CHAPTER VIII

OBITER DICTA

When the first intelligence tests were developed about half a century ago, researchers started administering them to different kinds of groups and studying group differences in performance on the tests. They compared the sexes, different age groups, groups of different racial and national origin, urban and rural groups, groups from different socio-economic levels and so forth. The findings from these studies were fairly consistent in showing appreciable group differences. Lower score on intelligence tests was attributed to lower socio-economic status, living in rural area or being a member of 'inferior' sex.

The present chapter attempts to discuss some of the findings on group differences in intelligence made EN PASSANT during the conduct of the intestigation. Having collected data from the representative sample of 6037 pupils for standardization of the test, the investigator carefully analysed the data with a view to studying the following aspects:

(i) Sex differences in intelligence;

(ii) Rural-urban differences in intelligence;

(iii) Intelligence and fathers' occupation.

(1) Intelligence and Sex

It is generally believed that on the average, males and females are equally intelligent, but that there is a greater range of variability in the males. More males than females are found to have abnormally high IQs but this is compensated for by the fact that more abnormally low ones are also found among males.

Sex differences in mental tests are not often significant when the average scores of boys and girls on standard tests are compared but hidden in these averages may be changing rates of mental growth which are of considerable interest to all who are charged with the education of children.

Burt found that, among nearly 3,000 London children, the girls excelled the boys at almost every age from three to fourteen. He attributed this to the fact that girls were sheltered, supervised and detained at home and so they were engaged in literary pursuit and consequently excelled boys in literary work. There is a view that in intelligence, as in other respects, girls mature more quickly than boys.

In order to study whether any difference exists in intelligence between the two sexes in the age group under

study, means and standard deviations were computed separately for boys and girls of each age. The table below shows the averages and standard deviations of boys and girls along with the critical ratios.

TABLE 54

Significance of Difference Between Means of Boys and Girls at Different Ages

Age	Boys / Girls	Mean	S.D.	Difference in means	N	SE_D	D/σD	Significance
	Boys	29.63	14.61		545			
8				0.49		0.97	0.505	Not significant
	Girls	30.12	14.95		405			
	Boys	35.87	14.6		477			
9				1.85		0.97	1.90	Not significant
	Girls	~~40.28~~ 34.02	14.7		438			
	Boys	40.28	14.6		461			
10				1.65		.93	1.77	Not significant
	Girls	41.93	14.3		501			
	Boys	43.10	14.8		412			
11				0.09		1.04	.086	Not significant
	Girls	43.19	15.1		397			

Age	Boys / Girls	Mean	S.D.	Difference in means	N	SE_D	$D/\sigma D$	Significance
12	Boys	52.23	15.7	3.16	349	1.18	2.68	Significant at 0.01 level
	Girls	55.39	15.8		369			
13	Boys	55.47	16.7	2.34	472	1.13	2.07	Significant at 0.05 level
	Girls	57.81	17.1		427			
14	Boys	65.95	15.4	2.48	413	1.09	2.27	Significant at 0.05 level
	Girls	63.47	15.2		371			

It can be seen from the table that:

(i) the differences in the means of boys and girls are not significant upto the age of 11 years. Girls are almost on par upto this age.

(ii) the differences in the means of boys and girls are significant at ages 12, 13 and 14.

(iii) the girls' performance on the test is comparatively higher than that of boys at ages 12 and 13.

(iv) the boys score higher than girls at the age of 14.

It can be observed that boys and girls will be almost on par in intelligence during the pre-adolescence period and that the average age of maturation for Indian girls may be taken as 12+.

(2) Rural and Urban Differences in Intelligence

It is alleged sometimes that children from the rural areas are on the average both educationally and intellectually inferior to their urban counterparts. It is also argued that this may be due to a general all round inferiority of the rural population in educable capacity brought about by such causes as an unstimulating environment or a migration of the

abler families to the cities. There are several reasons for this migration. The rich go to urban areas because they can enjoy their life better or because they can increase their wealth more rapidly. The well intentioned go there to give good education to their children and the talented go there in search of a good job. Specially in India, this type of migration is proving harmful to the rural areas as it drains away the potential leaders of the countryside. The result is that perhaps the resident upper middle class is more or less absent in villages. Many times it is stated that the rural schools, for reasons of size, equipment and the training, stability and experience of the staff cannot do so well for their pupils as the schools in the class.

Many researchers the world over have tried to see whether there are significant urban and rural differences in intelligence and attainment. Terman and Merrill working in America found that rural children are definitely inferior in general ability as a group to urban children. This conclusion was supported by Burt. Testing in rural and urban schools he found twice as many sub-normal children in the former as in the latter. Scottish Mental Survey of 1932, however, indicated that there was little statistically significant difference between the mean scores of urban and rural children on the group verbal test used by them. Post-war studies have tended to support the conclusions of Terman, Merrill and Burt rather

than those of the Scottish Survey. A similar study was made by Cross and Revell in Cambridgeshire in 1955. They compared the performances of rural and urban children in a Local Education Authority's Secondary School selection examination and found that whereas the percentage of rural children in the lower scores exceeded that of urban children this majority became progressively less until it was replaced by an urban majority in verbal scores (I.Q.s)of over 120.

