CHILD AND FAMILY TRACKER
ECDI SURVEY

AUGUST 2021

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ECDI2030

Early Childhood Development Index

SURVEY DESIGN

- Telephonic survey with the sample size of 2,853 households with children aged 24-59 months.
- 1,826 participants (64%) are from the CFT survey, and 1,027 participants are from complementary sources.
- Households are selected through multiple sources, using random and purposive sampling approaches.
- Respondents are main caregivers of children (mostly mothers).

- The comparison of the sample characteristics between the CFT-ECDI data and MICS2019 data (nationally representative) revealed CFT-ECDI data does not represent the population in some respects (e.g., caregiver's education and language).
- To address the discrepancies, we employed a weighting approach based on iterative proportional fitting algorithm (see next slide for detail).

- After two months in October, follow-up survey was conducted with 290 respondents randomly drawn from the CFT-ECDI survey sample participants

VARIABLES	CFT-ECDI	MICS2019	Weighted CFT-ECDI
Area			
Urban	61.8%	64.8%	58.8%
Rural	38.2%	35.2%	41.2%
Province			
Province 1	14.9%	16.0%	13.6%
Province 2	19.2%	24.1%	29.1%
Bagmati Province	22.9%	18.5%	20.4%
Gandaki Province	9.0%	7.0%	7.9%
Lumbini Province	16.8%	17.8%	15.6%
Karnali Province	7.1%	6.7%	5.8%
Sudurpashchim Province	10.2%	9.8%	7.7%
Respondent			
Mother	95.1%	100.0%	93.8%
Other primary caregiver	4.9%	0.0%	6.2%
Primary caregiver's education			
None	10.2%	27.9%	27.6%
Basic (Gr 1–8)	23.9%	33.5%	33.4%
Secondary (Gr 9–12)	52.1%	31.6%	31.0%
Higher	13.8%	7.0%	7.0%
Language			
Nepalese	66.5%	44.5%	46.3%
Maithili	7.6%	14.5%	15.2%
Bhojpuri	7.6%	8.6%	9.1%
Tharu	5.1%	5.8%	6.0%
Tamang	2.5%	4.2%	4.0%
Magar	0.9%	1.5%	2.0%
Newari	1.0%	2.2%	2.0%
Bajjika	1.5%	3.0%	3.0%
Dotyal	4.3%	1.3%	1.0%
Other language	7.4%	14.5%	11.5%
Sex			
Male	53.7%	52.1%	53.4%
Female	46.3%	47.9%	46.6%
Age in months			
24-35	36.8%	30.2%	35.5%
36-47	34.5%	35.7%	34.0%
48-59	28.7%	34.1%	30.5%
ECE attendance*			
Attending	73.7%	63.9%	71.0%
Not attending	26.3%	36.2%	29.0%

- CFT-ECDI data is largely representative in terms of geographical distribution due to purposive sampling approach taking into geographical distribution into account.
- However, the data does not represent some other aspects of the population. Discrepancies were found in primary caregivers' education levels (i.e., higher levels were overrepresented) and language (Nepalese speaking households were overrepresented).
- To address the discrepancies, we employed a weighting approach based on iterative proportional fitting algorithm to achieve known population margins based on MICS2019, focusing on primary caregivers' education levels and language.
- The weighted sample (far right in the table) better represents the characteristics found in MICS2019 in important aspects, including primary caregivers' education levels and language.
- The comparison of ECDI-CFT follow-up study with representative data is provided in Appendix 1

*The comparison of ECE attendance is based on the data for children aged 36-59 months as this variable is available for this age group in the MICS2019 data. Other comparisons are based on data for children aged 24-59 months.

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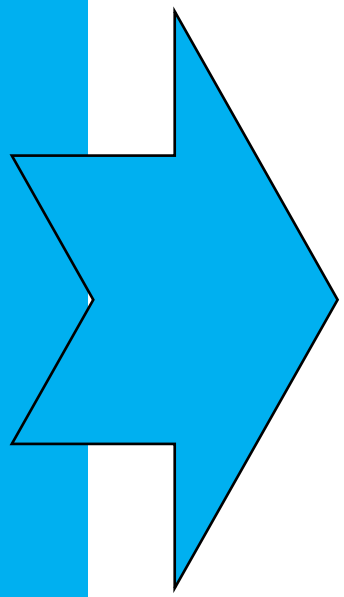
1. ECD OUTCOMES
2. EARLY LEARNING
3. CAREGIVERS' ENGAGEMENT AND PSYCHOLOGICAL WELLBEING



4. POLICY RELEVANT QUESTIONS

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Goal 4

Ensure **inclusive and equitable quality education** and **promote lifelong learning** opportunities for all

Target 4.2

Ensure that, by 2030, all girls and boys have access to quality **early childhood development**, care and pre-primary education so that they are ready for primary education

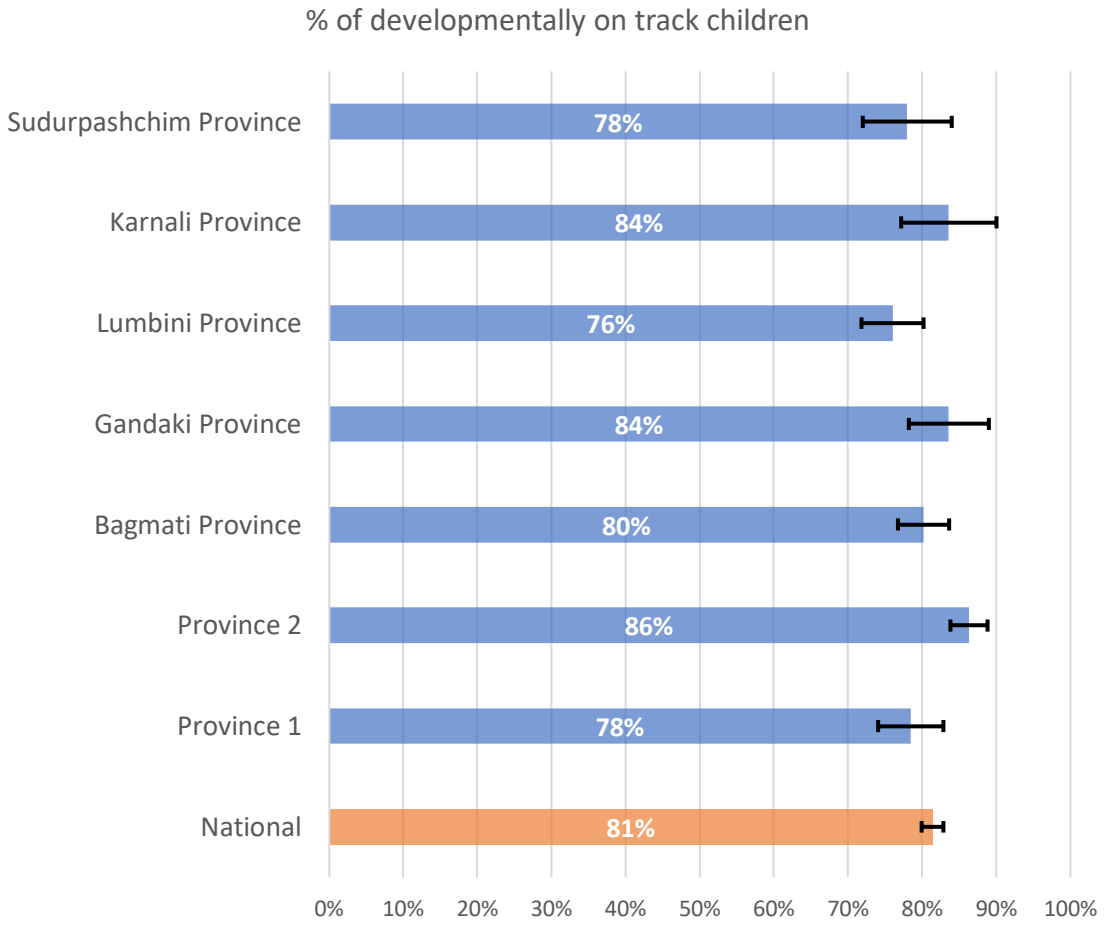
Indicator 4.2.1

Proportion of children 24 to 59 months of age who are **developmentally on track** in health, learning and psychosocial well-being, by sex

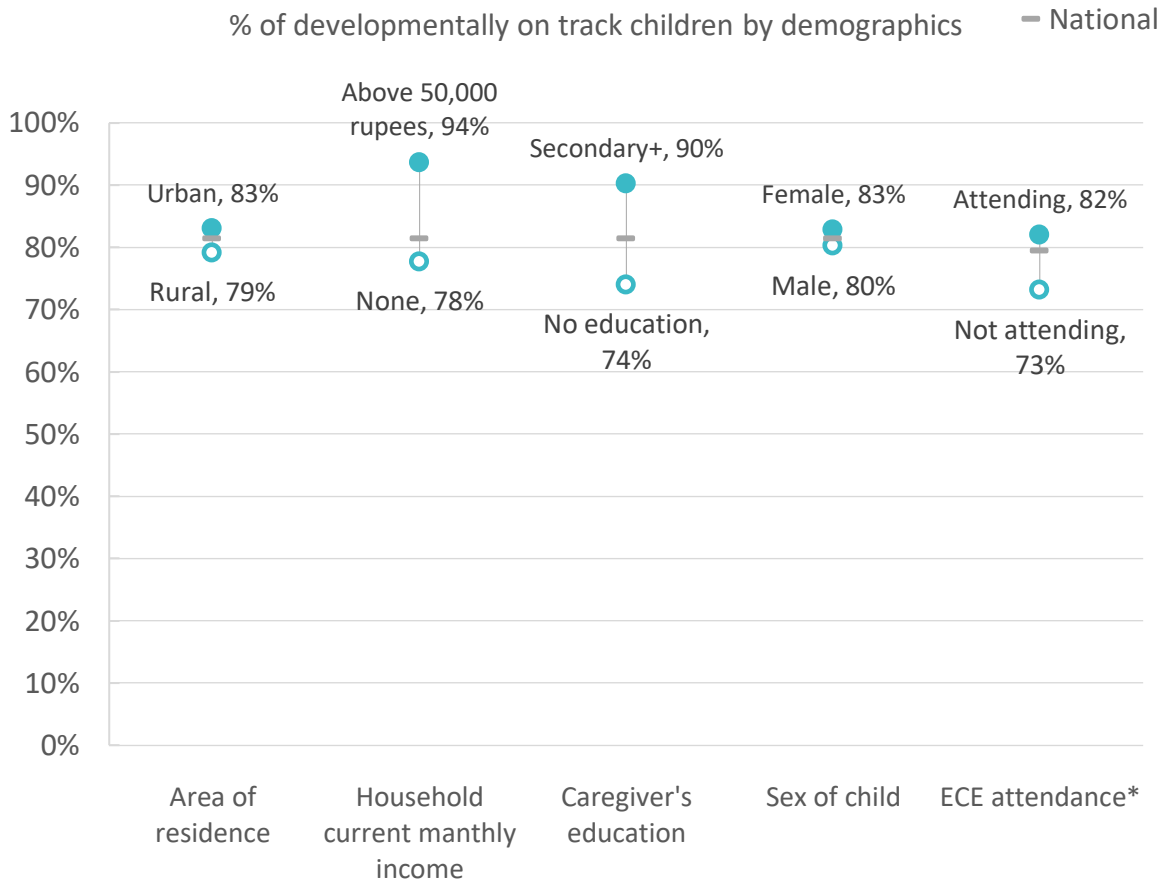
ECDI2030 is used to generate the data on Indicator 4.2.1

https://data.unicef.org/resources/early-childhood-development-index-2030-ecdi2030/

Child development: Nationally 81% of children aged 24-59 months are developmentally on track. The gaps in the proportion of developmentally on track children are found across provinces, area of residence, household's current income, caregivers' education levels, and ECE attendance



% of children aged 24-59 months who are developmentally on track calculated based on the cut scores on the Early Childhood Development Index 2030. Red lines indicate 95% confidence intervals.



* The comparison by ECE attendance is based on the data of children aged 36-59 months (n=1796).

