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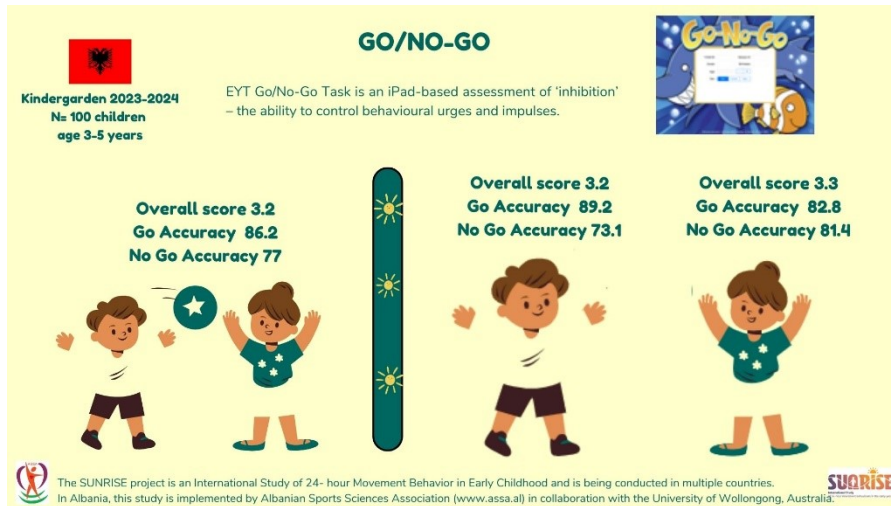
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Albanian pilot study on motor skills, anthropometrics & executive functions in 3-5 years old children

Final Report 2024

Part of International Study on 24- Hour Movement Behaviors in the Early Years



Cite: Muca., F. Muca., G. Nurja., A. Agalliu., K. Muca., K. Dervishi., R. Kasemi., A. Plaka., M. Caushaj., R. Tollkuci., E. Nicaj., G. Jarani., J (2024). Albanian Sports Science Association. Final Report. Albanian pilot study on motor skills, anthropometrics & executive functions in 3-5 years old children: Part of International Study on 24- Hour Movement Behaviors in the Early Years.

Tirana 2024



Albanian pilot study on motor skills, anthropometrics & executive functions in 3-5 years old children

Abstract

The SUNRISE Project is an international study of Early Childhood Movement Behaviours and is being conducted in multiple countries. In Albania, this study is planned to be conducted by researchers from the Albanian Association of Sports Sciences (www.assa.al) in collaboration with the University of Wollongong, Australia.

The purpose of this study (final report) is to present descriptive data (mean and standard deviation by gender) to identify the current situation (anthropometric, motor, cognitive and lifestyle measurements after the kindergarten process) of kindergarten-age children (up to 5 years old) with that of the pilot in two main cities (Tirana and Lezha) during 2024.

Data from the results obtained, show no difference in body height, body weight and waist circumference between boys and girls. Boys have a better performance than girls in the long jump, handgrip dynamometer right and left. Also from the results obtained, we see that boys have a better balance performance than girls in the one-leg standing balance- right test, while in the balance test one-leg standing balance- left, boys and girls have the same balance performance.

Boys and girls have the same performance in the Supine Timed Up and Go (S-TUG), NIH Toolbox 9-hole pegboard- Right and Left test.

From the results obtained for executive functions result show that boys and girls have the same performance in the EYT 'Mr Ant' Task score, EYT Go/No-Go Task- Overall score. In the EYT Go/No-Go Task- Go Accuracy score test, boys have a better performance than girls and the opposite happen in the EYT Go/No-Go Task- No- Go Accuracy score test where girls have a better performance than boys. From the questionnaire the data shows that children generally spend 1.61 hours' outdoors. The data shows that boys and girls spend the same amount of time on a typical weekday. During weekends data show that children generally spend 3.55 hours outside, where boys spend more time outside on a typical weekend day than girls.

Keywords: children, motor skills, strength, balance



Albanian Sports Science Association (ASSA)



Albanian Sports Science Association (ASSA)

ASSA evolved from innovative ideas of dedicated sports science students. The organization was established in 2012 and registered as an NGO in the Republic of Albania located in Tirana. ASSA believes that human relationships are powerful, and interaction with each other are the foundation for change in creating a viable community that can bring positive and significant outcomes nationwide through physical activity and sports. Our goal is to establish relationships based on trust, understanding and shared values regardless of racial, ethnic, or socio-economic status.



The ASSA provides opportunities through scientific information that will improve the quality of sport training and a healthy active lifestyle in all age groups. We encourage the incentives of youth to be a driving force of ideas who can further contribute to our activities and projects. ASSA is always open to partnerships with major research funding bodies, academies, universities, regulators, NGO's, healthcare, sports participants and others willing to participate and promote sports, physical education, physical activity and health.

Albanian Sports Science Association (ASSA)

“Connect community through physical activity and sports”

Our strategy is to connect, cooperate and collaborate with many partners that play a key role in the community that promote health, physical activity and sports.

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About the pilot project in Albania

The SUNRISE Project is an international study of Early Childhood Movement Behaviours and is being conducted in multiple countries. In Albania, this study is planned to be conducted by researchers from the Albanian Association of Sports Sciences (www.assa.al) in collaboration with the University of Wollongong, Australia.

Research Benefits

The main objective of the SUNRISE Study (Final results) is to determine the percentage of 3- and 4-year-old children who meet the World Health Organization (WHO) Global 24-Hour Movement Guidelines for the Early Years in participating countries.