In this context it was interesting to see whether there are significant rural-urban differences in intelligence as measured by the present test. The investigator found that it was difficult to generalize about difference between the scores of rural and urban children. It was difficult to separate areas of city and countryside because of their inter-penetration, and rarely was there a true identity of conditions present. Social and economic factors combined in a variety of ways and it was also difficult to match different geographical areas which had similar environmental conditions. With all the abovementioned difficulties in view it was decided to divide the agewise samples into two main groups as under:

(i) Pupils from villages with the population of less than 5000 (Rural area).

(ii) Pupils from towns with the population of more

than 5000 (Urban area).

In the table below are shown the agewise rural-urban difference between the means along with their significance.

TABLE 55

Significance of Difference Between the Means of Rural and Urban Pupils at Different Ages

Age in years	Rural / Urban	Mean	S.D.	Difference in means	N	SE_D	D/σD	Significance
	Rural	28.2	14.7		437			
8				1.9		.892	.47	Not significant
	Urban	30.1	14.3		513			
	Rural	34.41	14.8		421			
9				1.69		.965	1.75	Not significant
	Urban	36.1	14.8		494			
	Rural	38.33	14.1		501			
10				3.86		.812	4.75	Significant at 0.01 level
	Urban	42.19	13.9		461			
	Rural	42.21	14.7		394			
11				1.59		1.205	1.32	Not significant
	Urban	43.8	15.2		415			

Age in years	Rural / Urban	Mean	S.D.	Difference in means	N	SE_D	$D/\sigma D$	Significance
	Rural	53.6	16.1		350			
12				.7		1.394	.5	Not significant
	Urban	54.3	15.5		368			
	Rural	56.5	16.2		399			
13				.46		1.098	.42	Not significant
	Urban	56.96	16.7		500			
	Rural	64.4	16.3		372			
14				.31		1.251	.25	Not significant
	Urban	64.71	14.9		412			

The table reveals that the differences between the means of the pupils from rural and urban areas are not significant at any age except at the age of 10 years. This can be explained on the basis of the fact that since independence the conditions of the Indian villages have been changing. The process of urbanization of villages has started and today villages are no longer detached from the cities. Facilities of transport, electrification and expanding facilities of education in the countryside are the principal factors which are responsible for the free flow of ideas, experiences, traditions and above all the intellectual traffic to and from the cities and villages.

The results of such finding point to the fact that intelligence test score depends upon experience. In the words of Thorndike and Hagen:

> Where groups differ widely in experience, differences in test-score may be expected to result. Thus, in the United States between 1918 and 1940 the median schooling of 18 year olds increased from about 8½ years to about 10½ years. In addition, radio sets appeared in over 80 per cent of the homes of the country. Good roads pushed out into the rural areas so that it was relatively easy to get to the town. These are only some of the social and cultural changes. These changes had their impact upon test performance.[1]

---

1 Thorndike and Hagen, Op. Cit., p. 235.

(3) Relation Between the Occupations of Fathers and IQs of the Pupils

The social pattern of India is fast changing. In good old days the caste determined the occupation of the people. Brahmins were engaged in intellectual and religious pursuits and were the custodians of education and religion. Kshatriyas were the warring community, Vaishyas the merchant class and Shudras, the labour class. To-day a Brahmin is not necessarily a teacher and vice-versa. This is true for the other castes and occupations as well.

The data gathered during the final run of the tests provided useful information about the relation of occupations of fathers and intelligence of the pupils. The sample selected for the final run of the test was divided roughly into the following four categories according to the occupational status of fathers.

Grade	Occupation of Fathers	Children tested
A	Professors, Collectors, Judges, Barristers, Engineers, Doctors, Writers, Managers of big farms, Officers of Civil and Military Departments etc.	1290
B	Pleaders, Secondary Teachers, Share Brokers, Businessmen, Contractors, Tutors, Factory Owners, Landlords etc.	1483
C	Primary Teachers, Clerks, Farmers, Typists, Insurance Agents, Compounders, Nurses, Petty Traders, Goldsmiths.	2113
D	Policemen, Barbers, Home servants, Motor drivers, Mill workers, Peons, Carpenters, Blacksmiths, Farm-labourers, Cooks, Sweepers.	1151
	Total	6037

The coefficient of contingency was calculated as shown in the following * table. To save space these classes are shown only by their grades in the table.

TABLE 56

Correlation Between Occupations of Fathers and IQs of Children

Grade	IQs Below 70	70-99	100-129	Above 130	Total N
A	(150) 141	(540) 589	(536) 471	(65) 89	1290
B	(172) 174	(620) 658	(613) 505	(74) 146	1483
C	(245) 283	(884) 861	(880) 912	(106) 57	2113
D	(133) 102	(761) 417	(468) 621	(58) 11	1151
Total	700	2525	2509	303	6037

C = 0.14

It can be inferred from the low value of the coefficient of contingency that intelligence of the pupils as measured by the present test is only slightly dependent upon the occupations of their fathers. This can be accounted for by the fact that occupation of the father is the principal factor which affects their home environment to a considerable extent.

To sum up, in the present chapter has been discussed some of the interesting findings which form none the less an important by-product of the present investigation.

REFERENCES

Anastasi Anne, Differential Psychology, The Macmillan Company, New York, 1958.

Garrett, H.E., Statistics in Psychology and Education, Allied Pacific Private Ltd., Bombay, 1961.

Mukerjee, S.N., Higher Education and Rural India, Acharya Book Depot, Baroda, 1956.

Thorndike and Hagen, Measurement and Evaluation in Psychology and Education, New York, John Wiley & Sons, Inc., 1955.