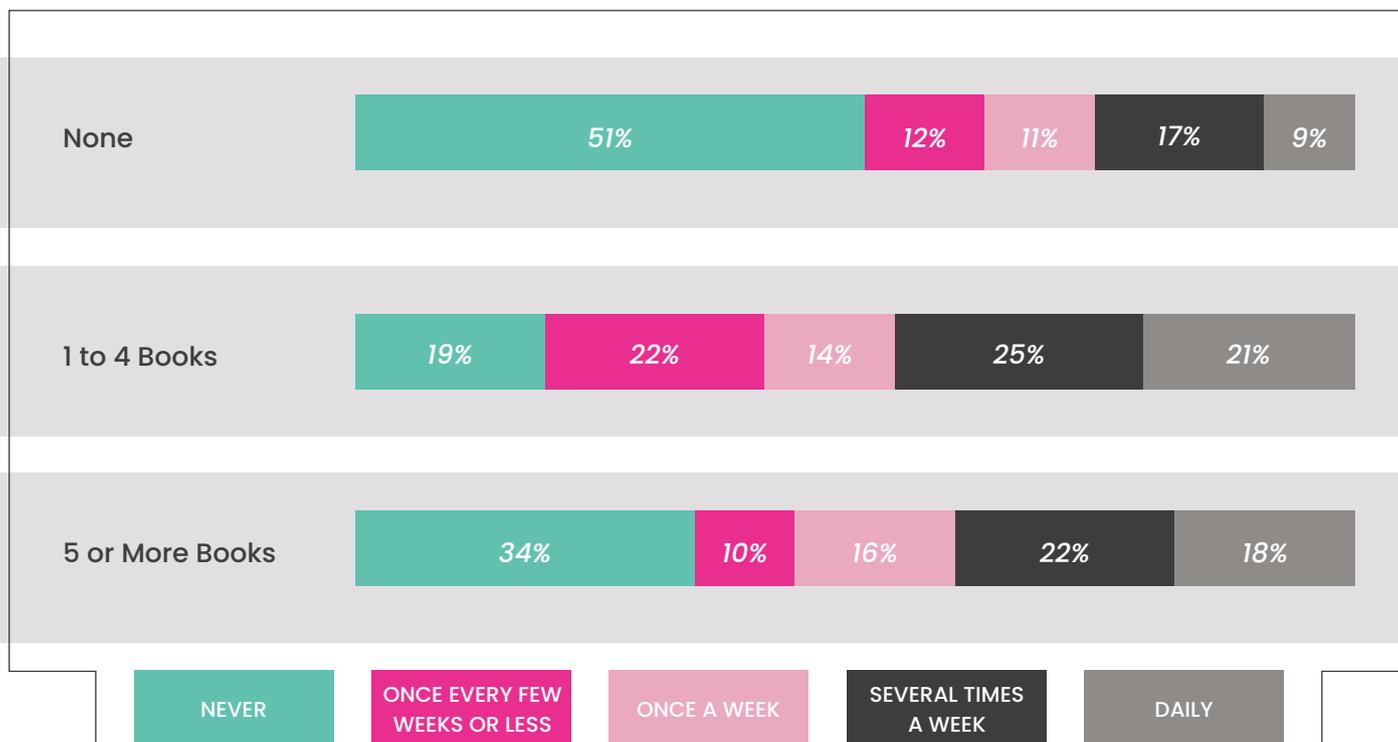
FIGURE 9: PERCENTAGE OF MOTHERS WHO REPORTED THEY OR OTHER FAMILY MEMBERS READ TO OR LOOKED AT PICTURE BOOKS WITH THEIR CHILD, BY CHILD AGE



To explore how resources in the home environment facilitated or inhibited reading to children, the mothers were asked about the number of children's books they have at home. Results indicate that more than 65% of households did not have any children's books at all and 26% had only a few (1 to 4 books). Only 8% of Jordanian mothers reported having more than 5 children's books at home. Mothers who reported having at least some children's books were much more likely to report reading to their children; however, the number of children's books in the home did not consistently correspond with the frequency of reading (Figure 10).



FIGURE 10: FREQUENCY OF MOTHERS OR OTHER FAMILY MEMBERS READING TO THEIR CHILDREN, PER NUMBER OF CHILDREN'S BOOKS IN THE HOUSEHOLD (MOTHER-REPORTED)



Studies also showed that emergent literacy and math acquisition can be influenced by the home learning environment. Manolitsis, Georgiou, and Tziraki (2013) found that an engaging home numeracy and literacy environment can improve verbal counting, letter knowledge and phonological awareness by grade 1. The QRF National ECD Survey found that in Jordan, around 60% of mothers reported that they or another member of their family teach their children letters, words, or numbers. Almost 35% of mothers of children aged 2 to 4 years reported that they or another member of their family engage in this activity with their children on a daily basis or several times a week; this percentage increased to 47% for mothers whose children were aged 4 to 5. However, 20% of mothers of children aged 4 to 5 reported that they or another member of their family never teach their children any letters, words, or numbers.

