

Determinants of Intellectual Performance of Rural Preadolescents (9-12 Years)

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ABSTRACT The present investigation was conducted to identify rural children (9-12 years of age) of different grades of intellectual performance and to compare the socio-economic status, home environment and school environment of these children on two cognitive abilities viz., verbal intelligence and non-verbal intelligence. The sample comprised of 200 stratified randomly selected preadolescents, evenly distributed over sex and age, their parents and teachers. The results of the study revealed that there was a significant effect of socio-economic status, home environment and school environment on verbal intelligence of preadolescents. However, in case of non-verbal intelligence, socio-economic status, home environment and school environment were found to be positively correlated.

Intelligence is the highest attribute of the human species and this faculty places him at the top of creation. Scholars have long been deliberating whether intelligence is innate or acquired, biologically determined or socio-culturally determined.

Intelligence has been defined in many ways. Binet (1905) defined intelligence as "Goal directed behaviour". Wechsler (1958) gave a more comprehensive definition. as an aggregate or global capacity of an individual to think rationally, to act purposefully and to deal effectively with the environment. According to Jean Piaget (1958) intelligence is an extension of biological adaptation consisting of process of assimilation and accommodation. Thus, intelligence evolve as a result of continuous interaction between the individual and his environment.

In most of the studies reported so far it has been seen that environmental conditions or ecological setting influence the development of a number of psychological characteristics of an individual to a greater extent (Archana, 1998).

In view of the above, it is imperative to look into the most likely factors affecting intellectual performance of rural children. The following objectives have been set forth for the present study:

- 1 To identify rural children (9-12 years of age) of different grades of intellectual performance.
- 2 To compare the socio economic status, home environment, school environment and parent child relationship of children belonging to different grades of intellectual performance.
- 3 To propose guidelines for parents and teachers to help them to check the prevailing situation as ascertained through objective no. 1.

MATERIALS AND METHODS

The present study was conducted in two purposively selected villages of Ludhiana district. The sample comprised of 200 stratified randomly selected rural pre-adolescents (9-12 years) equally distributed over the four age groups and the two sexes, their parents and teachers. The intellectual performance of rural pre-adolescents was computed using Ravens standard progressive matrices (1960) Mohsins general intelligence test (1990). Socio-economic status scale (Kulshreshta, 1981) was used to ascertain the socio-economic status of rural families. The home environment of the respondents were assessed by using Mohite's home environment inventory (1985). To determine the socio-emotional climate of the school, Sinha and Bhargawa's socio-emotional school climate inventory (1994) was used.

RESULTS AND DISCUSSION

It could be observed from table 1 that majority of the respondents came from low socio-economic status families and poor educational background. majority of the fathers of the respondents (57.5%) were engaged in labour and as far as their mothers were concerned 60 percent were engaged in labour.

Table 1: Background information of the respondents

S.No.	Variables	Categories	n = 200	(%)
1	Type of family	Joint	87	(41.50)
		Nuclear	117	(58.50)
2	Size of family	Small (3-6)	121	(60.50)
		Medium (7-10)	68	(34.00)
		Large (>10)	11	(5.50)
3	Parent's education			
a) Father		Illiterate	70	(35.00)
		Primary	74	(37.00)
		Upto Matric	49	(24.50)
		Above Matric	7	(3.50)
b) Mother		Illiterate	65	(32.50)
		Primary	77	(38.50)
		Upto Matric	56	(28.10)
		Above Matric	2	(1.00)
4	Parent's occupation			
a) Father		Labour	115	(57.50)
		Farming	30	(15.00)
		Service	50	(25.00)
		Business	5	(2.50)
b) Mother		Labour	78	(39.00)
		Housewife	120	(60.00)
		Business	2	(1.00)
5	Family income	Below 1500	116	(58.00)
		1500-2500	61	(30.50)
		2500-3500	17	(8.50)
		Above 3500	6	(3.00)
6	Land-holdings	Landless	147	(73.50)
		Less than 1 acre	41	(20.50)
		1-10 acre	10	(5.00)
		11-20 acre	2	(1.00)
7	Caste	Upper caste	69	(34.50)
		Lower caste	131	(65.50)

