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Association Between Gender and Brain Dominance of Different Type of Learners Studying in High Schools

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ABSTRACT

The present study aims to find out the association between gender and brain dominance of students studying in high schools. The brain dominance tool constructed and validated by Mahendiran, P. (2018) has been used to collect data from the students. Data were collected from 1384 high school students studying in various schools of Cuddalore district of TamilNadu. Out of 1384 students 248 students were identified as slow learners by adapted IQ test constructed and validated by Gnanadevan, R. (2018). The results of the analysis of data indicate that the majorities of male and hemispheric preference of female slow learners is found to be right brain dominance. The majorities of male and hemispheric preference of female average learners and high average learners are found to be left brain dominance. It further indicates that there is significant association found between gender and brain dominance of average learners. But there is no significant association found between gender and brain dominance of slow learners and high average learners.

Keywords: Brain Dominance, Slow Learners, Gender, Normal School Students.

INTRODUCTION

The younger learners differ from one another bodily, intellectually, scholastically, emotionally and culturally. In schools we discover high average, average and slow learner students. Those children who are low in attaining academic talents and often neglected by using others as dull, lazy or inept as a part of the school environment are stated to be slow learners. They no longer only lag in the back of different school students in academics but in regions of social, emotional and mental well-being.

Slow learners are those students who are very poor in meeting minimum educational necessities in comparison with normal students. Children with intelligence degree inside the low average or borderline IQ variety can be grouped together as slow learners. These children do not get sufficient interest inside the mainstream education. They typically fail repeatedly in examinations and eventually emerge as school drop outs. Schools for children of this class are not practical and now not really useful. It is right to evolve techniques to provide education to those children in normal school itself.

SIGNIFICANCE OF THE STUDY

Knowing the students' cognitive processes is an important aspect in the field of teaching-learning. A teacher or and educational researcher can predict the student's interest and to some extent the achievement level if they have an idea of the brain's preferences. It's no secret that boys and girls are distinct-very special. The variations between genders,

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however, enlarge past what the eye can see. The researchers and scientists generally study the areas of distinction in male and female brains, processing, science, shape and hobby. The study conducted by Parvinder Singh, (2015) indicate that the majority of the boys are left brain dominant whereas majority of the girls are whole brain dominant, while on being right brain dominance approximately both the sexes are in equal proportion. Vinitha and Indu, (2015) showed that the majority of the higher secondary school students are left brain dominant. Regis X. and Annaraja,P. (2013) the results of the study showed that majority of the higher secondary students have middle brain dominant users. There is no significant difference between boys and girls in their brain dominance. The study reveals that the higher secondary students are not irregular in their brain dominance. Based on the above discussion the investigator intended to conduct the study on association between gender and brain dominance of students studying in normal schools.

OBJECTIVES

- To find out the brain dominance of students with respect to gender.
- To find out whether there is any significant association between gender and brain dominance.

METHODOLOGY

Survey method has been adopted for the present study. A personal data sheet and a brain dominance tool constructed and validated by Mahendiran, P. (2018) has been used for data collection. Data were collected from 1384 high school students studying in various schools of Cuddalore district of TamilNadu. Out of 1384 students 248, 934 and 202 students were identified as slow learners, average learners and high average learners respectively based on the IQ test constructed and validated by Gnanadevan, R. (2018).

RESULT AND DISCUSSION

The number and percentage has been calculated to find out the brain dominance of students studying in different schools. The result of the analysis is presented in table 1 and figure 1.

TABLE 1
NUMBER AND PERCENTAGE OF BRAIN DOMINANCE SCORES

Category of Samples		Measures	Brain Dominance		
			Left Brain	Right Brain	Whole Brain
Slow Learners (N=248)	Male (N=120)	N	20	90	10
		%	8.1	36.3	4.0
	Female (N=128)	N	10	100	18
		%	4.0	40.3	7.3
Average Learners (N=934)	Male (N=458)	N	342	92	24
		%	36.6	9.9	2.6
	Female (N=476)	N	324	130	22
		%	34.7	13.9	2.4
High Average Learners (N=202)	Male (N=84)	N	60	18	6
		%	29.7	8.9	3.0
	Female (N=118)	N	76	32	10
		%	37.6	15.8	5.0

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The table 1 shows the number and percentage value of hemispheric preference scores of male and female slow learners. Out of 48.4 percent of male students, 8.1 percent of them prefer left brain dominance, majorities (36.3 percent) of them prefer right brain dominance and 4.0 percent of them prefer whole brain dominance. While considering female students out of 51.6 percent, 4.0 percent of them prefer left brain dominance, majorities (40.3 percent) of them prefer right brain dominance and 7.3 percent of them prefer whole brain dominance. While comparing the results between male and female slow learners, majorities of male and also female slow learners prefer right brain dominance.

