

CEPHALOMETRIC CHARACTERISTICS OF CHILDREN FROM EPIRUS (GREECE)

M. Pirinska-Apostolu, V. Angelova*

*Faculty of Biology, Sofia University „St. Kl. Ohridski“,
e-mail: mpapostolu@biofac.uni-sofia.bg*

ABSTRACT. The cephalo-facial complex and partially the face represents one of the most variable area of the human body, and thus cephalometric methods can also be used as indicator for population differences. The aim of the present study is to be accomplished complicated cephalometric characteristic of the examined groups of boys and girls from Epir region (Western Greece) and to be established the distribution of the rubrications. On the basis of the received data the authors conclude that the differences between the third age group of the teenager boys and girls are expressed in a higher degree in comparison with the other age groups. The category mesocephal of the head index has also proved to be of higher frequencies in comparison with all the other categories according to sex or age.

KEY WORDS. cephalometric methods, Epir, Greek schoolchildren, anthropological index

INTRODUCTION

The applied in anthropology cephalometric methods include some of the most important indexes giving information about the physical growth of a population [1] [5]. On the other hand, the cephalo-facial complex and partially the face represents one of the most variable area of the human body [3] [4], and thus cephalometric methods can also be used as indicator for population differences [6].

The present cephalometric study presented in the paper is part of a more complicated anthropological investigation of children originated from Central Greece, also including metrical and scopic features. The aim of the study is to be accomplished complicated cephalometric characteristic of the examined groups of boys and girls from Epir region (Western Greece) and to be established the distribution of the rubrications.



EPIRUS REGION, WESTERN – CENTRAL GREECE

MATERIAL AND METHODS

The object of the present study represents 616 school children (352 boys and 264 girls) from Epir region (Western Greece) (map), collected from the following cities: Ioannina, Arta and Preveza. Their age varies from 11 to 18 years old.

The commented in the study features have been measured by the aims of standard anthropometrical instruments.

The examined sample has been divided into three age groups according the classification for age distribution (Moscow, 1965) (table 1). 15 physical features have been measured by the means of the classical methodology [2] as follow: major head length, major head breadth, minor frontal breadth, bizygomatic breadth, mandibular breadth, nasal breadth, lip breadth, facial physiognomy height, upper facial morphologic height, nasal height, nasal depth, height of the mucous part of the lips, physiognomic ear length, physiognomic ear breadth. 12 indexes have been calculated on the basis of the mentioned above features: length-breadth head index, transversal fronto-temporal, physiognomic facial, morphological facial, morphological of the upper part of the face, saggital-nasal-facial, zygomatic-mandibular, transversal head-facial, nasal height-breadth, nasal breadth-depth, ear physiognomic and oral index.

The received data has been treated statistically on the basis of variation analysis.

RESULTS AND DISCUSSION

The statistical analysis of the mean values of the examined cephalometric features taken from the sample has not showed significant differences (table 2). The same tendency is also preserved and in view of the calculated cephalometric indexes (table 5). Small differences can be noted after comparing the boy's and girls group in order of the minimum and maximum values of some features such as facial physiognomical height, nasal depth, lip breadth, and physiognomical ear length and breadth (table 8). In the first boy's group mesocephalic (46,27%) and dolichocephalic 37,31% individuals are more frequent. In order of the morphological head index the first boy's group is characterized as euriprosopic. The rubrication eurien of the upper facial index has been proved to be of the higher frequency in addition with the other rubrications. According to the zygomatic –mandibular index most of the individuals belonging to the first boy's group are determined with rubrications short and very short, and according to the nasal one leptorhinc 49,25% and mesorhinc 46,27%.

