

A COMPARATIVE STUDY OF LEFT- HANDED AND RIGHT- HANDED ADOLESCENT STUDENTS IN RELATION TO THEIR INTELLECTUAL ABILITY

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INTRODUCTION

Handedness is still a big question in worldwide for normal society. There are some questions in the mind of common people that, why a person is left hander or a right hander? What are the factors responsible for it? What is Handedness? And who is more intellectual between Left hander and Right hander? So it is research worthy to compare between the intellectual ability of Left hander and right hander.

Handedness is defined and categorized in different ways. Most people define handedness as the hand that one uses for writing. Some researchers define handedness as the hand that is faster and more precise for manual tasks. Others define it as the preferred hand, regardless of its abilities. Whereas some people always use their right hand or their left hand for most activities, others use one hand or the other depending on the activity. Still other people can use either hand for most functions. Left- handed children usually are more flexible in their hand usage than right-handers; this may be because they are forced to function in a world designed for right-handers. There is no standard measure for determining degrees of handedness. Some scientists believe that there are only two types of handedness: right and non-right. These researchers believe that true left-handedness is rare and that most lefthanders are really mixed-handed. Others believe that ambidexterity. The finding of most of the researcher shows that the 90% population does most of their daily work with the help of right hand and rest 10% population does most of their daily work with the help of left hand. Due to this, Right handed population is in majority and left handed population is in the minority. Manufacturers always manufacture goods as per the mode of the population and most of the things are manufactured only for the Right handers and left handers are bound to use them. For e.g. if the door handles are on the wrong side, buttons of the shirts are opposite side than usual, speed control of scooter and motorcycle are opposite side, the can opener and

pencil sharpener have handle on the wrong side etc. Definitely it will be problematic for 90% of the population. But on the other hands the 10% population is experiencing it in their daily practice due to their handedness. As they are Left Handed, (Coates, 1996, Hackney, 1997, Milson1995 Left –Handedness from the beginning is not considered as a normal phenomenon. It is believed that right handedness is the normality and left- handedness is a deficiency which results from a traumatic birth. In India the use of left hand for good purpose is perceived as abnormal and devilish act. A small child born as a left-handed will face many obstacles in his life as he grows up. It can be difficult for left-handed children to learn to write if the teacher does not take the student’s left handedness into account. School is the first institution where handedness becomes a matter of great concern.

So this study is being done to find out the significant differences between the intellectual ability of the Left Handed Adolescent and Right Handed Adolescent.

Definition of the Terms

Left-Handed Adolescent:

Left- Handed adolescent student here in this investigation refer to the students of class XI who use their left hand more skillfully or easily than the right hand Or those who use their left hand for writing work.

Right- Handed Adolescent:

Right handed adolescent student here in this investigation refer to the students of class XI who use the right hand more skillfully or easily than the left hand Or those who use their right hand for writing work

Intellectual Ability:

Intellectual Ability is outcome of with that ability which involves the quantum of intelligence in the possession of intelligence in the possession of the individual.

The term “Intellectual Ability” here in this investigation refers to the intellectual ability of the Adolescent students of intermediate colleges of Nainital and Udham Singh Nagar district affiliated to uttarakhand Board as measured by the Standard Progressive Matrices, a test developed and validated by Raven’s and others (1972).

Objectives:

1-To determine the nature and extent of the relationship between handedness and Intellectual ability of the left handed adolescent students and Right handed adolescent students.

2-To determine the nature and extent of the relationship between handedness and Intellectual ability of the left handed male adolescent students and Right handed male adolescent students.

3-To determine the nature and extent of the relationship between handedness and Intellectual ability of the left handed female adolescent students and Right handed female adolescent students.

Hypothesis:

1-There is no significant difference between Left Handed Adolescent and Right Handed Adolescent Students.

Research Design

The research design was essentially descriptive in nature. Survey method was used to obtain persistent and precise information concerning the current status of the phenomenon and draw valid conclusion from the fact discovered.

Population:

Students of class XI of Intermediate colleges of Uttarakhand situated in Kumoun region, these colleges shall be the government institution or institution in grant in aid by the government will be treated as population of the study.

Sampling: Purposive sampling method was used with regard to the inclusion of left handed students. And proportionate stratified Random sampling technique was used for the inclusion of right handed students in the sampling

Sample: 90 right-handed students and 90 left- handed students of intermediate colleges of Uttarakhand Board from Nainital and Udham Singh Nagar district will be included in the sample for the study.

Tools Used:

Standard Progressive Matrices (SPM), a test developed and validated by Raven and others (1972) is used to identify the intellectual ability of Left Handed and right Handed Adolescent Students to differentiate among them.