The table 1 shows the number and percentage value of hemispheric preference scores of male and female average learners. Out of 49.1 percent of male students, majorities (36.6 percent) of them prefer left brain dominance, 9.9 percent of them prefer right brain dominance and 2.6 percent of them prefer whole brain dominance. While considering female students out of 51 percent, majorities (34.7 percent) of them prefer left brain dominance, 13.9 percent of them prefer right brain dominance and 2.4 percent of them prefer whole brain dominance. While comparing the results between male and female average learners, majorities of male and also female average learners prefer left brain dominance.

The table 1 shows the number and percentage value of hemispheric preference scores of male and female high average learners. Out of 41.6 percent of male students, majorities (29.7 percent) of them prefer left brain dominance, 8.9 percent of them prefer right brain dominance and 3.0 percent of them prefer whole brain dominance. While considering female students out of 58.4 percent, majorities (37.6 percent) of them prefer left brain dominance, 15.8 percent of them prefer right brain dominance and 5.0 percent of them prefer whole brain dominance. While comparing the results between male and female high average learners, majorities of male and also female high average learners prefer left brain dominance.

The chi-square test has been applied to test whether there is any significant association between gender and brain dominance. The result of the analysis is given in the table 2 and figure 1

TABLE 2

χ^2 VALUE OF ASSOCIATION BETWEEN GENDER AND BRAIN DOMINANCE

Gender		Brain Dominance			Total	df	χ^2 Value	Level of Significance at 0.05 level
		Left Brain	Right Brain	Whole Brain				
Slow Learners	Male	20 (8.1)	90 (36.3)	10 (4.0)	120 (48.4)	2	5.89	Not Significant
	Female	10 (4.0)	100 (40.3)	18 (7.3)	128 (51.6)			
	Total	30 (12.1)	190 (76.6)	28 (11.3)	248 (100)			
Average learners	Male	342 (36.6)	92 (9.9)	24 (2.6)	458 (49.0)	2	6.73	Significant

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	Female	324 (34.7)	130 (13.9)	22 (2.4)	476 (51.0)			
	Total	666 (71.3)	222 (23.8)	46 (4.9)	934 (100)			
High Average Learners	Male	60 (29.7)	18 (8.9)	6 (3.0)	84 (41.6)	2	1.11	Not Significant
	Female	76 (37.6)	32 (15.8)	10 (5.0)	118 (58.4)			
	Total	136 (67.3)	50 (24.8)	16 (7.9)	202 (100)			

The table 2 and figure 1 shows the χ^2 value of association between gender and brain dominance of slow learners. The χ^2 value is found to be 5.89, it is less than the table value of 5.99. Hence it is not significant at 0.05 level. It is concluded that there is no significant association found between gender and brain dominance of slow learners.

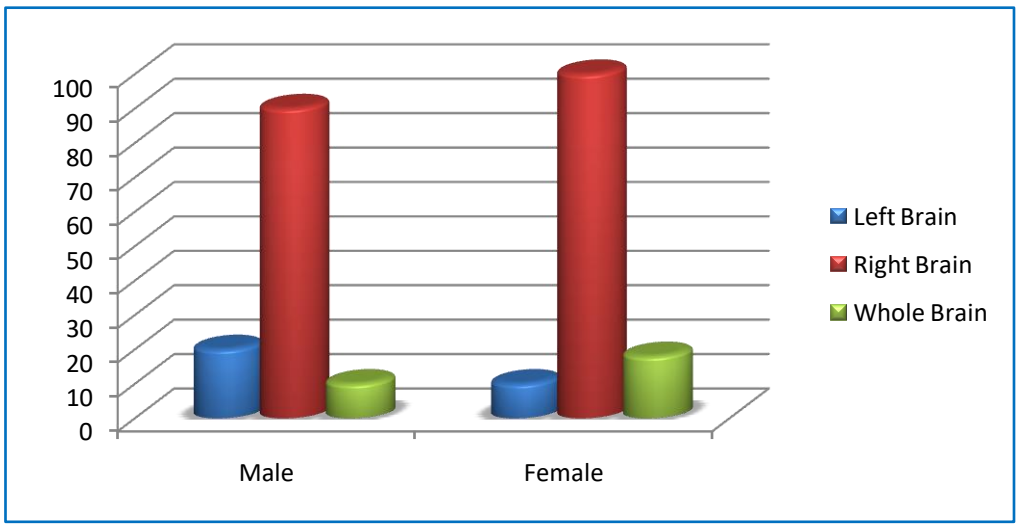

FIGURE 1
SHOWING THE BRAIN DOMINANCE OF SLOW LEARNERS WITH RESPECT TO GENDER

The table 2 and figure 2 shows the χ^2 value of association between gender and brain dominance of average learners. The χ^2 value is found to be 6.73, it is higher than the table value of 5.99. Hence, it is significant at 0.05 level. It is concluded that there is a significant association found between gender and brain dominance of average learners.