In spite of the fact that the first girl's group is presented by a smaller number of examined individuals a similar tendency is detected for the rubrication variability. The lack of clear sex determination after using the mentioned above cephalometric features and indexes is also preserved within the second girl's age group. Higher limits of variation have been established for some features of the second boy's group, measured in the same, in addition with the second girl's group (table 3). On the other hand, similar distribution of the indexes' rubrications expressed in % characterizes the second age group in both sexes (table 6). Girls are more frequently leptoprosopic-35,98%, and boys mesoprosopic-32,64%. The analysis of the nasal indexes showed, that most of the boys in this age group are leptorhinc-46,03%, and the girls mesorhinc-97,88%. Similar frequency limits characteristic about the other calculated cephalometric indexes of the second age group in both sexes have been observed too (table 9).

The two third age groups include boys from 17 up to 18 and girls from 16 to 18 years old. These two age groups compared according to sex have a different tendency for the mean values of the examined traits, with the boys to show higher values (table 4 and 7). Regularity in order of the distribution of the indexes between the two adolescence groups of both sexes cannot be registered. The higher frequencies concerning rubrications have been established for the categories mesocephalic, mesoprosopic and leptorhinc for both sexes. Adolescence boys and girls can be distinguished only by the different values of the zygomatic-mandibular index (table 10).

CONCLUSIONS

On the basis of the received data from the present study the following conclusions Can be accomplished:

- 1 The differences between the first and second age groups compared according to sex are insignificant.
- 2 .The differences between the third age group of the teenager boys and girls are expressed in a higher degree.

3. In order of the rubrications of the calculated indexes, the two adolescence groups show similar frequencies.
4. The category mesocephal of the head index has proved to be of higher frequencies in comparison with all the other categories according to sex or age.

REFERENCES

1. КОНДОВА, Н., ЗЛ. ФИЛЧЕВА, 1999. Възрастови промени в кефалометричната и кефалоскопичната характеристика на Софийски деца в периода 7-11 години. *Journal of Anthropology*, Vol. 2, 117-124.
2. MARTIN, R., K. SALLER, 1958. *Lehrbuch der Anthropologie in systematischer Darstellung*. Stuttgart.
3. HRISTOV, I., S. SIVKOV, Y. BOUKOV, A. BALTA DJEV, TS. PETLESHKOVA, G. BALTA DJEV, 2003. Evaluation of certain cephalometric indices in different ethnic populations from the Balkan Peninsula. *Journal of Anthropology*, Vol.4, 113-118.
4. FILCHEVA, Z., N. KONDOVA, 2000. Changes of head measurements in school children from Sofia Between 7 and 13 years. *Journal of Anthropology*, Vol.3, 31-40.
5. MLADENOVA, S., M NIKOLOVA, 2003. Peculiarities in growth of somatic and cephalo-facial characteristics in children and adolescents from Smolyan region. *Journal of Anthropology*, Vol.4, 47-54.
6. SANNA, E., G. PALMAS, N. TEDECO, G. FLORIS, 2003. The need of specific standards for head dimensions of urban Sardinian boys. *Anthrop. Anz.* Jg. 61, 245-251.

Table 1. Distribution according to sex, age and number of examined individuals

Age	Sex	Years	n
First age group	Male	11-12	67
	Female	11	6
Second age group	Male	13-16	239
	Female	12-15	189
Third age group	Male	17-18	46
	Female	16-18	69

Table 2. Compared mean values of the cephalometric features of the first boys' and girls' age groups