This study in Albania compare to International project at the end will also:

1. Identify whether children meet the WHO guidelines and whether there are differences by gender, family education level, urban/rural environment or country income levels.
2. Whether WHO guideline compliance and movement behaviours are associated with health and developmental outcomes; and
3. To identify potential factors associated with movement behaviours and guideline compliance.

The purpose of this study (final report) is to present descriptive data (mean and standard deviation by gender) to identify the current situation (anthropometric, motor, cognitive and lifestyle measurements after the kindergarten process) of kindergarten-age children (up to 5 years old) with that of the pilot in two main cities (Tirana and Lezha).

Methods

This pilot study involved kindergarten children in the cities of Tirana and Lezha (ages 3 to 5 years). Permission was obtained from parents and kindergarten leaders before the study began. A total of 91 children (44 boys and 47 girls) participated in this pilot study according to the following measurements:

Protocols of the measurements

Anthropometric parameters

Body height, body weight and waist circumference

Handgrip Dynamometer

The grip strength test is a measure of upper extremity strength. That is, the capacity of the hand and arm muscles to produce the tension and power necessary for maintaining posture, initiating movement, or controlling movement during conditions of loading the musculoskeletal system.

NIH Toolbox 9-hole pegboard

The NIH Toolbox 9-Hole Pegboard Test assesses fine motor dexterity or manipulation. Dexterity is a central component of hand function and relates to both the speed and accuracy of hand movements. The protocol includes one practice and one timed trial with each hand.

One-leg standing balance



The Single Leg Stance (SLS) Test is used to assess static postural and balance control.

Standing Long Jump

Aim to evaluate explosive strength of the lower limbs and physical fitness.

Supine Timed Up and Go (S-TUG)

Aim to assess a child mobility and requires both static and dynamic balance, and was shown to be a good tool to assess functional mobility.

Go/No-Go

EYT Go/No-Go Task is an iPad-based assessment of 'inhibition' – the ability to control behavioural urges and impulses.

Mr Ant

EYT 'Mr Ant' Task is an iPad-based assessment of 'visual-spatial working memory' – the amount of visual information that concurrently can be coordinated in mind.

Results

Anthropometrics

The following data in table no. 1 shows information about the anthropometric data (body height, body weight and waist circumference) of children in general and divided by gender. From the results obtained, we see that there are no difference in body height, body weight and waist circumference between boys and girls.

Table 1

Descriptive Statistics	All			Boys			Girls		
	N	Mean	Std. Dev	N	Mean	Std. Dev	N	Mean	Std. Dev
Body Height	91	109.9	8.5	44	110.7	9.6	47	109.2	7.3
Body Weight	91	19.7	3.7	44	20.3	3.4	47	19.0	3.9
Waist circumference	91	56.2	6.5	44	56.9	6.3	47	55.6	6.8

Motor skills

Data in table no. 2 shows information about motor skills, strength of the lower and upper limbs (long jump, handgrip dynamometer right and left) of children in general and divided by gender. From the results obtained, we see that boys will have a better performance than girls in the long jump, handgrip dynamometer right and left.

Table 2

Descriptive Statistics	All			Boys			Girls		
	N	Mean	Std. Dev	N	Mean	Std. Dev	N	Mean	Std. Dev
Standing Long Jump	91	75.0	21.6	44	81.4	20.2	47	68.5	21.2
Handgrip Dynamometer- Right	91	4.9	1.8	44	5.2	2.0	47	4.6	1.6
Handgrip Dynamometer- Left	91	8.3	4.4	44	9.0	5.0	47	7.6	3.5

Results from table no. 3 shows information about motor skills, maintaining balance (one-leg standing balance- right and left) of children in general and divided by gender. From the results obtained, we see that boys have a better balance performance than girls in the one-leg standing balance- right test, while in the balance test one-leg standing balance- left, boys and girls have the same balance performance.

Table 3

Descriptive Statistics	All			Boys			Girls		
	N	Mean	Std. Dev	N	Mean	Std. Dev	N	Mean	Std. Dev
One-leg standing balance- Right	91	7.7	6.1	44	8.7	6.4	47	6.7	5.7
One-leg standing balance- Left	91	8.9	6.6	44	9.0	6.0	47	8.7	7.2

The following data in table no. 4 shows information about motor skills, speed (Supine Timed Up and Go (S-TUG), NIH Toolbox 9-hole pegboard- Right and Left) of children in general and divided by gender. From the results obtained, we see that boys and girls have the same performance in the Supine Timed Up and Go (S-TUG), NIH Toolbox 9-hole pegboard- Right and Left test.

Table 4

Descriptive Statistics	All			Boys			Girls		
	N	Mean	Std. Dev	N	Mean	Std. Dev	N	Mean	Std. Dev
Supine Timed Up and Go (S-TUG)	91	5.1	1.0	44	5.0	1.0	47	5.1	1.0
NIH Toolbox 9-hole pegboard- Right	91	33.1	7.6	44	32.6	7.3	47	33.7	7.8
NIH Toolbox 9-hole pegboard-Left	91	36.9	8.6	44	36.6	8.5	47	37.2	8.9

The following data in table no. 5 shows information about dexterity (EYT 'Mr Ant' Task score, EYT Go/No-Go Task- Overall score, EYT Go/No-Go Task- Go Accuracy score and EYT Go/No-Go Task- No-Go Accuracy score) of children in general and divided by gender. From the results obtained, we see that boys and girls have the same performance in the EYT 'Mr Ant' Task score, EYT Go/No-Go Task- Overall score. In the EYT Go/No-Go Task- Go Accuracy score test, boys have a better performance than girls and the opposite happen in the EYT Go/No-Go Task- No- Go Accuracy score test where girls have a better performance than boys.

