

IX. EARLY CHILDHOOD DEVELOPMENT

Early Childhood Care and Education

Readiness of children for primary school can be improved through attendance to early childhood education programmes or through pre-school attendance. Early childhood education programmes include programmes for children that have organised learning components as opposed to baby-sitting and day-care which do not typically have organised education and learning.

It can be observed from the Table CD.1 that 26 percent of children age 36-59 months are attending an organised early childhood education programme. Urban-rural differentials are notable; the figure is high in urban at 36 percent compared to 21 percent in rural areas. Among children age 36-59 months, attendance to early childhood education programmes is more prevalent in Rawalpindi division (47%), and lowest in the Bahawalpur, DG Khan and Multan divisions (14% each). No real gender differentials exists, but differentials by socioeconomic status seem to be significant. Forty four percent of children living in the households in the highest quintile attended such programmes and this proportion drops to 9 percent among children living in the households in the lowest quintile.

Table CD.1: Early childhood education		
Percentage of children age 36-59 months who are attending an organized early childhood education programme, Punjab, 2014.		
	Percentage of children age 36-59 months attending early childhood education ¹	Number of children age 36-59 months
Punjab	25.7	11,527
Area of residence		
Rural	21.1	7,941
All Urban	35.9	3,585
Major Cities	36.4	1,841
Other Urban	35.4	1,744
Sex		
Male	24.9	5,809
Female	26.6	5,717
Age of child		
36-47 months	13.5	5,894
48-59 months	38.6	5,633
Mother's education		
None/pre-school	14.8	5,863
Primary	29.7	2,031
Middle	36.0	1,083
Secondary	41.6	1,399
Higher	45.5	1,151
Wealth index quintile		
Lowest	8.9	2,835
Second	18.9	2,314
Middle	27.9	2,119
Fourth	35.9	2,231
Highest	43.7	2,027
Division		
Bahawalpur	13.7	1,398
D.G. Khan	14.4	1,384
Faisalabad	28.9	1,352
Gujranwala	34.3	1,702
Lahore	31.9	1,931
Multan	14.0	1,248
Rawalpindi	47.2	899
Sahiwal	24.3	814
Sargodha	23.4	799
¹ MICS indicator 6.1 - Attendance to early childhood education		

Quality of Care

It is well recognized that a period of rapid brain development occurs in the first 3-4 years of life, and the quality of home care is a major determinant of the child's development during this period.⁵³ In this context, engagement of adults in activities with children, presence of books in the home for the child, and the conditions of care are important indicators of quality of home care. As set out in *A World Fit for Children*, "children should be physically healthy, mentally alert, emotionally secure, socially competent and ready to learn."⁵⁴

Information on a number of activities that support early learning was collected in the survey. These included the involvement of adults with children in the following activities: reading books or looking at picture 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.

For almost one-third (35%) of children age 36-59 months, an adult household member engaged in four or more activities that promote learning and school readiness during the 3 days preceding the survey (Table CD.2). The mean number of activities that adults engaged with children is 2.8. The table also indicates that the father's involvement in such activities is somewhat limited which is only 3 percent. About 9 percent of children age 36-59 months live without their biological father. As regards to mother's involvement in four or more activities that promote learning and school readiness during the 3 days preceding the survey, it is 12 percent. Less than 2 percent of children age 36-59 months live without their biological mother.

There are no gender differentials in terms of engagement of adults in activities with children. However differentials exist based on area of residence; a larger proportion of adults in urban (53%) engages in learning and school readiness activities with children than in rural areas (27%). Strong differences by mother's education, socio-economic status and divisions are also observed. Adult engagement in activities with children was greatest in Rawalpindi and Faisalabad divisions (51% and 50% respectively) and lowest in Bahawalpur division (21%), while the proportion was 65 percent for children living in the households in the highest quintile, as opposed to children living in the households in the lowest quintile (10%).