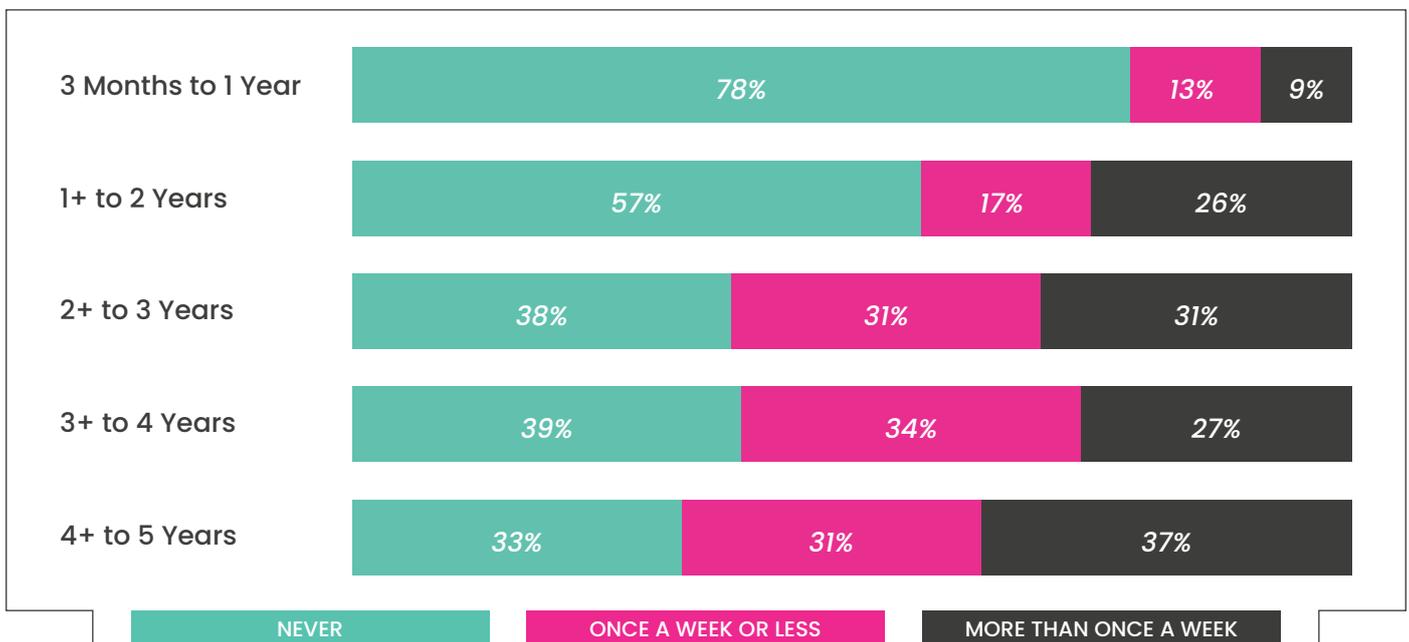
Teaching songs or music to children has also been found to positively impact aural skills and reading ability. Norton et al. (2005) found correlations between music perceptual skills and both non-verbal reasoning and phonemic awareness. Moreno et al. (2009) found that musical training improves phonological awareness and Gromko (2005) showed that children who have received musical training developed aural skills for spoken sounds and words faster than their peers who did not receive similar training. Interestingly, children as young as two days old can recognize the first beat in a sequence of musical sound which allows parents to start teaching songs or music as early as possible (Bower, 2010).



Other studies have linked teaching songs and music to social skills. For example, children of parents who sang to their children at least three times per week were more likely to have strong and sophisticated social skills (Muniz, Silver & Stein, as cited in Menzer, 2015) and mothers who participated in a five-week music and movement program with their infants reported higher levels of attachment to their infants (Vlismas, Malloch and Burnham, 2013).

In the QRF National ECD Survey, more than 45% of mothers reported that they or others in the family never teach songs or music to their children, while 11% reported this activity occurring on a daily basis. As shown in Figure 11, only 9% of mothers or other family members taught songs or music more than once a week to their children who were less than one year old; however this could be due to the wording of the question which emphasized “teaching” the song rather than simply singing to children which may be more common.^[19] Mothers in the southern region were less likely to report that they or other family members taught songs or music to their children (41%) compared to mothers in the central and northern regions (59% and 52%, respectively).

FIGURE 11: FREQUENCY OF MOTHERS OR OTHER FAMILY MEMBERS TEACHING SONGS OR MUSIC TO THEIR CHILDREN, BY CHILD AGE (MOTHER-REPORTED) ^[20]



[19] The exact statement used in the survey item was “How often do you or a member of your family teach the child songs and music?”

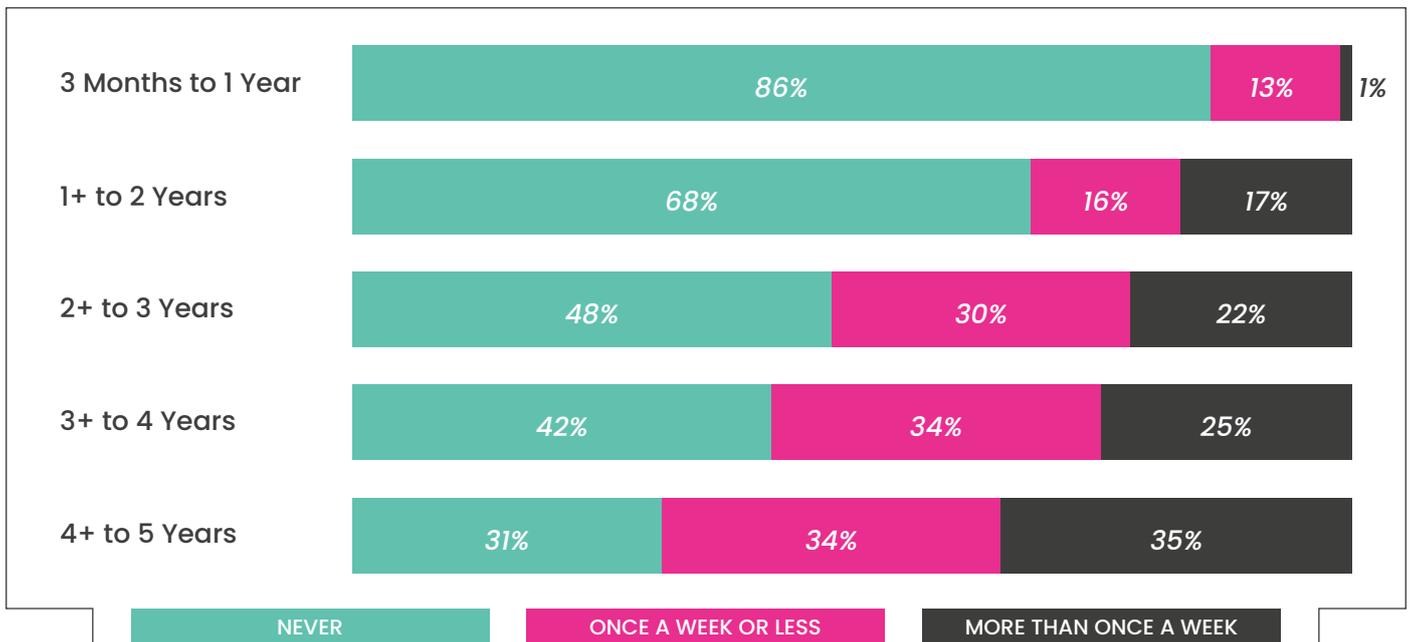
[20] Totals exceed 100% due to rounding.



Teaching arts and crafts to children (e.g. drawing, coloring, etc.) enhances children's communication, cognitive, and motor skills. Drawing is considered a type of communication and a skill that develops prior to writing (Coates & Coates; Eng; Goodnow; Paine, as cited in Hall, 2007). Steffani and Selvester (2009) found a correlation between children's ability to draw and their ability to write the alphabet. Scholars, such as Hall (2007), believe that drawing is far more complex than symbolic representation as it is used for self-expression. In addition to communication skills, drawing can build the fine motor skills of children (White, 2012).

