



## **A Study of Left Handed and Right handed Behaviour Among Air Force personnel**

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### **ABSTRACT**

The main objective of the present research investigation was to find out left handed and right handed among defence Personnel especially among air force senior ranking personnel. Left and right handedness depends upon functional asymmetry, which is further related to human cognition or brain functioning (cerebral lateralization) on the present research paper the researchers try to find out some environmental factors, which are responsible for left and right handedness. For assessing handedness A - 16 items questionnaire based on short version of waterloo handedness questionnaire (Steenuis and Bryden 1989) was used. The Sample of the paper was 268 air force personnel with the age range of 22 years to 55 years. The sample was collected from Ghaziabad Hindon Air Port base air Station. The findings were analysed with the help of descriptive techniques such as percentage, frequencies as well as chi-square out of 260 Personnel only 6.3% were classified left handed, 3.47% were using both hand, remaining 90.22% were exhibited strong right handed preference, Thus, work on large sample with other biographical variables can throw some new light on the pattern of handed preference especially among air force Personnel. In this respect the paper has applied application.

Keywords; cerebral lateralization , descriptive techniques

### **Introduction**

Handedness is an individual's preferential use of one hand, known as the dominant hand, due to it being Stronger, faster or better in dexterity. The other hand, comparatively often the weaker, less dextrose or simply less subjectively preferred, which is called non dominant hand. 90% of human population a right handed. Most of the current research() suggested that left handedness has epigenetic marker - a combination of genetic, biological and environmental in nature. Left handed people are more prone to certain health Problems but they have advantage in sports (baseball, tennis, fencing, cricket and boxing). There are very few people who are using both the hands for their working ambidexterity Holder 2012; Santrock, 2008; Annett 2002. HepperCynch 2005).

Although, our body as well as our brain appears to be symmetrical on both sides of the vertical body midline, but both in terms of structure and function, both sides (left and



right) differ substantially. The asymmetrical structure and function of the left and right cerebral hemisphere is often known as cerebral lateralization one of the important variable which is found to be related to lateralization or language lateralization, is human manual asymmetry or handedness. The concept of handedness or hand preference has been with us probably since our origin. It is basically a presence of neuro Psychology, or subcellular & anatomical aspects . It can be approached by means of electro physiological and recently pharmacological techniques. It is rich in its behavioural superstrate, both single x complex and has ramifications also in the study of Perception and language in man. One of the most striking features of the human brain are the large, seemingly symmetric cerebral hemisphere that sit as pride the central core .

Bryden 1982; Bradshaw and Nettleton 1983 ) explain function of right and Left hemisphere as language, Sequential analytic function ( left hemisphere ) while night for visuospatial or integrative functions) the causes of these asymmetries are related to Cultures, Customs, Practices Handedness was conceptualized as multi-dimensional .....( Heallyeta 1986; Levander A Schalling, 1988).

We reviewed the literature on right and left handed subject. We found a very little studies (on this problem, particularly in defence personnel) have been conducted in Indian socio-cultural milieu. Dearth of studies in this field impressed us to select this topic for investigation. Our main objective was to find out handedness among junior and senior ranking air force officers in relation to their hierarchical differences.

### **Objective**

1. To study right and left handedness among junior and senior ranking personnel.
2. To study right and left handedness behaviour among air force officers.

### **Hypotheses**

1. There were significant differences between junior and senior ranking personnel with regard to their handedness.
2. There were significant difference in right and left handed behaviour among air force personnel.

### **Variables**

#### **Independent Depends Variable**

1. Left handedness Right handedness
2. Hierarchical difference



### Dependent variables

#### 1. Hand preferences

**Sample** The Sample of any research is the small population of Universe from which the sample has been drawn. It is the small portion which is homogeneous to population. Thus the population of the study was air force personnel with the age range of 18 to 55 years. There were 239 male air force officers ranging from junior to senior level in job hierarchy. The subject for the investigation were selected from Hindon Ghaziabad(U.P.).

