

ORIGINAL ARTICLE

Height and Weight of Preschool children of well-to-do Urban Families in Jakarta City

by

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Abstract

From studies of the Indonesian children in good socio-economic condition a conclusion can be made, that they are all in a good nutritional status, so that this physical dimension can be used as indices of health of the Indonesian preschool children.

But this so-called ethnic standard, using an "optimum" group, must be kept up-to-date and reviewed every 5 years or so (Janes, 1975), remembering the probable existence of a secular trend.

It is still a task to do for establishing the most effective methods to bring about an all-round improvement in the health and nutritional status of the children as great as possible, and to enable the children to get more benefit from the education which is available.

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Introduction

It is a fact, that some characteristics are common to children all over the world, particularly in the field of somatic development. Studies of early childhood physical development are still too rare in most developing countries. De Haas (1964) stated that the height and weight of the 4 years old children in Asia were respectively 1 and 1½ years behind those of the Western European children of the same age and the second year of life has a retardation in height and weight of about 9 months as compared with their Western brothers or sisters.

In Indonesia, the height and weight measurements of preschool children are based at the moment on the modification of Harvard standard, where 80% of P50 weight for age denotes undernutrition and 85% of P50 height for age as well (Workshop on Anthropometric measurement; Ministry of Health 1976).

The study concerning this measurement was carried out by Sukonto et al. (1939), from which the figures found were far lower as compared with the Harvard standard. Changes in economic condition, health and nutritional awareness as well as in the way of life (environment) may have influenced growth and changes in stature of the children (Cone, 1968; Pechevis, 1974; Djumadias, 1966), similar to those in Nigeria, where the "elite" means of weight were almost the same as the British and the average for the height were consistently

above those of the British for boys as well as for girls (Janes, 1975).

Mc. Kay is of the same opinion and stated that genetic factors do not play a primary role (1971).

The purpose of this study is to find out whether the physical development of Indonesian preschool children in good socio-economic status compares fairly well with the Harvard standard.

Material and Method

A total number of 1.130 children consisting of 551 boys and 579 girls aged between 1 - 6 years taken from one of two high socio-economic area in Jakarta were studied. They were all coming from well-to-do families with proper knowledge about how to feed their children as well as giving good medical care. Children, recently recovered from illnesses were not included in the data processing. The children of 3 - 6 years were taken from 4 existing playgroups in this area and 1 - 3 years old children were taken from M.C.H. centres chosen at random in the same area.

Birth-dates were used to determine the exact age. The children were grouped according to sex and age as follows: 1 - 1.6 years; 1.6 - 2.0 years; 2.0 - 2.6 years etc.

The height, weight and arm circumference were measured according to the manual published by W.H.O. nutritional status of population, a manual on anthropometric appraisal of trends, while

the head and chest circumference according to Péchevis (1974).

The instruments were previously gauged by the gauging office in Jakarta. There are a great many indicators of physical development :

- Some enable the measurements of body dimensions : height and the various diameters and circumferences.
- Some measure body composition and its variations : weight, skinfold and many biochemical dosages.
- Others provide information on dental or bone maturation (Péchevis, 1974).

Since biochemical tests and bone maturation are expensive and unsuitable for population screening, our study is limited to a few indicators, which seems to be sufficiently reliable for the supervision of early childhood development in the framework of basic health services, where the most suitable measurements are above all: height and weight, and whenever possible head, arm and chest circumference.

Skinfold and number of teeth were not performed for reasons of technical difficulties.

Results

Tables 1 and 2 show the average weight and height and S.D. of the children according to sex and age distribution. Up to 3 years of age the average weight of both sexes is almost equal. At the age

of 3.6 - 6 years the boys become a little heavier (about 1 kg). Compared with those in 1939 (Sukonto et al., 1939) they are distinctive heavier, to the European children as well (table 3).

In general the boys are taller but not much (about 1 cm.). At the age of 1—, 1.6—, 2.6—, 5.6— years less than 1 cm. and the age of 2—, 3.6—, 4.6 and 5 years a little more than 1 cm. At the age of 3 years the girls seem to be taller.