Almost half of Jordanian mothers reported they or other family members taught arts and crafts to their children (Figure 12). While almost 60% of mothers in the northern and central regions reported their children being taught arts and crafts, this percentage was only 50% in the southern region. The frequency of this activity appears to increase with age as more than two in every three mothers of four-year-olds reported they or other family members taught arts and crafts to their children.

FIGURE 12: FREQUENCY OF MOTHERS OR OTHER FAMILY MEMBERS TEACHING ARTS AND CRAFTS TO THEIR CHILDREN, BY CHILD AGE (MOTHER-REPORTED)

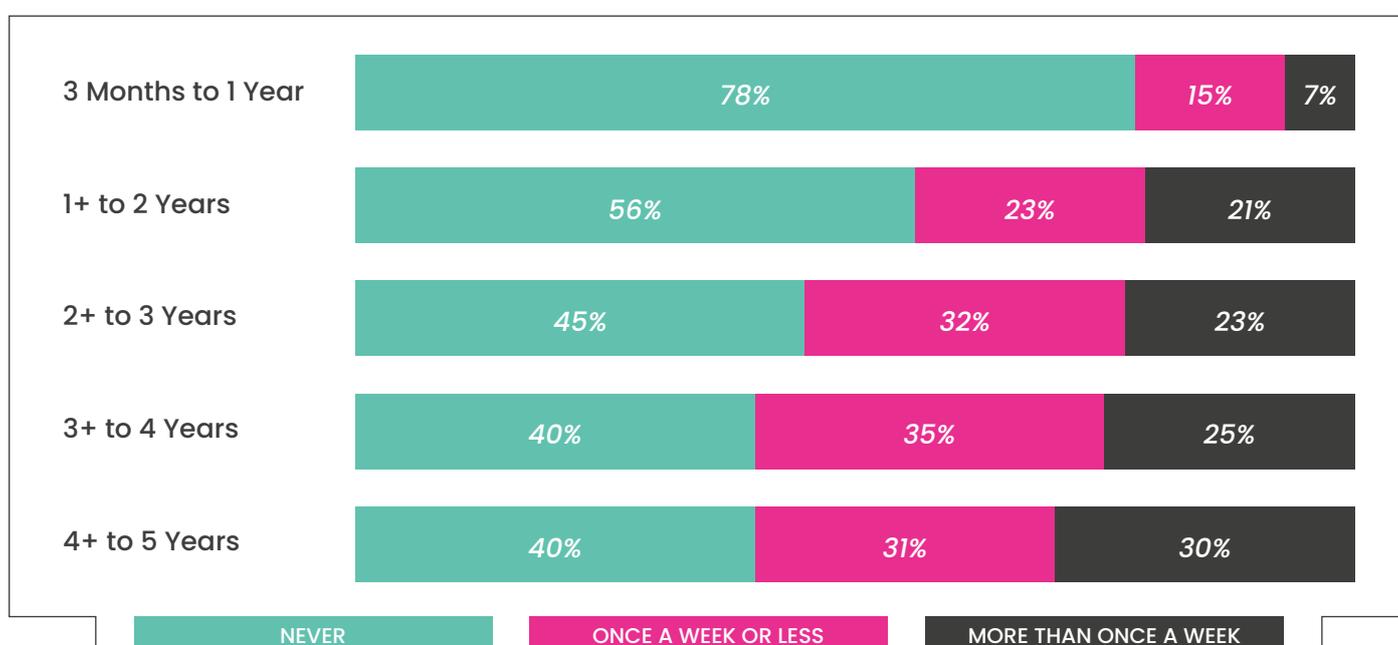


The survey also covered sports and physical activity. Many health organizations are advocating for more physical activity in schools due to its short- and long-term effects on physical, emotional, social, and cognitive development (Tucker, 2008; World Health Organization, 2018). While the long-term benefits of being physically active in early childhood have not been confirmed, Timmons et al. (2007) suggests that promoting physical activity leads to gains in motor skills which ultimately positively impacts cardiorespiratory fitness, self-esteem, and cognition (Van der Fels et al., 2015).



One in three Jordanian mothers reported that they or other members of the family played sports or active games with their four to five-year-old children more than once a week. However, around 40% of mothers of four to five-year-olds reported that no one in the family ever played sports or active games with their children (Figure 13). Mothers in the central region reported slightly higher rates of engagement in these activities: 56% reported they or other family members played sports or active games or exercised with their children compared to 46% and 44% of mothers from the northern and southern regions, respectively.

FIGURE 13: FREQUENCY OF MOTHERS OR OTHER FAMILY MEMBERS PLAYING SPORTS, ACTIVE GAMES OR EXERCISING WITH THEIR CHILDREN, BY CHILD AGE (MOTHER-REPORTED)