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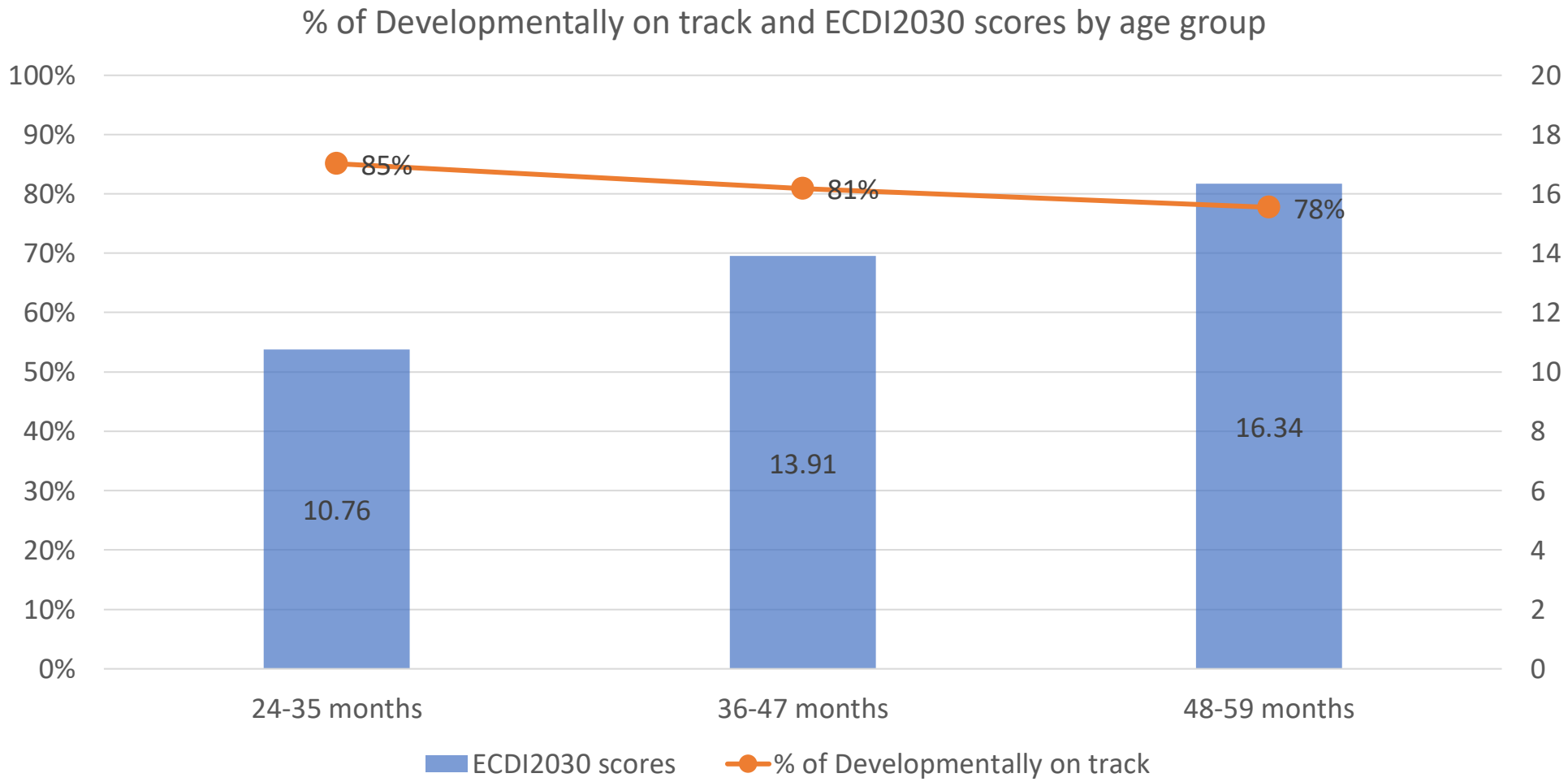
Child development: Older children have skills to do many more development tasks, resulting in higher ECDI2030 scores. However, such development does not necessarily keep up with age-wise developmental milestone, resulting in the smaller proportions of developmentally on track children as they get older.



% of developmentally on track calculated based on the cut scores on the Early Childhood Development Index 2030.
ECDI2030 scores ranged from 0 to 20, calculated based on responses to 20 questions regarding various aspects of children development. Internal consistency in terms of Cronbach's alpha is .83.

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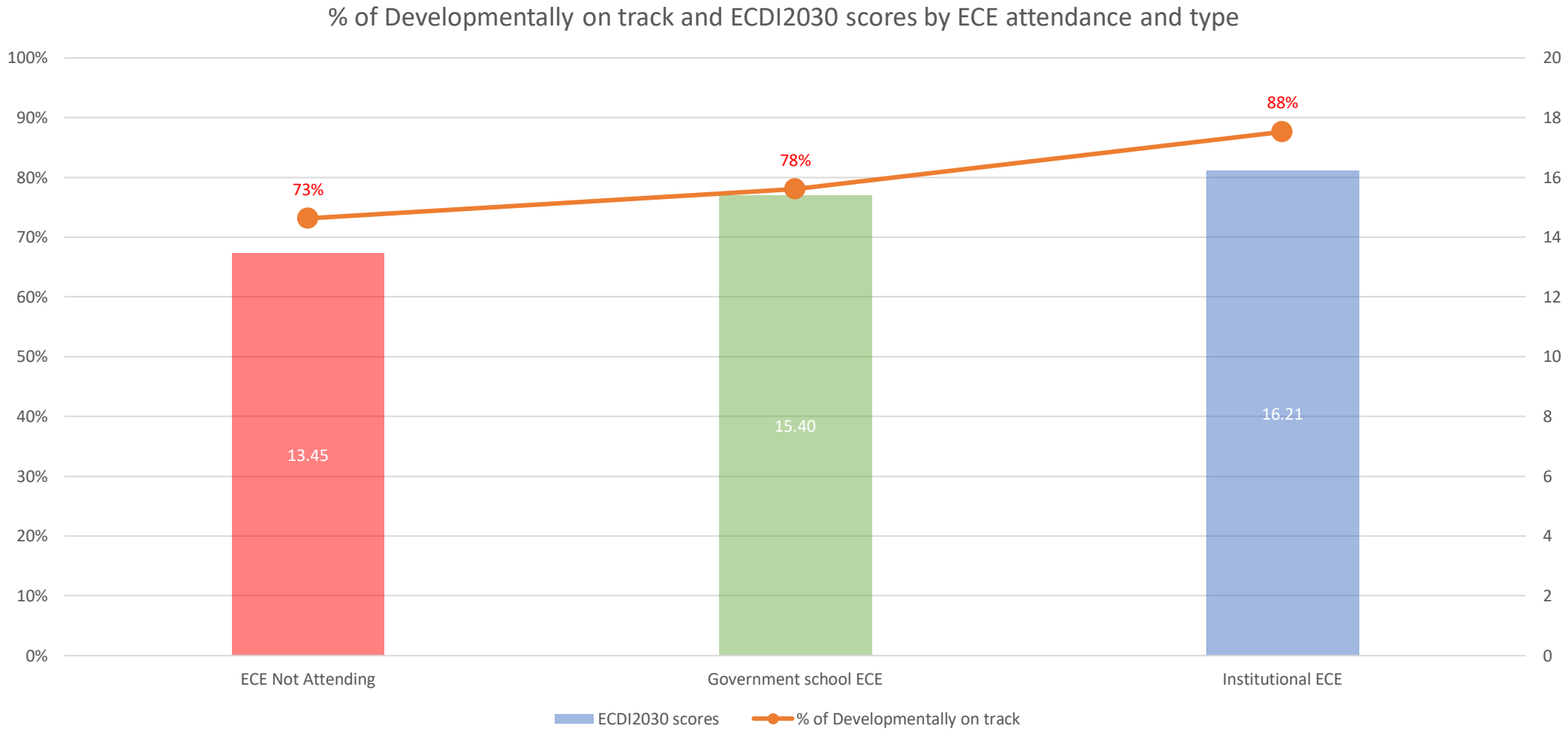
Child development: There are large disparities in the proportion of developmentally on track children between the ECE attendance status and type of ECE children attended. The differences in ECDI2030 scores in terms of standard deviations are very large, especially between children who attended institutional ECE and those who did not attend ECE.



* The comparison by ECE attendance is based on the data of children aged 36-59 months (n=1796).
The range of ECDI2030 scores is 0-20, and the standard deviation is 3.1.

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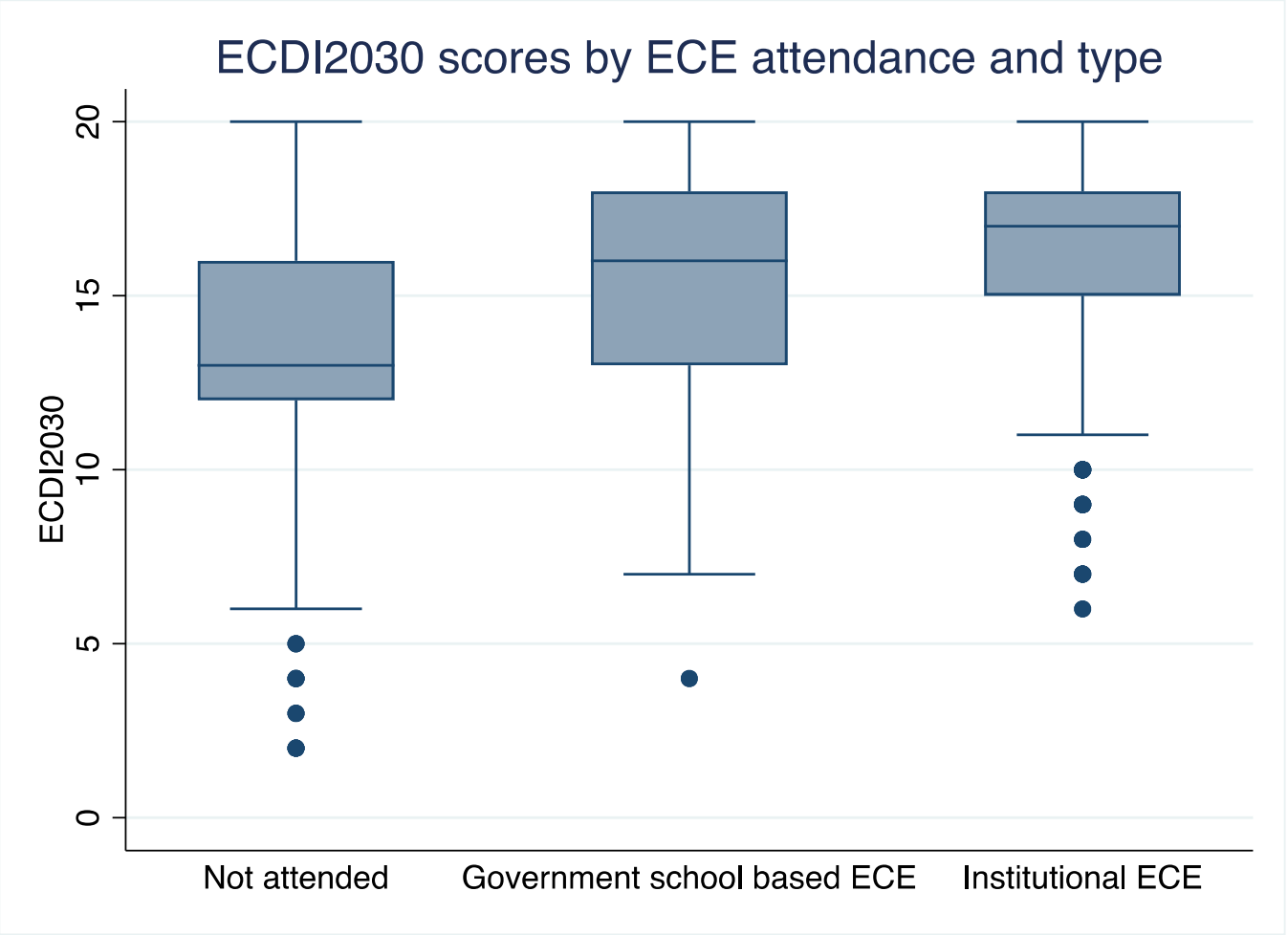
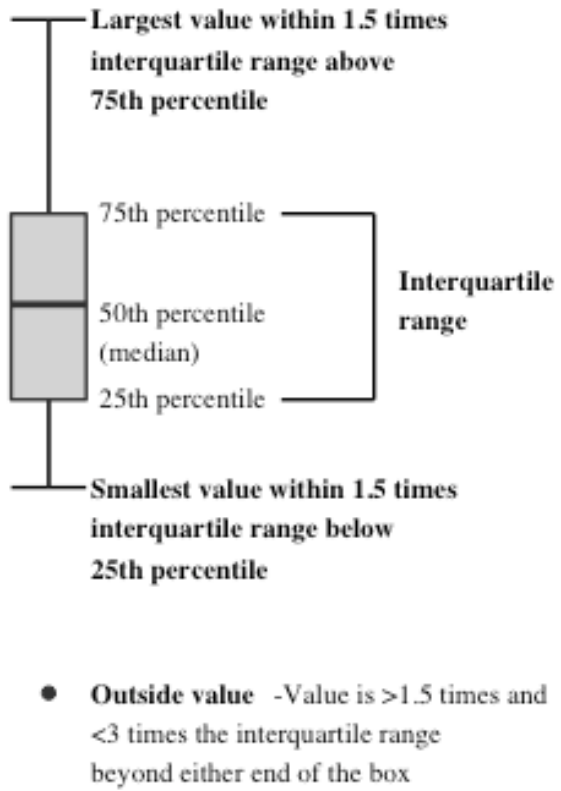
Child development: In addition to differences in the average of ECDI scores, the variance of ECDI2030 scores differ by ECE attendance and type. The variance is larger among children who did not attend ECE and those who attended government school ECE, indicating the necessity to address different levels of learning and development needs of children.