Classification of Subjects into Different Grades of Intellectual Performance

Table 2 shows that only a small proportion of pre-adolescents (22.5% and 10.5%) could display superior verbal and non-verbal intellectual performance respectively. Majority (52.5%) of respondents were average in verbal intellectual performance whereas (62.5%) respondents were

Table 2: Classification of subjects into different grades of intellectual performance

Intellectual performance	Subjects			
	Verbal		Non-Verbal	
	No.	(%)	No.	(%)
Intellectually Superior	45	22.5	21	10.5
Intellectually Average	105	52.5	54	27
Intellectually Below Average	50	25	125	62.5
Total	200	(100)	200	(100)

below average in non-verbal intellectual performance.

Relationship of Intellectual Performance with Selected Variable

The relationship between intellectual performance and socio economic status, home environment and school environment was studied by computing the coefficient of correlation and chi-square value.

The chi-square value exceeds the table value at 0.05 level, showing that the value obtained is significant at 0.05 level. Hence, there exists a close association between socio-economic status, home environment, school environment and intellectual performance verbal and non-verbal. It could thus be inferred that better socio-economic status of the family contributes towards better intellectual performance. Similarly pre-adolescents who came from family with a better home environment can get a stimulating and conducive environment which in turn contributes to better intellectual performance both verbal and non verbal. Further an enriched school environment seems to motivate children resulting in improvement in intellectual performance.

Table 3: Details of correlation coefficient and chi-square value

Variables	Coefficient of correlation	Chi-square value
Intellectual performance (verbal) and SES	0.41	33.75*
IP (non verbal) and SES	0.64	84.30*
IP (verbal) and Home Env.	0.21	9.26*
IP (non verbal) and Home Env.	0.67	91.33*
IP (non verbal) and school Env.	0.49	48.60*

(χ^2 tabulated at 0.05 level of coefficient is 5.99)

IP: Intellectual performance

SES: Socio economic status

Home environment was observed to be the most significant correlated of intellectual performance. It was further subjected to in-depth analysis (Table 4) to find out which of its components contributed most to the below average intellectual performances.

The language stimulation was found to be 'inappropriate' in majority of the families. Such a situation indicate that rural adolescents did not get adequate language stimulation at home which

Table 4: Frequency distribution /percentage showing responses and observations in context of the quality of home environment

Subscales of Home Environment	Number of statement	Intellectually superior		Intellectually average		Intellectually below average	
		+ve responses	-ve responses	+ve responses	-ve responses	+ve responses	-ve responses
		(%)	(%)	(%)	(%)	(%)	(%)
Language stimulation	7	200 (63.40)	115 (36.50)	450 (61.20)	285 (38.70)	200 (57.10)	150 (42.80)
Physical environment	4	105 (38.30)	75 (41.60)	275 (65.40)	145 (34.50)	90 (45.00)	110 (55.00)
Encouragement of Social maturity	2	50 (55.50)	40 (44.50)	90 (42.80)	120 (57.10)	70 (35.00)	130 (65.00)
Variety of stimulation	6	90 (33.30)	180 (66.70)	180 (28.50)	450 (71.40)	50 (16.70)	250 (83.40)
Maternal attitude and disciplining	5	100 (44.30)	125 (55.50)	250 (47.60)	275 (52.30)	90 (36.00)	160 (64.00)

led to poor understanding ability on the child's part, this in turn leads to poor verbal intellectual performance.

Results revealed that majority of respondents (66.7%) of intellectually superior grade were observed to be negative on providing adequate variety of stimulation, followed by intellectually average (71.4%), whereas for intellectually below average it was 83.4 percent. It could be concluded that variety of stimulation was found to be almost missing in the home environment of intellectually below average respondents.

RECOMMENDATIONS

1. There is a need to provide a variety of co-curricular activities for all round development of children.
2. Teacher must concentrate on methods which promote effortless learning by making the school environment stimulating and enriching.
3. There is need to improve the home environment of the children. Parents need to provide variety of stimulation, adequate physical environment, linguistic stimulation and encourage social maturity.

4. Parental involvement should be encouraged in school.
5. All the facilities mentioned under 'Operation blackboard' in the National Policy of Education 1986 must be provided to all schools so that children from low socio-economic strata, whose home environment is impoverished can gain.

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