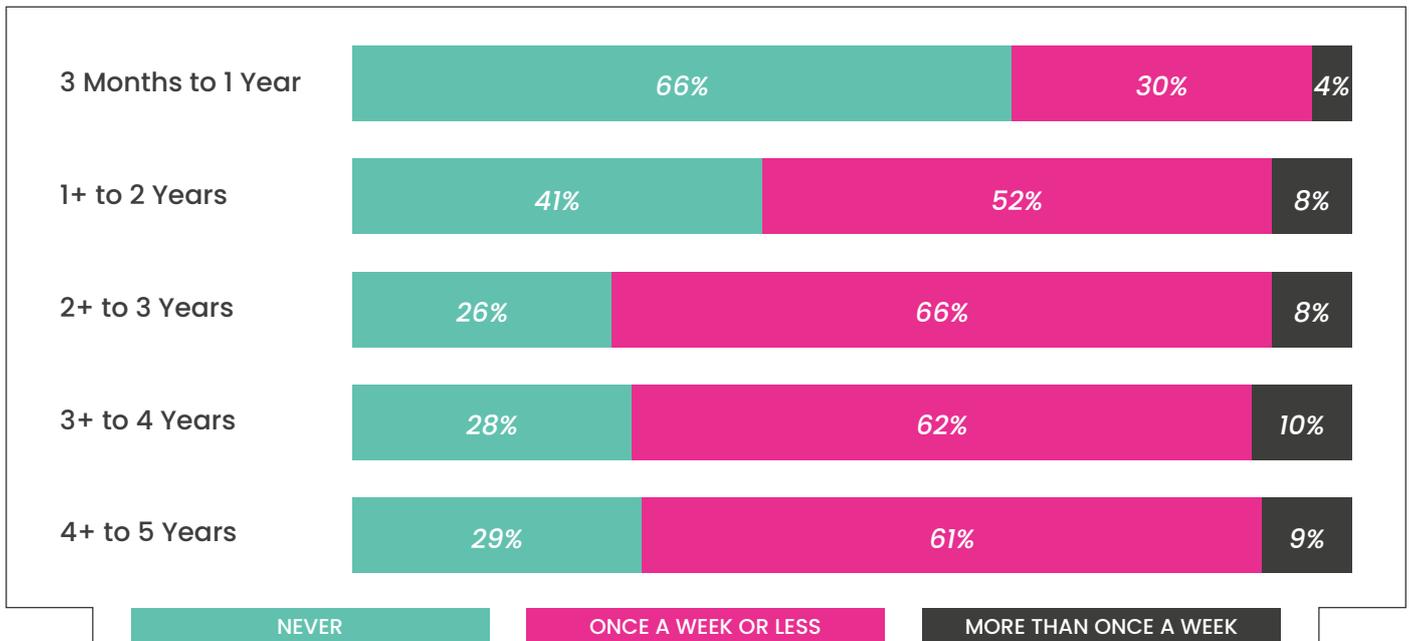


As for other cultural and social activities, almost 79% of mothers of children aged 2 and above reported that they or other family members never took their children to a museum or a cultural center. This high rate could be due to the fact that there is only one children's museum and 24 cultural centers in Jordan, of which 15 are located in the capital, Amman.^[21] Twenty-one percent of mothers in the central region reported taking their children to a museum or a cultural center compared to 16% and 12% in the northern and southern regions, respectively. Additionally, around 35% of mothers reported they or other family members never took their children to a play area or a park, and only 2% reported taking them on a daily basis (Figure 14). Similar to the pattern found with other activities, mothers in the central region (70%) were more likely to report their children being taken to a play area or a park than mothers in the northern and southern regions (60% and 55%, respectively).

[21] A list of museums and cultural centers in Jordan is listed on the website of the Ministry of Culture: <http://www.culture.gov.jo/>



FIGURE 14: FREQUENCY OF MOTHERS OR OTHER FAMILY MEMBERS TAKING THEIR CHILDREN TO A PLAY AREA OR A PARK, BY CHILD AGE (MOTHER-REPORTED)^[22]



Further analysis was conducted to explore whether mothers' demographic backgrounds and the gender of the child were associated with the level of family engagement in activities with their children. While the gender of the child had no relationship with reported engagement in various learning activities with their children, age, employment status, level of education, and household income were all significantly and positively correlated with participation, where the higher the household income, the older the mothers, and the higher their levels of education, the more likely they were to report that they or other family members participated in the aforementioned activities with their children.

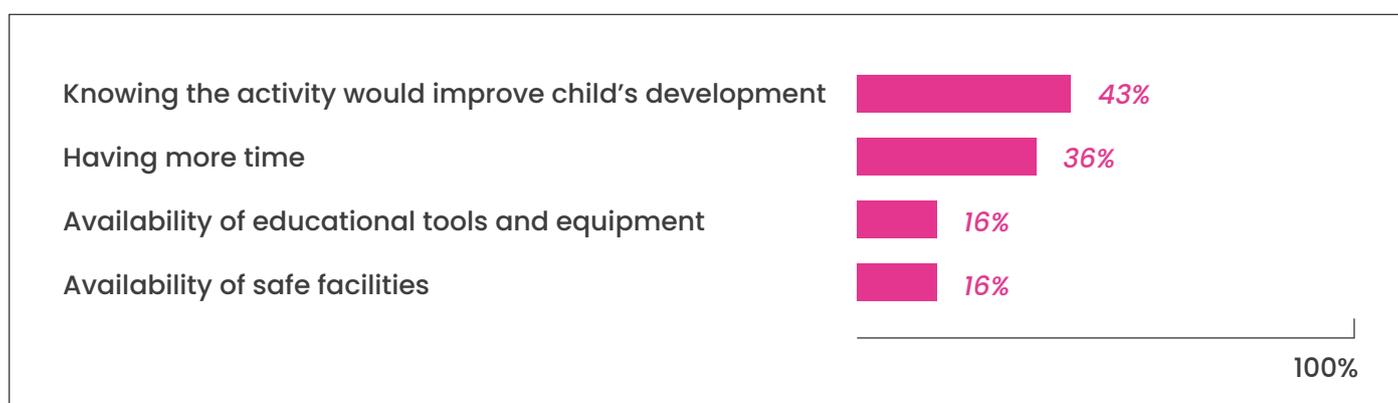
The survey went beyond exploring the participation of families in these learning activities to ask about their perceptions regarding whether they think their engagement is sufficient. About a quarter of mothers reported that their participation level is much lower than what they would like it to be, while a quarter of mothers reported that they are engaging in learning activities with their children more than they would like. The higher the number of family members, the more likely mothers were to report that their participation level is lower than they would like.

[22] Totals exceed 100% due to rounding.



Reported factors that could encourage mothers to participate in more learning activities with their children among those who reported participating less than what they would like to were: having more time and knowing that they are positively influencing their children’s development. Figure 15 summarizes the top factors that mothers reported would encourage them to increase participation with their children in learning and play activities.^[23]

FIGURE 15: THE TOP FOUR FACTORS THAT MOTHERS REPORTED WOULD INCREASE THEIR PARTICIPATION IN CERTAIN ACTIVITIES WITH THEIR CHILDREN^[24]



DISCIPLINARY PRACTICES

Studies show that physical discipline can actually decrease children’s long-term compliance and increase their engagement in undesirable behaviors (Gershoff, 2010). Physical discipline has many negative ramifications on children’s brain development, academic performance, and, ultimately, future well-being. Other consequences include harming the parent-child relationship and having children endorse hitting as a mechanism to solve their problems (The National Child Traumatic Stress Network, 2009).

