

Styles of Learning and Thinking of the Job Applicants Applied For Armed Forces

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ABSTRACT

The strategies of cerebral hemispheres – right and left, though different for processing information but are not mutually exclusive rather complement each other to give rise to distinct style of learning and thinking to make decisions for various important progressions of life. Every individual's decision to make a career is distinct in their styles of learning and thinking. A career in Armed Forces is a unique and unrequited in nature. The present study investigates the different styles of learning and thinking of the male – female and recommended – not recommended job applicants applied to become an officer in Indian Armed Forces. A total sample of 374 job applicants was collected comprising of 212 male, from which 24 were recommended and 188 were not recommended & 162 female, which had 9 recommendations and 153 not being recommended. Whole brain oriented male applicants were more often recommended, while right brain oriented female applicants were more often recommended for the Armed Forces. Significant gender differences were found in verbal left hemisphere $f(1)=3.87, p<.05$, class preference whole hemisphere $f(1)=6.33, p<.01$, learning preference left hemisphere $f(1)=6.90, p<.009$, learning preference whole hemisphere $f(1)=8.70, p<.003$, interest whole hemisphere $f(1)=8.00, p<.005$, logical/fractional whole hemisphere $f(1)=4.92, p<.02$, divergent/convergent left hemisphere $f(1)=3.99, p<.04$, divergent/convergent whole hemisphere $f(1)=6.24, p<.013$, creative whole hemisphere $f(1)=5.92, p<.015$, problem solving whole hemisphere $f(1)=6.10, p<.014$ and imagination whole hemisphere $f(1)=9.29, p<.002$. Significant result differences were found in class preference left hemisphere $f(1)=5.03, p<.02$, class preference whole hemisphere $f(1)=3.79, p<.05$, learning preference right hemisphere $f(1)=4.09, p<.04$, interest left hemisphere $f(1)=11.50, p<.001$, interest whole hemisphere $f(1)=4.68, p<.03$, logical/fractional left hemisphere $f(1)=4.05, p<.04$, logical/fractional whole hemisphere $f(1)=5.04, p<.02$ and creative left hemisphere $f(1)=4.40, p<.03$. Significant interaction effect of gender and result were found in class preference whole hemisphere $f(1)=5.37, p<.02$, learning preference left hemisphere $f(1)=7.19, p<.008$, learning preference whole hemisphere $f(1)=9.89, p<.002$, interest right hemisphere $f(1)=6.21, p<.008$, interest whole hemisphere $f(1)=6.39, p<.002$,

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divergent/convergent left hemisphere $f(1)=3.68, p<.05$ and problem solving whole hemisphere $f(1)=4.09, p<.04$.

Keywords: *Learning, Thinking, Job Applicants, Armed Forces*

Human resource is vital drive and functionality of every challenging organization starting from recruitment and selection process of job applicants in order to adapt, survive and grow in the dynamic process of generating ideas, work and services especially in Armed Forces where operating environment (war or some conflicting situation) is highly complex and ambiguous. Swanson and Holton (2009) assert that, “assessment of human resource development successes or results can be categorized into broad domains of learning and thinking.” Thus the styles of learning and thinking of job applicant play a crucial role in recruitment and selection in Armed Forces. Styles depend upon cerebral dominance of an individual in retaining & processing different modes of information in his own style of learning and thinking. Style indicates the hemispheric function of the brain and applicants learning strategy and information processing are based on the preferences of the brain area. Bielefeldt (2006) conducted a study on “*An Analysis of Right- and Left- Brain Thinkers and Certain Styles of Thinking*” and found that some students had one brain dominant and uses the other brain only as supplement, while some applicants use different styles according to different circumstances. There seems to be no right mix. People learned in different way and no two people learned in the same way.

Kim (2011) conducted a study on “*Thinking Styles and Career Choice*” and found that thinking-styles were a factor in student’s career decision-making. Also, they were different among students enrolled in different programs. Therefore, teachers, parents and counsellors should recognise these different thinking styles in students as a factor in their career choices. Gridley (2007) studied thinking styles of artists and engineers, and found that professionals in different areas showed different thinking styles. Hermann (1990), found a strong relationship between hemisphere dominance and the way subjects made a living: left brain oriented subjects were more often lawyers, writers, book-keepers, doctors, tax experts, etc., jobs dealing with logical and language related information. Those who favoured the right hemisphere turned out to be poets, politicians, musicians, architects, entrepreneurs, dancers and top executives. He also showed that the most successful people in any occupation are those who use both the left and right brains. As outlined, some functions are lateralized to one hemisphere or the other. The various hypotheses have been summarized concerning how cerebral hemisphere provides differential contributions to the control of skilled actions.

Characteristics of the Left Brain Dominance: Intellectual, remember names, verbal response to instructions and explanations, experiments systematically and with control, makes objective judgements, planned and structured, prefers established certain information, analytic reader, reliance on language in thinking and remembering, prefers talking and writing, prefers multiple choice tests, control feelings, not good at interpreting body language, rarely uses metaphors and favours logical problems solving.

Characteristics of the Right Brain Dominance: Intuitive, remember faces, responds to demonstrated, illustrated or symbolic instructions, experiment randomly and less restraint, make subjective judgements, fluid and spontaneous, prefers elusive, uncertain information, synthesizing reader, reliance on imaging in thinking and remembering, prefers drawing and creating objects, prefers open-ended questions, more free with feelings, good at interpreting body language, frequently uses metaphors, and favours intuitive problem solving.

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The relative involvement of each hemisphere in motor behaviour depends on task- and performer-related characteristics, which are outlined as follows:-

Task-related characteristics: Movement type-related processing, in particular, sequential representations and their resources are associated with the left hemisphere, independent of the performing hand (Haaland, Elsinger, Mayer, Durgerian, & Rao, 2004). In view of this, the left hemisphere may be especially involved in the planning of sequential acts that implicate notable response selection, preparation and/or retrieval (Schluter, Rushworth, Passingham, & Mills, 1998; Verstynen, Diedrichsen, Albert, Aparicio, & Ivry, 2005). The left hemisphere contributes in the planning of the limb dynamics whereas the right hemisphere is essential for specifying the final position of the reaching movement through sensory regulation. For augmented attention or executive control, both hemispheres are affected.