⁵³ Grantham-McGregor, S et al. 2007. *Developmental Potential in the First 5 Years for Children in Developing Countries*. The Lancet 369: 60–70

Belsky, J et al. 2006. *Socioeconomic Risk, Parenting During the Preschool Years and Child Health Age 6 Years*. European Journal of Public Health 17(5): 511–2.

⁵⁴ UNICEF. 2002. *A World Fit For Children* adopted by the UN General Assembly at the 27th Special Session, 10 May 2002: 2.

Table CD.2: Support for learning

Percentage of children age 36-59 months with whom adult household members engaged in activities that promote learning and school readiness during the last three days, and engagement in such activities by biological fathers and mothers, Punjab, 2014.

	Percentage of children with whom adult household members have engaged in four or more activities ¹	Mean number of activities with adult household members	Percentage of children living with their:		Number of children age 36-59 months	Percentage of children with whom biological fathers have engaged in four or more activities ²	Mean number of activities with biological fathers	Number of children age 36-59 months living with their biological fathers	Percentage of children with whom biological mothers have engaged in four or more activities ³	Mean number of activities with biological mothers	Number of children age 36-59 months living with their biological mothers
			Biological father	Biological mother							
Punjab	35.0	2.8	91.3	98.5	11,527	2.6	0.8	10,525	11.8	1.3	11,349
Area of residence											
Rural	27.0	2.5	90.9	98.4	7,941	2.0	0.8	7,219	7.5	1.0	7,816
All Urban	52.6	3.5	92.2	98.5	3,585	3.8	1.0	3,306	21.5	1.9	3,533
Major Cities	55.8	3.6	94.0	98.9	1,841	4.3	1.1	1,731	25.3	2.1	1,820
Other Urban	49.3	3.4	90.3	98.2	1,744	3.3	0.9	1,575	17.5	1.7	1,713
Sex											
Male	34.0	2.8	91.3	98.5	5,809	2.6	0.9	5,304	11.5	1.3	5,722
Female	36.0	2.8	91.3	98.4	5,717	2.5	0.8	5,220	12.2	1.3	5,627
Age of child											
36-47 months	33.5	2.8	91.7	98.5	5,894	2.5	0.8	5,404	11.7	1.3	5,803
48-59 months	36.5	2.9	90.9	98.5	5,633	2.6	0.8	5,120	12.0	1.3	5,547
Mother's education^a											
None/Pre-school	18.3	2.2	93.4	98.0	5,863	1.3	0.7	5,478	2.2	0.6	5,747
Primary	35.9	2.8	89.6	98.8	2,031	2.2	0.8	1,820	9.0	1.2	2,007
Middle	51.5	3.5	90.3	98.9	1,083	3.2	0.9	978	19.4	1.9	1,071
Secondary	61.0	3.8	87.9	99.1	1,399	3.4	1.0	1,229	27.2	2.3	1,386
Higher	71.1	4.2	88.6	98.9	1,151	7.8	1.3	1,021	39.8	2.9	1,139
Father's education^b											
None/pre-school	17.2	2.1	100.0	99.0	3,308	0.7	0.7	3,308	3.4	0.7	3,276
Primary	27.0	2.5	100.0	99.4	1,872	2.0	0.8	1,872	7.1	1.0	1,861
Middle	36.0	2.9	100.0	98.9	1,659	2.0	0.9	1,659	10.6	1.3	1,642
Secondary	45.8	3.3	100.0	99.2	2,245	3.0	1.0	2,245	15.9	1.6	2,228
Higher	63.0	3.9	100.0	99.5	1,438	8.8	1.4	1,438	27.8	2.2	1,432
Father not in the household	42.3	3.1	0.0	90.8	1,002	na	na	na	18.7	1.6	910

Table CD.2: Support for learning

Percentage of children age 36-59 months with whom adult household members engaged in activities that promote learning and school readiness during the last three days, and engagement in such activities by biological fathers and mothers, Punjab, 2014.