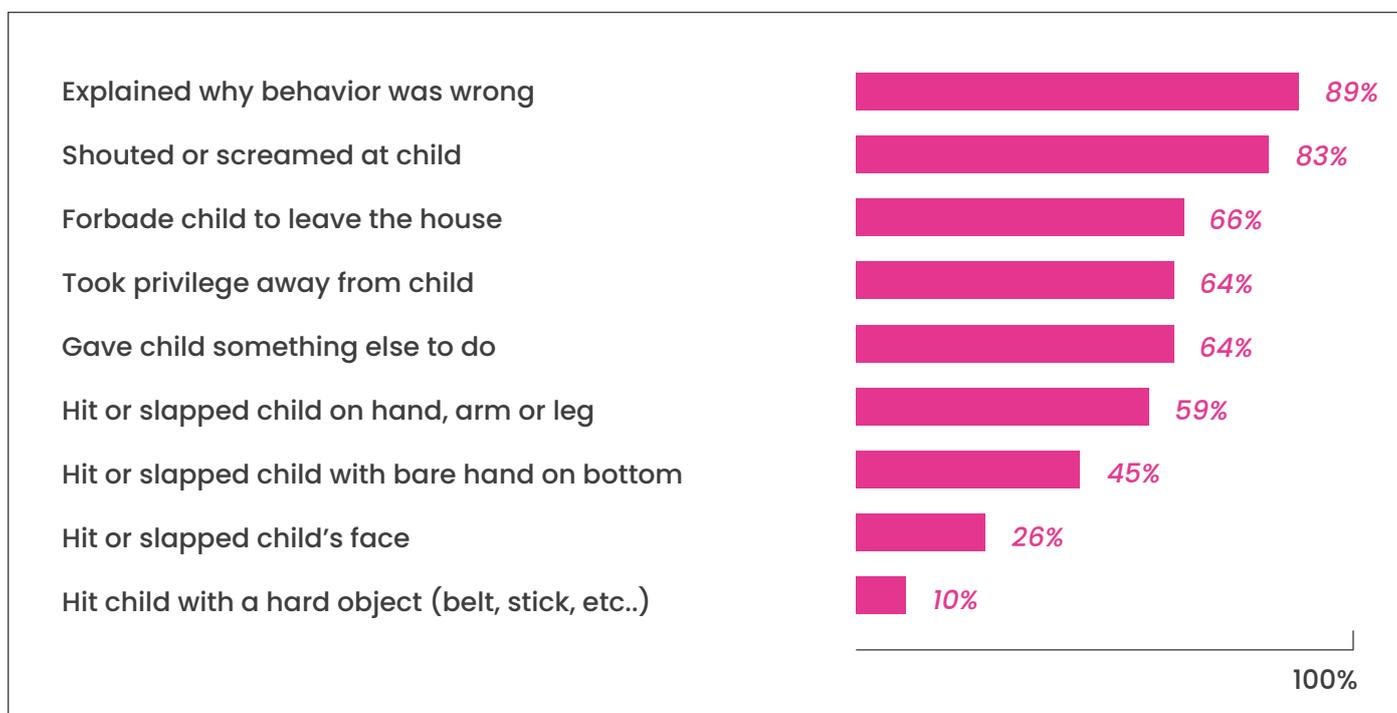
The mothers’ survey showed that while 75% of Jordanian mothers did not agree that physical discipline was necessary in order to raise or educate the child properly,^[25] many of them reported their children were physically disciplined at home. Figure 16 shows the percentage of mothers who reported the use of various discipline methods at home.

[23] The exact item in the survey was “What would encourage you to increase learning and play activities with your child?”

[24] This question was only asked of the 1308 mothers with children aged 2 months or more who reported spending less/ about right time participating in activities with their children.

[25] Mothers were asked whether they totally agree, somewhat agree, somewhat disagree or totally disagree with the following attitudinal statement: “In order to raise or educate the child properly, the child must be physically disciplined.”

FIGURE 16: MOTHER-REPORTED DISCIPLINARY METHODS USED IN THE HOUSEHOLD^[26]



Despite the fact that almost 90% of mothers reported explaining to their children why their behavior was wrong, the high reported rate of physical discipline could indicate a lack of awareness in terms of the consequences of using physical discipline and the importance of relying on alternative healthy child discipline methods. Results showed that mothers who reported being more confident^[27] were less likely to report the use of physical discipline at home; 66% of confident mothers reported the use of physical discipline, compared to 82% of non-confident mothers.

[26] These questions were borrowed from UNICEF's Multiple Indicator Cluster Survey (https://www.unicef.org/statistics/index_24302.html)

[27] The exact statement used in the survey item was "How confident do you feel, as your child's primary caregiver, in your capabilities in providing the necessary educational and care needs for your child?"