Performer-related characteristics: Goldberg *et al.* (1994) proposed that right hemisphere processing is driven by the external environment, whereas left hemisphere processing is guided by internal representations (Haaland, Prestopnik, Knight & Lee, 2004). It suggests that both types of action necessitate differential input or supporting processes, with a distinctive contribution from both hemispheres. These functional differences between the two sides would suggest a right-to-left shift of hemispheric importance as expertise develops. Indeed, skill development is often associated with a partial transition from externally to internally generated movement control (Swinnen, 2002, Debaere, Wenderoth, Sunaert, Van Hecke & Swinnen, 2004). This implies that both hemispheres are endowed with functional capabilities that can be exploited under specific conditions, and supports the idea that neural involvement for task production is malleable. Although there is evidence that motor deficits differ after left versus right hemisphere damage (Wyke, 1971; Haaland & Harrington, 1989; Winstein & Pohl, 1995).

Indian Armed Forces Selection

The career option of the Armed Forces is a matter of honour and pride, as these personnel are looked upon as saviours or defenders of nations and its people. It is one of the few noble professions left today. Services Selection Board (SSB) is an organization that assesses job applicants to be an officer for commissioning into the Indian Armed Forces, it is a compulsory gateway to the Indian Armed Forces. The board conducts intelligence tests, picture perception and discussion tests for screening on first day. Rest four days it conducts personality testing through battery of projective tests, group testing technique on ground and interview to determine suitability of the job applicants. All three techniques assess same set of personality traits. It is a rigorous multi-method-multi-trait-multi-day testing procedure to test personality of job applicants to be an officer in the Armed Forces. The job applicants are required to complete various tasks and perform on various tests. The applicants who got selected in SSB are called as recommended and those who were not able to make it are called as not recommended.

Aim

- The aim of the research was to study the styles of learning and thinking of job applicants applying for Indian armed forces and compare the different styles of learning and thinking of recommended and not recommended applicants.

Null Hypothesis

1. There will be no difference in styles of learning and thinking between recommended and not recommended of male job applicants.

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2. There will be no difference in styles of learning and thinking between recommended and not recommended of female job applicants.

Sample

The total sample of 374 job applicants, 212 comprising 24 recommended and 188 not recommended male job applicants and 162 female participants comprising of 09 recommended and 153 not recommended was collected at Services Selection Boards located in Selection Centre Central Bhopal. The applicants were from different socio-economic and demographic background of the country. The male applicants included in the sample were from two entries, that were, National Defence Academy (NDA) & Technical Entry Scheme (TES). The educational qualification of the TES applicants were 10+2 class pass out with 70 % and above in physics, chemistry and mathematics subjects in aggregate, and 10+2 class appearing or pass out for NDA entry. The age range was 16^{1/2} to 19^{1/2} years. The average age of the applicants was found to be 18 years. In females, the applicants were from two entries of Short Service Commission-Technical and Non-Technical. The educational qualification was graduation. The average age was found to be 23 years.

Tool Used

For the study, Style of Learning and Thinking (SOLAT) tool developed by Venkatraman (1994) was used to measure the functions of right and left hemisphere. The tool consisted of fifty items under following dimensions:- *Learning Styles (1 To 25 Items)* : Verbal (1 to 5 items), Content preference (6 to 10 items), Class preference (11 to 15 items), Learning preference (16 to 20 items), Interest (20 to 25 items). *Thinking Style (26 To 50 Items)*: Logical/fractional (26 to 30 items), Divergent/Convergent (31 to 35 items), Creativity (36 to 40 items), Problem Solving (41 to 45 items), Imagination (46 to 50 items). *Scoring*: In the tool, against serial numbers 1 to 50, award one score for checking of the first items to right hemisphere; second item to left hemisphere and checking of both the items to integrated hemisphere or whole brain. The hemisphericity dominance was determined by counting the highest score of numbers of items one has checked in three categories i.e. left, right or whole hemisphere. *Reliability*: The reliability coefficient of correlation for right hemisphere function was found to be 0.89. For the left hemisphere was found to be 0.65 and for integrated function was 0.71. *Validity*: The concurrent validity of the tool was established with the standardised SOLAT tool constructed by Torrence & Reynolds (1980). The correlation between the two test scores was 0.842 for the right hemisphere; 0.621 for left hemisphere and 0.678 for the integrated part.

Procedure

The job applicants were administered the SOLAT test after the initial screening for five day selection procedure at the Selection Centre Central Bhopal. They were made comfortable administratively to include proper boarding and catering. The data was collected from all of them in different batches as per their entry and selection board through a proper printed questionnaire and all were given ample time to read and respond.

RESULTS

The table 1 reveals that there are two independent variables namely gender and result. Total 374 job applicants, 212 male and 162 female participated in the study. Out of 212 male job applicants 24 were recommended and rest 188 were not; out of 162 female job applicants 9 were recommended and rest 153 were not recommended in the final selection at SSB.

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Table 1: Summary of Descriptive Statistics

Independent Variables	Gender	Result		N
		Recommended	Not Recommended	
	Male	24	188	212
	Female	9	153	162
Total				374

Table 2 shows dominant ‘style of *learning*’ of job applicants applying for Indian Armed Forces and reveals that out of total sample of 212 job applicants, 24 were recommended and 188 were not. The recommended job applicants showed whole hemisphere dominance (58.17%) and least was left hemisphere (31%), whereas not recommended job applicants showed right hemisphere dominance (44.43%) and least was whole hemisphere (34.19%). The total sample, job applicants reporting for Armed Forces entries to be an officer showed right hemisphere dominance (45.53%) and least left hemisphere (35.04%).

Table 2: Showing Dominant Style of Learning of Male Job Applicants Applying for Indian Armed Forces.

Hemisphere Dominance		Right Hemisphere	Left Hemisphere	Whole Hemisphere
	N	%	%	%
Recommended	24	36.50	31.00	58.17
Not Recommended	188	44.43	35.55	34.19
Total	212	43.53	35.04	36.91

Table 3 shows dominant ‘style of thinking’ of job applicants applying for Indian Armed Forces and reveals that the recommended job applicants showed whole hemisphere dominance (56.33%) and least was left hemisphere (24%), whereas not recommended job applicants showed right hemisphere dominance (53.79%) and least was left hemisphere (26.20%). The total sample, job applicants reporting for Armed Forces entries to be an officer showed right hemisphere dominance (52.77%) and least left hemisphere (26.13%).