Table 5

Descriptive Statistics	All			Boys			Girls		
	N	Mean	Std. Dev	N	Mean	Std. Dev	N	Mean	Std. Dev
EYT 'Mr Ant' Task score	91	2.3	0.8	44	2.4	0.9	47	2.1	0.7
EYT Go/No-Go Task- Overall score	91	3.2	3.2	44	3.2	3.3	47	3.3	3.2
EYT Go/No-Go Task- Go Accuracy score	91	86.2	12.6	44	89.2	8.6	47	82.8	15.2
EYT Go/No-Go Task- No- Go Accuracy score	91	77.0	19.1	44	73.1	20.3	47	81.4	17.0

Questionnaire results

Sedentary behaviour, screen time and sleep

The results from Table 6 provide information in the past week, were there any days where the 3 or 4-year-old child who is participating in this study was restrained for more than one hour at a time in a stroller, car seat, or on back or a scooter/motorbike for all children and by gender. The data show that both boys and girls were not held for more than one hour in a stroller, car seat, or on a child's back or scooter/motorcycle.

Table 6 Question- In the past week, were there any days where the 3 or 4-year-old child who is participating in this study was restrained for more than one hour at a time in a stroller, car seat, or on back or a scooter/motorbike?

	Percent		
	Children	Boys	Girls
Yes	36.1	32.4	39.5
No	63.9	67.6	60.5

The results from Table 7 provide information on how much time a child spends as a passenger in a vehicle on a typical weekday. The data show that children generally spend 0.72 hours as passengers in a vehicle. The data show that boys spend more time as passengers in a vehicle on a typical weekday than girls.

Table 7 Question- Over a typical weekday, how much time does the child spend as a passenger in a motor vehicle (e.g. a car, bus, motorcycle).

	Mean- Hours	Std. Deviation
Children	0.72	0.65
Boys	0.88	0.68
Girls	0.70	0.60

The results from Table 8 provide information on how much time a child spends as a passenger in a vehicle on a typical weekend day. The data show that children generally spend 1.16 hours as passengers in a vehicle. The data show that boys and girls spend the same amount of time as passengers in a vehicle on a typical weekend day.

Table 8 Question- Over a typical weekend day, how much time does this child spend as a passenger in a motor vehicle (e.g., a car, bus, motorcycle)

	Mean- Hours	Std. Deviation
Children	1.16	0.77
Boys	1.15	0.69
Girls	1.30	0.77

The results from table 9 provide information on how much time your child spends outdoors on a typical weekday. The data shows that children generally spend 1.61 hours' outdoors. The data shows that boys and girls spend the same amount of time on a typical weekday.

Table 9 Question- On a typical weekday, how much time does your child spend outside?

	Mean- Hours	Std. Deviation
Children	1.61	1.00
Boys	1.52	0.93
Girls	1.64	0.75

The results from table no. 10 present information about how much time your child spends outside on a typical weekend day. The data show that children generally spend 3.55 hours outside. The data show that boys spend more time outside on a typical weekend day than girls.

Table 10 Question- On a typical weekend day, how much time does your child spend outside?

	Mean- Hours	Std. Deviation
Children	3.55	1.57
Boys	3.96	1.53
Girls	3.59	1.19

The results from table no. 11 present information on whether the child went outside the house to play in the last three days. The data show that children generally went outside to play in the last three days. The data show how boys and girls went outside to play in the last three days.

Table 11 Question- In the past three days, has the child: Gone outside the home to play (alone/with an adult/older child)?

	Percent		
	Children	Boys	Girls
Yes	86.7	85.3	87.8
No	13.0	14.7	12.2

The results from table no. 12 present information about where the child went outside the house to play in the last three days. The data shows that in the last three days, children have played more in their own garden or yard, in the park and at a friend's house. Both boys and girls play more in their own backyards, at a friend's house it is boys who play more than girls, and the opposite is true in the park, where the latter location is more preferred by girls than boys.

Table 12 Question- If Yes, where did the child go? (tick as many as appropriate)

	Percent		
	Children	Boys	Girls
On the property (i.e. Garden/yard)	43.9	43.3	44.4
To a friend/ relative's home	6.1	10.0	2.8
To a park/ square or playground	39.4	36.7	41.7
To a swimming pool/ creek/ river/ dam/ waterhole/ beach	1.5	0	2.8
To the street	3.0	3.3	2.8
To the bush/forest/nature environment	3.0	3.3	2.8
Etc	3.0		2.8

The results from table no. 13 present information on the reason why in the last three days, the child: did not go/was allowed to go/was taken outside to play. The data show that in the last three days, the children: did not go/were allowed to go/were taken outside to play due to rain, heat and cold.

Table 13 Question- In the past three days, has the child: Not gone/been allowed to go/been taken outside to play because of (tick as many as appropriate)

	Percent		
	Children	Boys	Girls
Heat	16.0	15.0	16.7
Cold	14.0	20.0	10
Garbage/ rubbish	2.0	0	3.3
Rain	38.0	40	36.7
Social unrest	2.0	0	3.3
Air pollution (dirty, smoky, smelly)	2.0	0	3.3
Dangers such as crime/ kidnapping	4.0	0	6.7
Danger such as traffic	2.0	0	3.3
Etc	12.0	10.0	13.3
Not relevant	8.0	15.0	3.3

The results from Table 14 provide information on how much time a child spent using a screen-based electronic device (a smartphone, tablet, video game, or watching TV or movies, online videos) while sitting or lying down during a 24-hour period in the past week. The data show that children spent an average of 1.39 hours a day in the past week using a screen-based electronic device while sitting or lying down. We will also see that boys use more electronic devices than girls during a day.