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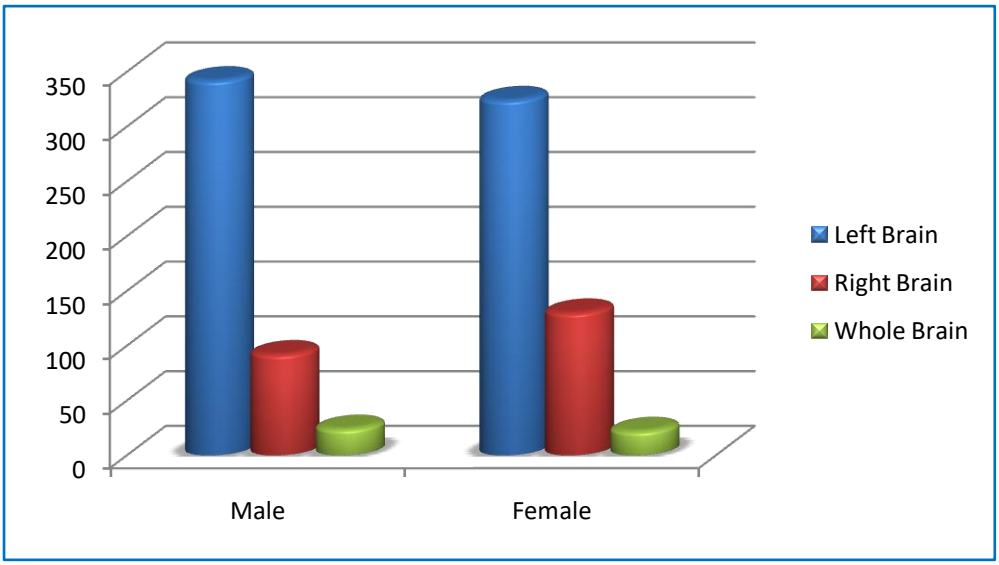

FIGURE 2
SHOWING THE BRAIN DOMINANCE OF AVERAGE LEARNERS WITH RESPECT TO GENDER

The table 2 and figure 3 shows the χ^2 value of association between gender and brain dominance of high average learners. The χ^2 value is found to be1.11, it is lesser than the table value of 5.99. Hence, it is not significant at 0.05 level. It is concluded that there is no significant association found between gender and brain dominance of high average learners.

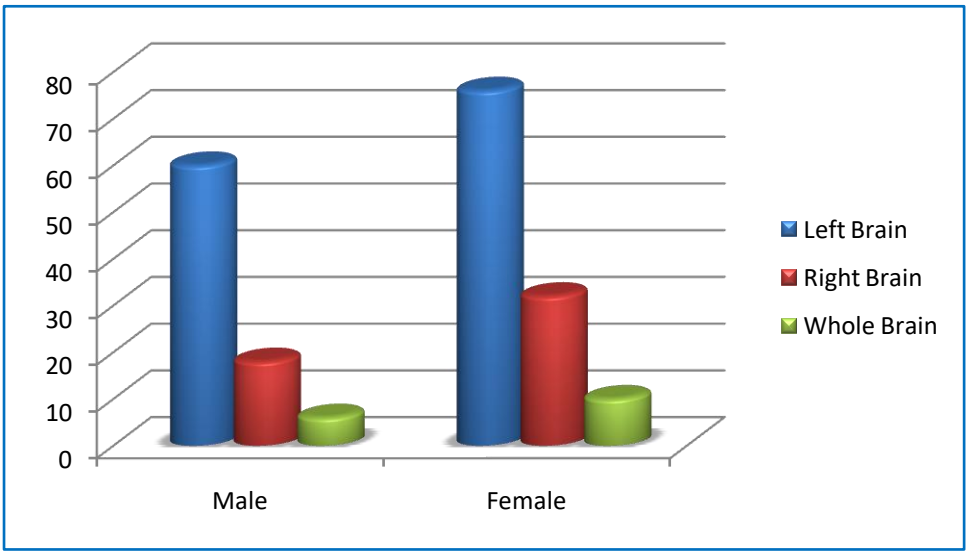

FIGURE 3 SHOWING THE BRAIN DOMINANCE OF HIGH AVERAGE LEARNERS WITH RESPECT TO GENDER

FINDINGS

The following are the important findings of the study:

1. The hemispheric preference of majorities of male and female slow learners is found to be right brain dominance.
2. The hemispheric preference of majorities of male and female average learners and high average learners is found to be left brain dominance.

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3. There is no significant association found between gender and brain dominance of slow learners and high average learners.
4. There is a significant association found between gender and brain dominance of average learners.

CONCLUSION

The right brain strategy would seek out insight, images, concepts, with learning preferences to studying psychology, art, or music (Hermann, 1995). The left side of the brain dominance hemisphere where language and speech are produced. The right and left brain function reveals that the two halves of the brain process information differently and that both hemispheres are equaled important. When a person develops dominance towards one side of the brain, they tend to have certain characteristics and areas of interest in common. The important findings of the present study indicate that the majorities of the slow learners prefer right brain dominance. The majorities of male and also female average learners, high average learners and total sample learners prefer left brain dominance. It further indicates that there is significant association found between gender and brain dominance of average learners. But there is no significant association found between gender and brain dominance of slow learners and high average learners. Hence, steps should be taken to make the slow learners whole brained which helps in the overall development of the slow learner students.

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