**Tools used** A-16 items questionnaire based on shorter version of waterloo handedness was used .

Bryden ( 1989) was used for this study. The respondent were asked to work the responses in five categories.

**Statistical Analysis** The results of the present study were analysed with the help of descriptive techniques. Such as Percentage, frequencies and chi square also. The main finding obtained by these findings are given below

**Table I** Percentage and Frequencies of Right/left hand And Ambidextrous among Personnel

Fo	Fe	(Fo-Fe)	(Fo-Fe) <sup>2</sup>	(Fo-Fe) <sup>2</sup> /Fe
69	67.38	1.62	2.62	0.038
3	4.83	1.83	3.34	0.69
0	0.53	0.53	0.28	0.52
51	49.9	1.1	1.21	0.02
3	3.62	0.62	0.38	0.104
0	0.40	0.4	0.16	0.4
33	31.4	1.6	2.56	0.081
1	2.28	1.28	1.63	0.71
0	0.25	0.25	0.062	0.24
94	99.01	5.01	25.10	0.25
11	7.18	3.82	14.59	2.03
2	0.79	1.21	1.46	1.84
1	0.92	0.08	0.0064	0.0069
0	0.06	0.06	0.0036	0.06
0	0.007	0.007	0.0014	0.2
Total $\chi^2 = 7.189$				

Table shows the percentage of left, equal and right according to their rank (Higher to Lower) 10.28% left handers has been found in rank no.



**Table II** 4 and 2% subjects were use their both hands

**Chi-Square( $\chi^2$ )**

Rank	Right Hand		Left Hand		Anbidoa		Total
1	69	67.38	3	4.83	0	0.53	72
2	51	49.9	3	3.62	0	0.40	54
3	33	31.4	1	2.28	0	0.25	34
4	94	99.01	1	7.18	2	0.79	107
5	1	0.92	0	0.06	0	0.007	1
Total	248		18		2		268

$$dF=(C-1)(V-1)$$

$$=(3-1)(5-1)$$

$$=2+4$$

$$=8$$

0.05=15.50

Level of Confidence

0.01=20.09

Chi-Square( $\chi^2$ )=7.189

**Discussion / Interpretation** Both the frequency table and  $\chi^2$  table revealed that among 268 air force personnel(working in different hierarchical structure) showing that only 6.7% responds were classified as left handed Personnel , 3.47% Persons showed preferences of using both hand equally, while remaining 90.22% of the respondents exhibited strong right handed preference. Most of the air force officers whether working on higher ranking or junior ranking Preferred to work by using right hand only, such type of findings may be very useful in training and development programm of air force officers working at station or in field.

Hierarchical wise if we analysed our table we found that at higher ranking only 3.1%officers were using their left hand, rest were Preferring right hand in their behavioural activities. At Fourth rank we found that only 1.86% Personnel were using both the hand in their activities(ambidextrous). Thus, in the present research investigation maximum Personnel at all ranks were using right hand in their activities. Our both the hypothesis were accepted which explain significant difference between using hard Preference.



Thus, we can interpret our findings regarding the hand used in real life practices. It can be retreated that air force personnel whether working at higher or lower level, used to prefer right hand in their daily life activities. Using hand preference not only depend upon brain area functioning but also various socio-psychological and environmental factors contribute to the use of hand in their behavioural activities. If we are using our right hand it is totally controlled by left hemisphere of the some socio-Psychological factors such as Socialization process, training, learning methods and personality traits also responsible for using right and left handed behaviour in day to day activities. Present research work has applied application in the field of training Programme with flying fighter plane or passenger plane or doing ground duty at air force station. The short investigation give some impetus/or say important information on handedness. It provide opportunities to integrate the experience of Indian Culture with an going research activities across the global population, For future we can extend our research on large ( sample population) along with new socio-psychological. It can throw more new light on the pattern of hand preference in their activities especially among air force Personnel. Researchers are Personally interested for further investigation in this field .

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