Table 14 Question- On a 24-hour period in the past week, how much time did the 3 or 4-year-old child who is participating in this study spend using any electronic screen device such as a smart phone, tablet, video game, or watch television or movies, videos on the internet while they were sitting or lying down? Please record this as accurately as you can to the nearest minute

	Mean	Std. Deviation
Children	1.39	0.74
Boys	1.48	0.97
Girls	1.32	0.70

The results from table no. 15 present information on how often parents use an electronic screen device to educate their children. From the data obtained, we conclude that the majority of parents do not use an electronic screen device to educate their children. Meanwhile, the majority of parents use electronic devices more for education for girls at least once a week.

Table 15 Question- How often do you use an electronic screen device to educate this child?

	Percent		
	Children	Boys	Girls
Never	33.8	44.1	25.0
Less than once a week	13.5	5.9	20.0
once a week	21.6	17.6	25.0
most days	18.9	17.6	20.0
everyday	6.8	8.8	5.0
don't know	5.4	5.9	5.0

The results from table no. 16 present information on how often parents use an electronic screen device to calm their children when they are upset. From the data obtained, we conclude that the majority of parents do not use an electronic screen device to calm their child when they are upset. Meanwhile, some parents use electronic devices less than once a week and others most days. Electronic screen devices are used more by girls than by boys.

Table 16 Question- How often do you use an electronic screen device to calm down this child when he/she is upset?

	Percent		
	Children	Boys	Girls
Never	28.0	41.2	17.1
Less than once a week	26.7	17.6	34.1
once a week	12.0	8.8	14.6
most days	17.3	17.6	17.1
everyday	10.7	8.8	12.2
don't know	5.3	5.9	4.9

The results from table no. 17 present information on how often parents use an electronic screen device to keep their children busy while they do things. From the data obtained, we conclude that the majority of parents do not use an electronic screen device to keep their child busy while they do things for both boys and girls. Meanwhile, for girls, the majority of parents use an electronic screen less than once a week or once a week to keep their child busy while they do things. Electronic screen devices are used more for girls than for boys.

Table 17 Question- How often do you use an electronic screen device to keep this child busy while you get things done?

	Percent		
	Children	Boys	Girls
Never	29.3	41.2	19.5
Less than once a week	21.3	17.6	24.4
once a week	18.7	11.8	24.4
most days	22.7	23.5	22.0
everyday	5.3	2.9	7.3
don't know	2.7	2.9	2.4

The results from table no. 18 present information on how often parents use a smartphone to make calls, text messages, check email, check social networks, and watch a video during meals with their child. From the data obtained, we conclude that the majority of parents and parents of boys do not use a device with an electronic screen to check email, social networks, or watch a video during meals with their child. Meanwhile, for parents of girls, the majority use the electronic screen most days to check email, social networks, or watch a video during meals with their child. Electronic screen devices are used more by parents of girls than by parents of boys.

Table 18 Question- How often do you use a smartphone to make calls, text messages, check email, check social media, watch a video during meals with the child?

	Percent		
	Children	Boys	Girls
Never	31.5	36.4	27.5
Less than once a week	12.3	9.1	15.0
once a week	6.8	9.1	5.0
most days	31.5	27.3	35.0
everyday	8.2	12.1	5.0
don't know	9.6	6.1	12.5

The results from table no. 19 present information on how often parents use a smartphone to make calls, text messages, check email, check social networks, and watch a video while playing with their child. From the data obtained, we conclude that the majority of parents, parents of boys and girls, do not use an electronic screen device to check email, social networks, or watch a video while playing with their child. Meanwhile, another portion of parents and parents of girls use it less than once a week, while parents of boys use it most days.

Table 19 Question- How often do you use a smartphone to make calls, text messages, check email, check social media, watch a video during playtime with the child?

	Percent		
	Children	Boys	Girls
Never	45.8	53.1	40.0

Less than once a week	18.1	9.4	25.0
once a week	6.9	9.4	5.0
most days	16.7	25.0	10.0
everyday	5.6	3.1	7.5
don't know	6.9	0	12.5

The results from table no. 20 present information on how often parents use a smartphone to make calls, text messages, check email, check social networks, and watch a video while traveling with their child. From the data obtained, we conclude that the majority of parents, parents of boys and girls do not use an electronic screen device to check email, social networks, or watch a video while traveling with their child. Meanwhile, another portion of parents and parents of girls use it less than once a week, while parents who have boys use it once a week and most days.

Table 20 Question- How often do you use a smartphone to make calls, text messages, check email, check social media, watch a video during travel time with the child?

	Percent		
	Children	Boys	Girls
Never	50.7	57.6	45.0
Less than once a week	13.7	3.0	22.5
once a week	11.0	15.2	7.5
most days	12.3	15.2	10.0
everyday	6.8	6.1	7.5
don't know	5.5	3.0	7.5

The results from table no. 21 present information on how often parents use a smartphone to make calls, text messages, check email, check social networks, and watch a video while walking with their child. From the data obtained, we conclude that the majority of parents, parents of boys and girls, do not use an electronic screen device to check email, social networks, or watch a video while walking with their child. Meanwhile, another portion of parents, parents of girls and boys use an electronic screen device less than once a week to check email, social networks, or watch a video while walking with their child.