Features		Mean	Std. Error	V.	S.D.	Min.	Max	Range
major head length (1)	boys	186.51	0.08	0.43	0.66	168.00	198.00	3.00
	girls	182.17	0.31	0.59	0.77	172.00	191.00	1.90
major head breadth (3)	boys	144.09	0.06	0.26	0.51	134.00	154.00	2.00
	girls	141.67	0.33	0.66	0.81	131.00	155.00	2.40
minor frontal breadth (4)	boys	111.81	0.08	0.42	0.65	100.00	130.00	3.00
	girls	110.50	0.19	0.23	0.48	106.00	117.00	1.10
bizygomatic breadth (6)	boys	118.06	0.07	0.37	0.61	103.00	131.00	2.80
	girls	117.00	0.25	0.38	0.62	110.00	125.00	1.50
mandibular breadth (8)	boys	98.99	0.05	0.19	0.43	88.00	111.00	2.30
	girls	95.67	0.15	0.14	0.37	91.00	100.00	0.90
nasal breadth (13)	boys	30.57	0.03	0.07	0.25	26.00	39.00	1.30
	girls	30.33	0.02	0.03	0.05	30.00	31.00	0.10
lip breadth (14)	boys	46.50	0.04	0.12	0.35	37.00	57.00	2.00
	girls	42.83	0.11	0.07	0.26	39.00	47.00	0.80
physiognomy height (17)	boys	164.96	0.12	1.03	1.01	138.00	197.00	5.90
	girls	165.50	0.22	0.30	0.54	161.00	174.00	1.30
facial height (18)	boys	101.66	0.63	0.27	0.52	89.00	114.00	2.50
	girls	99.17	0.20	0.23	0.48	94.00	106.00	1.20
upper facial morphologic height (20)	boys	53.93	0.04	0.10	0.32	45.00	60.00	1.25
	girls	54.17	0.16	0.16	0.40	49.00	61.00	1.20
nasal height (21)	boys	43.3	0.04	0.11	0.33	37.00	52.00	1.50
	girls	42.83	0.11	0.07	0.26	39.00	47.00	0.80
nasal depth (22)	boys	18.94	0.03	0.06	0.23	13.00	24.00	1.10
	girls	19.67	0.08	0.04	0.20	17.00	23.00	0.60
height of the mucous part of the lips (25)	boys	13.82	0.03	0.50	0.23	10.00	19.00	0.90
	girls	11.83	0.09	0.05	0.22	9.00	15.00	0.60
physiognomic ear length (29)	boys	57.76	0.49	0.16	0.40	47.00	67.00	2.00
	girls	56.33	0.23	0.31	0.56	47.00	62.00	1.50
physiognomic ear breadth (30)	boys	33.40	0.40	0.11	0.33	25.00	43.00	1.80
	girls	32.50	0.19	0.21	0.46	27.00	39.00	1.20

Table 3. Compared mean values of the cephalometric features of the second boys' and girls' age groups

Features		Mean	Std. Error	V.	S.D.	Min.	Max	Range
major head length (1)	boys	189.14	0.04	0.51	0.71	173.00	208.00	3.50
	girls	183.51	0.05	0.44	0.67	164.00	200.00	3.60
major head breadth (3)	boys	147.84	0.04	0.37	0.61	110.00	162.00	5.20
	girls	142.85	0.04	0.25	0.50	125.00	156.00	3.10
minor frontal breadth (4)	boys	117.16	0.04	0.35	0.59	101.00	133.00	3.20
	girls	114.21	0.05	0.34	0.58	101.00	130.00	2.90
bizygomatic breadth (6)	boys	124.65	0.04	0.48	0.69	102.00	148.00	4.60
	girls	120.86	0.05	0.36	0.60	104.00	137.00	3.30
mandibular breadth (8)	boys	102.91	0.04	0.31	0.55	85.00	125.00	4.00
	girls	98.45	0.04	0.22	0.46	81.00	111.00	3.00
nasal breadth (13)	boys	32.81	0.02	0.08	0.28	23.00	41.00	1.80
	girls	30.72	0.02	0.06	0.24	23.00	39.00	1.60
lip breadth (14)	boys	50.29	0.03	0.18	0.42	40.00	64.00	2.40
	girls	47.23	0.03	0.14	0.37	38.00	63.00	2.50
physiognomy height (17)	boys	173.18	0.07	1.01	1.01	119.00	197.00	7.80
	girls	168.06	0.07	0.78	0.88	145.00	190.00	4.50
facial height (18)	boys	108.49	0.04	0.44	0.67	91.00	126.00	3.50
	girls	102.69	0.05	0.30	0.55	88.00	117.00	2.90
upper facial morphologic height (20)	boys	57.74	0.03	0.16	0.41	48.00	69.00	2.10
	girls	54.73	0.26	0.13	0.36	42.00	66.00	2.40
nasal height (21)	boys	46.50	0.03	0.16	0.40	33.00	61.00	2.80
	girls	44.56	0.02	0.10	0.32	36.00	55.00	1.90
nasal depth (22)	boys	20.86	0.02	0.08	0.28	13.00	32.00	1.90
	girls	20.42	0.02	0.07	0.26	14.00	29.00	1.50
height of the mucous part of the lips (25)	boys	14.62	0.02	0.09	0.29	8.00	28.00	0.30
	girls	14.61	0.02	0.05	0.23	10.00	23.00	1.30
physiognomic ear length (29)	boys	58.89	0.03	0.14	0.38	43.00	72.00	2.90
	girls	55.94	0.03	0.12	0.35	48.00	66.00	1.80
physiognomic ear breadth (30)	boys	33.19	0.02	0.09	0.30	26.00	43.00	1.70
	girls	30.70	0.02	0.08	0.27	17.00	39.00	2.20