	Percentage of children with whom adult household members have engaged in four or more activities ¹	Mean number of activities with adult household members	Percentage of children living with their:		Number of children age 36-59 months	Percentage of children with whom biological fathers have engaged in four or more activities ²	Mean number of activities with biological fathers	Number of children age 36-59 months living with their biological fathers	Percentage of children with whom biological mothers have engaged in four or more activities ³	Mean number of activities with biological mothers	Number of children age 36-59 months living with their biological mothers
			Biological father	Biological mother							
Wealth index quintiles											
Lowest	10.4	1.8	94.7	98.7	2,835	0.7	0.6	2,686	1.6	0.5	2,798
Second	24.5	2.4	93.4	97.8	2,314	1.9	0.8	2,161	4.6	0.9	2,262
Middle	35.9	2.9	92.8	98.6	2,119	1.9	0.8	1,967	9.3	1.2	2,089
Fourth	48.5	3.3	88.4	98.4	2,231	2.9	0.9	1,971	16.4	1.7	2,194
Highest	65.4	4.0	85.8	99.0	2,027	6.2	1.1	1,740	31.9	2.5	2,006
Division											
Bahawalpur	21.2	2.6	94.6	98.5	1,398	1.2	0.9	1,323	3.4	0.8	1,377
D.G. Khan	22.2	2.2	89.6	98.4	1,384	2.5	0.6	1,239	6.8	0.7	1,362
Faisalabad	49.9	3.5	95.4	98.8	1,352	2.7	0.9	1,290	14.8	1.7	1,336
Gujranwala	42.1	3.1	79.4	98.9	1,702	2.3	0.7	1,352	15.2	1.5	1,683
Lahore	42.7	3.1	94.4	98.4	1,931	3.9	1.0	1,822	20.1	1.8	1,901
Multan	21.0	2.3	94.5	98.3	1,248	1.4	0.8	1,179	4.8	0.8	1,226
Rawalpindi	50.5	3.3	88.5	99.0	899	2.8	0.9	796	23.1	1.9	890
Sahiwal	35.3	2.7	92.8	97.5	814	3.2	0.9	755	5.4	1.0	794
Sargodha	26.1	2.3	96.1	97.7	799	2.9	0.8	768	7.8	1.1	781
Punjab	35.0	2.8	91.3	98.5	11,527	2.6	0.8	10,525	11.8	1.3	11,349

¹ MICS indicator 6.2 - Support for learning

² MICS Indicator 6.3 - Father's support for learning

³ MICS Indicator 6.4 - Mother's support for learning

^a The background characteristic "Mother's education" refers to the education level of the respondent to the Questionnaire for Children Under Five, and covers both mothers and primary caretakers, who are interviewed when the mother is not listed in the same household. Since indicator 6.4 reports on the biological mother's support for learning, this background characteristic refers to only the educational levels of biological mothers when calculated for the indicator in question.

^b Total includes 1 unweighted cases of father's education missing

na: not applicable

Exposure to books in early years not only provides the child with greater understanding of the nature of print, but may also give the child opportunities to see others reading, such as older siblings doing school work. Presence of books is important for later school performance. The mothers/caretakers of all children under 5 were asked about number of children's books or picture books they have for the child, and the types of playthings that are available at home.

In Punjab, only 8 percent of children age 0-59 months live in households where at least 3 children's books are present for the child (Table CD.3). The proportion of children with 10 or more books declines to only less than 1 percent. Rawalpindi division has highest (21%) percentage of children who have three or more books at home as compared to the other divisions. While no gender differentials are observed, a higher percentage of urban children have access to children's books than those living in rural households. The proportion of under-5 children who have 3 or more children's books is 13 percent in urban areas, compared to 5 percent in rural areas. The presence of children's books is positively correlated with the child's age; in the homes of 11 percent of children age 24-59 months, there are 3 or more children's books, while the figure is less than 1 percent for children age 0-23 months. There are also notable differences by mother's education and wealth quintile.

When children for whom there are 10 or more children's books or picture books are taken into account, a similar pattern of the background characteristics is observed as in the case of at least 3 children's books.

Table CD.3: Learning materials

Percentage of children under age 5 by numbers of children's books present in the household, and by playthings that child plays with, Punjab, 2014.