Table 21 Question- How often do you use a smartphone to make calls, text messages, check email, check social media, watch a video while going for walks with the child?

	Percent		
	Children	Boys	Girls
Never	58.9	63.6	55.0
Less than once a week	13.7	15.2	12.5
once a week	8.2	6.1	10.0
most days	11.0	12.1	10.0
everyday	2.7	3.0	2.5
don't know	5.5	0	10.0

The results from table no. 22 present information on how often parents use a smartphone to make calls, text messages, check email, check social networks, and watch a video during the bedtime routine with their child. From the data obtained, we conclude that the majority of parents, parents of boys and girls, do not use a device with an electronic screen to check email, social networks, or

watch a video during the bedtime routine with their child. Meanwhile, another part of parents, parents of girls, use a device with an electronic screen to check email, social networks, or watch a video during the bedtime routine with their child less than once a week, while a part of parents of boys use an electronic screen at least once a week.

Table 22 Question- How often do you use a smartphone to make calls, text messages, check email, check social media, watch a video during bedtime routine with the child?

	Percent		
	Children	Boys	Girls
Never	67.6	70.6	65.0
Less than once a week	13.5	5.9	20.0
once a week	8.1	14.7	2.5
most days	5.4	8.8	2.5
everyday	4.1	0.0	7.5
don't know	1.4	0.0	2.5

The results from table no. 23 present information if the child uses electronic screen devices every day 2 hours before bedtime. From the data obtained, we conclude that children, boys and girls, do not use electronic screen devices every day 2 hours before bedtime. Girls use electronic devices more than boys every day 2 hours before bedtime.

Table 23 Question- Does the child use electronic screen devices (e.g. TV, video game, computer, tablet or smartphone) in the 2 hours before bedtime on a daily basis? If no, go to question 26

	Percent		
	Children	Boys	Girls
yes	40.0	32.4	46.3
no	58.7	64.7	53.7
don't know	1.3	2.9	0

The results from table no. 24 present information about how close to bedtime the child uses electronic screen devices every day 2 hours before bedtime. From the data obtained, we conclude that children, boys and girls, use an electronic screen device 30 minutes before the child goes to sleep.

Table 24 Question- If Yes, how close to bedtime does the child usually use these devices?

	Percent		
	Children	Boys	Girls
Closer than 30 minutes before bedtime	52.8	71.4	40.9
30 mins to less than 1 hour before bedtime	19.4	14.3	22.7
Between 1 and 2 hours before bedtime	27.8	14.3	36.4

The results from table no. 25 present information on whether the child has electronic screen devices in the room where they sleep. From the data we conclude that both boys and girls do not have electronic screen devices in the room where they sleep. We see that girls have more electronic screen devices than boys.

Table 25 Question- Does the child have electronic screen devices in the room where he/she sleeps (e.g. TV, video game, computer, tablet or smartphone)?

	Percent		
	Children	Boys	Girls
yes	17.6	14.7	20.0
no	82.4	85.3	80.0

The results from table no. 26 present information on how many hours of sleep children sleep in a typical 24-hour day. From the data obtained, we conclude that children sleep an average of 10.25 hours in a typical day. We will see that both boys and girls sleep the same and there is no difference during a typical day.

Table 26 Question- How many hours of sleep does this child get in a typical 24-hours day (including naps)?

	Mean	Std. Deviation
Children	10.25	1.66
Boys	10.10	1.00
Girls	10.38	2.06

The results from table no. 27 present information on whether the child sleeps or not. From the data obtained, we conclude that children, boys and girls, sleep. We see that boys sleep more than girls.

Table 27 Question- Does your child nap? If yes, go to 28b

	Percent		
	Children	Boys	Girls
yes	81.1	84.8	78.0
no	18.9	15.2	22.0

The results from table no. 28 provide information if the child has a stable sleep schedule. From the data obtained, we conclude that children, boys and girls, have a stable sleep schedule and the sleep time does not change by more than 30 minutes each day. We will see that boys have a more stable sleep schedule than girls.

Table 28 Question- Does the child have a consistent bedtime?

	Percent		
	Children	Boys	Girls
Yes, bedtime does not vary by more than 30 minutes each day	79.2	83.9	75.6
No, bedtime can vary more than 30 minutes each day	20.8	16.1	24.4

The results from table no. 30 present information about what time children go to bed at night. From the data obtained, we conclude that children, boys and girls, go to sleep around 9:00 PM. While another part goes to sleep at 10:00 PM.

Table 30 Question- What time does your child go to bed at night?

	Percent		
Clock time	Children	Boys	Girls
- 20: 00	2.8	0.0	4.9
20: 30	4.2	0.0	7.3
21: 00	39.4	46.7	34.1

21: 30	9.9	6.7	12.2
22: 00	28.2	30.0	36.8
22: 30	8.5	13.3	4.9
23: 00-	7.0	3.3	4.9

The results from table no. 31 present information about what time children wake up from bed in the morning. From the data obtained, we conclude that children, boys and girls, wake up in the morning around 07:00. While another part wakes up at 08:00.

Table 31 Question- What time does your child get up in the morning?