* The comparison by ECE attendance is based on the data of children aged 36-59 months (n=1796).

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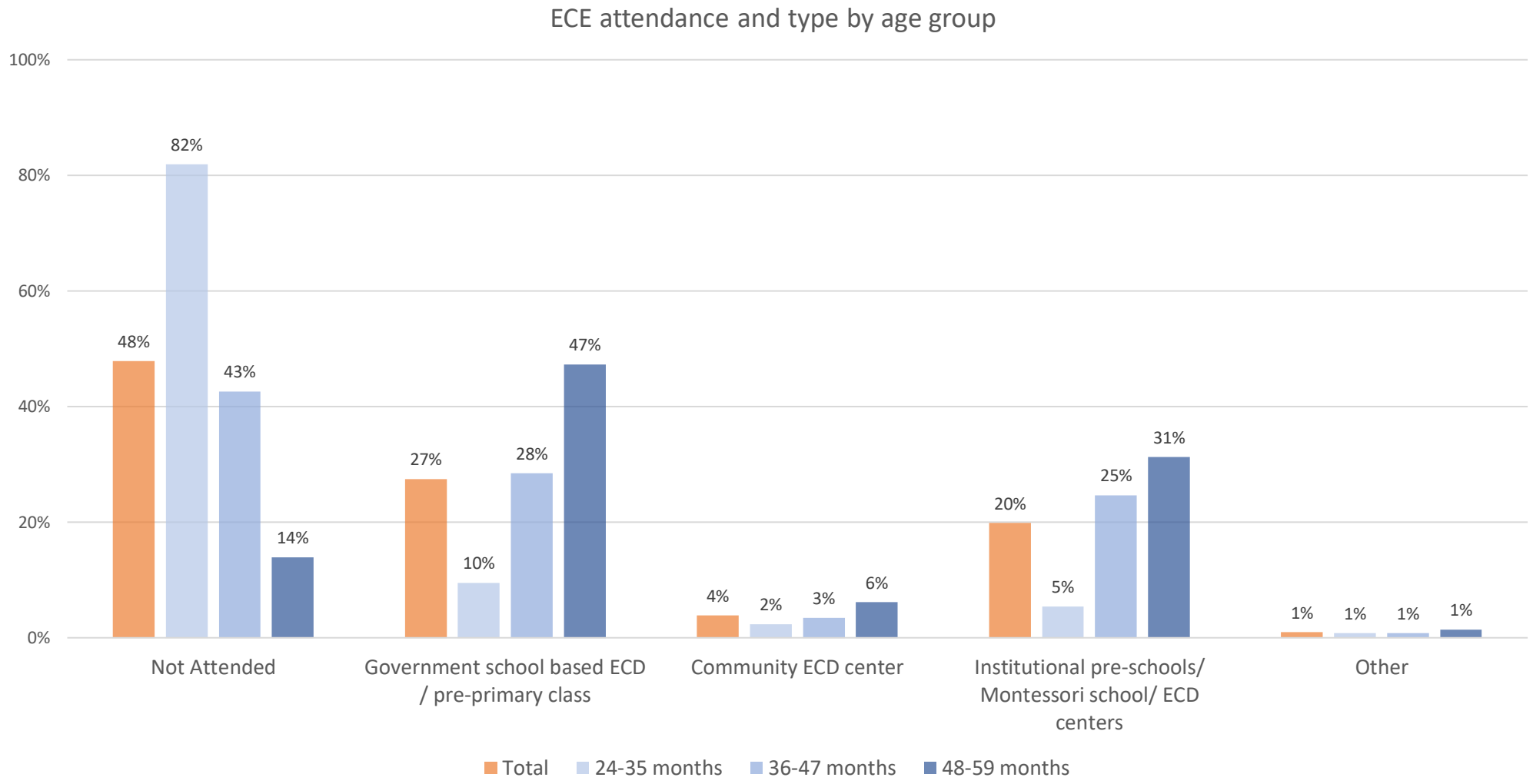
ECE Attendance: Before lockdown, 52% of children aged 24-59 months attended ECE. Among 4 years old children, 86% of children attended ECE with government school-based ECD/preprimary school being the major modality, followed by Institutional pre-schools/ Montessori school/ ECD centers and Community ECD center.



* Given the small sample size and administrative consideration, the category of "Community ECD center" is combined with the "Government school based ECD / pre-primary class" category in the following ECE-type-wise disaggregation/

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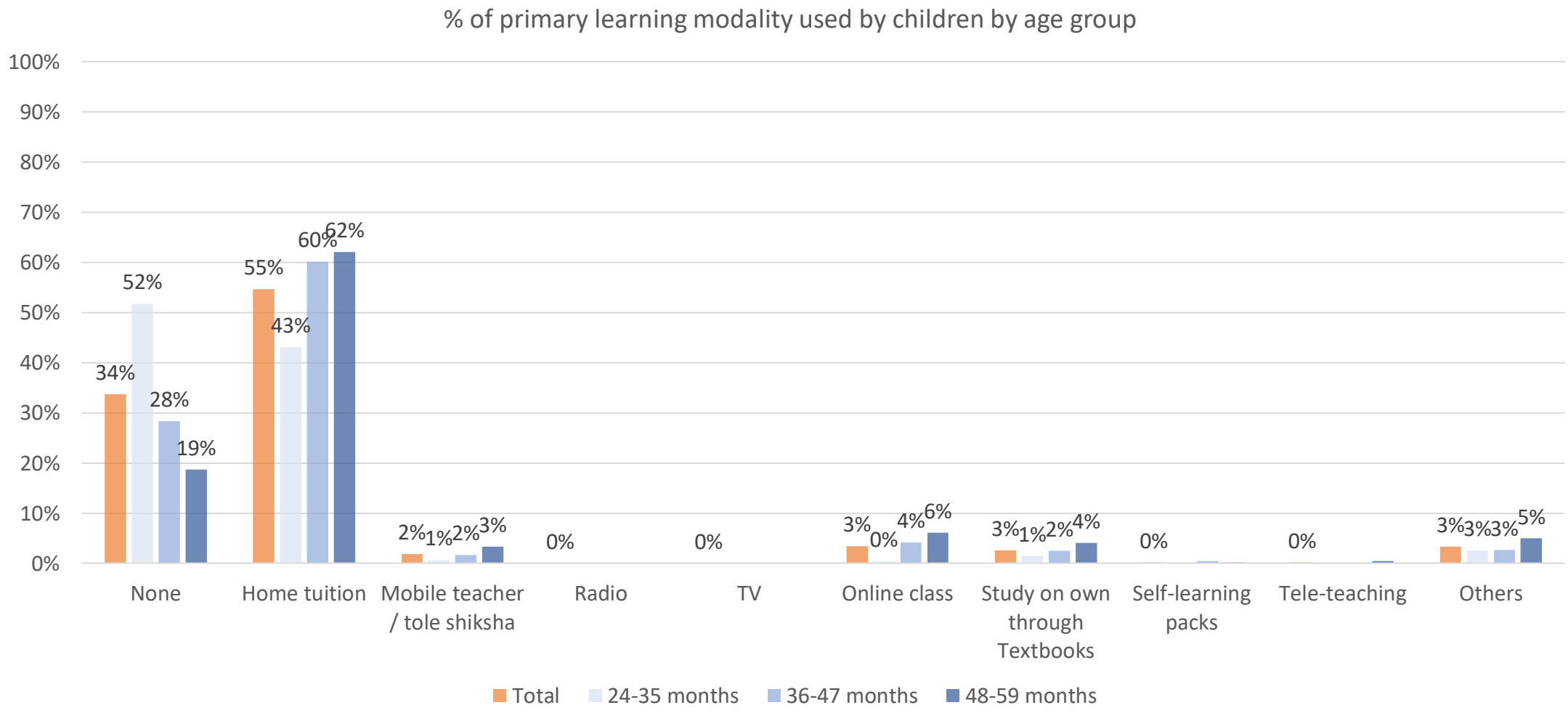
Child learning modality: During school closure, 66% of children aged 24-59 months engaged in learning using alternative modality while 34% did not. The most common alternative modality was home tuition, and other modalities (e.g., mobile teacher, radio, TV, tele-teaching) were underused. The majority (81%) of preprimary aged children (aged 48-59 months) engaged in learning, mostly through home tuition, followed by online class and studying on own using textbook.



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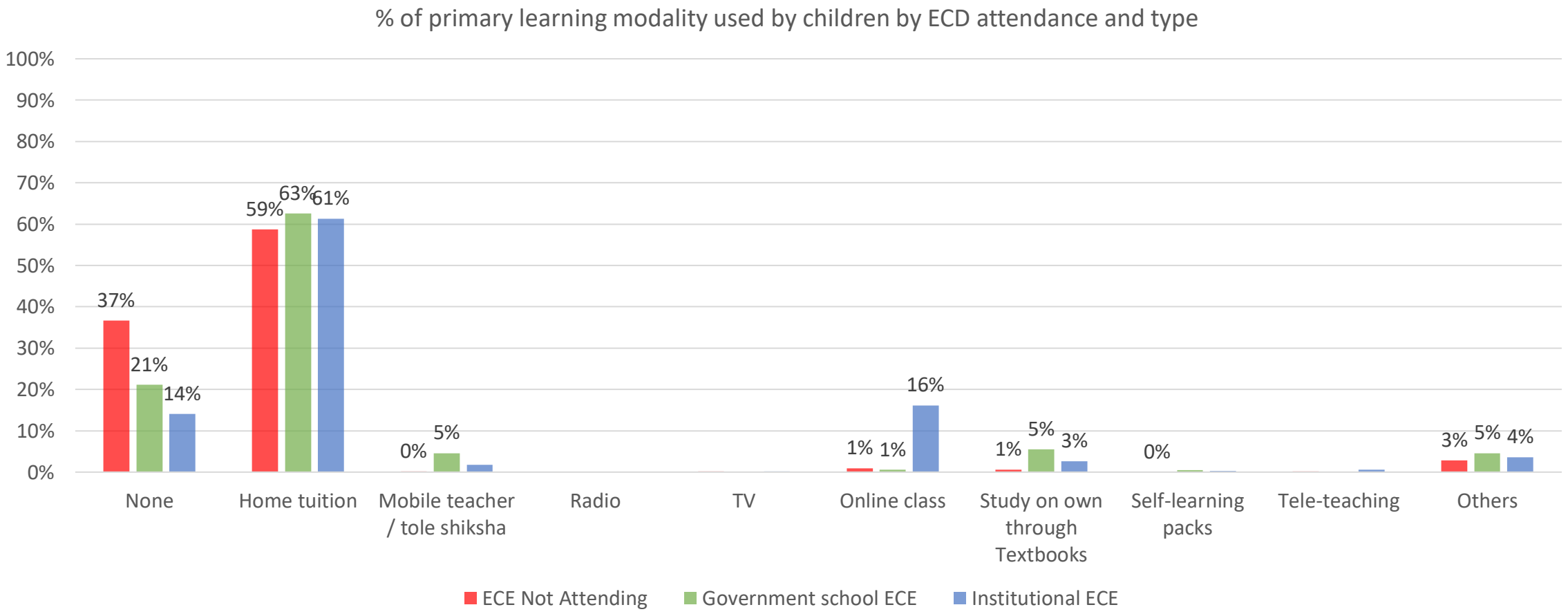
Child learning modality: Children aged 36-59 months who attended ECE before lockdown were significantly more likely to engage in learning through alternative modality, and the difference in the use of alternative learning modalities exist between different type of ECE. While home tuition is the most common alternative modalities for children regardless of their ECE attendance and type, the use of online class is observed almost exclusively among children who attended institutional ECE. Besides home tuition, mobile teachers and self-study using textbooks are relatively common modalities among children who attended government school ECE.



* The comparison by ECE attendance is based on the data of children aged 36-59 months (n=1796).