Table 3: Showing Dominant Style of Thinking of Male Job Applicants Applying for Indian Armed Forces.

Hemisphere Dominance		Right Hemisphere	Left Hemisphere	Whole Hemisphere
	N	%	%	%
Recommended	24	44.83	24	56.33
Not Recommended	188	53.79	26.20	33.13
Total	212	52.77	26.13	35.75

Table 4 shows dominant ‘style of learning and thinking’ of job applicants applying for Indian Armed Forces and reveals that the recommended job applicants showed whole hemisphere dominance (57.25%) and least was left hemisphere (27.5%), whereas not recommended job applicants showed right hemisphere dominance (49.10%) and least was left hemisphere (30.97%). The total sample, job applicants reporting for Armed Forces entries to be an officer showed right hemisphere dominance (48.15%) and least left hemisphere (30.50%).

Table 4: Showing Dominant Style of Learning And Thinking of Male Job Applicants Applying for Indian Armed Forces.

Hemisphere Dominance		Right Hemisphere	Left Hemisphere	Whole Hemisphere
	N	%	%	%
Recommended	24	40.66	27.5	57.25
Not Recommended	188	49.10	30.97	33.65
Total	212	48.15	30.50	36.33

Table 5 shows dominant ‘style of *learning*’ of female job applicants applying for Indian Armed Forces and reveals that out of total sample of 162 job applicants, 9 were recommended and 153 were not. The recommended job applicants showed right hemisphere dominance (14.83%) and least was whole hemisphere (10.17%), whereas not recommended job applicants also showed also right hemisphere dominance (34.53%) and least was whole hemisphere (24.79%). The total sample, female job applicants reporting for Armed Forces entries to be an officer showed right hemisphere dominance (36.43%) and least whole hemisphere (26.09%).

Table 5: Showing Dominant Style of Learning of Female Job Applicants Applying for Indian Armed Forces.

Hemisphere Dominance		Right Hemisphere	Left Hemisphere	Whole Hemisphere
	N	%	%	%
Recommended	9	14.83	11.33	10.17
Not Recommended	153	34.53	26.43	24.79
Total	162	36.43	27.87	26.09

Table 6 shows dominant ‘style of *thinking*’ of female job applicants applying for Indian Armed Forces and reveals that the recommended job applicants showed right hemisphere dominance (18.83%) and least was equally left & whole hemisphere (9.50%), whereas not recommended job applicants also showed right hemisphere dominance (42.60%) and least was whole hemisphere (19.13%). The total sample, female job applicants reporting for Armed Forces entries to be an officer showed right hemisphere dominance (45.0%) and least whole hemisphere (20.34%).

Table 6: Showing Dominant Style of Thinking of Female Job Applicants Applying for Indian Armed Forces.

Hemisphere Dominance		Right Hemisphere	Left Hemisphere	Whole Hemisphere
	N	%	%	%
Recommended	9	18.83	9.50	9.50
Not Recommended	153	42.60	21.72	19.13
Total	162	45.0	22.94	20.34

Table 7 shows dominant ‘style of *learning and thinking*’ of female job applicants applying for Indian Armed Forces and reveals that out of total sample of 162 job applicants, 9 were recommended and 153 were not. The recommended job applicants showed right hemisphere dominance (16.83%) and least was whole hemisphere (9.83%), whereas not recommended job applicants showed right hemisphere dominance (38.56%) and least was whole hemisphere (21.07%). The total sample, female job applicants reporting for Armed Forces entries to be an officer showed right hemisphere dominance (40.71%) and least whole hemisphere (23.21%).

Table 7: Showing Dominant Style of Learning And Thinking of Female Job Applicants Applying for Indian Armed Forces.

Hemisphere Dominance	Right Hemisphere	Left Hemisphere	Whole Hemisphere
	N	%	%
Recommended	9	16.83	10.41
Not Recommended	153	38.56	24.07
Total	162	40.71	25.40
			23.21

The two way ANOVA statistics was used to study simultaneous effects of both independent variables on the dependent variables, taking account of the effect of both variable (gender and result). The main and interaction effect of each independent variable can be studied. Four tables were generated, namely:- Between-Subjects factors, Descriptive statistics, Multivariate Tests and Test of Between-Subjects Effects are displayed under followed by the profile plots.

Table 8 briefly describes the distribution of male and female of recommended and not recommended job applicant in the study.

Table 8 : Between-Subjects Factors

Independent Variables	Gender	Result	N
		Recommended	Not Recommended
	Male	24	188
	Female	9	153
			162

Table 9 shows the descriptive statistics of the sample. The mean, standard deviation and standard error of mean of different styles of learning of male and female of recommended and not recommended job applicant have been calculated. For reference, the mean of verbal right hemisphere of recommended and not recommended females was found to be more than recommended and not recommended males respectively, whereas the mean of verbal left hemisphere of recommended and not recommended males was found to be more than recommended and not recommended females respectively. Similarly other styles of learning were compared for mean differences.

Table 9 : Descriptive Statistic : Different Styles of Learning of Job Applicants

S.No.	Styles of Learning	Gender	Result	N	Mean	Std. Deviation
1	Verbal Right Hemisphere	M	NR	188	0.11	0.96
			R	24	1.16	1.30
			Total	212	1.16	1.00
		F	NR	153	1.27	1.00
			R	9	1.22	1.20
			Total	162	1.27	1.01
		Total	NR	341	1.21	0.98
			R	33	1.18	1.26
			Total	374	1.21	1.01
2	Verbal Left Hemisphere	M	NR	188	2.29	1.05
			R	24	2.12	1.29
			Total	212	2.27	1.08
		F	NR	153	1.99	1.10
			R	9	1.55	1.01
			Total	162	1.96	1.10
		Total	NR	341	2.15	1.08
			R	33	1.96	1.23
			Total	374	2.14	1.10