Compared with those in 1939 the boys are 5 to 10 cm. taller. At the age of 6 years 5 cm. taller. The 1-4-old-boys are higher than the European's of the same age (> 5 cm.) (table 4). The girls are more than 5 cm. higher than the Indonesian girls at that time. The European girls are for each age groups resp. 7, 3, 8, 4, 6 cm. smaller; the latest age group 0.90 cm. higher (table 4).

Compared with the Harvard standard Stuart Stevenson (1959) the weights for age are all (both sexes) above 90% standard, even higher than 100% standard (sex combined), for the height for age as well (tables 5, 6), resulting grade A and score 0 for both height and weight.

Tables 7, 8 and 9 show the average arm, head and chest circumference respectively. The results of the height, weight, arm circumference, chest circumference and head circumference percentiles studied are shown in tables 10, 11, 12, 13, 14, respectively and compared to the Harvard's curves for height and weight graphs 1, 2, 3, 4 (by interpolati-

on). P10 & P50 for the weight lie a bit lower than the Harvards for both sexes. There is a fluctuation of P90 compared to the Harvards which is caused by the total number of children studied.

As for the height for boys the P10 & P50 lie a little bit below the Harvards' while P90 a bit above the Harvards; fluctuation is found in P10, P50 and P90 for girls compared to the Harvards.

Discussion

It has been shown that good socio-economic condition and proper knowledge play a great role in having favourable body measurements which reflect the "normal" physical development.

Tables 3 & 4 show that the means of the weight & height are far above the measurements of Sukonto et al. (1939) and even above the European at that time. Graphs 1 — 2 — 3 — 4 show the height & weight percentiles for the children studied with the Harvard's standard percentiles added for comparison.

The P10 & P50 for weight lay just under the Harvards while the P90 sometimes above the line. The height P10 & P50 for boys lay just below and the P90 above the Harvards while for girls

fluctuation are found in all the percentiles.

Compared with the internationally accepted standard of weight for height of young children the results come into A or O (table 15) which means that they are in a good nutritional status.

The figures of arm circumference (AC) are not generally used in supervising physical development, but have advantages over nutritional surveys. (Shakir and Morley, 1974). The AC for age of the children studied which is the best simple field measurement (Jelliffe D.B., 1966) is all above 85% level of international standard (Arnhold, 1969). (Table 16).

Head circumference (HC) is valuable up to 3 years of age. It enables the assessment of brain volume which grows particularly rapidly during the first year of life.

The chest circumference (CC) either is not an extremely valuable measurement, but when linked with the head circumference it may provide an indicator of nutritional status dissociated from age. Table 17 shows the ratio of HC and CC (HC/CC), compared to the standard for "normal" children older than 1 year (Sempe and Masse, 1965), from which the conclusion was "within normal values".

TABLE 1: *Average weights & S.D.*

Age (year)	B o y s			G i r l s		
	N	Mean	S.D.	N	Mean	S.D.
1.0 —	58	10.14	1.13	50	9.94	1.28
1.6 —	50	10.96	0.94	51	10.70	1.03
2.0 —	49	11.70	1.35	49	11.50	0.99
2.6 —	50	12.92	1.43	52	12.85	1.22
3.0 —	51	14.68	1.75	64	14.58	2.41
3.6 —	64	15.91	2.42	58	14.91	2.36
4.0 —	75	16.65	2.71	94	15.46	2.40
4.6 —	55	17.46	3.05	66	16.30	1.71
5.0 —	50	17.74	2.69	52	16.75	3.75
5.6 — 6.0	49	18.52	2.74	43	17.36	1.92