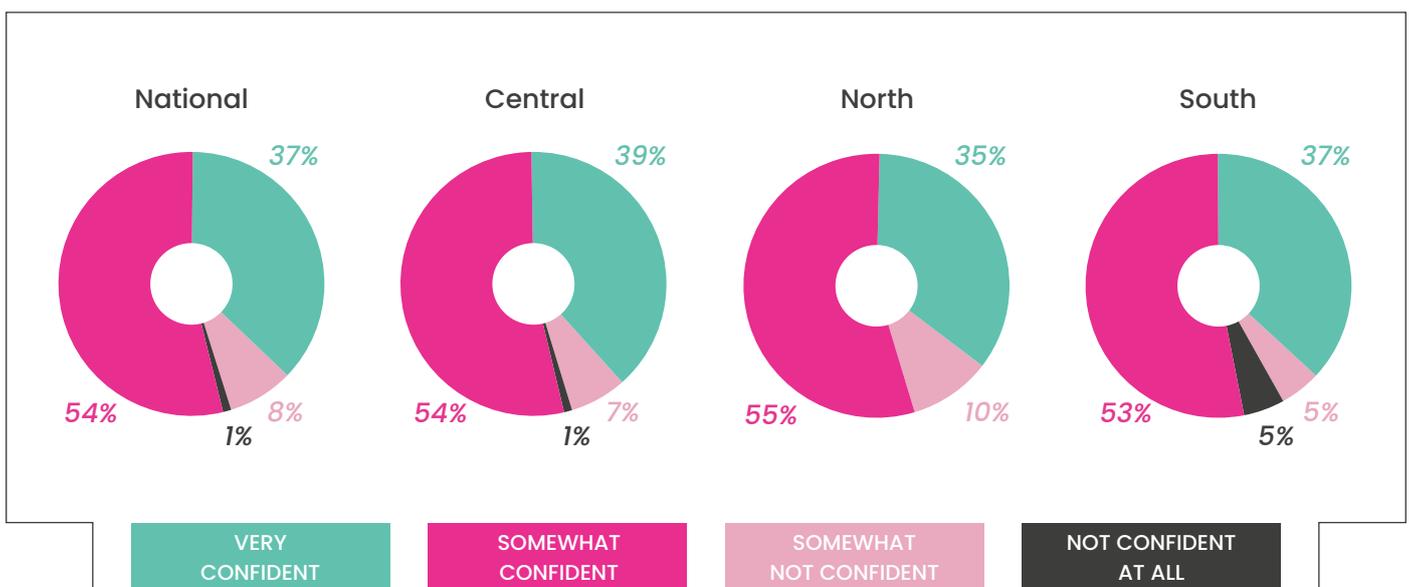
PARENTING ABILITIES

PARENTING CONFIDENCE

Although there was some regional variation in reported family participation in various activities with their children, there was little regional variation in mothers' confidence (Figure 17). Ninety-one percent of Jordanian mothers reported being "somewhat confident" or "very confident" about their ability to provide care to their children, and less than 2% were "not confident at all."

Mothers' confidence seems to be linked to their attitudes and perceptions. Only %25 of the mothers who were not confident reported believing that they can provide the same opportunities for their children to learn and play at home as at the nursery or KG, compared to %56 of confident mothers. This lack of confidence may be associated with a greater belief in the importance of formal pre-primary care and education: approximately %90 of mothers who were not confident in their parenting abilities believed that the role of education in nursery and KG education is more important than the role of education at home, compared to %78 of confident mothers.

FIGURE 17: MOTHER-REPORTED LEVEL OF CONFIDENCE IN PARENTING ACROSS REGION [28]



[28] Some totals exceed 100% due to rounding.



PARENTING PROGRAM PARTICIPATION

Parenting education has several potential benefits on parents' competencies and children's well-being. Britto et al. (2015) conducted a review of 105 studies of parenting programs and found that parenting programs have a positive impact on children's linguistic, cognitive, social and emotional skills, and that parenting programs have contributed positively to parents' knowledge and the quality of the home learning environment. Another literature review by Wilder Research (2016) found that parenting education increases parents' sense of self-efficacy, satisfaction, positive parenting practices (such as planned discipline) and social connections. Through parenting programs, parent-child interactions improve, as well as children's social skills, for example their empathy and helping others.

Of all mothers in the sample, only 7% said they had ever participated in parenting programs. These programs were reported to be organized by a range of providers, including CBOs, their children's KGs and nurseries, the Jordan River Foundation, UNICEF, the Family Protection Department within the Jordan Public Security Directorate and USAID. In contrast to low reported participation rates at the time of the survey, 55% of mothers reported that they needed parenting programs. The urgency of demand appeared to vary by region: 27% of mothers in the southern region stated that they need additional parenting programs to "a great extent"—almost double the rate of mothers in the other regions. More research is needed to learn about their specific parenting needs and how to support them.

Further analysis showed that 54% of mothers who reported being confident in their parenting abilities believed that they need parenting programs. Surprisingly, 41% of mothers who reported being unconfident stated that they do not need any parenting programs.

The mothers were also asked about the resources used for obtaining information on childcare. The top three reported resources used were media and publications (64%), general opinion of others and popular belief (50%) and the Internet (49%). Very few mothers reported awareness programs as a top information resource (3%), likely due to the low prevalence of parental awareness programs.



PARENTING IN JORDAN: **CONCLUSION**

QRF's National Early Childhood Development Survey 2015 included one of the first and most comprehensive surveys on parenting perceptions, attitudes, and practices in Jordan. The survey provides insights on the parenting landscape in Jordan, including the gaps in Jordanian mothers' awareness related to the importance of ECD, enrollment in formal early childhood education programs and the factors that influence mothers' decisions regarding enrollment, confidence and capabilities in providing care, the kind of home environment they provide for their children, and a detailed picture of parenting practices.

Data analysis yielded several important findings. Although the majority of mothers believed formal pre-primary education is important, only 2% reported their children aged 3 months to 4 years were enrolled in nurseries, and 20% reported their children aged 4 to 5 years were enrolled in KG1. While most mothers reported being confident about their ability to care for their children at home, approximately half did not believe they can provide a high-quality home learning environment when compared to formal pre-primary education and care. This was also reflected in their home practices, as more than 40% of mothers reported never reading to their children and more than 60% reported using some form of physical child discipline. These reported behaviors may be due to lack of awareness as only 7% of Jordanian mothers reported ever participating in parenting programs.

Given low reported enrollment in ECCE, the quality of the home learning environment is critical for Jordanian children aged five and under. More research is needed to explore the reasons behind high rates of physical discipline practices, the low rates of parental engagement in activities such reading stories and singing to their children, and the role of fathers, grandparents and extended families. Future studies could also help understand parenting challenges and explore ways to increase knowledge and preparation for parenthood and could be expanded to include all parents in Jordan and not only Jordanian mothers.



REFERENCES

Abu Taleb, T. (2013).

Parenting styles and children's social skills as perceived by Jordanian mothers of preschool children. *Early Child Development and Care*, 183(11), 1646–1660, Retrieved from <https://doi.org/10.1080/03004430.2012.744988>

Al-Hassan, S. M., & Lansford, J. E. (2011).

Evaluation of the Better Parenting Programme in Jordan. *Early Child Development and Care*, 181(5), 587–598. <http://doi.org/10.1080/03004431003654925>

Barker, J. E., Semenov, A. D., Michaelson, L., Provan, L. S., Snyder, H. R., & Munakata, Y. (2014).

Less-structured time in children's daily lives predicts self-directed executive functioning. *Frontiers in Psychology*, 5, 593. <https://doi.org/10.3389/fpsyg.2014.00593>

Bower, B. (2010).

Birth of the beat. *Science News*, 178(4). Retrieved from https://www.sciencenews.org/sites/default/files/birth_of_beat.pdf

Britto, P.R. (2017, September).

Early moments matter for every child. Retrieved from https://www.unicef.org/media/files/UNICEF_Early_Moments_Matter_for_Every_Child_report.pdf

Britto, P.R., Ponguta, L., Reyes, C., & Karnati, R. (2015).

A systematic review of parenting programs for young children in low and middle income countries. Retrieved from https://www.unicef.org/earlychildhood/files/P_Shanker_final__Systematic_Review_of_Parenting_ECD_Dec_15_copy.pdf

Center on the Developing Child at Harvard University. (2007).

