

COMPARISON OF SCHOLASTIC PERFORMANCES OF LEFT HANDED AND RIGHT HANDED STUDENTS

R.B. Sharma

M. Goyal

J. Singh

ABSTRACT

An attempt was made to compare the scholastic performance among left and right handed students. Both academic and extra curricular areas were studied among 3608 students from 6th to 12th class, from 10 schools in a rural subdivision of north east Rajasthan. General incidence of left handedness was 8.6% among students, higher in females (12.4%) as compared to males (8.1%). Right handed students performed better in aggregate as well as in individual academic areas ($p < 0.05$). Left handed students were extreme performers as far as sports and games area was concerned, while right handed students tended to be average performers. Overall handedness affected both the academic and extra-curricular activities except behavior and discipline area ($p > 0.05$).

Key words: Handedness, Scholastic performances.

From the Community Health Centre, Patan, District Sikar, Rajasthan.

Reprint requests: Dr. Ram Babu Sharma, Assistant Professor, Pediatric Medicine, 209, Resident Doctors Hostel, Umaid Hospital Campus, Jodhpur (Rajasthan) 342 003.

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The effect of handedness of development has been a subject of conjecture, leading sometimes to parental anxiety about scholastic performance in left handed children. Studies on handedness can help in career and placement planning and in allaying anxieties among parents. There is a biblical reference from 1400 BC to a battalion of left handed soldiers in the army of children of Benjamin, in a book of Judges(1). Unfortunately, in India no study had been done to study the effect of handedness on scholastic performances among students. The present study was conducted to know the relationship between handedness of students and their academic and extra-curricular performances.

The aims of the study were to find out the incidence of left handedness among students and to find out and compare the overall scholastic performances and the differences in each academic and extra curricular activity among the left and right handed students.

Material and Methods

The study was conducted on 3608 students from 10 schools including one girl's school of subdivision Neem Ka Thana in Northeast Rajasthan.

The left handed students were taken from 6th to 12th class from each school and a corresponding identical random sample of equal number of right handed students from same class and section were selected. Academic performance were studied in four subjects, namely, Hindi, Mathematics, General Science and Social Studies, by recording marks obtained in examination at the end of the academic year.

Evaluation of extra curricular activities was done by a team consisting of a pediatrician, a paramedical staff member, an intern, a lady teacher and one teacher trained in each subject including craft, cultural and music

subjects, the games and sports instructor and a medico-social worker.

Craft was assessed on the basis of the given craft work in a specified period; games and sports on the basis of combined marking including indoor games, outdoor games, sports and athletics, and cultural literary activities were studied on the basis of singing, dancing, instrument playing, role playing, debate and essay writing exercises. For evaluating behavior and discipline in a particular school the headmaster and class teachers of corresponding sections were included with the above mentioned team. For behavior, a separately designed proforma including behavioral activities of students towards other students, teachers and employees of the school, was used. Discipline was scored on the basis of regularity in

attending school, class room discipline, uniform wearing and punishments received.

Results

A total number of 3608 students from 6th to 12th class belonging to 10 schools were studied, out of them 3236 were males and 372 were females. Left handedness was seen in 263 (8.1%) males and 46 (12.4%) females and the overall incidence was 309 (8.6%). The observations are summarized in *Tables I-II*.

Eight per cent boys and twelve per cent of girls were left handed. Right handed students performed better in the areas of language of mathematics and highly significantly in science and social studies, as well as in aggregate performances (*Table I*). Similarly, significant differences were

TABLE I—Academic Performances

Subject	No. of students	Mean*	SD	t-value	p-value**
Hindi					
Right handed	309	102.39	25.08	2.572	< 0.02
Left handed	309	98.79	23.47		
Maths					
Right handed	309	91.59	33.60	2.215	< 0.05
Left handed	309	88.00	31.25		
General Science					
Right handed	309	97.94	29.89	6.083	< 0.001
Left handed	309	88.67	27.67		
Social Studies					
Right handed	309	95.60	29.16	3.821	< 0.001
Left handed	309	89.82	27.54		
Aggregate (4 subjects)					
Right handed	309	387.51	104.74	7.789	< 0.001
Left handed	309	365.28	97.20		

* Maximum marks for each subject = 200.

** p value < 0.05 is significant.

TABLE II - Performance of Extra Curricular Activities

Activity	n=309	Performance distribution				χ^2	p value
		P	A	AA	EX		
1. Craft	Rt handed	32	109	125	43	11.7323	<0.01
	Lt handed	60	100	101	48		
2. Cultural & Literacy	Rt handed	140	125	38	6	8.002	<0.05
	Lt handed	155	98	41	15		
3. Games & Sports	Rt handed	58	165	73	13	12.081	<0.01
	Lt handed	90	134	65	20		
4. Behavior	Rt handed	18	116	130	45	3.303	<0.05
	Lt handed	12	110	129	58		
5. Discipline	Rt handed	17	106	147	39	3.405	<0.05
	Lt handed	19	105	131	54		

Abbreviations:

P	=	Poor	scoring 25 or <25
A	=	Average	scoring 26 to 50
AA	=	Above average	scoring 51 to 75
EX	=	Excellent	scoring >75

observed in craft, cultural-literary and games-sports areas. Behavior and discipline, however, showed no significant differences (Table II).

Discussion

In our study incidence of left handedness was 8.5% in general (8% boys, 12% girls) which is comparable to the incidence 9.2-17.5% reported by other study groups(2-5).

Our finding, that right handed students performed better academically, is in accordance with the results of Wisely who found that 12% of left handed students had to repeat the class as against 6% of right

handed in the same class(6). A poor cognitive performance and clumsiness in left handed students had been reported which is also seen indirectly in present study(7,8). We also observed the highest difference in General Science and the lowest in mathematics suggesting that mathematical ability is less affected.

Craft performance was poorer in left handed students which can be partially explained by increased frequency of clumsiness(8). However, we could not evaluate how much of this difference was due to being taught by right handed teachers using instruments designed for the

right handed. Left handed students predominated both in the groups of poor sports performers and excellent sports performers, while right handed students tended to be average performers. A similar situation prevailed in the cultural-literary area.

Overall, we found that while handedness affected academic performances significantly, its effect on extra-curricular activities, behavior and discipline was not marked ($p > 0.05$).

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NOTES AND NEWS

XIII ANNUAL CONVENTION OF NATIONAL NEONATOLOGY FORUM

The XIII Annual Convention of National Neonatology Forum is to be held at Baroda from *December 17 to 19, 1993*. This Convention is organized jointly by the Department of Pediatrics, Medical College, Baroda and the Indian Academy of Pediatrics, Baroda Branch.

For further details, please contact:

Dr. Satish Pandya,
Organizing Secretary,
Varun Children Hospital,
4, Suhas Society, Harni Road,
Baroda 390 006.
Tel. 558571