	Percentage of children living in households that have for the child:		Percentage of children who play with:				Number of children under age 5
	3 or more children's books ¹	10 or more children's books	Homemade toys	Toys from a shop/manufactured toys	Household objects/objects found outside	Two or more types of playthings ²	
Punjab	7.6	0.3	27.3	64.7	61.5	52.5	27,495
Area of residence							
Rural	5.2	0.1	29.9	58.9	64.4	52.2	19,002
All Urban	12.9	0.5	21.5	77.8	55.0	53.1	8,493
Major Cities	15.9	0.7	19.7	79.9	50.3	49.7	4,364
Other Urban	9.8	0.3	23.3	75.7	60.0	56.7	4,129
Sex							
Male	7.2	0.3	26.7	66.4	61.1	52.6	13,915
Female	7.9	0.2	27.9	63.0	61.9	52.4	13,580
Age							
0-23 months	0.8	0.1	19.0	54.0	46.2	38.2	10,642
24-59 months	11.8	0.4	32.5	71.5	71.2	61.5	16,853
Mother's education							
None/pre-school	2.7	0.1	30.8	50.9	65.6	48.8	13,140
Primary	5.8	0.1	26.3	68.7	62.7	54.9	4,991
Middle	10.4	0.2	25.4	76.6	58.6	57.3	2,740
Secondary	14.3	0.4	21.2	82.7	53.2	54.6	3,563
Higher	20.6	1.3	22.6	86.2	54.5	57.4	3,062
Wealth index quintile							
Lowest	0.9	0.0	35.1	36.6	68.4	44.9	6,316
Second	2.9	0.1	29.9	57.5	66.5	52.7	5,560
Middle	5.5	0.1	26.3	70.7	61.8	55.1	5,335
Fourth	10.9	0.2	22.1	78.7	56.6	55.3	5,380
Highest	19.9	1.0	21.1	87.4	52.1	56.1	4,904
Division							
Bahawalpur	2.0	0.1	12.7	47.2	60.6	33.1	3,080
D.G. Khan	2.9	0.1	57.5	42.6	66.9	57.2	3,151
Faisalabad	2.6	0.2	31.8	74.4	66.9	64.1	3,272
Gujranwala	12.9	0.2	25.4	77.2	60.4	57.2	4,100
Lahore	14.0	0.6	16.4	77.0	55.4	51.3	4,670
Multan	3.0	0.1	23.5	46.6	60.7	42.4	3,019
Rawalpindi	21.5	0.7	26.0	79.3	49.0	50.2	2,165
Sahiwal	3.7	0.2	34.8	68.9	75.6	63.9	2,032
Sargodha	1.4	0.0	23.8	64.2	62.8	54.9	2,005

¹ MICS indicator 6.5 - Availability of children's books

² MICS indicator 6.6 - Availability of playthings

Table CD.3 also shows that 53 percent of children age 0-59 months had 2 or more types of playthings to play with in their homes. The types of playthings included in the questionnaires were homemade toys (such as dolls and cars, or other toys made at home), toys that came from a store, and household objects (such as pots and bowls) or objects and materials found outside the home (such as sticks, rocks, animal shells, or leaves). A higher proportion of children (65%) play with toys that come from a store and 62 percent play with household objects or objects found outside the house; however, the percentage for homemade toys is 27 percent. By division, the proportion of children who have 2 or more types of playthings ranges from 33 percent in Bahawalpur to 64 percent each in Sahiwal and Faisalabad.

Leaving children alone or in the presence of other young children is known to increase the risk of injuries.⁵⁵ In the present survey, two questions were asked to find out whether children age 0-59 months were left alone during the week preceding the interview, and whether children were left in the care of other children under 10 years of age. This data is displayed in Table CD.4.