	Percent		
Clock time	Children	Boys	Girls
-06: 00	7.2	3.4	10.0
06: 30	11.6	6.9	15.0
07: 00	49.3	58.6	42.5
07: 30	10.1	17.2	5.0
08: 00 -	21.7	13.8	27.5

The results from table no. 32 present information on how you would rate the quality of children's sleep from 1-7. From the data obtained, we conclude that children, boys and girls, have a comfortable and quality sleep and have a rating of 7. Girls have more comfortable sleep than boys.

Table 32 Question- On a scale of 1 to 7, with the higher number indicating higher quality, how would you rate the quality of this child's sleep?

	Percent		
	Children	Boys	Girls
1	1.4	0.0	2.6
2	5.8	10.0	2.6
3	0.0	0.0	0.0
4	5.8	6.7	5.1
5	10.1	20.0	2.6
6	31.9	30.0	33.3
7	44.9	33.3	53.8

The results from table no. 33 present information about children whether they have not slept enough during these three days or not. From the data obtained, we conclude that children, boys and girls, have slept enough and comfortably during the last three days. Girls have slept more than boys.

Table 33 Question- In the past three days, has the child: Not got enough sleep?

	Percent		
	Children	Boys	Girls
yes	10.6	14.7	7.3
no	89.3	85.3	92.7

The results from table no. 34 present information about the reasons why children have not slept enough during the last three days. From the data obtained, we conclude that children, boys and

girls, have not slept enough and comfortably during the last three days due to internal noises. And another part does not sleep enough because it is too warm.

Table 34 Question- If Yes, was it because of: (tick as many as appropriate)

	Percent		
	Children	Boys	Girls
Indoor noise	57.1	50.0	66.7
Too Hot	28.6	25.0	33.3
Etc	14.3	25.0	0.0

The results from table no. 35 present information on whether children sleep alone in their own bedroom. From the data obtained, we conclude that children, boys and girls, sleep alone in their own bedroom. Boys have a higher percentage of sleeping alone in their own bedroom than girls.

Table 35 Question- Does the child sleep in their own bedroom by themselves?

	Percent		
	Children	Boys	Girls
yes	25.3	23.5	26.8
no	74.7	76.5	73.2

The results from table no. 35.1 present information on how many other people children sleep with in their bedroom. From the data obtained, we conclude that children, boys and girls, sleep in their bedroom with one other child. Another part of children, boys and girls, sleep with 2 other children in the bedroom.

Table 35.1 Question- If No, how many other people sleep in the same room as the child?

Children	Percent		
	Children	Boys	Girls
.0	10.5	15.8	5.3
1.0	60.5	47.4	73.7
2.0	18.4	15.8	21.0
3.0	5.3	10.5	0
4.0	5.3	10.5	0

The results from table no. 35.2 present information on how many other people children sleep with in their bedroom. From the data obtained, we conclude that children, boys and girls, sleep in their bedroom with 2 adults + 18 years old.

Table 35.2 Question- If No, how many other people sleep in the same room as the child?

Adults (18 years and older)	
	Percent
1.0	36.1
2.0	63.9

The results from table no. 36 present information on how many other people children sleep with in the same bed in their bedroom. From the data obtained, we conclude that children, boys and girls, sleep in a bed in their bedroom with 1 other person.

Table 36 Question- If No, how many other people sleep in the same bed as the child?

Not Relevant	
	Percent
.0	33.3
1.0	66.7

The results from table no. 36.1 present information on how many other people children sleep with in the same bed in their bedroom. From the data obtained, we conclude that children, boys and girls, sleep in a bed in their bedroom with 1 other child. We will see that boys share their bed more often than girls.

Table 36.1 Question- If No, how many other people sleep in the same bed as the child?

Children	Percent		
	Children	Boys	Girls
.0	33.3	36.4	28.6
1.0	61.1	63.6	57.1
2.0	5.6	0.0	14.3

The results from table no. 36.2 present information on how many other people children sleep with in the same bed in their bedroom. From the data obtained, we conclude that children, boys and girls, sleep in a bed in their bedroom with 2 other adults + 18 years old.

Table 36.2 Question- If No, how many other people sleep in the same bed as the child?

Adults (18 years and older)	
	Percent
.0	9.1
1.0	31.8
2.0	59.1

The results from table no. 37 present information about children if and how often they have a bedtime routine. From the data obtained, we conclude that children and girls have their own bedtime routine most days, while boys have their own bedtime routine every day.

Table 37 Question- How often is there a bedtime routine for this child (e.g., bath time, saying goodnight, storytelling, etc)?

	Percent		
	Children	Boys	Girls
Less than once a week	4.1	6.1	2.4
once a week	1.4	3.0	0.0
most days	45.9	39.4	51.2
everyday	43.2	45.5	41.5
don't know	5.4	6.1	4.9

Food sources

The results from table no. 38 present information about children in general and broken down by gender if parents ever give their child money to buy food. From the data obtained, we conclude that parents of children in general but also broken down by gender, boys and girls, do not give their child money to buy food. Parents give more money to boys than to girls to buy food.

Table 38 Question- Do you ever give your child money to buy food?

	Percent		
	Children	Boys	Girls
yes	12.3	14.7	10.3
no	87.7	85.3	89.7

The results from table no. 38.1 present information for children in general and broken down by gender on how many days per week parents give their child money to buy food. From the data obtained, we conclude that parents give their children money 2 and 5 days per week in general to buy food, boys are given money 2 days per week to buy food and girls are given money 1 and 5 days per week to buy food.