TABLE 2: *Average Heights & S.D.*

Age (year)	B o y s			G i r l s		
	N	Mean	S.D.	N	Mean	S.D.
1.0 —	58	79.40	4.10	50	79.14	4.48
1.6 —	50	82.68	3.38	51	82.05	3.04
2.0 —	49	86.09	4.24	49	84.81	4.78
2.6 —	50	90.72	5.44	52	90.62	4.37
3.0 —	51	96.93	5.02	64	97.25	5.04
3.6 —	64	100.45	3.87	58	99.02	3.99
4.0 —	75	103.13	5.21	94	102.22	4.83
4.6 —	55	105.55	4.35	66	105.42	3.88
5.0 —	50	108.42	4.71	52	107.29	5.93
5.6 — 6.0	49	110.38	1.37	43	110.10	6.15

TABEL 3 : *Comparative weights (kg) of our study and Sukonto et al. (1939)*

Indonesia		Europe		Our Study		
Age (year)	Weight		Weight		Weight	
	Boys	Girls	Boys	Girls	Boys	Girls
1 yr.	8.1	7.6	8.9	8.3	10.14	9.94
2 yrs	9.6	9.3	11.0	10.1	11.70	11.50
3 yrs	11.4	11.0	12.9	12.2	14.68	14.58
4 yrs	13.0	12.6	14.5	13.9	16.65	15.46
5 yrs	14.4	14.2	16.1	15.7	17.74	16.75
6 yrs	15.8	16.2	17.9	18.0	18.52	17.36

TABEL 4 : *Comparative heights (cm) of our study and Sukonto et al. (1939)*

Indonesia		Europe		Our Study		
Age (year)	Height		Height		Height	
	Boys	Girls	Boys	Girls	Boys	Girls
1 yr.	71.3	71.3	74.4	72.2	79.40	79.14
2 yrs	79.4	78.4	83.6	81.0	86.09	84.81
3 yrs	86.4	85.3	91.5	87.9	96.93	97.25
4 yrs	93.5	92.5	97.0	98.2	103.13	102.22
5 yrs	101.9	100.0	107.9	101.9	108.42	107.29
6 yrs	108.0	105.7	111.0	111.0	110.38	110.10

TABLE 5: *Weight (kg) for age (years). Harvard Standard (sex combined) and this study*

Age (year)	standard.	90% stand.	80% stand.	70% stand.	60% stand.	O u r S t u d y	
						Boys	Girls
1.0 —	9.9	8.9	7.9	6.9	6.0	10.14	9.94
1.6 —	11.3	10.1	9.0	7.9	6.8	10.96	10.70
2.0 —	12.4	11.2	9.9	8.7	7.5	11.70	11.50
2.6 —	13.5	12.2	10.8	9.5	8.1	12.92	12.85
3.0 —	14.5	13.1	11.6	10.2	8.7	14.68	14.58
3.6 —	15.5	13.9	12.4	10.8	9.3	15.91	14.91
4.0 —	16.5	14.8	13.2	11.5	9.9	16.65	15.46
4.6 —	17.4	15.7	14.0	12.2	10.5	17.46	16.30
5.0 —	18.4	16.5	14.7	12.9	11.0	17.74	16.75

Grading	A		B		C
Score	0	1	2	3	4

TABLE 6: *Height (cm) for age (years) Harvard Standard (sex combined) and this study*

Age (year)	standard.	90% stand.	85% stand.	80% stand.	70% stand.	O u r S t u d y	
						Boys	Girls
1.0 —	74.5	67	64.5	60	52.5	79.40	79.14
1.6 —	81.5	73	69	65	57	82.68	82.05
2.0 —	87	78.5	74	69.5	61	86.09	84.81
2.6 —	92	82.5	78	73.5	64	90.72	90.62
3.0 —	96	86.5	82	77	67	96.93	97.25
3.6 —	99.5	89.5	84.5	79.5	70	100.45	99.02
4.0 —	103.5	93	87.5	82.5	72	103.13	102.22
4.6 —	107	96	90	85.5	74.5	105.55	105.42
5.0 —	109	98	92.5	87	76	108.42	107.29

Grading	A		B		C
Score	0	1	2	3	4

TABLE 7: Average Armcircumference & S.D. (cm)