Table 4. Compared mean values of the cephalometric features of the first boys' and girls' age groups

Features		Mean	Std. Error	V.	S.D.	Min.	Max	Range
major head length (1)	boys	191.93	0.10	0.45	0.67	178.00	207.00	2.90
	girls	182.99	0.08	0.50	0.71	170.00	200.00	3.00
major head breadth (3)	boys	152.26	0.08	0.30	0.55	141.00	163.00	2.20
	girls	144.07	0.06	0.25	0.50	133.00	160.00	2.70
minor frontal breadth (4)	boys	121.60	0.07	0.24	0.49	108.00	132.00	2.40
	girls	115.62	0.05	0.20	0.45	107.00	127.00	2.00
bizygomatic breadth (6)	boys	131.80	0.10	0.46	0.68	121.00	148.00	2.70
	girls	123.32	0.06	0.24	0.49	113.00	136.00	2.30
mandibular breadth (8)	boys	105.20	0.06	0.18	0.42	95.00	114.00	1.90
	girls	98.81	0.05	0.18	0.42	88.00	107.00	1.90
nasal breadth (13)	boys	33.85	0.04	0.06	0.25	30.00	41.00	1.10
	girls	30.81	0.03	0.04	0.21	27.00	36.00	0.90
lip breadth (14)	boys	52.37	0.05	0.12	0.35	44.00	60.00	1.60
	girls	48.62	0.04	0.10	0.32	41.00	56.00	1.50
physiognomy height (17)	boys	177.50	0.15	0.10	0.10	154.00	195.00	4.10
	girls	167.50	0.13	1.12	1.06	109.00	188.00	7.90
facial height (18)	boys	111.72	0.11	0.58	0.76	90.00	134.00	4.40
	girls	103.12	0.06	0.28	0.53	90.00	117.00	2.70
upper facial morphologic height (20)	boys	60.20	0.05	0.12	0.34	54.00	69.00	1.50
	girls	55.20	0.04	0.13	0.36	49.00	67.00	1.80
nasal height (21)	boys	48.54	0.06	0.18	0.42	32.00	57.00	2.50
	girls	45.49	0.03	0.07	0.27	39.00	54.00	1.50
nasal depth (22)	boys	22.63	0.05	0.11	0.32	13.00	29.00	1.60
	girls	20.41	0.03	0.06	0.25	10.00	25.00	1.50
height of the mucous part of the lips (25)	boys	13.74	0.04	0.07	0.26	8.00	20.00	1.20
	girls	14.59	0.03	0.06	0.25	9.00	24.00	1.50
physiognomic ear length (29)	boys	60.15	0.09	0.35	0.59	33.00	74.00	4.10
	girls	55.75	0.05	0.15	0.38	48.00	67.00	1.90
physiognomic ear breadth (30)	boys	33.50	0.04	0.08	0.28	29.00	39.00	1.00
	girls	31.20	0.03	0.07	0.27	25.00	38.00	1.30

Table 5. Compared mean values of the cephalometric indexes of the first boys' and girls' age groups