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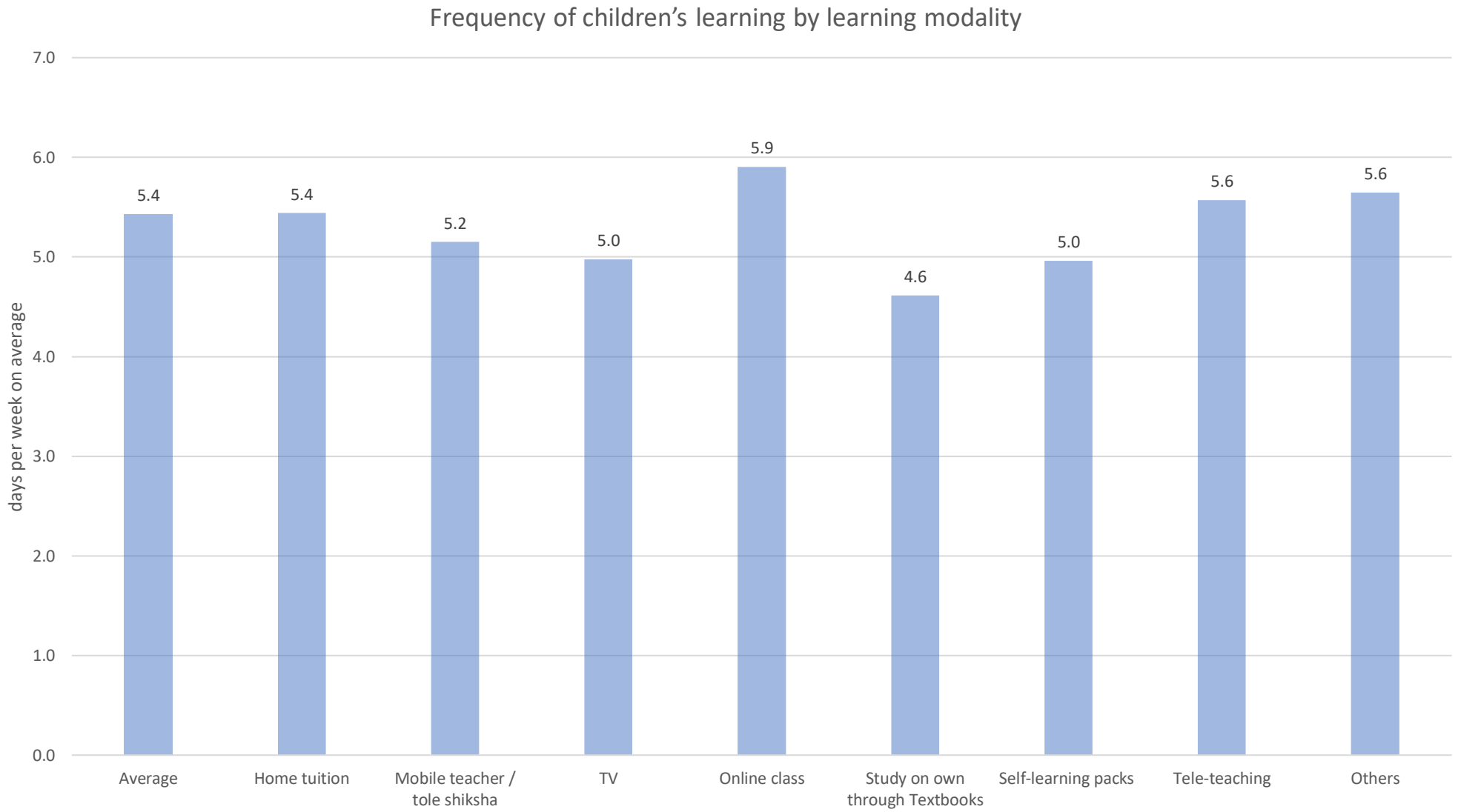
Child learning frequency: Among 66% of children who engaged in learning using alternative modality during school closure, average frequency of learning is 5.4 days per week, with small variation across modalities: Online class has the highest frequency while self-study using textbook has the least frequency.



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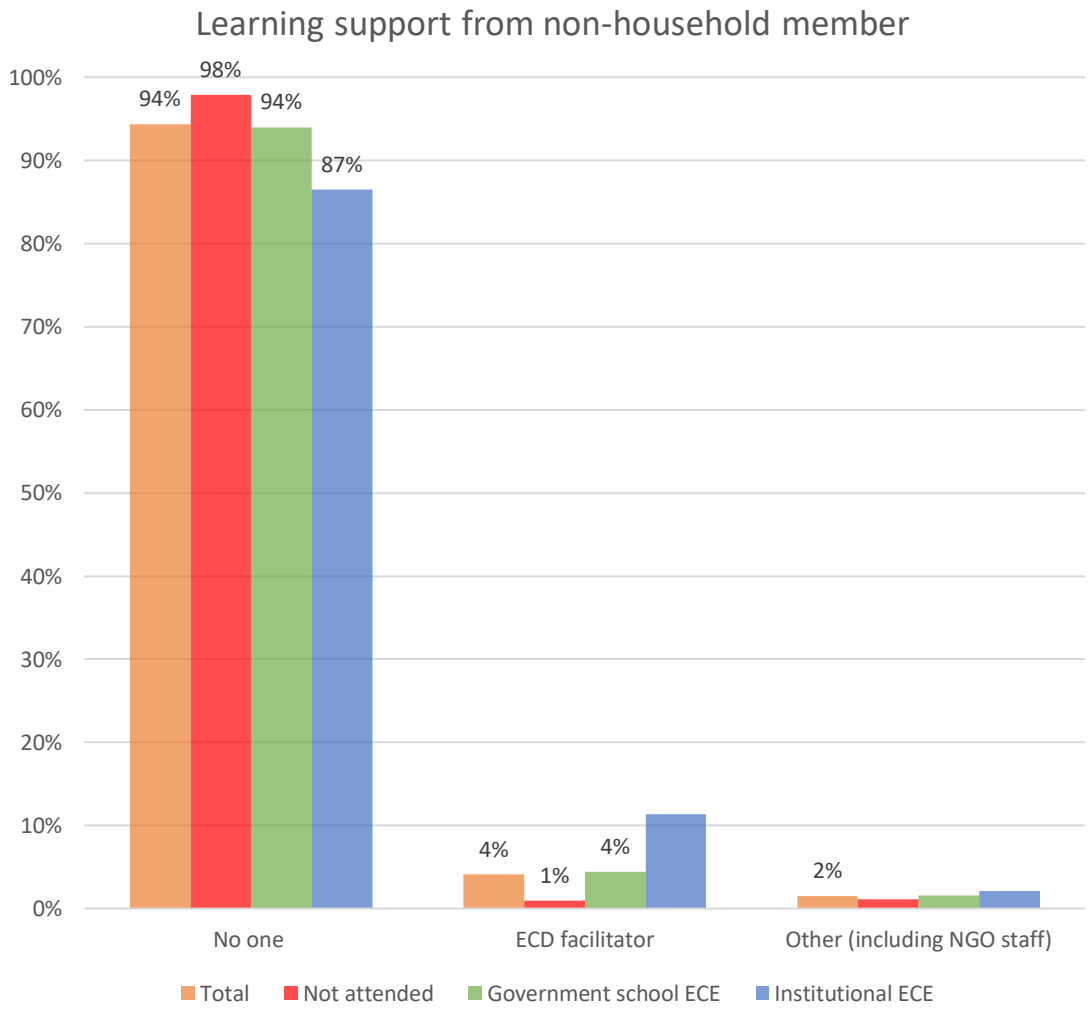
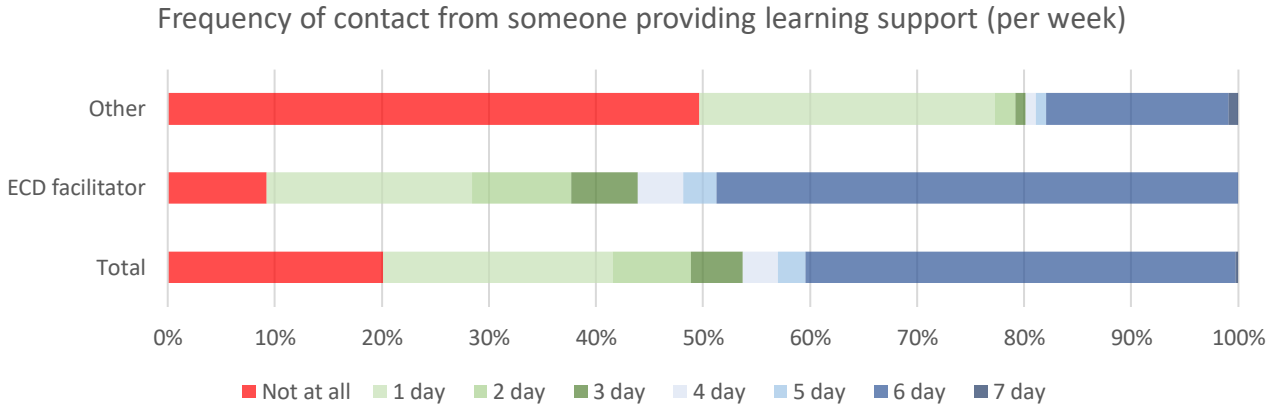
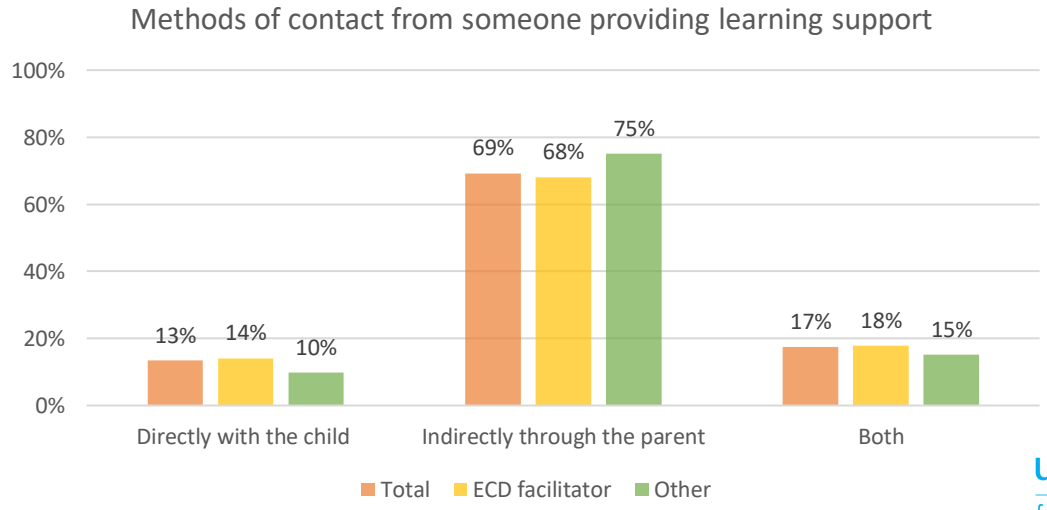
Play and learning support by non-family member: The majority (94%) of children had no one providing play and learning support besides family member during school closure. 5% and 11% of children who attended government school ECE and institutional ECE, respectively, had play and learning support by ECD facilitators. Among 162 children who received play and learning support from non-family member, 46% had contact with support providers regularly (4 days or more per week). ECD facilitators contacted children more frequently than other support providers. The most common way for support providers to contact children was indirectly through their parents.





* Note that this information is only for 6% of the children who had someone providing learning support (n=162).