Age (year)	B o y s			G i r l s		
	N	Mean	S.D.	N	Mean	S.D.
1.0 —	58	14.66	0.96	50	14.68	1.16
1.6 —	50	14.58	0.89	51	14.54	1.03
2.0 —	49	14.91	1.05	49	14.87	1.08
2.6 —	50	15.12	1.04	52	15.62	1.05
3.0 —	51	16.26	1.31	64	16.41	1.48
3.6 —	64	16.80	1.53	58	16.41	1.81
4.0 —	75	16.98	1.58	94	17.01	1.52
4.6 —	55	17.14	1.67	66	16.68	1.19
5.0 —	50	16.86	1.37	52	17.12	1.82
5.6 — 6.0	49	16.91	1.51	43	16.62	1.35

TABLE 8: Average Headcircumference & S.D. (cm)

Age (year)	B o y s			G i r l s		
	N	Mean	S.D.	N	Mean	S.D.
1.0 —	58	47.26	1.57	50	46.24	1.62
1.6 —	50	47.50	1.41	51	46.19	1.60
2.0 —	49	48.01	1.37	49	47.50	1.23
2.6 —	50	48.36	1.22	52	47.69	1.13
3.0 —	51	49.81	1.41	64	49.03	1.98
3.6 —	64	49.86	1.69	58	49.10	2.12
4.0 —	75	50.51	1.64	94	49.48	1.75
4.6 —	55	50.48	1.75	66	49.76	1.13
5.0 —	50	50.48	1.39	52	49.63	1.62
5.6 — 6.0	49	50.74	1.39	43	49.94	1.51

TABLE 9 : Average Chest Circumference (cm) & S.D.

Age (year)	Boys			Girls		
	N	Mean	S.D.	N	Mean	S.D.
1.0 —	58	48.03	2.41	50	47.22	2.36
1.6 —	50	48.66	1.70	51	48.05	1.47
2.0 —	49	49.32	1.55	49	48.79	1.67
2.6 —	50	49.90	2.41	52	49.71	2.23
3.0 —	51	52.58	2.46	64	51.64	3.21
3.6 —	64	53.38	3.86	58	52.43	3.77
4.0 —	75	54.54	4.49	94	52.38	2.91
4.6 —	55	54.63	3.66	66	52.64	2.35
5.0 —	50	55.26	4.43	52	53.83	3.61
5.6 — 6.0	49	55.36	3.26	43	54.34	2.62

TABLE 10a: *Height Percentiles For Boys (by interpolation)*

Age (year)	H A R V A R D			O U R S T U D Y		
	P10	P50	P90	P10	P50	P90
1.0 —	75.6	78.5	81.55	76.74	80.90	86.03
1.6 —	81.5	84.65	88.05	80.01	84.34	89.98
2.0 —	86.35	89.8	93.65	82.03	88.53	94.98
2.6 —	90.40	94.15	98.35	87.26	93.15	100.38
3.0 —	94.15	98.0	102.5	93.36	97.47	104.99
3.6 —	97.65	101.6	106.5	96.83	101.47	107.83
4.0 —	100.85	105.05	110.4	99.26	104.25	111.09
4.6 —	103.05	107.7	113.5	101.45	106.79	114.08
5.0 —	106	111.55	117.4	103.14	109.38	115.73
5.6 — 6.0						

TABLE 10b: *Height Percentiles For Girls (by interpolation)*

Age (year)	H A R V A R D			O U R S T U D Y		
	P10	P50	P90	P10	P50	P90
1.0 —	73.7	77.55	80.8	76.54	80.16	86.73
1.6 —	79.4	83.75	87.75	77.54	83.96	89.20
2.0 —	84.15	89.0	93.7	81.04	88.87	93.72
2.6 —	88.4	93.55	98.75	88.11	94.38	100.34
3.0 —	92.35	97.6	103.25	92.54	97.89	104.65
3.6 —	95.9	101.35	107.5	95.39	100.75	106.15
4.0 —	99.25	105.0	111.55	99.00	103.63	109.70
4.6 —	101.95	107.95	114.45	100.74	105.48	113.93
5.0 —	105.4	110.95	117.15	102.0	108.07	116.65
5.6 — 6.0						

