

1349

THESIS.

INQUIRY INTO THE MENTAL DEVELOPMENT OF CHILDREN.

MAYBELLE SPERRY & NELLIE HUGHES.

1906.

	Height.		Color sense.	Age.	Father.	Grade.	Sex.	Size head. In.	Age started.		Preception.
	Ft.	In.							Sec.	Mis.	
1.	3	9.	100	6	Dead	1 b	girl	19.25	6	15	3
2.	3	9.5	100	6	Tinner	1 b	girl	20.25	6	7.5	3
3.	4	.25	100	7	Merchant	1 b	girl	19.5	6	12	4
4.	3	9.5	94	6	Transfer barn	1 b	boy	21	6	21	2
5.	3	9.5	97	6	Hauls sand,	1 b	boy	20.75	6	10	5
6.	3	8.75	96	6	Dead	1 b	boy	21.5	6	18	3
7.	4	1.	97	8	Barber	1 a	boy	21	8	30	4
8.	4		96	7	Farmer	1 a	boy	21	6	13	4
9.	4	2.25	96	9	College professor	1 a	boy	20.25	6	22	2
10.	3	9.	95	7	Farmer	1 a	girl	20.5	7	22	3
11.	4	.75	95	6	Minister	1 a	girl	21	6	15	1
12.	3	9.	95	7	Office work	1 a	girl	20.25	6	22	1
13.	4	9.5	90	11	Farmer	2 b	boy	21	5	19	2
14.	4	1.75	96	8	Marble yard	2 b	boy	21.25	6	18	2
15.	3	11.5	95	8	Agent	2 b	girl	20.25	5	21	1
16.	4	4.5	95	9	Clerk	2 b	boy	21	6	19	
17.	4		95	8	Carpenter	2 b	girl	19.75	7	14	1
18.	4	3.	99	8	Teacher	2 b	girl	20.5	6	20	
19.	4	2.75	color blind	9	Carpenter	2 a	girl	22	6	13	2
20.	4	5.5	93	9	Drunkard	2 a	girl	20.25	6	12	1
21.	4	1.5	95	8	Traveling man	2 a	boy	20.5	6	15	1
22.	3	11.5	93	8	Engineer	2 a	girl	20.25	6	15	3
23.	4	8.5	color blind	12	Second hand store	2 a	boy	21.75	6	10	3
24.	4	5.5	94	12	Farmer	2 a	boy	20.25	6	20	2
25.	4	7.	94	9	Stone cutter	3 b	girl	21.75	6	11	
26.	4	6.5	color blind	8	Government expert.	3 b	boy	20.75	7	19	1

	Height.		Color sense.	Age.	Father.	Grade.	Sex.	Size head. In.	Age started.	Preception.	
	Ft.	In.								Sec.	Mis.
27.	4	.5	97	7	Candy maker	3 b	boy	22	6	15	1
28.	4	3.25	95	8	Harness shop	3 b	girl	20.75	6	10	1
29.	4	5.	95	8	Book-keeper	3 b	boy	21.25	6	10	
30.	4	4.	95	9	Hack-driver	3 b	girl	21	6	15	1
31.	4	.5	98	8	Engineer	3 a	girl	21	6	11	
32.	4	4.	95	9	Pea nut & pop corn	3 a	boy	21.25	8	11	
33.	4	1.25	97	8	Hardware	3 a	boy	21	6	14	1
34.	4	9.5	98	11	Hauls sand	3 a	boy	22.25	9	24	1
35.	4	4.5	95	9	Foreman of shops	3 a	girl	20.25	6	10	1
36.	4	.5	95	9	Barber	3 a	girl	20.25	7	15	2
37.	4	5.	95	9	Roadmaster	4 b	boy	20.5	4	10	1
38.	4	9.5	95	11	Carpenter	4 b	boy	21.5	7	11	
39.	5		95	11	Doctor	4 b	boy	21.5	7	13	2
40.	5	4.	99	13	R. R. Man	4 b	girl	22	6	15	2
41.	4	4.	100	10	R. R. Man	4 b	girl	21.25	7	14	1
42.	4	2.5	99	9	Janitor	4 b	girl	20.5	6	9	
43.	4	5.	99	10	Clothier	4 a	boy	21	6	10	
44.	4	4.	96	11	Thresher	4 a	boy	21.5	8	10	
45.	4	3.75	96	10	College professor	4 a	boy	21	6	13	1
46.	4	2.5	100	9	Farmer	4 a	girl	20.25	6	10	1
47.	4	6.5	96	10	Insurance	4 a	girl	21.25	6	16	1
48.	4	8.	98	11	Dead	4 a	girl	19.5	8	12	
49.	4	4.5	99	10	Janitor	5 b	boy	20.5	6	9	
50.	4	4.	98	10	City clerk	5 b	boy	21	5	11	2
51.	4	9.5	96	10	Carpenter	5 b	girl	22.75	6	15	
52.	4	6.5	100	12	Minister	5 b	girl	20.5	7	8	