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S.No.	Styles of Learning	Gender	Result	N	Mean	Std. Deviation
3	Verbal Whole Hemisphere	M	NR	188	2.57	2.22
			R	24	3.00	3.38
			Total	212	2.62	2.37
		F	NR	153	2.20	1.79
			R	9	2.11	1.36
			Total	162	2.20	1.77
		Total	NR	341	2.41	2.04
			R	33	2.75	2.97
			Total	374	2.44	2.14
4	Content Preference Right Hemisphere	M	NR	188	1.43	1.14
			R	24	1.33	1.30
			Total	212	1.41	1.15
		F	NR	153	1.66	1.09
			R	9	1.22	0.83
			Total	162	1.63	1.08
		Total	NR	341	1.53	1.12
			R	33	1.30	1.18
			Total	374	1.51	1.13
5	Content Preference Left Hemisphere	M	NR	188	2.45	1.22
			R	24	2.04	1.36
			Total	212	2.40	1.24
		F	NR	153	2.02	1.19
			R	9	1.77	0.97
			Total	162	2.01	1.18
		Total	NR	341	2.26	1.23
			R	33	1.96	1.26
			Total	374	2.23	1.23
6	Content Preference Whole Hemisphere	M	NR	188	1.83	2.34
			R	24	2.58	3.51
			Total	212	1.91	2.50
		F	NR	153	1.40	1.77
			R	9	1.44	1.23
			Total	162	1.40	1.75
		Total	NR	341	1.64	2.12
			R	33	2.27	3.08
			Total	374	1.69	2.22
7	Class Preference Right Hemisphere	M	NR	188	2.40	0.89
			R	24	2.25	1.35
			Total	212	2.39	0.95
		F	NR	153	2.13	0.80
			R	9	2.33	0.86
			Total	162	2.14	0.80
		Total	NR	341	2.28	0.86
			R	33	2.27	1.23
			Total	374	2.28	0.89
8	Class Preference Left Hemisphere	M	NR	188	1.95	1.00
			R	24	1.50	1.14
			Total	212	1.90	1.02
		F	NR	153	2.01	1.01
			R	9	1.55	0.72
			Total	162	1.99	1.00
		Total	NR	341	1.98	1.00
			R	33	1.51	1.03
			Total	374	1.94	1.01

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S.No.	Styles of Learning	Gender	Result	N	Mean	Std. Deviation
9	Class Preference Whole Hemisphere	M	NR	188	1.19	1.67
			R	24	2.62	3.30
			Total	212	1.35	1.97
		F	NR	153	1.12	1.24
			R	9	1.00	0.70
			Total	162	1.11	1.21
		Total	NR	341	1.16	1.49
			R	33	2.18	2.92
			Total	374	1.25	1.68
10	Learning Preference Right Hemisphere	M	NR	188	1.71	1.00
			R	24	1.33	1.23
			Total	212	1.67	1.03
		F	NR	153	1.47	1.07
			R	9	1.00	0.50
			Total	162	1.44	1.05
		Total	NR	341	1.60	1.04
			R	33	1.24	1.09
			Total	374	1.57	1.05
11	Learning Preference Left Hemisphere	M	NR	188	2.78	0.90
			R	24	2.50	1.35
			Total	212	2.75	0.96
		F	NR	153	2.77	1.02
			R	9	3.55	0.52
			Total	162	2.81	1.01
		Total	NR	341	2.77	0.95
			R	33	2.78	1.26
			Total	374	2.77	0.98
12	Learning Preference Whole Hemisphere	M	NR	188	0.88	1.29
			R	24	2.25	3.24
			Total	212	1.03	1.68
		F	NR	153	0.94	1.23
			R	9	0.44	0.52
			Total	162	0.91	1.20
		Total	NR	341	0.90	1.26
			R	33	1.75	2.88
			Total	374	0.98	1.49
13	Interest Right Hemisphere	M	NR	188	1.03	0.87
			R	24	0.70	0.80
			Total	212	1.00	0.87
		F	NR	153	0.86	0.94
			R	9	1.44	0.88
			Total	162	0.89	0.94
		Total	NR	341	0.95	0.90
			R	33	0.90	0.87
			Total	374	0.95	0.90
14	Interest Left Hemisphere	M	NR	188	2.74	1.10
			R	24	1.91	1.41
			Total	212	2.65	1.16
		F	NR	153	2.51	1.15
			R	9	1.77	0.66
			Total	162	2.47	1.14
		Total	NR	341	2.64	1.13
			R	33	1.87	1.24
			Total	374	2.57	1.15

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S.No.	Styles of Learning	Gender	Result	N	Mean	Std. Deviation
15	Interest Whole Hemisphere	M	NR	188	2.06	2.19
			R	24	4.08	3.41
			Total	212	2.29	2.44
		F	NR	153	1.93	1.78
			R	9	1.77	1.09
			Total	162	1.92	1.75
		Total	NR	341	2.00	2.02
			R	33	3.45	3.12
			Total	374	2.13	2.17

Table 10 also shows the descriptive statistics of the sample. The mean, standard deviation and standard error of mean of different styles of thinking of male and female of recommended and not recommended job applicant have been calculated. For reference, the mean of logical / fractional right hemisphere of recommended males was found to be more than recommended females, while the mean of logical / fractional left hemisphere of not recommended females was found to be more than not recommended males. Similarly other styles of thinking were compared for mean differences.