The table shows that 4 percent of children age 0-59 months were left in the care of other children under 10 years of age, while 5 percent were left alone during the week preceding the interview. Combining the two care indicators, it is calculated that a total of 7 percent of children were left with inadequate care during the past week, either by being left alone or in the care of another child under 10 years of age. No differences are observed by sex of the child. More children living in the households in the lowest quintile were left with inadequate care (9%) than children living in the households in the highest quintile (5%).

⁵⁵ Grossman, DC. 2000. *The History of Injury Control and the Epidemiology of Child and Adolescent Injuries*. The Future of Children, 10(1): 23-52.

Table CD.4: Inadequate care				
Percentage of children under age 5 left alone or left in the care of another child younger than 10 years of age for more than one hour at least once during the past week, Punjab, 2014.				
	Percentage of children under age 5:			Number of children under age 5
	Left alone in the past week	Left in the care of another child younger than 10 years of age in the past week	Left with inadequate care in the past week ¹	
Punjab	4.6	3.7	6.8	27,495
Area of residence				
Rural	5.0	4.3	7.5	19,002
All Urban	3.7	2.3	5.2	8,493
Major Cities	3.8	2.2	5.4	4,364
Other Urban	3.7	2.4	4.9	4,129
Sex				
Male	4.5	3.5	6.5	13,915
Female	4.7	3.8	7.0	13,580
Age				
0-23 months	3.3	2.9	5.1	10,642
24-59 months	5.4	4.1	7.8	16,853
Mother's education				
None/pre-school	5.2	5.2	8.2	13,140
Primary	4.2	3.4	6.4	4,991
Middle	3.5	1.9	4.8	2,740
Secondary	4.2	1.3	4.8	3,563
Higher	4.3	1.6	5.4	3,062
Wealth index quintile				
Lowest	5.6	6.2	9.0	6,316
Second	5.0	4.4	7.6	5,560
Middle	4.1	3.3	6.2	5,335
Fourth	4.1	2.4	5.7	5,380
Highest	4.0	1.4	4.8	4,904
Division				
Bahawalpur	2.4	2.4	4.5	3,080
D.G. Khan	4.2	5.5	6.9	3,151
Faisalabad	3.5	2.4	4.5	3,272
Gujranwala	6.5	4.4	9.7	4,100
Lahore	2.7	2.5	4.2	4,670
Multan	3.1	2.7	4.5	3,019
Rawalpindi	8.8	2.8	10.5	2,165
Sahiwal	10.8	8.9	15.1	2,032
Sargodha	2.5	2.9	4.7	2,005
¹ MICS indicator 6.7 - Inadequate care				

Developmental Status of Children

Early childhood development is defined as an orderly, predictable process along a continuous path, in which a child learns to handle more complicated levels of moving, thinking, speaking, feeling and relating to others. Physical growth, literacy and numeracy skills, socio-emotional development and readiness to learn are vital domains of a child's overall development, which is a basis for overall human development.⁵⁶

A 10-item module was used to calculate the Early Child Development Index (ECDI). The primary purpose of the ECDI is to inform public policy regarding the developmental status of children in Punjab.

⁵⁶ Shonkoff, J and Phillips, D (eds). 2000. *From neurons to neighborhoods: the science of early childhood development*. Committee on Integrating the Science of Early Childhood Development, National Research Council, 2000.

The index is based on selected milestones that children are expected to achieve by ages 3 and 4. The 10 items are used to determine if children are developmentally on track in four domains:

- Literacy-numeracy: Children are identified as being developmentally on track based on whether they can identify/name at least ten letters of the alphabet, whether they can read at least four simple, popular words, and whether they know the name and recognize the symbols of all numbers from 1 to 10. If at least two of these are true, then the child is considered developmentally on track.
- Physical: If the child can pick up a small object with two fingers, like a stick or a rock from the ground and/or the mother/caretaker does not indicate that the child is sometimes too sick to play, then the child is regarded as being developmentally on track in the physical domain.
- Social-emotional: Children are considered to be developmentally on track if two of the following are true: If the child gets along well with other children, if the child does not kick, bite, or hit other children and if the child does not get distracted easily.
- Learning: If the child follows simple directions on how to do something correctly and/or when given something to do, is able to do it independently, then the child is considered to be developmentally on track in this domain.