	Height.		Color sense.	Age.	Father.	Grade.	Sex.	Size head. In.	Age started.	Preception.	
	Ft.	In.								Sec.	Mis.
53.	4	5.	96	10	Co. Atty	6 b	girl	21	6	12	
54.	4	5.	94	9	Tailor	5 b	boy	21.5	6	10	
55.	5		95	12	Carpenter	5 b	girl	21.5	9	14	
56.	4	7.75	92	10	Fruit ship- per	5 b	girl	22	6	7	
57.	4	10.	96	10	Insane	5 a	girl	21.75	5	10	1
58.	4	10.	99	10	Teacher	5 a	Girl	21.5	7	9	
59.	4	9.5	95	10	Minister	5 a	boy	22	5	18	
60.	4	6.25	98	10	Butcher	5 a	boy	21.5	5	10	
61.	4	9.	99	11	Ranch man	5 a	boy	22	6	15	
62.	4	8.	99	10	Engineer	5 a	girl	21	5	10	
63.	4	9.	100	11	Road master	5 a	girl	22	7	8	
64.	4	11.5	99	10	Dead	6 b	girl	20.5	6	10.5	
65.	4	7.5	98	11	Ranch-man	6 a	girl	21.25	6	12.5	
66.	4	8.	96	12	Farmer	6 a	boy	20.75	8	9	3
67.	4	11.	99	11	Carpenter	6 b	girl	23	8	7	
68.	4	8.	100	13	Photo- grapher	6 b	boy	21	9	15	1
69.	5		100	11	Insurance	6 b	boy	21.5	8	10	1
70.	4	10.5	98	11	Traveling man	6 a	girl	20.25	6	11.5	
71.	4	11.5	99	12	Handles freight	6 a	boy	21	6	5.5	4
72.	4	8.5	94	13	Quarter master	6 a	boy	20.25	10	10	1
73.	4	5.5	92	10	Does noth- ing	6 a	girl	21.25	6	9	
74.	4	11.25	94	13	Grocer	6 a	girl	21.5	6	9	
75.	4	10.	96	12	Clothier	6 a	boy	20.25	6	11	
76.	4	10.	97	11	Dead	7 b	girl	21.5	6	8	
77.	4	10.25	97	13	Farmer	7 b	girl	20.5	7	10	2
78.	5	2.25	99	12	Butcher	7 b	girl	22	6	11	

	Height.		Color sense.	Age.	Father.	Grade.	Sex.	Size / Age		Preception.	
	Ft.	In.						head.	start.	Sec.	Mis.
79.	4	9.	97	13	Stockman	7 b	boy	21	7	7	
80.	4	10.	91	12	College president	7 b	boy	20.5	6	7	
81.	5	1.	100	14	Dead	7 b	boy	20	5	12	
82.	5	2.25	94	14	College professor	7 a	boy	21	7	8	2
83.	4	10.	98	12	Dead	7 a	boy	21.25	6	7	1
84.	5		96	13	County clerk	7 a	boy	21	7	8	1
85.	5	1.25	99	13	Carpenter	7 a	girl	22	7	8	
86.	5	2.	96	14	Carpenter	7 a	girl	22.75	6	9	
87.	5	4.	96	13	Minister	7 a	girl	22.5	7	14	1

The above data were collected during investigations made in the Manhattan City Schools in the grade one to seven inclusive. Eighty-seven children were examined of which number forty-five were girls and forty-two boys.