Table 10 : Descriptive Statistic : Different Styles of Thinking of Job Applicants

S.No.	Styles of Learning	Gender	Result	N	Mean	Std. Deviation
1	Logical/Fractional Right Hemisphere	M	NR	188	1.12	0.91
			R	24	0.91	1.05
			Total	212	1.10	0.92
		F	NR	153	1.13	0.96
			R	9	0.88	0.78
			Total	162	1.11	0.95
		Total	NR	341	1.12	0.93
			R	33	0.90	0.97
			Total	374	1.10	0.93
2	Logical/Fractional Left Hemisphere	M	NR	188	2.87	1.33
			R	24	2.12	1.59
			Total	212	2.78	1.38
		F	NR	153	2.64	1.15
			R	9	2.33	1.73
			Total	162	2.62	1.18
		Total	NR	341	2.76	1.25
			R	33	2.18	1.60
			Total	374	2.71	1.30
3	Logical/Fractional Whole Hemisphere	M	NR	188	1.76	2.32
			R	24	3.25	3.52
			Total	212	1.93	2.52
		F	NR	153	1.33	1.49
			R	9	1.77	1.48
			Total	162	1.35	1.48
		Total	NR	341	1.57	2.00
			R	33	2.84	3.15
			Total	374	1.68	2.15
4	Divergent/Convergent Right Hemisphere	M	NR	188	1.53	1.08
			R	24	1.54	1.10
			Total	212	1.53	1.08
		F	NR	153	1.35	0.99
			R	9	1.00	1.11
			Total	162	1.33	1.00

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S.No.	Styles of Learning	Gender	Result	N	Mean	Std. Deviation
5	Divergent/Convergent Left Hemisphere	Total	NR	341	1.45	1.04
			R	33	1.39	1.11
			Total	374	1.45	1.05
		M	NR	188	2.42	1.18
			R	24	1.83	1.23
			Total	212	2.35	1.20
		F	NR	153	2.44	1.19
			R	9	2.77	1.09
			Total	162	2.46	1.18
6	Divergent/Convergent Whole Hemisphere	M	NR	188	1.82	2.12
			R	24	3.00	3.38
			Total	212	1.95	2.32
		F	NR	153	1.39	1.39237
			R	9	1.44	1.13
			Total	162	1.40	1.37
		Total	NR	341	1.63	1.84
			R	33	2.57	3.01
			Total	374	1.71	1.98
7	Creative Right Hemisphere	M	NR	188	1.04	1.01
			R	24	1.20	1.28
			Total	212	1.06	1.04
		F	NR	153	1.16	0.96
			R	9	1.44	1.13
			Total	162	1.17	0.97
		Total	NR	341	1.09	0.99
			R	33	1.27	1.23
			Total	374	1.11	1.01
8	Creative Left Hemisphere	M	NR	188	2.93	1.16
			R	24	2.29	1.48
			Total	212	2.85	1.21
		F	NR	153	2.78	1.08
			R	9	2.44	1.01
			Total	162	2.76	1.07
		Total	NR	341	2.86	1.12
			R	33	2.33	1.36
			Total	374	2.81	1.15
9	Creative Whole Hemisphere	M	NR	188	1.79	2.32
			R	24	2.75	3.42
			Total	212	1.90	2.48
		F	NR	153	1.31	1.66
			R	9	1.11	0.92
			Total	162	1.30	1.63
		Total	NR	341	1.58	2.06
			R	33	2.30	3.03
			Total	374	1.64	2.17
10	Problem Solving Right Hemisphere	M	NR	188	1.50	0.85
			R	24	1.25	0.73
			Total	212	1.47	0.84
		F	NR	153	1.53	0.87
			R	9	1.55	0.72
			Total	162	1.53	0.86
		Total	NR	341	1.51	0.86

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S.No.	Styles of Learning	Gender	Result	N	Mean	Std. Deviation
11	Problem Solving Left Hemisphere	M	R	33	1.33	0.73
			Total	374	1.50	0.85
			NR	188	2.97	0.91
		F	R	24	2.83	1.16
			Total	212	2.96	0.94
			NR	153	2.94	0.89
		Total	R	9	3.00	0.70
			Total	162	2.94	0.88
			NR	341	2.96	0.90
		Total	R	33	2.87	1.05
			Total	374	2.95	0.92
			NR	188	0.65	1.36
12	Problem Solving Whole Hemisphere	M	R	24	1.75	3.30
			Total	212	0.78	1.72
			NR	153	0.52	0.99
		F	R	9	0.44	1.01
			Total	162	0.52	0.99
			NR	341	0.60	1.21
		Total	R	33	1.39	2.90
			Total	374	0.67	1.45
			NR	188	1.38	1.17
		M	R	24	1.08	1.05
			Total	212	1.34	1.16
			NR	153	1.48	1.07
13	Imagination Right Hemisphere	F	R	9	1.44	0.88
			Total	162	1.48	1.05
			NR	341	1.42	1.12
		Total	R	33	1.18	1.01
			Total	374	1.40	1.11
			NR	188	2.23	1.24
		M	R	24	2.12	1.36
			Total	212	2.22	1.25
			NR	153	2.27	1.18
		F	R	9	2.00	0.86
			Total	162	2.25	1.17
			NR	341	2.25	1.21
14	Imagination Left Hemisphere	Total	R	33	2.09	1.23
			Total	374	2.24	1.21
			NR	188	2.23	2.46
		M	R	24	3.33	3.37
			Total	212	2.35	2.59
			NR	153	1.30	1.56
		F	R	9	1.55	1.13
			Total	162	1.31	1.54
			NR	341	1.81	2.15
		Total	R	33	2.84	3.02
			Total	374	1.90	2.25
			NR	188	2.23	2.46
15	Imagination Whole Hemisphere	M	R	24	3.33	3.37
			Total	212	2.35	2.59
			NR	153	1.30	1.56
		F	R	9	1.55	1.13
			Total	162	1.31	1.54
			NR	341	1.81	2.15
		Total	R	33	2.84	3.02
			Total	374	1.90	2.25
			NR	188	2.23	2.46
		M	R	24	3.33	3.37
			Total	212	2.35	2.59
			NR	153	1.30	1.56

Table 11 is multivariate tests for equality of error variance, whether the variance in the dependent variable is constant across the groups or not. The null and alternative hypothesis for testing equality of error variance is as follows:

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H_0 : variance are equal in all groups

H_1 : variance in at least one group is different

The F-ratio examines difference in variance across groups. The F-ratio (Intercept) was 891.44 and associated significance level was .001 (which was much lesser than 0.05), hence H_0 rejected and H_1 accepted. The F-ratio (Gender) was 2.83 and associated significance level was .001 (which was much lesser than 0.05), hence H_0 rejected and H_1 accepted. The F-ratio (Result) was 1.23 and associated significance level was .18 (which was greater than 0.05), hence H_0 accepted. The F-ratio (Gender x Result) was 1.40 and associated significance level was .08 (which was greater than 0.05), hence H_0 accepted. So it was concluded that for Result (main effect) and Gender x Result (interaction effect) the variance was equal while for Gender (main effect) the variance was not equal in male and female group.