ECDI is then calculated as the percentage of children who are developmentally on track in at least three of these four domains.

The results are presented in Table CD.5. In Punjab, 67 percent of children age 36-59 months are developmentally on track. The ECDI is slightly lower among boys (65%) than girls (69%). As expected, ECDI is higher in the older children compared to those that are younger since children mature more skills with increasing age; 73 percent among children age 48-59 months and 62 percent among those age 36-47 months. Similarly, higher ECDI is seen in children attending to an early childhood education programme at 82 percent compared to 62 percent of children who are not attending.

The analysis of four domains of child development shows that 98 percent of children are on track in physical domain and 94 percent in learning but much less on track in social-emotional (62%) and literacy-numeracy (25%). In each individual domain the higher score is associated with attending an early childhood education programme and older children age 48-59 months.

Table CD.5: Early child development index

Percentage of children age 36-59 months who are developmentally on track in literacy-numeracy, physical, social-emotional, and learning domains, and the early child development index score, Punjab, 2014.

	Percentage of children age 36-59 months who are developmentally on track for indicated domains				Early child development index score ¹	Percentage of children not on track in any of the four domains	Number of children age 36-59 months
	Literacy- numeracy	Physical	Social- emotional	Learning			
Punjab	25.1	97.7	62.2	93.6	67.2	1.0	11,527
Area of residence							
Rural	20.0	97.6	60.3	92.8	63.5	0.9	7,941
All Urban	36.5	97.8	66.2	95.5	75.6	1.0	3,585
Major Cities	39.1	98.0	69.2	96.7	79.6	0.7	1,841
Other Urban	33.8	97.6	63.1	94.2	71.3	1.3	1,744
Sex							
Male	23.8	97.4	60.3	93.3	65.2	1.0	5,809
Female	26.4	98.0	64.1	94.0	69.3	0.9	5,717
Age							
36-47 months	14.5	96.7	61.4	92.1	61.8	1.7	5,894
48-59 months	36.2	98.7	63.0	95.2	72.9	0.2	5,633
Attendance to early childhood education							
Attending	57.8	99.1	64.7	96.4	81.8	0.0	2,967
Not attending	13.8	97.2	61.3	92.6	62.2	1.3	8,559
Mother's education							
None/pre-school	13.8	97.8	60.4	92.1	60.8	0.8	5,863
Primary	26.4	97.4	61.9	94.7	67.6	0.7	2,031
Middle	37.3	98.4	63.6	95.6	74.5	0.6	1,083
Secondary	39.1	97.3	65.5	95.4	76.2	1.8	1,399
Higher	51.7	97.2	66.5	95.3	81.6	1.4	1,151
Wealth index quintile							
Lowest	7.8	97.8	58.9	90.9	56.7	0.6	2,835
Second	16.8	97.7	62.3	92.8	63.3	1.0	2,314
Middle	25.9	97.6	60.2	94.3	66.6	1.0	2,119
Fourth	34.9	97.8	64.5	95.1	73.4	1.0	2,231
Highest	47.3	97.3	66.1	96.1	80.4	1.4	2,027
Division							
Bahawalpur	15.8	96.5	59.9	92.1	61.5	1.3	1,398
D.G. Khan	14.9	98.3	52.3	89.4	52.7	0.4	1,384
Faisalabad	25.7	98.2	68.9	94.4	73.0	1.3	1,352
Gujranwala	26.1	97.3	58.0	95.8	67.3	1.7	1,702
Lahore	32.9	98.3	67.2	95.7	74.1	0.6	1,931
Multan	21.3	97.1	60.7	95.5	64.0	0.8	1,248
Rawalpindi	41.3	95.6	61.5	93.3	72.7	1.0	899
Sahiwal	30.9	98.6	63.8	89.2	68.0	0.8	814
Sargodha	18.9	99.1	70.2	94.4	74.1	0.5	799

¹ MICS indicator 6.8 - Early child development index