Some of the test made, such as those for color-sense and perception, require some explanation. In the former the color sense tester was used, the colors appearing being red, blue, green, white, and gray. Very little actual color blindness was found - less than one half of one per cent. In some cases remarkable color ignorance was discovered however. Gray and white were confused to a large extent but as this was noticed also among college students it is not a remarkable fact. The boys seemed to be more easily confused on this point than the girls but this was the case with regard to the other colors also. When mistakes were made blue and green were the colors oftenest confused after gray and white. In some cases yellow and green and in others yellow and red were taken for each other. A remarkable and as yet unaccountable mistake was one encountered mostly in the higher grades, namely that of calling gray, purple or lavender. In the higher grades the pupils and especially the girls persisted in seeing differences of degree in the colors - dark red, light red, and so on - where no such differences existed. In naming the colors some of the boys in the higher grades used descriptive terms such as dirty white, smoke color, water color, etc. Only ten out of the eighty-seven made no mistakes. While the ignorance of color shown in these investigations is not very extensive the standard could undoubtedly be raised by a systematic teaching of color and

such teaching should form a part of the work given in the grades.

In testing for perception a list of words was given and the children asked to pick out those containing the letter (e) in the shortest time possible. A stop watch was used to ascertain the exact length of time consumed. The following is the list of words used; head, ape, feet, lamp, chair, rug, desk, book, carpet, pillow, couch, meat, drawer, window, stove. The longest time, thirty seconds, was consumed in the case of No. seven and the shortest, five and one half seconds, in the case of No. seventy-one. Four mistakes were made in each case. Thirty-five out of the eighty-seven tested made no mistakes. Of this number twenty-three were girls and thirteen boys showing that girls are quicker in this particular kind of discrimination than boys. The higher the grade the quicker the perception as a general rule.

The size of the head seems to make no material difference in advancement. It varied from nineteen and one fourth inches in the case of number one to twenty-two and three fourths inches in the cases of numbers fifty-one and eighty-six. All three cases were girls. The average size of the boys heads was twenty-one and four hundredths inches and of the girls, twenty and seven tenths inches. The girls heads varied in size much more than the boys.

The fathers occupation seems to make little or no difference especially in those cases which had the advantages of proper age at starting, regular attendance and the like. Attention is called to numbers forty-two and forty-nine whose father is a janitor. They were two of the brightest and quickest children examined.

Nearly one half of the children examined began school at six years of age. As a rule those entering at a little later age made better progress after starting. Physicians tell us that the eye is not fully developed before the seventh year and it would seem desirable to keep children out of school until that age.

The height varied from three feet eight and three fourths inches in the case of number six to five feet four inches in the case of number forty. This latter case seems to have been developed physically at the expense of her mental development. Her age was thirteen years, the grade four B and the age at which she started six.

In conclusion it may be said that it is clearly seen that something should be done in regard to teaching color in the grades. Such a study though perhaps slight, should be systematic to give the best results. It was also found that the older children, as a rule, were in this particular test quickest in perception. Young children will often look at an object for several minutes without seeing it while an older child having a better image of the object will see it at once. This proves that to stimulate perception it is necessary to present objects a sufficient number of times so that a clear image will be formed in the child's mind. A third point is that if children are started in school at a little later age than is the general rule the progress will be more rapid. It was noticed that the father's occupation and the size of the head and the height makes no material difference except when in the last named the growth is abnormal.