Table 38.1 Question- If Yes, on how many days per week? _____ days

	Percent		
	Children	Boys	Girls
1.0	20.0	0.0	40.0
2.0	30.0	40.0	20.0
3.0	10.0	20.0	0.0
4.0	0.0	0.0	0.0
5.0	30.0	20.0	40.0
6.0	0.0	0.0	0.0
7.0	10.0	20.0	0.0

The results from table no. 39 present information about children in general and broken down by gender if they receive food at the childcare center. From the data obtained, we conclude that children in general but also broken down by gender, boys and girls, do not receive food at the childcare center. As for the rest who take food with them, we will see that boys take more food with them than girls.

Table 39 Question- Does your child take any food to the childcare centre?

	Percent		
	Children	Boys	Girls
yes	15.3	20.6	10.5
no	84.7	79.4	89.5

The results from table no. 39.1 present information for children in general and divided by gender on which meals they usually take with them and how many days a week they take food at the childcare center. From the data obtained, we conclude that children in general do not take any day or meal with them at the childcare center, except for breakfast, which they take with them 5 days a week. The same picture is for boys and girls. We will see that boys consume more breakfast than girls.

Table 39.1 Question- If Yes, which meal(s) do they typically take with them and on how many days per week?

		Percent			
		Breakfast	Lunch	Dinner	Snacks
Children	once a week	0.0	7.7	7.7	0.0
	twice a week	7.7	7.7	7.7	21.4
	4 times a week	0.0	7.7	0.0	7.1
	5 or more times a week	69.2	23.1	0.0	14.3
	no	23.1	53.8	84.6	57.1
		Percent			
		Breakfast	Lunch	Dinner	Snacks
Boys	once a week	0.0	14.3	14.3	0.0
	twice a week	0.0	0.0	0.0	25.0
	4 times a week	0.0	14.3	0.0	12.5
	5 or more times a week	85.7	14.3	0.0	25.0
	no	14.3	57.1	85.7	37.5
		Percent			
		Breakfast	Lunch	Dinner	Snacks
Girls	once a week	0.0	0.0	0.0	0.0
	twice a week	16.7	16.7	16.7	16.7
	4 times a week	0.0	0.0	0.0	0.0
	5 or more times a week	50.0	33.3	0.0	0.0
	no	33.3	50.0	83.3	83.3

The results from table no. 40 present information about children in general and divided by gender if they have any special dietary requirements/restrictions. From the data obtained, we conclude that children in general but also divided by gender, boys and girls, do not have any special dietary requirements/restrictions.

Table 40 Question- Does your child have any special dietary requirements/restrictions (e.g. dairy-free food, gluten-free food)?

	Percent		
	Children	Boys	Girls
yes	1.5	0.0	2.7
no	98.5	100.0	97.3

Dietary diversity

The results from table no. 41 present information about children in general and divided by gender if they ate any of the following types of food yesterday, during the day or at night. From the data obtained, we conclude that children in general but also divided by gender, boys and girls, consumed all of the following types of food yesterday, during the day or at night. We conclude that children in general, boys and girls consume more dairy products and fruits and vegetables.

Table 41 Question- Did your child eat any of the following types of food yesterday, during the day or night?

Percent

		Grains, roots and tubers (e.g. Bread, cereals, noodles, pasta, potatoes, rice)	Legumes and nuts (e.g. Beans, peas, lentils, walnuts, or seeds)	Dairy/milk products (e.g. Cheese, curd, custard, ice-cream, kefir, milk and yogurt. Exception of butter and sour cream)	Fresh foods (e.g. meat, fish, poultry and liver/organ meats)	Eggs	Vitamin-A rich fruits and vegetables (e.g. green leafy vegetables, yellow and orange inside vegetables and orange non-citrus fruits)	Other fruits and vegetables (e.g. Apple, banana, orange, pear)
Children	yes	87.7	75.8	94.3	67.2	75.3	78.1	95.8
	no	6.2	16.7	1.4	23.0	21.5	7.8	1.4
	don't know	6.2	7.6	4.3	9.8	3.1	14.1	2.8
Percent								
		Grains, roots and tubers (e.g. Bread, cereals, noodles, pasta, potatoes, rice)	Legumes and nuts (e.g. Beans, peas, lentils, walnuts, or seeds)	Dairy/milk products (e.g. Cheese, curd, custard, ice-cream, kefir, milk and yogurt. Exception of butter and sour cream)	Fresh foods (e.g. meat, fish, poultry and liver/organ meats)	Eggs	Vitamin-A rich fruits and vegetables (e.g. green leafy vegetables, yellow and orange inside vegetables and orange non-citrus fruits)	Other fruits and vegetables (e.g. Apple, banana, orange, pear)
Boys	yes	83.3	80.0	93.8	61.5	69.0	67.9	93.5
	no	10.0	16.7	3.1	26.9	27.6	10.7	3.2
	don't know	6.7	3.3	3.1	11.5	3.4	21.4	3.2
Percent								
		Grains, roots and tubers (e.g. Bread, cereals, noodles, pasta, potatoes, rice)	Legumes and nuts (e.g. Beans, peas, lentils, walnuts, or seeds)	Dairy/milk products (e.g. Cheese, curd, custard, ice-cream, kefir, milk and yogurt. Exception of butter and sour cream)	Fresh foods (e.g. meat, fish, poultry and liver/organ meats)	Eggs	Vitamin-A rich fruits and vegetables (e.g. green leafy vegetables, yellow and orange inside vegetables and orange non-citrus fruits)	Other fruits and vegetables (e.g. Apple, banana, orange, pear)
Girls	yes	91.4	72.2	94.7	71.4	80.6	86.1	97.5
	no	2.9	16.7	0.0	20.0	16.7	5.6	0.0
	don't know	5.7	11.1	5.3	8.6	2.8	8.3	2.5

Eating behaviours at home

The results from table no. 42 present information for children in general and broken down by gender on how often the television or an electronic screen device is turned on during meals or mealtimes. From the data obtained, we conclude that children in general turn on the television or an electronic screen device during meals or mealtimes most days, boys turn on the television or an electronic screen device during meals or mealtimes rarely or most days, and girls turn on the television or an electronic screen device during meals or mealtimes most days.