The science of early childhood development. Retrieved from <http://developingchild.harvard.edu/resources/inbrief-science-of-eed/>

Center on the Developing Child at Harvard University. (2013).

The science of neglect. Retrieved from <http://46y5eh11fhgw3ve3ytpwxt9r.wpengine.netdna-cdn.com/wp-content/uploads/2015/05/InBrief-The-Science-of-Neglect-3.pdf>

Department of Statistics & ICF International. (2013).

Jordan population and family health survey 2012. Retrieved from <https://dhsprogram.com/pubs/pdf/fr282/fr282.pdf>



- Diamond, A., Barnett, W. S., Thomas, J., & Munro, S. (2007).**
Preschool program improves cognitive control. *Science*, *318*(5855), 1387–8.
[doi: 10.1126/science.1151148](https://doi.org/10.1126/science.1151148)
- Feinstein, L., & Duckworth, K. (2006).**
Development in the early years: Its importance for school performance and adult outcomes. Retrieved from
<http://discovery.ucl.ac.uk/10005970/1/Feinstein2006Development.pdf>
- Fink, G., McCoy, D., Hatamleh, H., Pylvainen, H., Chen, A. & Al-Assaf, G. (2017).**
Economic implications of investing in early childhood care and education in Jordan. Retrieved from
https://www.qrf.org/sites/default/files/2019-05/economic_implications_of_investing_in_ecce_in_jordan_en.pdf
- Fink, G., Peet E., Danaei G., Andrews K., McCoy D. C., Sudfeld, C. R., Smith Fawzi, M. C., Ezzati, M., & Fawzi, W. W. (2016).**
Schooling and wage income losses due to early-childhood growth faltering in developing countries: National, regional, and global estimates. *The American Journal of Clinical Nutrition* *104*(1),104–12.
[doi: 10.3945/ajcn.115.123968](https://doi.org/10.3945/ajcn.115.123968)
- Garcia, J.L., Heckman, J.J., Leaf, D.E., & Prados, M.J. (2016).**
The lifecycle benefits of an influential early childhood program. Retrieved from
<http://ftp.iza.org/dp10456.pdf>
- Gershoff, E. (2010).**
More harm than good: A summary of scientific research on the intended and unintended effects of corporal punishment of children. *Law and Contemporary Problems*, *73*(31). Retrieved from
<http://scholarship.law.duke.edu/cgi/viewcontent.cgi?article=1565&context=lcp>
- Gertler, P., Heckman J., Pinto R., Zanolini A., Vermeersch C., Walker S., . . . Grantham-McGregor S. (2014).**
Labor market returns to an early childhood stimulation intervention in Jamaica. *Science*, *344*(6187), 998–1001.
[doi: 10.1126/science.1251178](https://doi.org/10.1126/science.1251178)
- Ghawi, G., Dahdah, S., Pylvainen, H., Hatamleh, H., Palmer, R., Sarabi, H. (2018).**
Nurseries in Jordan: Findings from the Queen Rania Foundation national early childhood development survey 2015. Retrieved from
<https://www.qrf.org/sites/default/files/2019-07/qrf-parentingstudy-en.pdf>
- Gromko, J. (2005).**
The effect of music instruction on phonemic awareness in beginning readers. *Journal of Research in Music Education*, *53*(3), 199–209.
[doi: 10.2307/3598679](https://doi.org/10.2307/3598679)



Hall, E. (2007).

Mixed messages: The role & value of drawing in early education. Retrieved from <http://www.leeds.ac.uk/educol/documents/165704.htm>

Hyson, M., Copple, C., & Jones, J. (2007).

Early childhood development and education. In Damon, W., Lerner, R. M., Renninger, K. A., and Siegel, I. E. (Eds.) *Handbook of Child Psychology*. <https://doi.org/10.1002/9780470147658.chpsy0401>

International Labour Organization. (2018).

Labour force participation rate by sex and age. Retrieved from https://www.ilo.org/ilostat/faces/oracle/webcenter/portalapp/pagehierarchy/Page27.jsp?subject=ILOEST&indicator=EAP_2WAP_SEX_AGE_RT&datasetCode=A&collectionCode=ILOEST

Kalb, G., & van Ours, J.C. (2012).

Reading to young children: A head-start in life. Retrieved from <https://www.education.vic.gov.au/documents/about/research/readtoyoungchild.pdf>

Karpov, Y. V. (2005).

The neo-Vygotskian approach to child development. Cambridge: Cambridge University Press. <http://dx.doi.org/10.1017/CBO9781316036532>

Manolitsis, G., Georgiou, G.K., & Tziraki, N. (2013)

Examining the effects of home literacy and numeracy environment on early reading and math acquisition. *Early Childhood Research Quarterly*, 28(4), 692–703. Retrieved from <https://www.sciencedirect.com/science/article/pii/S0885200613000513>

Masa'Deh, R. (2015).

Perceived stress in parents of children with chronic disease: A comparative study. *European Scientific Journal*, 11(36). Retrieved from <https://eujournal.org/index.php/esj/article/viewFile/6775/6540>

Melhuish, E., Phan, M., Sylva, K., Sammons, P., & Taggart, I. (2008).

Effects of the home learning environment and preschool center experience upon Literacy and numeracy development in early primary school. *Journal of Social Issues*, 64(1). Retrieved from <http://193.61.4.225/web-files/our-staff/academic/edward-melhuish/documents/JSI2008.pdf>

Menzer, M. (2015).

The arts in early childhood: social and emotional benefits of arts participation: a literature review and gap-analysis (2000–2015). Washington, DC: National Endowment for the Arts. Retrieved from <https://www.arts.gov/sites/default/files/arts-in-early-childhood-dec2015-rev.pdf>

Ministry of Education. (2017).

Childhood department. Retrieved from <http://www.moe.gov.jp/ar/node/21654>



Ministry of Education. (2018).

Education Strategic Plan 2018–2022. Retrieved from

http://planipolis.iiep.unesco.org/sites/planipolis/files/ressources/jordan_education_strategic_plan_esp_2018-2022.pdf

Ministry of Education, National Council for Family Affairs & UNICEF. (2000).

Early Childhood Development Strategy in Jordan. Retrieved from

<http://ncfa.org.jo:85/ncfa/sites/default/files/publications/early-childhood-development-strategy-jordan.pdf>

Ministry of Education, National Council for Family Affairs & UNICEF. (2011).

Plan of Action for the Early Childhood National Program. Retrieved from

<http://ncfa.org.jo:85/NCFA/sites/default/files/Publications/ECD-Arabic.pdf>

Moreno, S., Marques, C., Santos, A., Santos, M., Castro, S., & Besson, M. (2009).