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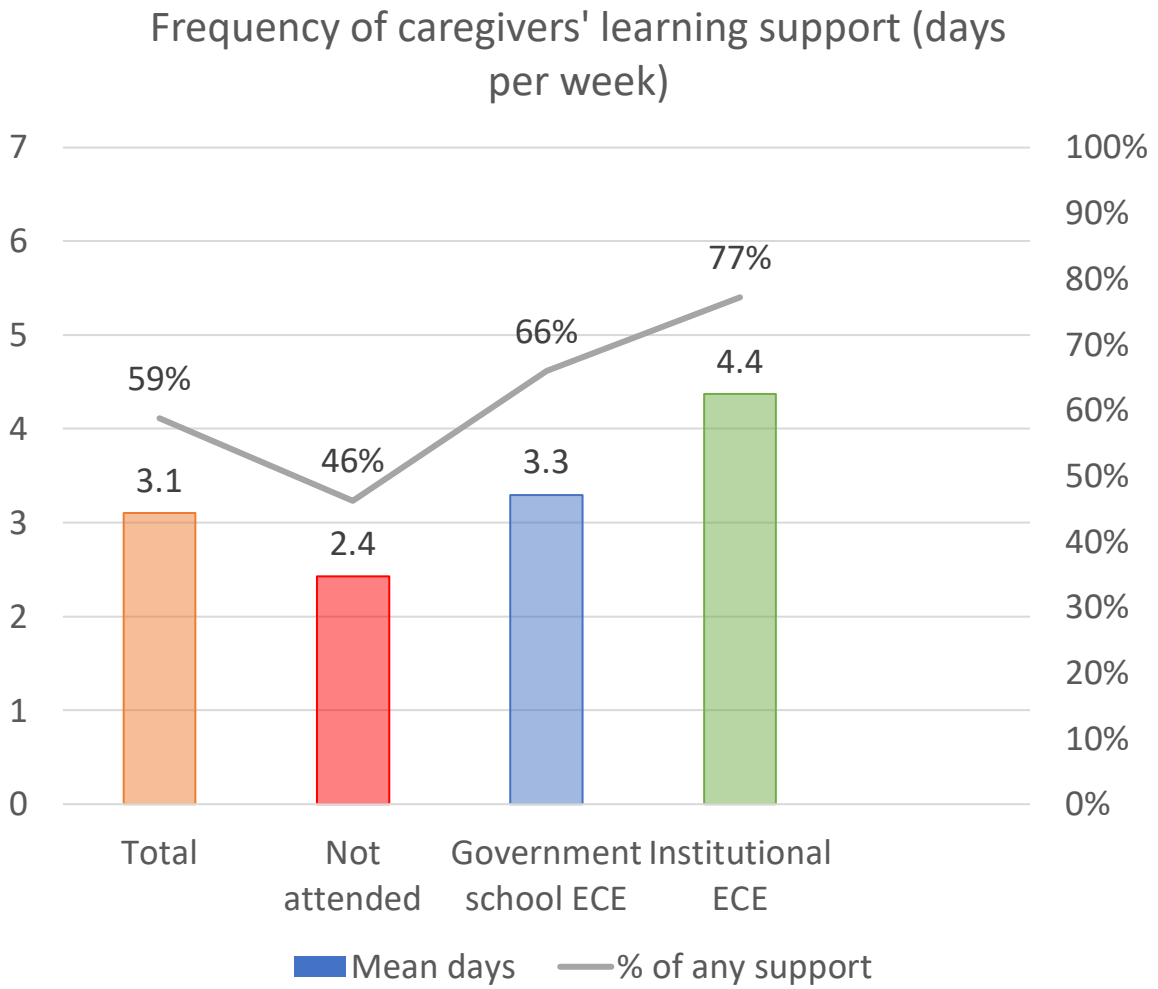
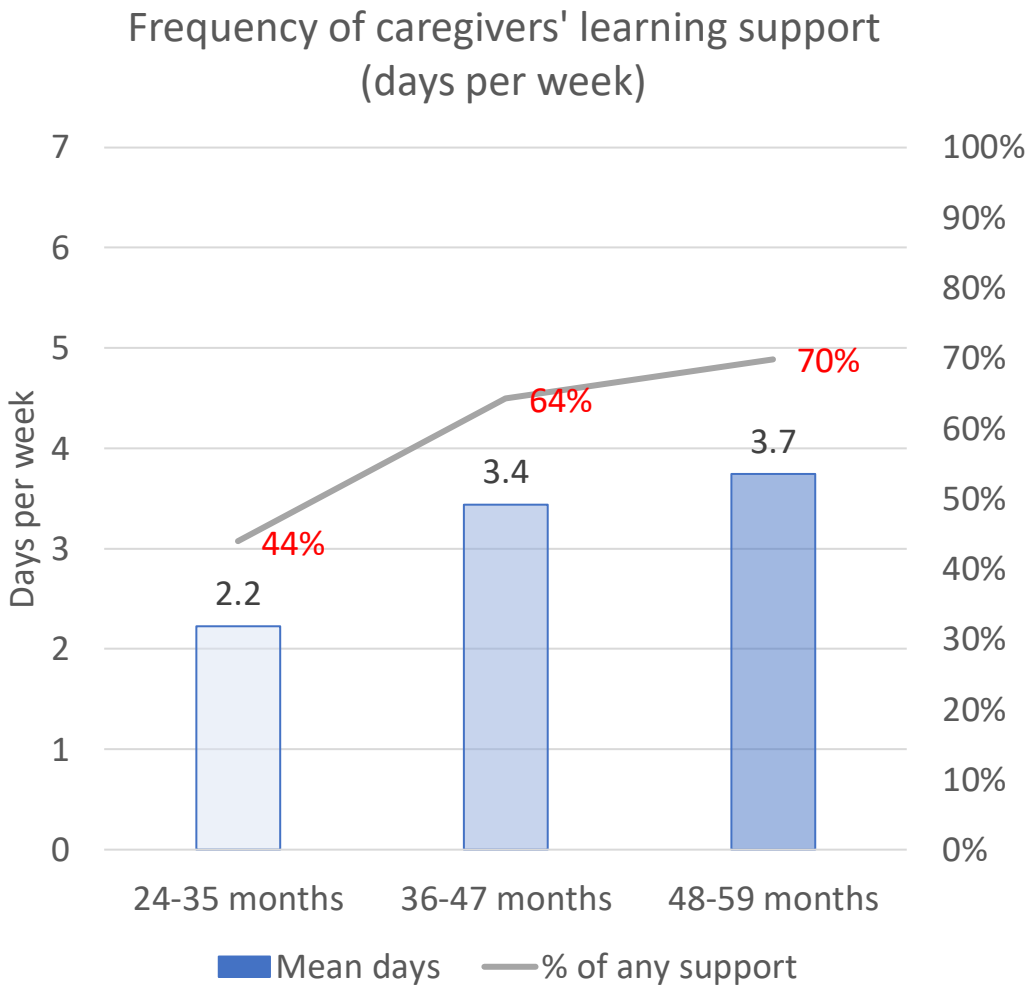
Caregivers' supports for teaching-learning: Caregivers provided teaching-learning support 3.1 days per week on average, and 41% of them did not provide teaching-learning support at all. Caregivers whose children attended in institutional ECD tended to provide teaching-learning support more frequently than those who children attended in government school ECD or did not attend ECE. The frequency of caregivers' teaching-learning support is higher for older children.





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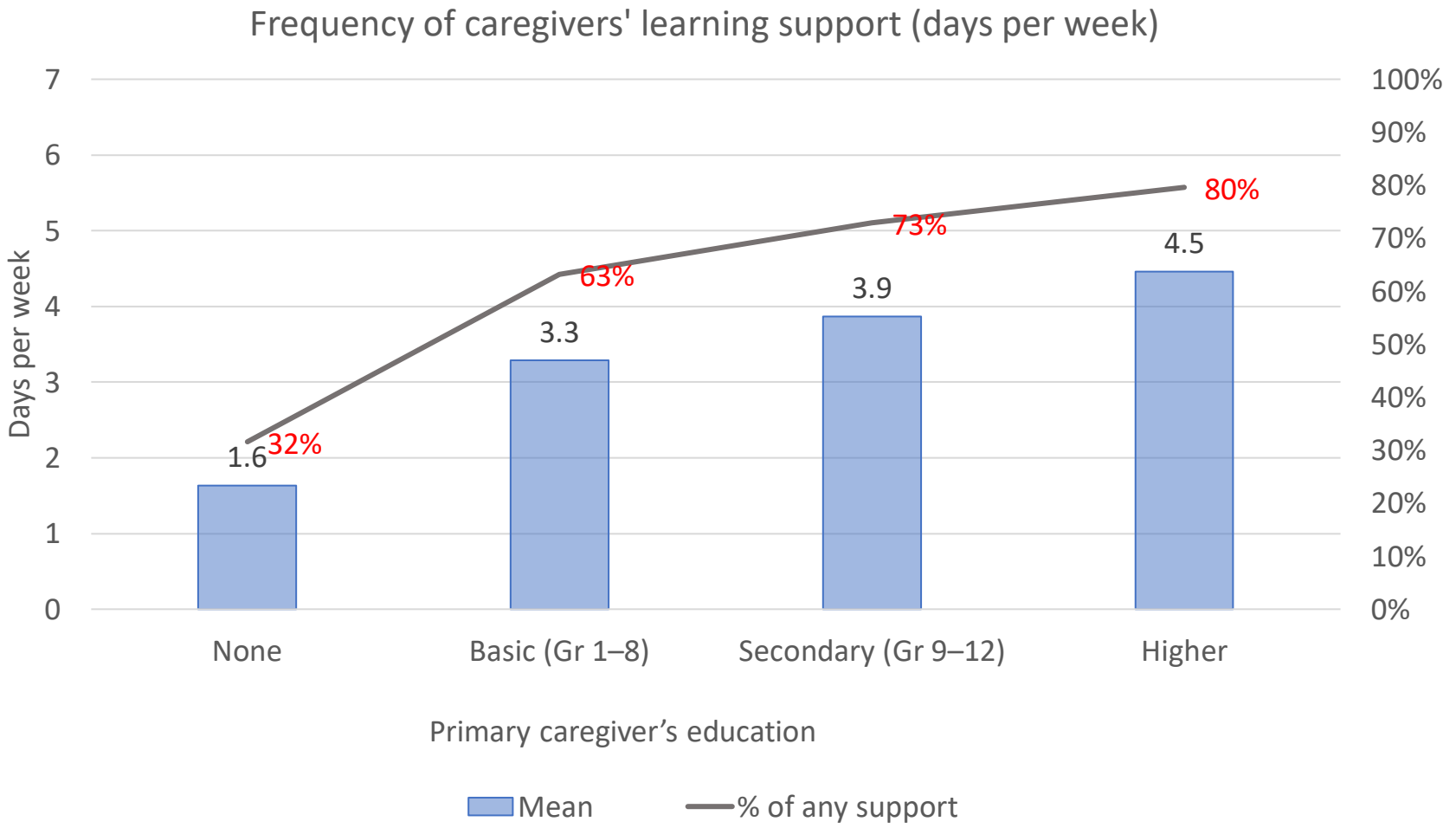
Caregivers' supports for teaching-learning: The frequency of caregivers' teaching-learning support substantially varies across their education levels: Caregivers with higher level education provided teaching-learning support almost three times more than caregivers with no education on average. The proportion of caregivers who did not provide teaching-learning support at all is 68% among caregivers with no education while it is less than 30% among caregivers with secondary or higher education.



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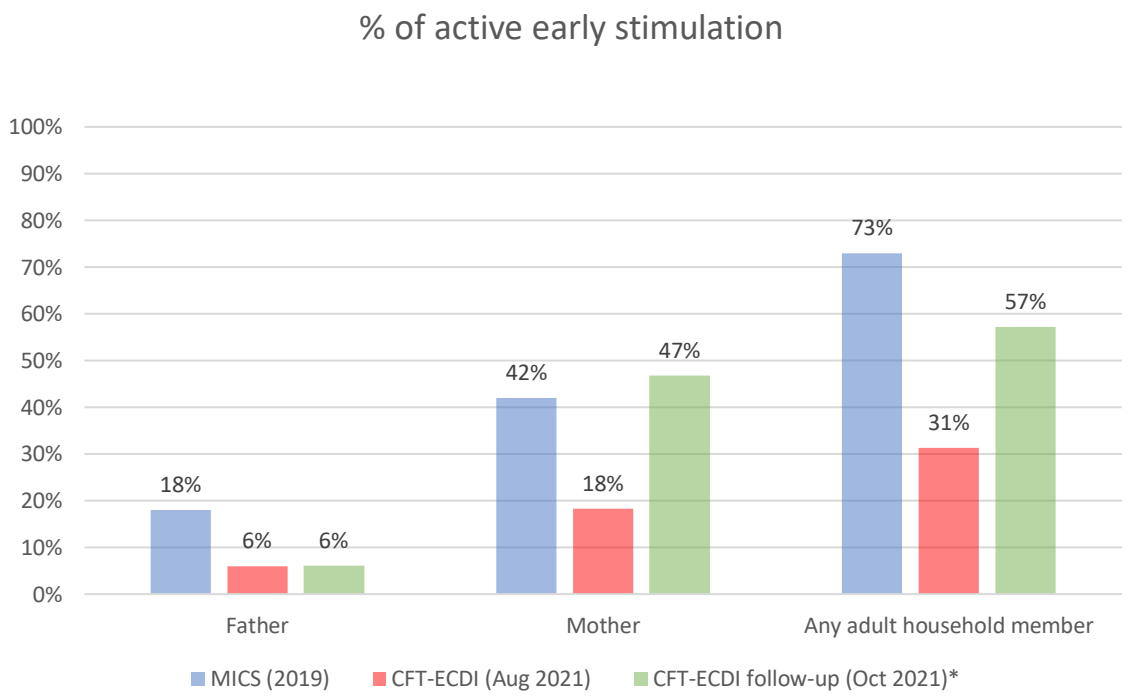
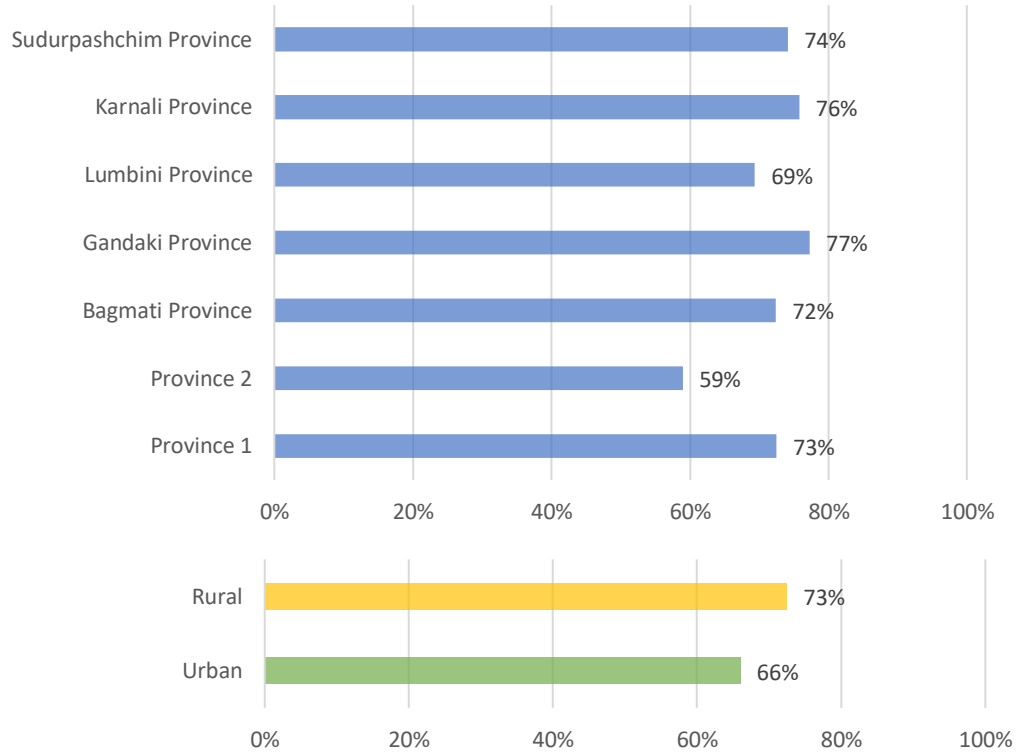
Caregivers' early stimulation engagement: The proportion of children with whom the father, mother or adult household members actively engaged in early stimulation decreased compared to the pre-pandemic period (2019). While 73% of children had adult household member engaging in early stimulation in 2019, this proportion is 31% in August 2021. Two months later, in October, the proportion of children with active engagement by mothers increased to 47% while fathers' engagement remained low. The proportion of children with whom no one at home engaged in early stimulation activities varies across provinces and larger in rural areas than in urban areas. The reasons for the main caregivers not engaging in each activity is provided in Appendix 2. Detailed comparison of engagement by fathers and mothers is provided in Appendix 3.