Table 11 : Multivariate Tests

Effect		Value	F	df1 (Hypothesis)	df2 (Error)	Significance
Intercept	Pillai's Trace	.987	891.446	30.000	341.000	.000
	Wilks' Lambda	.013	891.446	30.000	341.000	.000
	Hotelling's Trace	78.426	891.446	30.000	341.000	.000
	Roy's Largest Root	78.426	891.446	30.000	341.000	.000
Gender	Pillai's Trace	.200	2.833	30.000	341.000	.000
	Wilks' Lambda	.800	2.833	30.000	341.000	.000
	Hotelling's Trace	.249	2.833	30.000	341.000	.000
	Roy's Largest Root	.249	2.833	30.000	341.000	.000
Result	Pillai's Trace	.098	1.237	30.000	341.000	.187
	Wilks' Lambda	.902	1.237	30.000	341.000	.187
	Hotelling's Trace	.109	1.237	30.000	341.000	.187
	Roy's Largest Root	.109	1.237	30.000	341.000	.187
Gender*Result	Pillai's Trace	.110	1.403 ^b	30.000	341.000	.082
	Wilks' Lambda	.890	1.403 ^b	30.000	341.000	.082
	Hotelling's Trace	.123	1.403 ^b	30.000	341.000	.082
	Roy's Largest Root	.123	1.403 ^b	30.000	341.000	.082
a Design : Intercept + Gender + Result + Gender * Result						
b Exact statistic						

Table 12 depicts test of between-subjects effects also called as the two-way ANOVA table for different styles of learning. For the main effect of 'Gender', the following different styles of learning were found significant between male and female applicants, the F-ratios and p-value of verbal left hemisphere, class preference whole hemisphere, learning preference left & whole hemisphere and interest whole hemisphere were 3.87, 6.33, 6.90, 8.70 & 8.00, and 0.05, 0.01, 0.009, 0.003 & 0.005 respectively. Therefore, the main effect of 'Gender' in above mentioned different styles of learning was significant, rejecting H_0 that there will be no

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difference in different styles of learning in male and female. The significant difference was observed in verbal left hemisphere, class preference whole hemisphere, learning preference left & whole hemisphere and interest whole hemisphere of male and female job applicants.

For *the main effect of 'Result'*, the following different styles of learning were found significant between recommended and not recommended applicants, the F-ratios and p-value of class preference left hemisphere, class preference whole hemisphere, learning preference right hemisphere, interest left hemisphere and interest whole hemisphere were 5.03, 3.79, 4.09, 11.50 & 4.68 and 0.02, 0.05, 0.04, 0.001 & 0.03 respectively. Therefore, *the main effect of 'Result'* in above mentioned different styles of learning was significant, rejecting H_0 that there will be no difference in different styles of learning in recommend and not recommended applicants. The significant difference was observed in class preference left hemisphere, class preference whole hemisphere, learning preference right hemisphere, interest left hemisphere and interest whole hemisphere of recommended and not recommended job applicants.

For *the interaction effect of gender x result*, the following different styles of learning were found significant between male & female recommended and male & female not recommended applicants, the F-ratios and p-value of class preference whole hemisphere, learning preference left hemisphere, learning preference whole hemisphere, interest right hemisphere, and interest whole hemisphere were 5.37, 7.19, 9.89, 6.21 & 6.39 and 0.02, 0.008, 0.002, 0.012 & 0.013 respectively. Therefore, *the main effect of 'Gender x Result'* in above mentioned different styles of learning was significant, rejecting H_0 that there will be no difference in different styles of learning in male & female recommended and male & female not recommended applicants. The significant difference was observed in class preference whole hemisphere, learning preference left hemisphere, learning preference whole hemisphere, interest right hemisphere, and interest whole hemisphere of male & female recommended and male & female not recommended job applicants.

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Table 12 : Tests of Between – Subjects Effects (Styles of Learning)

			Dependent Variable : Dimensions of Styles of Learning														
	Source		Verbal	Verbal	Verbal	Content Preference	Content Preference	Content Preference	Class Preference	Class Preference	Class Preference	Learning Preference	Learning Preference	Learning Preference	Interest	Interest	Interest
			RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH
	Corrected	SS	0.97 _a	10.7 _b	20.0 _c	6.11 _d	18.31 _e	36.0 _f	6.60 _g	6.99 _h	49.0 _i	9.89 _j	7.30 _k	43.28 _l	6.19 _m	22.06 _n	99.34 _o
		df	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
		M S	0.32	3.58	6.68	2.03	6.10	12.013	2.20	2.33	16.334	3.29	2.43	14.428	2.06	7.35	33.115
		F	0.31	3.00	1.46	1.60	4.10	2.45	2.76	2.27	5.95	3.29	2.43	6.76	2.06	7.35	7.36
		Sig	0.81	0.03	0.22	0.18	0.007	0.06	0.04	0.07	0.001	0.29	0.05	0.00	0.05	0.00	0.00
			RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	
WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	
	Intercept	SS	141.91	385.50	594.69	193.66	418.21	320.86	505.61	300.41	214.36	185.21	818.56	124.02	99.766	487.14	590.47
		df	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		M S	141.91	385.50	594.69	193.66	418.21	320.86	505.61	300.41	214.36	185.21	818.56	124.02	99.766	487.14	590.47
		F	138.21	323.62	130.03	152.03	280.84	65.635	633.41	293.41	78.114	170.68	852.49	58.187	123.03	376.02	131.29
		Sig	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	
LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	
	Main Effect Gender	SS	0.155	4.582	9.555	0.085	2.891	14.949	0.232	0.084	17.396	2.049	6.632	18.546	1.916	0.819	36.007
		df	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		M S	0.155	4.582	9.555	0.085	2.891	14.949	0.232	0.084	17.396	2.049	6.632	18.546	1.916	0.819	36.007
		F	0.151	3.847	2.089	0.067	1.941	3.058	0.291	0.082	6.339	1.888	6.906	8.701	2.363	0.632	8.007
		Sig	0.698	0.051	0.149	0.797	0.164	0.081	0.59	0.774	0.012	0.17	0.009	0.003	0.125	0.427	0.005
			RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	
LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	
	Main Effect Result	SS	0.019	2.227	0.651	1.741	2.636	3.766	0.011	5.158	10.413	4.444	1.533	4.601	0.388	14.907	21.074
		df	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		M S	0.019	2.227	0.651	1.741	2.636	3.766	0.011	5.158	10.413	4.444	1.533	4.601	0.388	14.907	21.074
		F	0.018	1.869	0.142	1.367	1.77	0.77	0.014	5.038	3.795	4.095	1.597	2.158	0.479	11.506	4.686
		Sig	0.892	0.172	0.706	0.243	0.184	0.381	0.906	0.025	0.052	0.044	0.207	0.143	0.489	0.001	0.031
			RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	
LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	
	Interaction Effect Gender X Result	SS	0.014	0.444	1.665	0.704	0.16	3.053	0.797	0	14.738	0.045	6.905	21.099	5.037	0.049	28.771
		df	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		M S	0.014	0.444	1.665	0.704	0.16	3.053	0.797	0	14.738	0.045	6.905	21.099	5.037	0.049	28.771
		F	0.014	0.373	0.364	0.552	0.107	0.625	0.998	0	5.371	0.041	7.192	9.899	6.211	0.038	6.397
		Sig	0.906	0.542	0.547	0.458	0.744	0.43	0.318	0.987	0.021	0.839	0.008	0.002	0.013	0.847	0.012
			RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	
LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	
	Error	SS	379.913	440.75	1692.154	471.317	550.978	180.882	295.348	378.823	1015.372	401.509	355.274	788.618	300.038	479.343	1663.969
		df	370	370	370	370	370	370	370	370	370	370	370	370	370	370	370
		M S	1.027	1.191	4.573	1.274	1.489	4.889	0.798	1.024	2.744	1.085	0.96	2.131	0.811	1.296	4.497
			RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	