Musical training influences linguistic abilities in 8-year-old children: More evidence for brain plasticity. *Cerebral Cortex*, *19*(3), 712–723.

doi: [10.1093/cercor/bhn120](https://doi.org/10.1093/cercor/bhn120)

National Academies of Sciences, Engineering, and Medicine. (2016).

Parenting matters: Supporting parents of children ages 0–8. Retrieved from

<https://www.nap.edu/catalog/21868/parenting-matters-supporting-parents-of-children-ages-0-8>

National Committee for Human Resource Development. (2016).

Education for Prosperity: Delivering Results. A National Strategy for Human Resource Development 2016–2025. Retrieved from

<http://www.mohe.gov.jo/en/documents/national-hrd-strategy.pdf>

The National Child Traumatic Stress Network. (2009).

Physical punishment: What parents should know. Retrieved from

<https://www.nctsn.org/resources/physical-punishment-what-parents-should-know>

Niklas, F. & Schneider, W. (2013).

Home literacy environment and the beginning of reading and spelling. *Contemporary Educational Psychology*, *38*(1), 40–50.

<http://dx.doi.org/10.1016/j.cedpsych.2012.10.001>

Norton, A., Winner, E., Cronin, K., Lee, D. J., & Schlaug, G. (2005).

Are there pre-existing neural, cognitive, or motoric markers for musical ability? *Brain and Cognition*, *59*(2), 124–134.

doi: [10.1016/j.bandc.2005.05.009](https://doi.org/10.1016/j.bandc.2005.05.009)

Oats, J. (Ed.). (2010).

Supporting parents. Retrieved from

https://bernardvanleer.org/app/uploads/2015/12/ECIF5_Supporting_parenting.pdf



OECD. (2012).

Let's read them a story! The parent factor in education.

<http://dx.doi.org/10.1787/9789264176232-en>

OECD. (2016a).

Education at a glance 2016: OECD indicators. Retrieved from

http://gpseducation.oecd.org/Content/EAGCountryNotes/EAG2016_CN_NOR.pdf

OECD. (2016b).

PISA 2018: Draft analytical frameworks. Retrieved from

<https://www.oecd.org/pisa/data/PISA-2018-draft-frameworks.pdf>

Safadi, R., Ahmad, M., Nassar, O., Alashhab, S., Abdelkader, R., & Amre, H. (2016).

Jordanian mothers' knowledge of infants' childrearing and developmental milestones. *International Nursing Review*, 63, 50-59.

<https://doi.org/10.1111/inr.12185>

Save the Children US. (2013).

Emergent literacy: Investing early for exponential outcomes. Retrieved from

<https://www.savethechildren.org/content/dam/global/reports/education-and-child-protection/edu-elm-13.pdf>

Skwarchuk, S.L., Sowinski, C., & LeFevre, J.A. (2014).

Formal and informal home learning activities in relation to children's early numeracy and literacy skills: The development of a home numeracy model. *Journal of Experimental Child Psychology*, 121, 63-84.

doi: [10.1016/j.jecp.2013.11.006](https://doi.org/10.1016/j.jecp.2013.11.006)

Steffani, S., & Selvester, P.M. (2009).

The relationship of drawing, writing, literacy, and math in kindergarten children. *Reading Horizons*, 49(2), 125-142. Retrieved from

https://scholarworks.wmich.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1051&context=reading_horizons

Sylva, K., Melhuish, E., Sammons, P., Siraj-Blatchford, I., Taggart, B. (2010)

Early childhood matters: Evidence from the effective pre-school and primary education project.

<https://doi.org/10.4324/9780203862063>

Timmons, B., Naylor, P., & Pfeiffer, K. (2007).

Physical activity for preschool children - How much and how? *Applied Physiology, Nutrition, and Metabolism*, 32, S122-S134.

<https://doi.org/10.1139/H07-112>

Tucker, P. (2008).

The physical activity levels of preschool-aged children: A systematic review. *Early Childhood Research Quarterly*, 23(4), 547-448.

<https://doi.org/10.1016/j.ecresq.2008.08.005>



UNESCO. (2002).

UNESCO policy briefs on early childhood: Early childhood care? Development? Education? Retrieved from

http://www.unesco.org/education/pdf/ecf_dev_ed.pdf

UNICEF-MENA. (2009).

Jordan's early childhood development initiative: Making Jordan fit for children. Retrieved from

https://www.unicef.org/jordan/jo_children_ecddocumentation2009en.pdf

Van der Fels, I., Wierike, S., Hartman, E., Elferink-Gemser, M., Smith, J., & Visscher, C. (2015).

The relationship between motor skills and cognitive skills in 4-16 year old typically developing children: A systematic review. *Journal of Science and Medicine in Sport*, 18(6), 607-703.

<https://doi.org/10.1016/j.jsams.2014.09.007>

Vlismas, W., Malloch, S., & Burnham, D. (2013).

The effects of music and movement on mother-infant interaction. *Early Child Development and Care*, 183(11), 1669-1688.

doi: [10.1080/03004430.2012.746968](https://doi.org/10.1080/03004430.2012.746968)

Walker, S. P., Chang, S. M., Powell, C. A., & Grantham-McGregor, S. M. (2005).

Effects of early childhood psychosocial stimulation and nutritional supplementation on cognition and education in growth-stunted Jamaican children: Prospective cohort study. *Lancet*, 366(9499): 1804-1807.

doi: [10.1016/S0140-6736\(05\)67574-5](https://doi.org/10.1016/S0140-6736(05)67574-5)

White, R. (2012).

The power of play: A research summary on play and learning. Retrieved from

<https://www.childrensmuseums.org/images/MCMResearchSummary.pdf>

Whitebread, D., Neale, D., Jensen, H., Liu, C., Solis, S.L., Hopkins, E.J., . . . Zosh, J.M. (2017).

The role of play in children's development: A review of the evidence.

doi: [10.13140/RG.2.2.18500.73606](https://doi.org/10.13140/RG.2.2.18500.73606)

Wilder Research. (2016).

The benefits of parenting education: A review of the literature for the Wilder Parent Education Center. Retrieved from

https://www.wilder.org/sites/default/files/imports/LitReviewSummary_10-16.pdf

World Health Organization. (2018).

Physical activity. Retrieved from

<http://www.who.int/en/news-room/fact-sheets/detail/physical-activity>