Percentage of children age 2-4 years with whom the father, mother or adult household members engaged in 4 or more activities among 6 options that promote learning and school readiness during the last three days.

Note: Activities include: reading books to the child; telling stories to the child; singing songs to the child; taking the child outside the home; playing with the child; and naming, counting or drawing things with the child

Percentage of children aged 2-4 years with whom no one at home engaged in activities that promote learning and school readiness during the last three days, by provinces and by residence area



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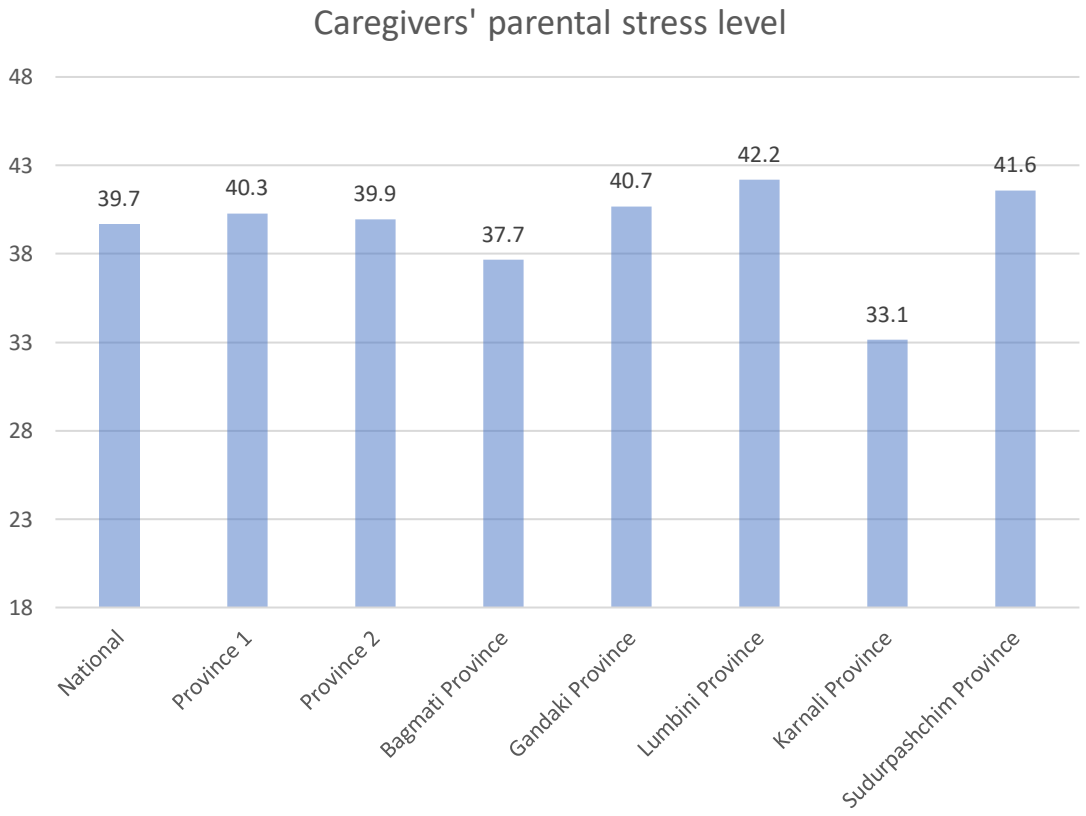
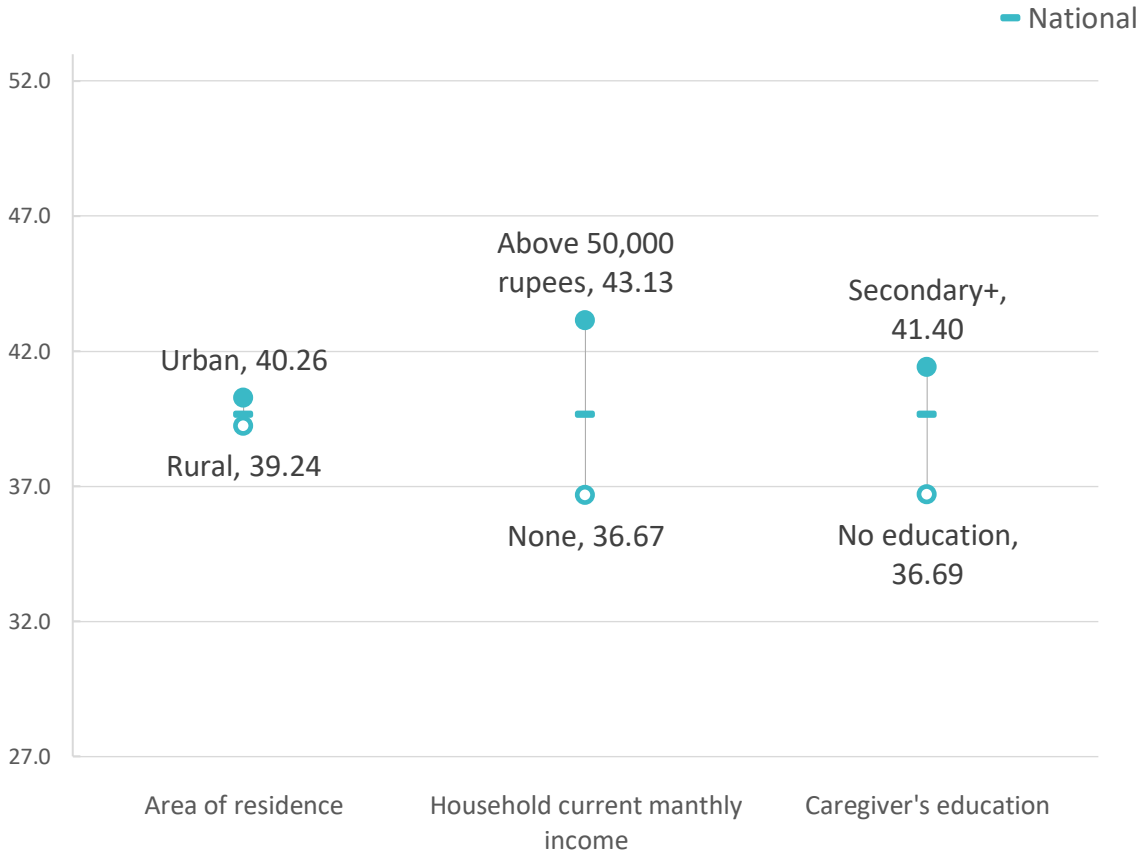
Caregivers' parental stress: The parent stress level varies across provinces: caregivers in Lumbini province had the highest level of parental stress on average while those in Karnali province has the lowest level of parental stress. While the average parental stress level does not differ by the area of residency, significant difference exists by household current income and caregiver's education levels.





Parental stress level was measured by the Parent Stress Scale (PSS). The PSS scores were calculated based on responses to 18 questions regarding parental experience and perception, and the scores raged from 18 to 90, with national mean and standard deviation being 39.7 and 7.0, respectively. Internal consistency in terms of Cronbach's alpha is .80.

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Policy relevant questions

Policy relevant questions

1. What are the characteristics of children who are more likely to have risk of developmentally off track, in terms of their basic demographic features?

When controlling for other factors:

- No significant difference in the likelihood of being on track across provinces.
- Children in urban area were slightly more likely to be on track than children in rural area, but the differences were not statistically significant.
- Caregiver's education levels were significantly associated with the likelihood of being on track.
  - Comparing children whose caregivers had no education, children whose caregivers had secondary or higher levels of education were more likely to be on track by more than 10%.
- Some household language and caste are associated with the likelihood of being on track.
  - Comparing to children from Nepalese speaking households, children from Bhojpuri speaking households tended to be less likely to be on track while Magar and other language speaking households tended to be more likely to be on track. There were no significant differences between Nepalese speaking households and other major language speaking households.
  - Comparing to children from Hill Brahmin households, children from Hill Chhetri and Other castes households tended to be less likely to be on track. There were no significant differences between Hill Brahmin households and other major castes households.
- Households' income were significantly associated with the likelihood of being on track only in rural areas, but the income and the likelihood of being on track was not significantly associated in urban area.
- Girls were slightly more likely to be on track than boys, but the differences were not statistically significant.
- As children got older, they were less likely to be on track

See table 1 in Appendix for details

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Policy relevant questions

2. Does children's ECED attendance status relate to children's learning situations and development outcomes?

When controlling for demographic characteristics:

- Comparing to children who did not attend in ECED prior to the lock down, children who attended in the government school ECED and children who attended in institutional ECED were significantly more likely to be on track.

- In terms of standard deviations (SD) of the ECDI2030 scores, children who attended in the government school ECED and children who attended in institutional ECED had 0.42 SD and 0.52 SD higher scores than children who did not attend in ECED prior to the lock down, while accounting for demographic characteristics. Theses sizes of differences are considered very large in a policy perspective.

See table 1 in Appendix for details

Policy relevant questions

3. Are use of alternative play/learning modalities at home during school closure associated with children's development and learning?

When controlling for demographic characteristics and child's ECED attendance and type:

- Among 7 alternative learning modalities used by the children, all of them have positive associations with the ECDI2030 scores, and the positive associations of following 4 modalities are statistically significant: Home tuition, Mobile teacher, Online class, and Tele-teaching.
- While Educational TV, Self study through Textbooks, and Self-learning packs have positive associations, the magnitudes of the associations are relatively small, and their standard errors are relatively large (partially due to small number of children using these modalities), resulting in insignificant results.

- The 4 alternative learning modalities found to be positively and significantly associated with the ECDI2030 scores are more interactive modalities, while other 3 modalities are less interactive and more independent modalities.

See table 2 in Appendix for details

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Policy relevant questions

4. Is engagement in early stimulation by mother, father and other family members, associated with children's development and learning?

When controlling for demographic characteristics and child's ECED attendance and type:

- Active early stimulation engagement by mothers, fathers, and other family members are positively and significantly associated with the ECDI2030 scores. The magnitudes of associations are double for engagement by fathers and other family members than that of mothers.

- The frequency of caregiver's teaching/learning support is also positively and significantly associated with the ECDI2030 scores.

See table 3 in Appendix for details

Policy relevant questions

5. Is parent stress associated with their parenting engagement (early stimulation and learning support) and children's development and learning?

Based on the pair-wise correlations:

- The main caregiver's parental stress levels (measured by the PSS scores) are negatively and significantly associated with the frequency of their teaching and learning and with the number of early stimulation activities that engaged in. The magnitudes of both associations are small (r = -.032 and r = -.109).

- The main caregiver's parental stress level (measured by the PSS scores) are negatively and significantly associated with the ECDI2030 scores, with a small magnitude of association (r = -.123)

See table 4 in Appendix for details

Policy relevant questions

6. Is regular contact with ECD facilitators (or someone else supporting child's play and learning) associated with higher frequency of children's play and learning at home and/or with caregiver's early stimulation and learning support?