Indexes		Mean	Std. Error	V.	S.D.	Min.	Max	Range
length-breadth head index	boys	77.33	0.42	12.01	3.47	69.43	86.90	17.49
	girls	77.95	2.73	44.87	6.70	70.05	90.12	20.06
transversal fronto-temporal	boys	77.63	0.53	19.13	4.37	69.54	92.86	23.32
	girls	78.15	1.79	19.17	4.38	70.32	81.82	11.50
physionomical facial	boys	140.04	1.30	113.50	10.65	117.46	172.81	55.35
	girls	141.64	2.21	29.27	5.41	135.20	147.46	12.26
morphological facial	boys	86.27	0.66	28.91	5.38	75.00	100.00	25.00
	girls	84.98	2.65	42.00	6.48	76.42	92.79	16.37
morphological of the upper part of the face	boys	45.76	0.38	9.48	3.08	37.50	53.15	16.65
	girls	46.39	1.64	19.12	4.01	41.60	51.69	10.09
saggital-nasal-facial	boys	42.59	0.37	9.41	3.07	37.14	51.69	14.54
	girls	43.22	0.91	5.00	2.24	40.78	46.81	6.03
zygomatic-mandibular	boys	83.94	0.40	10.67	3.27	77.42	93.20	15.78
	girls	81.88	1.49	13.40	3.65	76.42	86.96	10.53
transversal head-facial	boys	81.96	0.45	13.30	3.65	72.08	95.52	23.44
	girls	82.69	1.70	17.35	4.17	76.13	87.41	11.28
nasal height-breadth	boys	70.99	0.88	52.50	7.25	57.14	87.80	30.66
	girls	71.03	1.72	17.67	4.20	63.83	76.92	13.09
nasal breadth-depth	boys	62.45	1.17	91.43	9.56	40.63	79.31	38.69
	girls	64.86	2.73	45.00	6.71	56.67	76.67	20.00
ear physionomical	boys	57.95	0.64	27.65	5.26	48.28	72.34	24.06
	girls	58.12	3.74	84.01	9.17	44.26	67.24	22.98
oral index	boys	29.81	0.62	25.62	5.06	19.30	42.86	23.56
	girls	26.98	1.79	19.26	4.39	21.74	32.50	10.76

Table 6. Compared mean values of the cephalometric indexes of the second boys' and girls' age groups

Indexes		Mean	Std. Error	V.	S.D.	Min.	Max	Range
length-breadth head index	boys	78.26	0.27	17.72	4.21	62.15	89.50	27.36
	girls	78.03	0.27	14.04	3.75	69.11	89.70	20.59
transversal fronto-temporal	boys	77.29	0.22	11.12	3.33	72.44	98.18	25.75
	girls	79.60	0.24	11.08	3.33	69.06	89.58	20.52
physionomical facial	boys	139.33	0.63	95.18	9.76	102.96	172.55	69.59
	girls	139.97	0.61	71.49	8.45	122.05	167.62	45.57
morphological facial	boys	87.20	0.38	34.91	5.91	73.47	105.88	32.41
	girls	85.09	0.39	22.82	4.78	69.29	100.00	30.71
morphological of the upper part of the face	boys	46.42	0.24	13.54	3.68	36.92	56.64	19.71
	girls	45.63	0.23	10.44	5.23	37.02	58.65	21.65
sagittal-nasal-facial	boys	42.93	0.21	10.59	3.25	33.61	54.35	20.74
	girls	43.61	0.22	9.53	3.08	35.24	52.08	16.85
zygomatic-mandibular	boys	82.67	0.27	16.87	4.11	71.85	95.93	24.08
	girls	81.55	0.31	13.98	3.74	71.53	91.82	20.29
transversal head-facial	boys	84.36	0.27	17.08	4.13	72.86	103.64	30.78
	girls	84.12	0.29	16.00	4.00	71.92	97.73	25.81
nasal height-breadth	boys	70.97	0.52	65.92	8.11	47.54	92.31	44.77
	girls	68.89	0.59	51.97	7.21	50.00	87.18	37.18
nasal breadth-depth	boys	63.91	0.60	85.32	9.24	41.67	93.75	52.08
	girls	66.60	0.71	96.15	9.81	41.18	103.57	62.39
ear physionomical	boys	57.16	0.35	29.93	5.47	38.81	83.72	44.91
	girls	55.02	0.39	28.45	5.33	31.48	76.47	44.99
oral index	boys	29.19	0.39	35.78	5.98	15.09	69.23	54.14
	girls	31.07	0.38	27.48	5.24	20.00	47.62	27.62