TABLE 11a: *Weight Percentiles For Boys (by interpolation)*

Age (year)	H A R V A R D			O U R S T U D Y		
	P10	P50	P90	P10	P50	P90
1.0 —	9.51	10.75	12.34	9.43	10.40	12.05
1.6 —	10.66	12.00	13.81	10.00	11.17	13.24
2.0 —	11.64	13.09	15.06	10.56	12.18	14.44
2.6 —	12.55	14.11	16.17	11.69	13.58	15.82
3.0 —	13.41	15.09	17.22	12.99	14.79	18.13
3.6 —	14.18	16.04	18.26	13.68	15.74	20.15
4.0 —	14.95	16.97	19.35	14.16	16.39	22.00
4.6 —	15.72	17.90	20.55	14.75	16.93	22.42
5.0 —	16.85	19.55	22.64	15.22	17.76	22.32
5.6 — 6.0						

TABLE 11b: *Weight Percentiles For Girls (by interpolation)*

Age (year)	H A R V A R D			O U R S T U D Y		
	P10	P50	P90	P10	P50	P90
1.0 —	8.99	10.43	12.05	8.91	10.15	12.29
1.6 —	10.14	11.70	13.61	9.79	11.05	12.60
2.0 —	11.12	12.86	15.04	10.74	12.20	13.77
2.6 —	12.05	13.93	16.33	11.67	13.64	16.14
3.0 —	12.95	14.90	17.65	12.28	14.43	18.14
3.6 —	13.77	15.90	19.03	12.80	15.15	18.67
4.0 —	14.54	16.94	20.46	13.72	15.96	18.54
4.6 —	15.36	17.90	21.75	14.26	16.53	20.32
5.0 —	16.52	19.17	22.77	14.54	17.20	21.06
5.6 — 6.0						

TABLE 12a : *Arm circ. percentiles for boys*

Age (year)	P10	P50	P90
1.0 —	13.41	14.61	15.87
1.6 —	13.28	14.66	15.82
2.0 —	13.45	14.88	16.57
2.6 —	13.82	15.10	16.69
3.0 —	14.60	16.26	17.97
3.6 —	15.19	16.55	18.79
4.0 —	14.95	16.55	19.28
4.6 —	15.35	16.78	19.68
5.0 —	15.32	16.64	18.98
5.6 — 6.0	15.30	16.72	18.75

TABLE 12b : *Arm circ. percentile for girls*

Age (year)	P10	P50	P90
1.0 —	13.19	14.61	16.56
1.6 —	13.21	14.53	15.91
2.0 —	13.44	14.79	16.60
2.6 —	14.30	15.56	16.97
3.0 —	14.55	16.41	18.30
3.6 —	14.45	16.28	18.78
4.0 —	15.09	17.16	18.79
4.6 —	15.28	16.58	18.47
5.0 —	15.03	16.83	19.90
5.6 — 6.0	14.73	16.67	18.52

TABLE 13a: *Chest Circumference Percentiles For Boys*

Age (year)	H A R V A R D			O U R S T U D Y		
	P10	P50	P90	P10	P50	P90
1.0 —	45.1	47.6	50.7	45.82	47.83	50.70
1.6 —	47.0	49.5	52.6	46.37	48.64	50.84
2.0 —	48.4	50.8	53.9	47.33	49.21	51.83
2.6 —	49.3	51.7	54.9	46.78	49.72	53.45
3.0 —	49.9	52.4	55.8	50.03	52.38	55.40
3.6 —				49.63	52.63	60.25
4.0 —				50.20	53.38	59.70
4.6 —				50.52	54.11	60.20
5.0 —				51.03	54.44	60.97
5.6 — 6.0				51.67	55.25	60.00