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Table 12 : Tests of Between – Subjects Effects (Styles of Learning)																	
Dependent Variable : Dimensions of Styles of Learning																	
	Source		Verbal	Verbal	Verbal	Content Preference	Content Preference	Content Preference	Class Preference	Class Preference	Class Preference	Learning Preference	Learning Preference	Learning Preference	Interest	Interest	Interest
LH	WH	RH	LH	WH													
	Total	SS	932	2167	3941	1334	2438	2923	2252	1799	1650	1339	3249	1194	647	2981	3466
		df	374	374	374	374	374	374	374	374	374	374	374	374	374	374	374
LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	RH
	Corrected Total	SS	380.88	451.48	1712.2	477.43	569.29	184.48	301.95	385.82	1064.3	411.40	362.58	831.90	306.22	501.40	1763.3
		df	373	373	373	373	373	373	373	373	373	373	373	373	373	373	373
SS – Type III Sum of Squares ; df – degree of freedom ; MS- Mean Square ; Sig- Level of Significance																	
S.No.	R Squared		Adjusted R Squared														
a	0.003		-0.006														
b	0.024		0.016														
c	0.012		0.004														
d	0.032		0.024														
e	0.013		0.005														
f	0.020		0.012														
g	0.018		0.010														
h	0.022		0.014														
i	0.046		0.038														
j	0.020		0.012														
k	0.024		0.016														
l	0.052		0.044														
m	0.044		0.036														
n	0.020		0.012														
o	0.056		0.049														

Table 13 depicts test of between-subjects effects also called as the two-way ANOVA table for different styles of thinking. For *the main effect of 'Gender'*, the following different styles of learning were found significant between male and female applicants, the F-ratios and p-value of logical/fractional whole hemisphere, divergent/convergent left hemisphere, divergent/convergent whole hemisphere, creative whole hemisphere, problem solving whole hemisphere and imagination whole hemisphere were 4.92, 3.99, 6.24, 5.92, 6.10 & 9.29 and 0.02, 0.04, 0.013, 0.015, 0.014 & 0.002 respectively. Therefore, *the main effect of 'Gender'* in above mentioned different styles of thinking was significant, rejecting H_0 that there will be no difference in different styles of thinking in male and female. The significant difference was observed in logical/fractional whole hemisphere, divergent/convergent left hemisphere, divergent/convergent whole hemisphere, creative whole hemisphere, problem solving whole hemisphere and imagination whole hemisphere of male and female job applicants.

For *the main effect of 'Result'*, the following different styles of thinking were found significant between recommended and not recommended applicants, the F-ratios and p-value of logical/fractional left hemisphere, logical/fractional whole hemisphere and creative left hemisphere were 4.05, 5.04 & 4.40 and 0.04, 0.02 & 0.03 respectively. Therefore, *the main effect of 'Result'* in above mentioned different styles of thinking was significant, rejecting H_0 that there will be no difference in different styles of thinking in recommended and not

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recommended applicants. The significant difference was observed in logical/fractional left hemisphere, logical/fractional whole hemisphere and creative left hemisphere of recommended and not recommended job applicants.

For the *interaction effect of gender x result*, the following different styles of thinking were found significant between male & female recommended and male & female not recommended applicants, the F-ratios and p-value of divergent/convergent left hemisphere and problem solving whole hemisphere were 3.68 & 4.09 and 0.05 & 0.04 respectively. Therefore, the *main effect of 'Gender x Result'* in above mentioned different styles of thinking was significant, rejecting H_0 that there will be no difference in different styles of thinking in male & female recommended and male & female not recommended applicants. The significant difference was observed in divergent/convergent left hemisphere and problem solving whole hemisphere of male & female recommended and male & female not recommended job applicants.