Table 7. Compared mean values of the cephalometric indexes of the third boys' and girls' age groups

Indexes		Mean	Std. Error	V.	S.D.	Min.	Max	Range
length-breadth head index	boys	79.40	0.52	12.42	3.52	71.86	87.08	15.22
	girls	78.87	0.53	19.63	4.43	70.47	90.91	20.44
transversal fronto-temporal	boys	79.88	0.45	9.25	3.04	72.48	88.44	15.95
	girls	80.28	0.29	6.02	2.45	75.52	88.65	13.13
physionomical facial	boys	134.95	1.45	96.30	9.81	110.81	153.66	42.85
	girls	135.99	1.20	99.96	10.00	85.83	157.98	72.16
morphological facial	boys	84.89	0.91	37.72	6.14	68.70	99.19	30.48
	girls	83.76	0.68	32.19	5.67	71.97	102.63	30.66
morphological of the upper part of the face	boys	45.72	0.45	9.20	3.03	40.69	53.08	12.39
	girls	44.80	0.37	9.57	3.09	38.58	52.76	14.17
sagittal-nasal-facial	boys	43.59	0.61	17.02	4.13	26.67	51.11	24.44
	girls	44.18	0.33	7.31	2.70	35.90	48.94	13.04
zygomatic-mandibular	boys	79.92	0.49	11.03	3.32	73.57	86.51	12.94
	girls	80.17	0.35	8.39	2.90	72.00	86.84	14.84
transversal head-facial	boys	86.61	0.61	17.31	4.16	77.91	95.24	17.32
	girls	85.63	0.34	8.22	2.87	79.20	92.20	13.18
nasal height-breadth	boys	70.29	1.26	73.10	8.55	59.26	103.12	43.87
	girls	67.93	0.67	31.09	5.58	56.25	79.07	22.82
nasal breadth-depth	boys	67.11	1.54	108.40	10.41	43.33	96.67	53.33
	girls	66.48	1.10	83.05	9.11	34.48	88.89	54.41
ear physionomical	boys	56.35	1.02	47.45	6.89	46.38	87.88	41.50
	girls	56.07	0.54	20.19	4.49	46.67	65.38	18.72
oral index	boys	26.33	0.74	25.10	5.01	14.81	37.04	22.22
	girls	30.11	0.65	29.08	5.39	19.23	48.98	29.75

Table 8. % distribution of the first boys' and girls' age groups according to rubrications

Indexes	rubrications	Boys (n =67)		Girls (n =6)	
		n	%	n	%
$\frac{eu - eu}{g - op} * 100$	Hyperdolichocephalic	1	1.49	1	16.67
	Dolichocephalic	25	37.31	1	16.67
	Mesocephalic	31	46.27	3	50
	Brachycephalic	8	11.94	-	-
	Hyperbrachycephalic	2	2.99	1	16.67
	Ultrabrachycephalic	-	-	-	-
$\frac{n - gn}{zy - zy} * 100$	Hypereuriprosopic	5	7.46	1	16.67
	Euriprosopic	22	32.84	2	33.33
	Mesoprosopic	15	22.39	-	-
	Leptoprosopic	18	26.86	3	50
	Hyperleptoprosopic	7	10.45	-	-
$\frac{n - pr}{zy - zy} * 100$	Hypereurien	11	16.42	2	33.33
	Eurien	44	65.67	1	16.67
	Mesen	11	16.42	3	50
	Lepten	1	1.49	-	-
	Hyperlepten	-	-	-	-
$\frac{go - go}{zy - zy} * 100$	Very narrow	-	-	1	16.67
	Narrow	-	-	4	66.66
	Medial	9	13.43	1	16.67
	Short	30	44.78	-	-
	Very short	28	41.79	-	-
$\frac{al - al}{n - sn} * 100$	Hyperleptorhinic	-	-	-	-
	Leptorhinic	33	49.25	1	16.67
	Mesorhinic	31	46.27	5	83.33
	Chamaerhinic	3	4.48	-	-
	Hyperchamaerhinic	-	-	-	-