TABLE 13b: *Chest Circumference Percentiles For Girls*

Age (year)	H A R V A R D			O U R S T U D Y		
	P10	P50	P90	P10	P50	P90
1.0 —	44.2	47.0	49.5	45.01	47.28	50.63
1.6 —	46.0	48.8	51.4	46.22	47.93	50.45
2.0 —	47.4	50.1	53.0	46.57	48.78	51.25
2.6 —	48.4	51.2	54.3	47.28	49.42	53.35
3.0 —	49.3	51.9	55.1	48.25	51.42	55.50
3.6 —				48.58	51.79	57.55
4.0 —				49.06	52.06	56.25
4.6 —				50.05	52.41	55.76
5.0 —				49.58	53.30	60.70
5.6 — 6.0				50.73	54.43	57.72

TABLE 14a: *Head Circumference Percentiles For Boys*

Age (year)	H A R V A R D			O U R S T U D Y		
	P10	P50	P90	P10	P50	P90
1.0 —	45.5	47.3	48.4	45.29	46.97	49.68
1.6 —	47.0	48.7	49.9	45.44	47.59	49.56
2.0 —	48.0	49.7	51.0	46.20	48.00	49.88
2.6 —	48.5	50.2	51.6	46.62	48.45	50.18
3.0 —	48.9	50.4	51.9	48.11	49.61	52.16
3.6 —				47.92	49.70	51.93
4.0 —				48.29	50.59	52.74
4.6 —				48.12	50.53	53.68
5.0 —				49.01	50.43	52.63
5.6 — 6.0				48.83	50.71	52.86

TABLE 14b: *Head Circumference Percentiles For Girls*

Age (year)	H A R V A R D			O U R S T U D Y		
	P10	P50	P90	P10	P50	P90
1.0 —	44.3	45.8	47.7	44.22	45.87	48.73
1.6 —	45.5	47.1	49.0	43.87	46.27	48.40
2.0 —	46.4	48.1	50.1	45.83	47.47	49.50
2.6 —	47.0	48.8	50.8	46.23	47.61	49.53
3.0 —	47.5	49.3	51.1	47.23	48.76	50.90
3.6 —				47.10	48.86	51.53
4.0 —				47.50	49.33	51.56
4.6 —				48.23	49.69	51.59
5.0 —				47.46	49.77	51.68
5.6 — 6.0				48.06	50.06	52.20

TABLE 15: *Weight for Height of Young Children 0-5 years — sexes combined**

Length or Height (cm)	WEIGHT kg				
	standard	90%	80%	60%	70%
grading "SCORE"	A		B		C
	0	1	2	3	4
52	3.8	3.4	3.0	2.7	2.3
54	4.3	3.9	3.4	3.0	2.6
56	4.8	4.3	3.8	3.4	2.9
58	5.2	4.7	4.2	3.6	3.1
60	5.7	5.1	4.6	4.0	3.4
62	6.3	5.7	5.0	4.4	3.8
64	6.9	6.2	5.5	4.8	4.1
66	7.5	6.8	6.0	5.3	4.5
68	8.1	7.3	6.5	5.7	4.9
70	8.7	7.8	7.0	6.1	5.2
72	9.2	8.3	7.4	6.4	5.5
74	9.7	8.7	7.8	6.8	5.8
76	10.2	9.2	8.3	7.1	6.1
78	10.6	9.5	8.5	7.4	6.4
80	11.0	+ — 9.9	8.8	7.7	6.6
82	11.4	— + 10.3	9.1	8.0	6.8
84	11.8	— 10.6	9.4	8.3	7.1
86	12.2	+ 11.0	9.8	8.5	7.3
88	12.6	11.3	10.1	8.8	7.6
90	13.1	— + 11.8	10.5	9.2	7.9
92	13.6	12.2	10.9	9.5	8.2
94	14.0	12.6	11.2	9.8	8.4
96	14.5	+ 13.1	11.6	10.2	8.7
98	15.0	— 13.5	12.0	10.5	9.0
100	+ 15.6	— 14.0	12.5	10.9	9.4
102	16.1	— 14.5	12.9	11.3	9.7
104	+ 16.7	15.0	13.4	11.7	10.0
106	17.3	— 15.6	13.8	12.1	10.4
108	18.0	— + 16.2	14.4	12.6	10.8

* Values derived from international Standard Harvard, 1959.