Based on the pair-wise correlations:

- Frequency of contact from someone providing learning support is positively and significantly associated with the frequency of children learning engagement with a small magnitude of association (r = .145)

- Frequency of contact from someone providing learning support is positively and significantly associated with the frequency of their teaching and learning frequency and with the number of early stimulation activities that engaged in. The magnitudes of both associations are small (r = -.165 and r = -.096).

When controlling for demographic characteristics and child's ECED attendance and type:

- Frequency of contact from someone providing learning support is positively and significantly associated with the ECDI2030 scores.
- When adding caregiver's active engagement in early stimulation and their frequency of learning support, frequency of contact from someone providing learning support remains positively and significantly associated with the ECDI2030 scores, and the magnitude of the association of someone providing learning support and of caregiver's learning support is similar.

See table 5 and table 6 in Appendix for details

Appendix

Appendix 1

VARIABLES	CFT-ECDI follow-up	MICS2019	Weighted CFT-ECDI follow-up
Area			
Urban	59.7%	64.80%	54.1%
Rural	40.3%	35.20%	45.9%
Province			
Province 1	12.1%	16.00%	12.1%
Province 2	17.9%	24.10%	29.2%
Bagmati Province	23.8%	18.50%	23.1%
Gandaki Province	9.3%	7.00%	7.2%
Lumbini Province	13.8%	17.80%	11.5%
Karnali Province	8.6%	6.70%	5.1%
Sudurpashchim Province	14.5%	9.80%	11.9%
Respondent			
Mother	93.5%	100.00%	95.4%
Other primary caregiver	6.5%	0.00%	4.6%
Primary caregiver's education			
None	8.6%	27.90%	27.6%
Basic (Gr 1–8)	23.8%	33.50%	33.4%
Secondary (Gr 9–12)	53.1%	31.60%	31.9%
Higher	14.5%	7.00%	7.0%
Language			
Nepalese	70.7%	44.50%	47.6%
Maithili	5.5%	14.50%	15.6%
Bhojpuri	8.3%	8.60%	9.2%
Tharu	3.8%	5.80%	6.1%
Tamang	1.4%	4.20%	4.0%
Magar	0.7%	1.50%	2.0%
Newari	0.7%	2.20%	2.0%
Bajjika	1.0%	3.00%	3.0%
Dotyal	5.5%	1.30%	1.0%
Other language	2.4%	14.50%	9.4%
Sex			
Male	54.5%	52.10%	56.7%
Female	45.5%	47.90%	43.3%
Age in months			
24-35	43.1%	30.20%	35.7%
36-47	34.8%	35.70%	34.3%
48-59	22.1%	34.10%	30.0%
ECE attendance*			
Attending	72.1%	63.90%	72.5%
Not attending	27.9%	36.20%	27.5%

- CFT-ECDI follow-up data does not represent some aspects of the population. Substantial discrepancies were found in primary caregivers' education levels (i.e., higher levels were overrepresented), language (Nepalese speaking households were overrepresented), and children's age.
- To address the discrepancies, we employed a weighting approach based on iterative proportional fitting algorithm to achieve known population margins based on MICS2019, focusing on primary caregivers' education levels and language.
- The weighted sample (far right in the table) better represents the characteristics found in MICS2019 in important aspects, including primary caregivers' education levels and language.

*The comparison of ECE attendance is based on the data for children aged 36-59 months as this variable is available for this age group in the MICS2019 data. Other comparisons are based on data for children aged 24-59 months.

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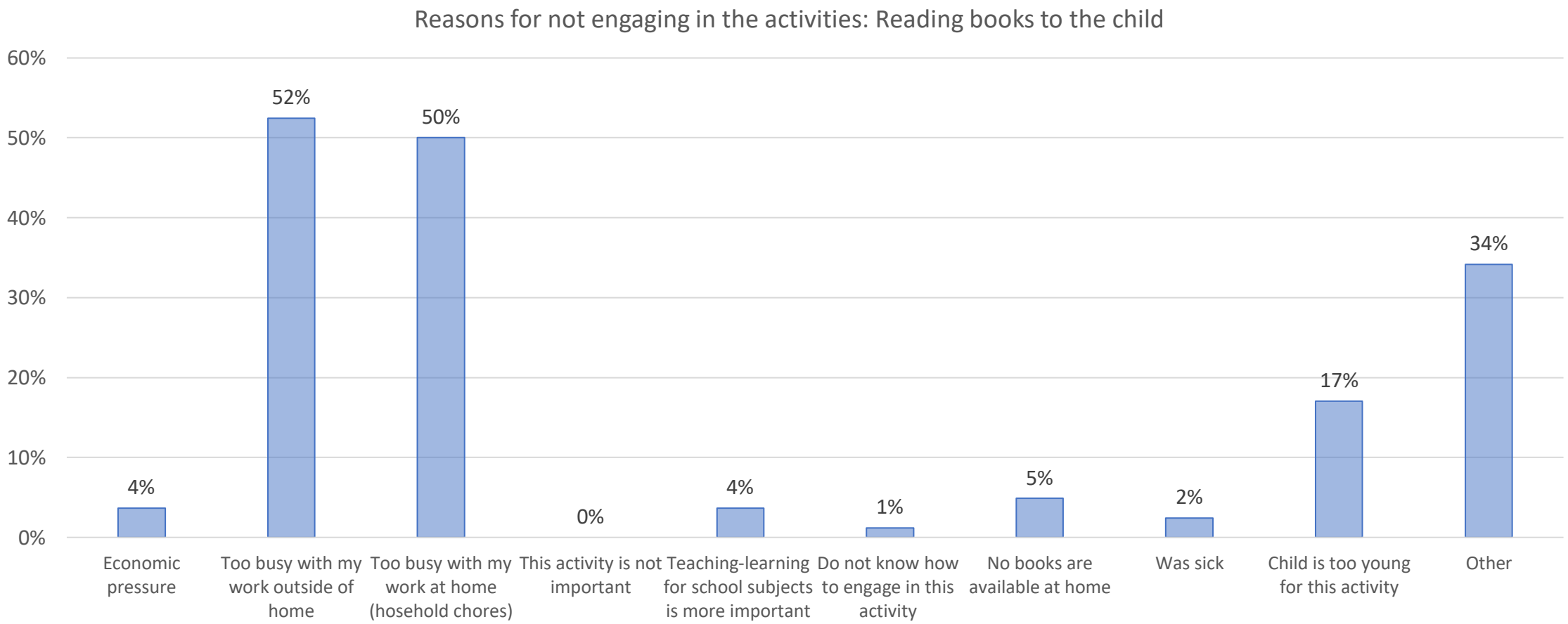
Appendix 2

Reasons for not engaging in the early stimulation activities: The most common reason for the main caregivers to not read book to the children was “too busy with their work outside of home”, followed by “too busy with work at home”, “others”, and “child is too young for this activity.”



Note: The analysis is based on the data from 72 respondents who answered ”not engaging in the stimulation activity (reading book to the child).” The “Other” category includes the following responses: “Child was sick (not feeling well)”, “Because we went out/child was not at home”, “I am illiterate (I can't read)”, “Other household members did it”.

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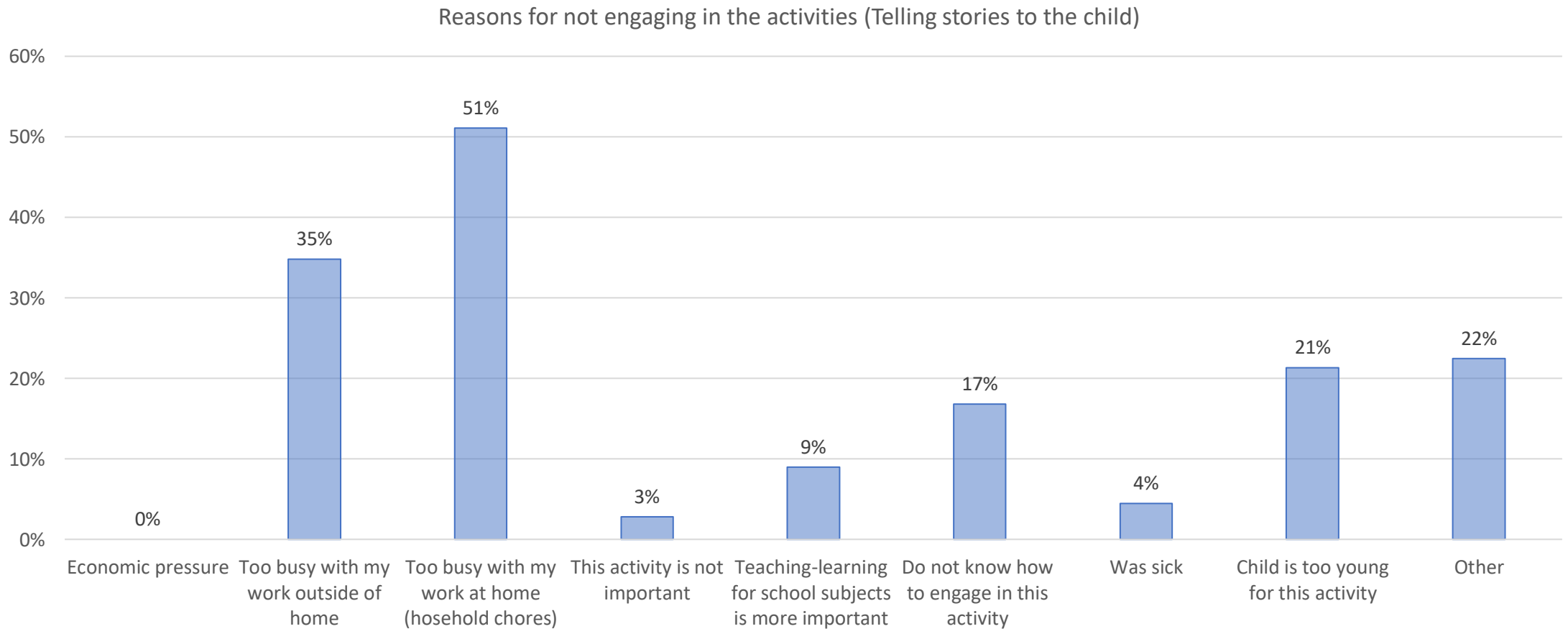
Appendix 2

Reasons for not engaging in the early stimulation activities. The most common reason for the main caregivers to not tell stories to the children was “too busy with work at home”, followed by “too busy with their work outside of home”, “others”, “child is too young for this activity”, and “do not know how to engage in this activity”



Note: The analysis is based on the data from 168 respondents who answered ”not engaging in the stimulation activity (telling stories to the child)”
The “Other” category includes the following responses: “Child was sick (not feeling well)”, “Because we went out/child was not at home”, “Other household members did it”, “Do not have any books with/I do not know any stories”, “Because my child gets tired of doing school assignments and goes to bed early”, “Child is quite busy with school/exam preparation”, and “Child always uses mobile and is not interested in listening to me/ mostly engaged mobile”

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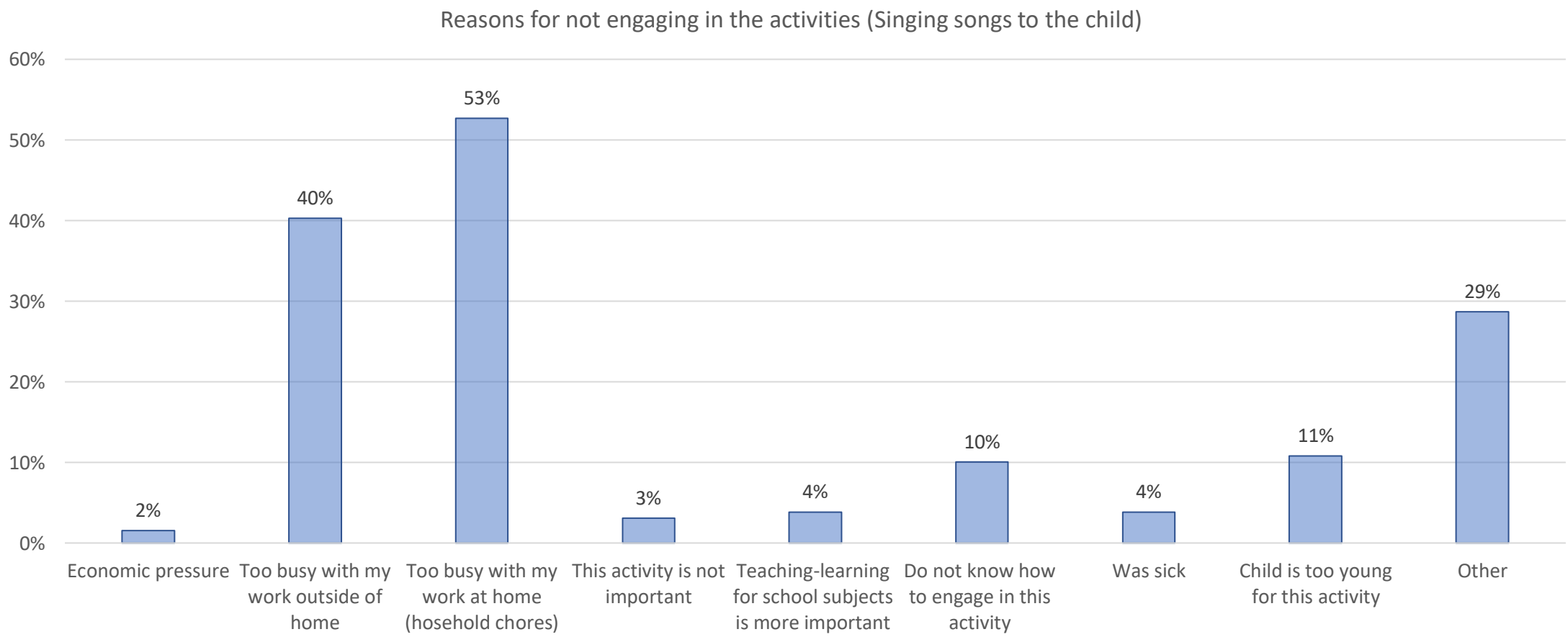
Appendix 2

Reasons for not engaging in the early stimulation activities: The most common reason for the main caregivers to not sing songs to the children was “too busy with work at home”, followed by “too busy with their work outside of home” “others”, and “child is too young for this activity.”