Table 9. % distribution of the second boys' and girls' age groups according to rubrications

Indexes	rubrications	Boys (n =239)		Girls (n =189)	
		n	%	n	%
$\frac{eu - eu}{g - op} * 100$	Hyperdolichocephalic	11	4.60	6	3.17
	Dolichocephalic	65	27.20	67	35.45
	Mesocephalic	102	42.68	91	48.15
	Brachycephalic	50	20.92	18	9.53
	Hyperbrachycephalic	11	4.60	7	3.70
	Ultrabrachycephalic	-	-	-	-
$\frac{n - gn}{zy - zy} * 100$	Hypereuriprosopic	15	6.28	7	3.70
	Euriprosopic	51	21.34	27	14.29
	Mesoprosopic	78	32.64	56	29.63
	Leptoprosopic	59	24.68	68	35.98
	Hyperleptoprosopic	36	15.06	31	16.40
$\frac{n - pr}{zy - zy} * 100$	Hypereurien	-	-	33	17.46
	Eurien	165	69.04	122	64.55
	Mesen	60	25.10	29	15.34
	Lepten	14	5.86	4	2.12
	Hyperlepten	-	-	1	0.53
$\frac{go - go}{zy - zy} * 100$	Very narrow	-	-	-	-
	Narrow	3	1.26	5	2.65
	Medial	63	15.06	21	11.11
	Short	105	43.93	97	51.32
	Very short	68	28.45	66	34.92
$\frac{al - al}{n - sn} * 100$	Hyperleptorhinic	5	2.09	-	-
	Leptorhinic	110	46.03	-	-
	Mesorhinic	107	44.77	185	97.88
	Chamaerhinic	17	7.11	4	2.12
	Hyperchamaerhinic	-	-	-	-

Table 10. % distribution of the third boys' and girls' age groups according to rubrications

Indexes	rubrications	Boys (n =46)		Girls (n =69)	
		n	%	n	%
$\frac{eu - eu}{g - op} * 100$	Hyperdolichocephalic	-	-	5	7.25
	Dolichocephalic	9	19.57	19	27.54
	Mesocephalic	22	47.83	28	40.58
	Brachycephalic	14	30.43	15	21.74
	Hyperbrachycephalic	1	2.17	2	2.89
	Ultrabrachycephalic	-	-	-	-
$\frac{n - gn}{zy - zy} * 100$	Hypereuriprosopic	6	13.04	7	10.14
	Euriprosopic	14	30.43	14	20.29
	Mesoprosopic	16	34.78	23	33.34
	Leptoprosopic	5	10.87	16	23.19
	Hyperleptoprosopic	5	10.87	9	13.04
$\frac{n - pr}{zy - zy} * 100$	Hypereurien	11	23.91	20	28.99
	Eurien	24	52.17	37	53.62
	Mesen	10	21.74	12	17.39
	Lepten	1	2.17	-	-
	Hyperlepten	-	-	-	-
$\frac{go - go}{zy - zy} * 100$	Very narrow	-	-	-	-
	Narrow	3	6.52	1	1.45
	Medial	22	47.83	15	21.74
	Short	18	39.13	41	59.42
	Very short	3	6.52	12	17.39
$\frac{al - al}{n - sn} * 100$	Hyperleptorhinic	-	-	-	-
	Leptorhinic	26	56.52	44	63.77
	Mesorhinic	16	34.78	25	36.23
	Chamaerhinic	1	2.17	-	-
	Hyperchamaerhinic	3	6.53	-	-