If the child's height as measured in the field is between the values for height given in this table, the measured height should be rounded off to the nearest height value from the table.

+ Average weight of our study (boys)

— Average weight of our study (girls)

TABLE 16 : *Upper-Arm Circumference of Young Children (½-5 years) and Schoolage Children (6-14 years) (sexes combined, centimeters)*

Age (years)		100% stan- dard	85% stan- dard	80% stan- dard	70% stan- dard	60% stan- dard	O u r s t u d y	
Yrs	month						boys	girls
0	6 - 8	14.75	12.5	11.75	10.5	9.0		
0	9 - 11	15.5	13.25	12.5	11.0	9.5		
1 - 2		16.0	13.5	12.75	11.25	9.6	14.66	14.68
2 -		16.25	13.75	13.0	11.5	9.75	14.91	14.87
3 -		16.5	14.0	13.25	11.6	10.0	16.26	16.41
4 -		16.75	14.25	13.5	11.75	10.1	16.98	17.01
5 -		17.0	14.5	13.6	12.0	10.25	16.86	17.12
6 -		17.25	14.75	13.75	12.25	10.5		
7 -		17.75	15.0	14.25	12.5	10.75		
8 -		18.5	15.5	14.75	13.0	11.0		
9 -		19.0	16.0	15.25	13.25	11.5		
10 -		19.75	16.75	15.75	13.75	11.75		
11 -		20.5	17.5	16.5	14.5	12.25		
12 -		21.25	18.0	17.0	15.0	12.75		
13 -		22.25	19.0	17.75	15.5	13.25		
14 -		23.25	20.0	18.5	16.25	14.0		
grading		A		B		C		
"SCORE"		0	1	2	3	4		

newig mixer not ready

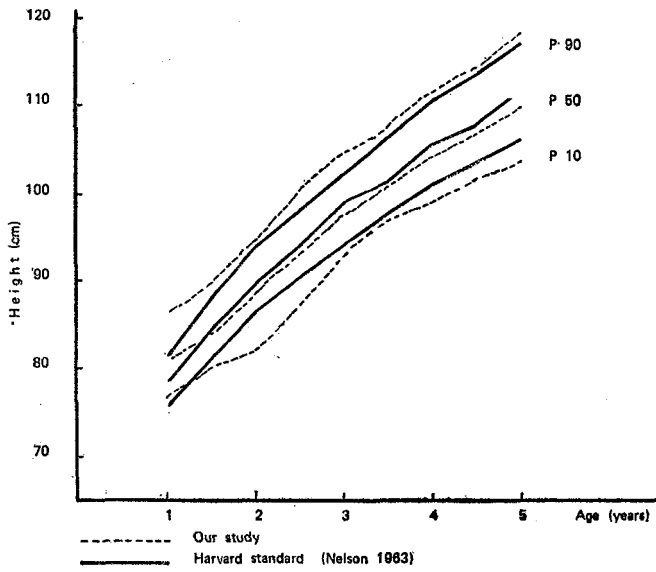
after 10 min. in oven

TABLE 17: *The ratio of head circumference/chest circumference (given by sempe and Masse, Paris 1965)*