Table 42 Question- How often is the TV or an electronic screen device on during meal or snack time?

	Percent		
	Children	Boys	Girls
Never	16.2	20.6	12.5
Rarely	27.0	26.5	27.5
once a week	4.1	8.8	0.0
most days	39.2	26.5	50.0
everyday	12.2	14.7	10.0
don't know	1.4	2.9	0.0

The results from table no. 43 present information for children in general and broken down by gender on how often parents sit with their children during meals. From the data obtained, we conclude that parents of children in general but also broken down by gender, boys and girls, sit with their children during meals every day. Parents of boys sit together more often during meals than parents of girls.

Table 43 Question- How often do you sit with your child during meals?

	Percent		
	Children	Boys	Girls
Rarely	5.5	5.9	5.1
once a week	1.4	2.9	0.0
most days	32.9	29.4	35.9
everyday	60.3	61.8	59.0

The results from table no. 44 present information for children in general and broken down by gender on how often the whole family sits together during a main meal. From the data obtained, we conclude that the family of children in general sits together most days and every day during a main meal, the family of boys sits together every day during a main meal and the family of girls sits together most days during a main meal. We see that the family of boys sits together more often during a main meal than that of girls.

Table 44 Question- How often do all of the family sit together during a main meal?

	Percent		
	Children	Boys	Girls
Rarely	5.6	6.1	5.1
once a week	5.6	3.0	7.7
most days	44.4	39.4	48.7
everyday	44.4	51.5	38.5

The results from table no. 45 present information for children in general and divided by gender on how often children eat or drink different foods and drinks during meals and snacks. From the data obtained, we conclude that children in general, including boys, consume different foods and drinks during meals and snacks very rarely, while girls consume different foods and drinks during meals and snacks most days. Looking at who from the gender consumes them per day, we will see that boys will consume more different foods and drinks during meals and snacks than girls.

Table 45 Question- How often does your child eat or drink different foods and beverages to you during meal and snack times?

	Percent		
	Children	Boys	Girls
Never	5.7	9.4	2.6
Rarely	35.7	37.5	34.2
once a week	1.4	3.1	0.0
most days	31.4	25.0	36.8
everyday	21.4	25.0	18.4
don't know	4.3	0.0	7.9

The results from table no. 46 present information for children in general and broken down by gender on how often children eat snacks such as chips, cookies, cakes, candy, chocolate, pastries and sweets between meals. From the data obtained, we conclude that children in general, including boys, consume snacks very rarely, while girls consume snacks such as chips, cookies, cakes, etc., between meals most days.

Table 46 Question- How often does your child have snacks like chips, biscuits, cakes, candies, chocolate, pastries, and sweets between meals?

	Percent		
	Children	Boys	Girls
Never	6.8	6.1	7.5
Rarely	37.0	42.4	32.5
once a week	16.4	18.2	15.0
most days	32.9	27.3	37.5
everyday	6.8	6.1	7.5

The results from table no. 47 present information about children in general and divided by gender on how often they drink sugary drinks. From the data obtained, we conclude that children in general but also divided by gender, boys and girls, mostly consume the drinks rarely. We will see that girls consume or drink more drinks than boys.

Table 47 Question- How often does your child drink sugary drinks (e.g. Cordials, flavoured milk, fruit juice, soda, soft drink)?

	Percent		
	Children	Boys	Girls
Never	19.2	18.2	20.0
Rarely	43.8	42.4	45.0
once a week	13.7	12.1	15.0
most days	17.8	18.2	15.0
everyday	4.1	6.1	17.5
don't know	1.4	3.0	2.5

Food insecurity

The results from table no. 48 present information about children in general and divided by gender if the family ever runs out of money to buy food. From the data obtained, we conclude that both the families of children in general and also divided by gender, boys and girls, have never run out of money to buy food. And we will see that the families of girls have the highest percentage of not running out of money to buy food than the boys.

Table 48 Question- Does your household ever run out of money to buy food?

	Percent		
	Children	Boys	Girls
Yes	11.0	15.2	7.5
No	89.0	84.8	92.5

The results from table no. 49 present information for children in general and broken down by gender if parents have ever reduced the size of meals or skipped meals because they do not have enough money for food. From the data obtained, we conclude that both parents of children in general and

broken down by gender, boys and girls, have never reduced the size of meals or skipped meals because they do not have enough money for food.

Table 49 Question- Do you ever cut the size of meals or skip meals because there is not enough money for food?

	Percent		
	Children	Boys	Girls
Yes	5.5	6.1	5.0
No	94.5	93.9	95.0

The results from table no. 50 present information about children in general and broken down by gender if they go to bed hungry because they do not have enough money to buy food. From the data obtained, we conclude that both children in general and broken down by gender, boys and girls, do not go to bed hungry.

Table 50 Question- Do you go to bed hungry because there is not enough money to buy food?

	Percent		
	Children	Boys	Girls
Yes	0.0	0.0	0.0
No	100.0	100.0	100.0