Note: The analysis is based on the data from 119 respondents who answered ”not engaging in the stimulation activity (singing songs to the child).” The “Other” category includes the following responses: “Child was sick (not feeling well)”, “Because we went out/child was not at home”, “Other household members did it”, “Can't sing and no interest”, “Child always uses mobile and is not interested in listening to mother”, “Child is busy in other activities from school”, “As the child is growing older she doesn't teaches her sing songs or lullabies any more.”

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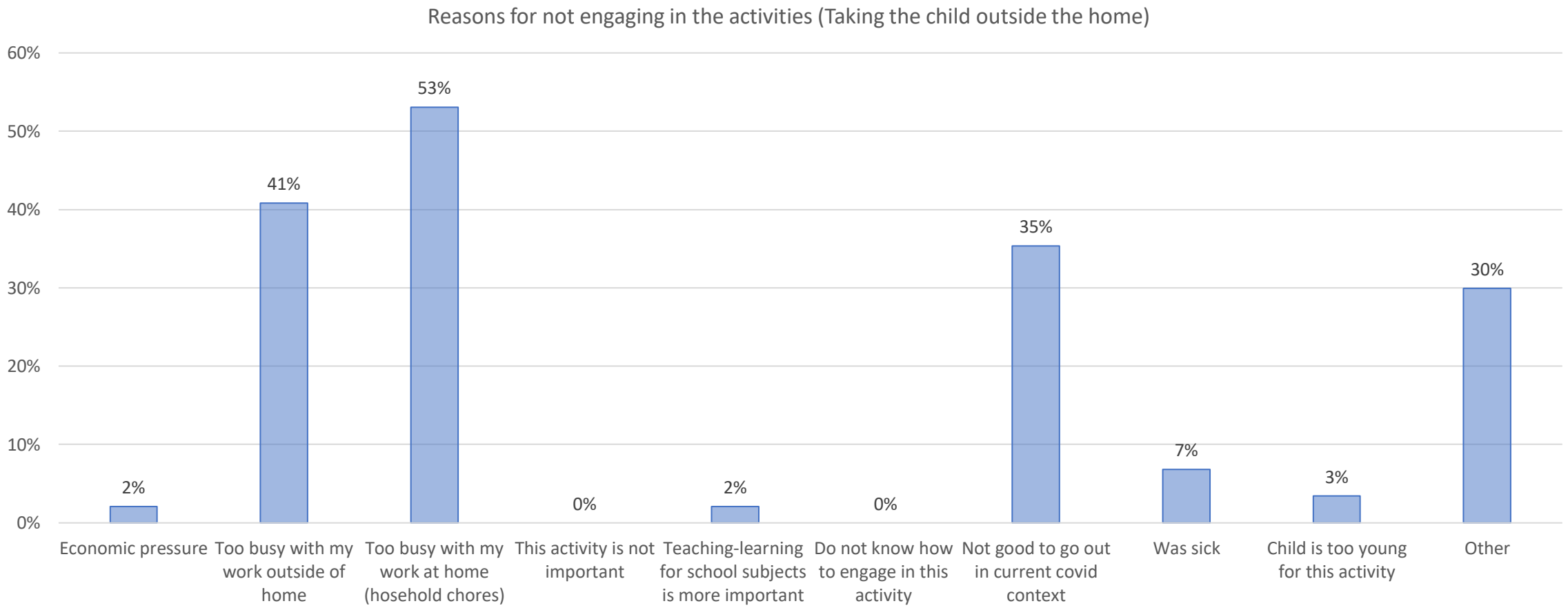
Appendix 2

Reasons for not engaging in the early stimulation activities: The most common reason for the main caregivers to not take the children outside the home was “too busy with work at home”, followed by “too busy with their work outside of home”, “not good to go out in current covid context” and “others”.



Note: The analysis is based on the data from 139 respondents who answered ”not engaging in the stimulation activity (taking the child outside the home).” The “Other” category includes the following responses: “Child was sick (not feeling well)”, “Because we went out/child was not at home”, “Other household members did it”, “Due to heavy rain”, “Child's school is running so have not taken to any places”, “No time because of small baby”, and “women in this village doesn’t go outside often.”

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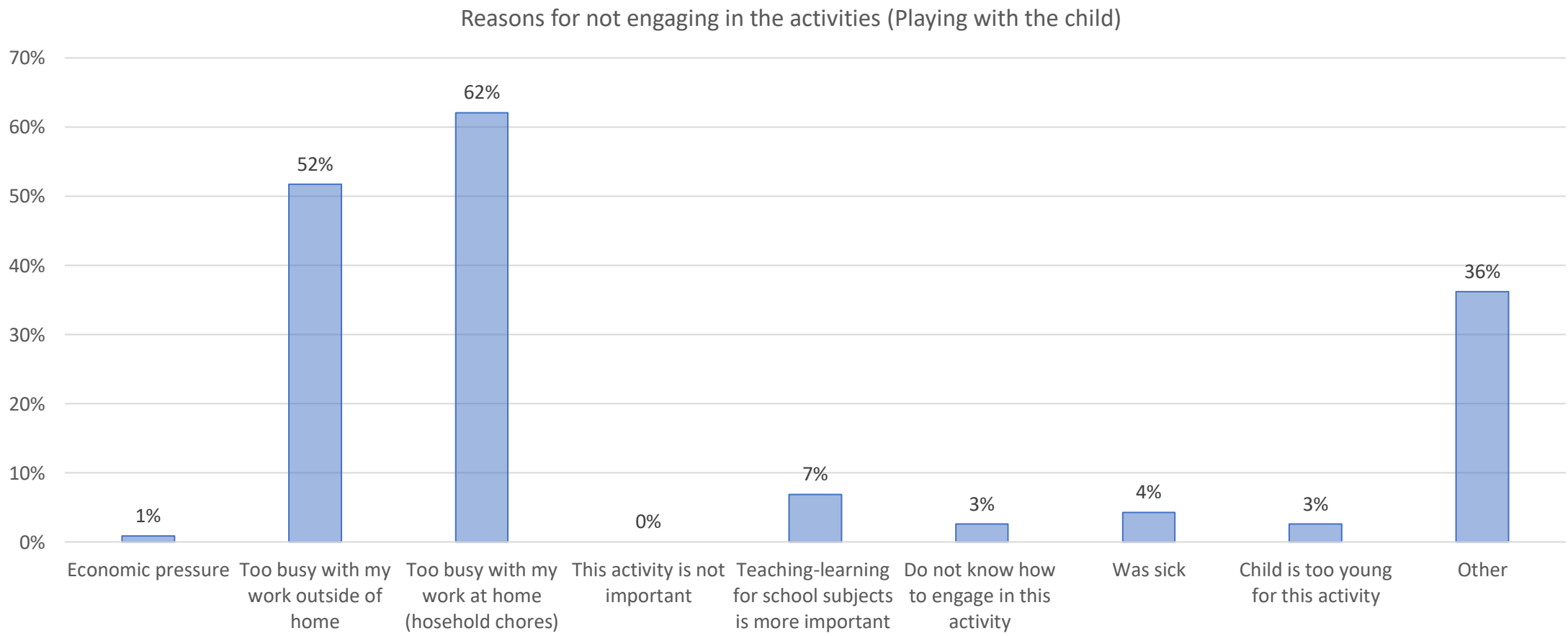
Appendix 2

Reasons for not engaging in the early stimulation activities: The most common reason for the main caregivers to not play with the children was “too busy with work at home”, followed by “too busy with their work outside of home” and “others.”



Note: The analysis is based on the data from 108 respondents who answered ”not engaging in the stimulation activity (playing with the child).” The “Other” category includes the following responses: “Child was sick (not feeling well)”, “Because we went out/child was not at home”, “Other household members did it”,

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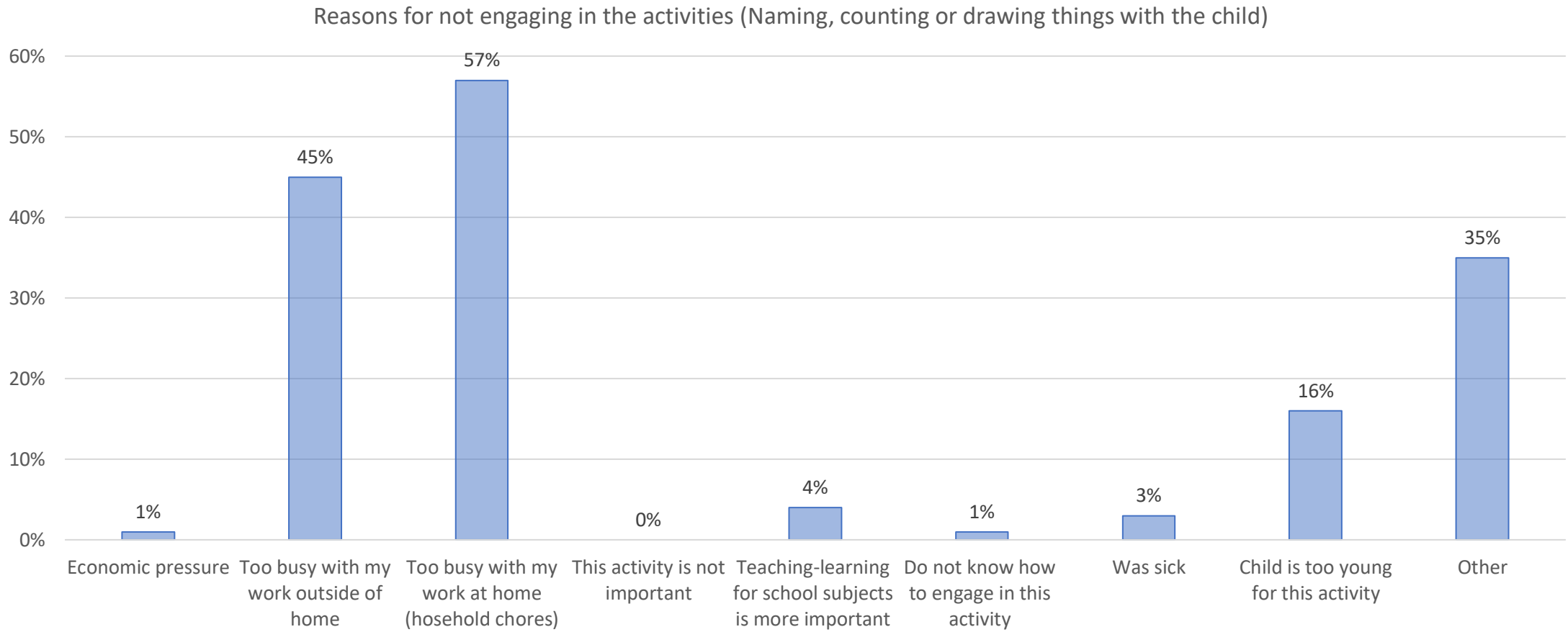
Appendix 2

Reasons for not engaging in the early stimulation activities : The most common reason for the main caregivers to not name, count, or draw things for or with the children was “too busy with work at home”, followed by “too busy with their work outside of home” and “others”, and “child is too young for this activity.”



Note: The analysis is based on the data from 91 respondents who answered ”not engaging in the stimulation activity (naming, counting, or drawing things for or with the child)”

The “Other” category includes the following responses: “Child was sick (not feeling well)”, “Because we went out/child was not at home”, “Other household members did it”, and “The child does study by herself”.

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Appendix 3

Comparison of engagement in each stimulation activity by father and mother: Fathers were less likely to engage in all stimulation activities than mothers. While proportions of mothers who engaged in stimulation activities increased a lot from August to October, proportions of fathers engaging in the activities mostly remained the same. Among the six activities, fathers are least likely to engage in "Telling stories" and "Singing songs".