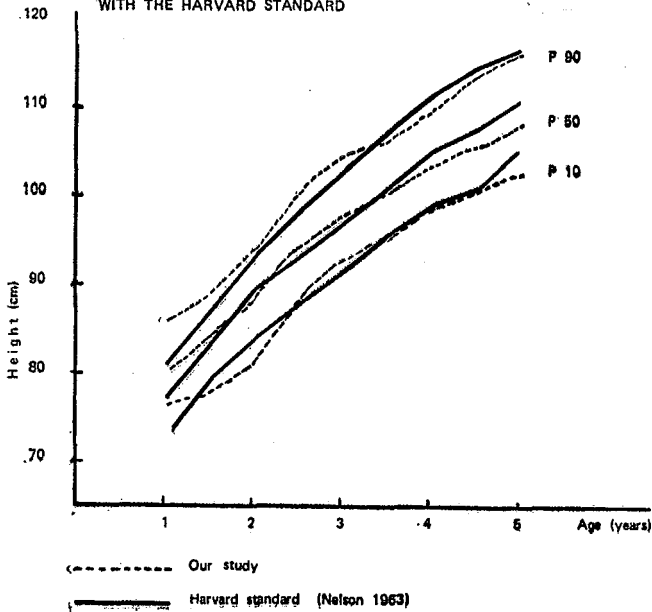
Age (years)	Boys	Girls	O u r s t u d y	
			boys	girls
1/12	1.06	1.06		
3/12	1.03	1.02		
6/12	1.01	1.00		
9/12	1.00	0.98		
1	0.99	0.98	0.98	0.98
18/12	0.98	0.97	0.97	0.96
2	0.97	0.96	0.97	0.97
3	0.95	0.95	0.95	0.95
4	0.92	0.93	0.93	0.94
5	0.91	0.91	0.91	0.91
6	0.89	0.89	0.92	0.92

HEIGHT AND WEIGHT OF PRESCHOOL CHILDREN

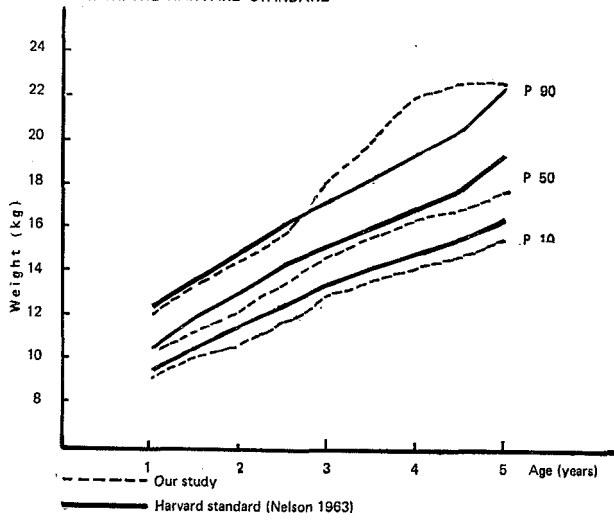
Graph 1 : PRECENTILES FOR HEIGHT FOR BOYS COMPARED WITH THE HARVARD STANDARD



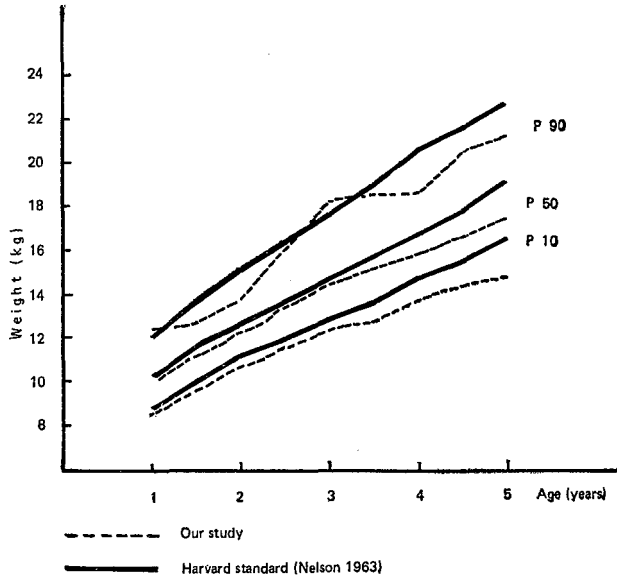
Graph 2 : PRECENTILES FOR HEIGHT FOR GIRLS COMPARED WITH THE HARVARD STANDARD



Graph 3 : PRECENTILES FOR WEIGHT FOR BOYS COMPARED WITH THE HARVARD STANDARD



Graph 4 : PRECENTILES FOR WEIGHT FOR GIRLS COMPARED WITH THE HARVARD STANDARD



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