Analysis of the data

The obtained information was tabulated and organized in the form of frequencies and the tabulated data was further analyzed

Table 1.1: Frequency distributions of the ‘Intellectual Ability Scale’ Scores of the total Sample Adolescent Students (N=180)

S.N	Class Interval	Frequency
1	56-60	04
2	51-55	15
3	46-50	28
4	41-45	37
5	36-40	26
6	31-35	23
7	26-30	19
8	21-25	18
9	16-20	07
10	11-15	03
	TOTAL	180

Table 1.2: Values of Mean, Median, Mode, Standard Deviation, Standard Error of Mean, Median, Standard Deviation and relevant Statistics with respect to the Intellectual Ability Scale Scores for the total sample adolescent students. (N=180)

S.N.	Statistics	Symbol	Intellectual Ability Scale Scores
1	Mean	M.	37.883
2	Median	Md	40.000
3	Mode	Mo	43.000
4	Standard Deviation	SD	10.637
5	S. Error of Mean	SEm	0.793
6	S. Error of Median	SEMd	0.994
7	S. Error of Standard Deviation	SESD	0.563
8	Tenth Percentile	P10	23.000
9	Twenty-fifth percentile	P25	29.000
10	Seventy-fifth percentile	P75	46.000
11	Ninetieth percentile	P90	51.900

Table 1.3 Chi Square Value

RSPM Scores	Observed N	Expected N	fo-fe Residual	(fo-fe) ²	(fo-fe) ² /fe Chi square value
14.000	1.000	4.091	-3.091	9.554	2.335
15.000	2.000	4.091	-2.091	4.372	1.068
16.000	2.000	4.091	-2.091	4.372	1.068
17.000	1.000	4.091	-3.091	9.554	2.335
18.000	1.000	4.091	-3.091	9.554	2.335
19.000	2.000	4.091	-2.091	4.372	1.068
20.000	1.000	4.091	-3.091	9.554	2.335
21.000	2.000	4.091	-2.091	4.372	1.068
22.000	4.000	4.091	-0.091	0.8281	0.202
23.000	4.000	4.091	-0.091	0.8281	0.202
24.000	4.000	4.091	-0.091	0.8281	0.202
25.000	4.000	4.091	-0.091	0.8281	0.202
26.000	3.000	4.091	-1.091	1.190	0.290
27.000	5.000	4.091	0.909	0.8262	0.201

28.000	7.000	4.091	2.909	8.462	2.068
29.000	3.000	4.091	-1.091	1.190	0.290
30.000	2.000	4.091	-2.091	4.372	1.068
31.000	4.000	4.091	-0.091	0.8281	0.201
32.000	7.000	4.091	2.909	8.462	2.068
33.000	6.000	4.091	1.909	3.644	0.890
34.000	1.000	4.091	-3.091	9.554	2.335
35.000	6.000	4.091	1.909	3.644	0.890
36.000	4.000	4.091	-0.091	0.0082	0.002
37.000	5.000	4.091	0.909	0.8262	0.201
38.000	4.000	4.091	-0.091	0.0082	0.002
39.000	2.000	4.091	-2.091	4.372	1.068
40.000	9.000	4.091	4.909	24.09	5.888
41.000	7.000	4.091	2.909	8.462	2.068
42.000	8.000	4.091	3.909	15.280	3.735
43.000	12.000	4.091	7.909	62.552	15.290
44.000	5.000	4.091	0.909	0.826	0.201
45.000	5.000	4.091	0.909	0.826	0.201
46.000	6.000	4.091	1.909	3.6442	0.890
47.000	3.000	4.091	-1.091	1.190	0.290
48.000	3.000	4.091	-1.091	1.190	0.290
49.000	4.000	4.091	-0.091	0.0082	0.002
50.000	11.000	4.091	6.909	47.734	11.668
51.000	2.000	4.091	-2.091	4.372	1.068
52.000	4.000	4.091	-0.091	0.0082	0.002
53.000	4.000	4.091	-0.091	0.0082	0.002
54.000	2.000	4.091	-2.091	4.372	1.068
55.000	4.000	4.091	-0.091	0.0082	0.002
56.000	2.000	4.091	-2.091	4.372	1.068
57.000	2.000	4.091	-2.091	4.372	1.068
		$\Sigma fe =$			
Total	180.000	180.004			$\Sigma x^2 = 70.613$

Conclusions and their Significance:

On the basis of the overall picture which emerged from the data presented in Table 1.1, 1.2 and 1.3 it may be inferred that the above findings of Chi square value is higher than the table value at 0.05 level of Significance, So the Null hypothesis is rejected, means there is a significant difference in the intellectual ability of the Left handed adolescent students and Right handed adolescent students.

Implication in Education:

These findings are important for all those individuals who are involved in the process of 'Educating' the Adolescents. These findings may be utilized to make a quick decision with regard to the Intellectual Ability of an individual student. This may help teachers, parents and educational planners as well as educational administrators to formulate devise and adopt appropriate strategies to develop suitable techniques to fulfill the educational needs of the adolescent students differing in their handedness.

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