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Table 13 : Tests of Between – Subjects Effects (Styles of Thinking)

			Dependent Variable : Dimensions of Styles of Thinking																
	Source		Logical / Fractional	Logical / Fractional	Logical / Fractional	Divergent / Convergent	Divergent / Convergent	Divergent / Convergent	Creative	Creative	Creative	Problem Solving	Problem Solving	Problem Soplving	Imagination	Imagination	Imagination		
			RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH		
	Corrected	S	15.167 _p	1.461 ^q	79.012 ^r	4.707 ^s	9.411 ^t	57.84 ^u	2.391 ^v	10.47 ^w	53.05 ^x	1.728 ^y	.508 ^z	31.49 ^{aa}	3.534 ^a _b	1.018 ^{ac}	126.2 ^{ad}		
		d	f	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
		M	S	5.056	0.487	26.337	1.569	3.137	19.283	0.797	3.491	17.685	0.576	0.169	10.498	1.178	0.339	42.099	
		F	S	3.033	0.551	5.885	1.416	2.221	5.052	0.769	2.64	3.825	0.79	0.199	5.117	0.942	0.228	8.764	
		S	ig	0.029	0.648	0.001	0.238	0.085	0.002	0.512	0.049	0.01	0.5	0.897	0.002	0.42	0.877	0	
			RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH		
LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	RH		
	Intercept	S	S	603.91	100.31	401.19	179.64	546.00	357.11	143.70	663.47	295.31	207.64	839.07	69.534	176.75	453.31	431	
		d	f	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
		M	S	603.91	100.31	401.19	179.64	546.00	357.11	143.70	663.47	295.31	207.64	839.07	69.534	176.75	453.31	431	
		F	S	362.27	113.49	89.651	162.15	386.55	93.57	138.58	501.84	63.874	284.79	983.33	33.894	141.34	304.22	89.72	
		S	ig	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH		
RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH		
	Main Effect	Gender	S	S	0.003	0.004	22.04	3.144	5.637	23.845	0.751	0	27.378	0.686	0.101	12.521	1.295	0.049	44.647
			d	f	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
			M	S	0.003	0.004	22.04	3.144	5.637	23.845	0.751	0	27.378	0.686	0.101	12.521	1.295	0.049	44.647
			F	S	0.002	0.004	4.925	2.838	3.991	6.248	0.724	0	5.922	0.942	0.119	6.103	1.036	0.033	9.294
			S	ig	0.964	0.948	0.027	0.093	0.046	0.013	0.395	0.989	0.015	0.333	0.731	0.014	0.309	0.856	0.002
			RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH		
WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH		
	Main Effect	Result	S	S	6.755	1.245	22.59	0.766	0.407	9.06	1.184	5.822	3.412	0.337	0.046	6.141	0.697	0.919	11.139
			d	f	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
			M	S	6.755	1.245	22.59	0.766	0.407	9.06	1.184	5.822	3.412	0.337	0.046	6.141	0.697	0.919	11.139
			F	S	4.052	1.409	5.048	0.691	0.288	2.374	1.142	4.404	0.738	0.463	0.053	2.993	0.558	0.616	2.319
			S	ig	0.045	0.236	0.025	0.406	0.592	0.124	0.286	0.037	0.391	0.497	0.817	0.084	0.456	0.433	0.129
			RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH		
RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH	RH	LH	WH		
tion	X	S	S	1.177	0.006	6.565	0.804	5.203	7.753	0.088	0.544	8.099	0.459	0.253	8.392	0.412	0.156	4.331	
		d	f	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	

Styles of Learning and Thinking of the Job Applicants Applied For Armed Forces

		M S	1.1 77	0.00 6	6.56 5	0.80 4	5.20 3	7.75 3	0.08 8	0.54 4	8.09 9	0.45 9	0.25 3	8.39 2	0.4 12	0.15 6	4.33 1
		F	0.7 06	0.00 7	1.46 7	0.72 6	3.68 4	2.03 1	0.08 5	0.41 2	1.75 2	0.63 7	0.29 7	4.09 1	0.3 29	0.10 5	0.90 2
		S ig	0.4 01	0.93 6	0.22 7	0.39 5	0.05 6	0.15 5	0.77 1	0.52 2	0.18 6	0.42 8	0.58 6	0.04 4	0.5 66	0.74 7	0.34 3
WH			RH		LH		WH		RH		LH		WH		RH		LH
	Error	S S	616 .79	327. 044	1655 .758	409. 926	522. 624	1412 .109	383. 665	489. 164	1710 .649	269. 769	315. 719	759. 053	462 .69	551. 324	1777 .428
		d f	370	370	370	370	370	370	370	370	370	370	370	370	370	370	370
		M S	1.6 67	0.88 4	4.47 5	1.10 8	1.41 2	3.81 7	1.03 7	1.32 2	4.62 3	0.72 9	0.85 3	2.05 1	1.2 51	1.49	4.80 4
RH			LH		WH		RH		LH		WH		RH		LH		WH
	Total	S S	339 2	789	2796	120 3	269 3	2572	851	347 0	2775	111 6	358 1	959	120 6	243 0	3263
		d f	374	374	374	374	374	374	374	374	374	374	374	374	374	374	374
RH			LH		WH		RH		LH		WH		RH		LH		WH
	Corrected Total	S S	631 .95	328. 50	1734 .7	414. 63	532. 03	1469 .9	386. 05	499. 63	1763 .7	271. 49	316. 22	790. 54	466 .22	552. 34	1903 .7
		d f	373	373	373	373	373	373	373	373	373	373	373	373	373	373	373

SS – Type III Sum of Squares ; df – degree of freedom ; MS- Mean Square ; Sig- Level of Significance

S.No.	R Squared	Adjusted R Squared
p	0.024	0.016
q	0.004	-0.004
r	0.046	0.038
s	0.018	0.010
t	0.011	0.003
u	0.039	0.032
v	0.021	0.013
w	0.006	-0.002
x	0.030	0.022
y	0.002	-0.006
z	0.006	-0.002
aa	0.040	0.032
ab	0.002	-0.006
ac	0.008	0.000
ad	0.066	0.059

Table 14 : Summary of Significant Findings of Two Way ANOVA

S.No.	Effect	Independent Variable	Different Styles of Learning and Thinking (SOLAT)	F	Sig. level
1.	Main	Gender	i) Verbal Left Hemisphere	3.87	0.05
			ii) Class Preference Whole Hemisphere	6.33	0.009
			iii) Learning Preference Left Hemisphere	6.90	0.003
			iv) Learning Preference Whole Hemisphere	8.70	0.005
			v) Interest Whole Hemisphere	8.00	0.005
			vi) Logical/Fractional Whole Hemisphere	4.92	0.02
			vii) Divergent/Convergent Left Hemisphere	3.99	0.04
			viii) Divergent /Convergent Whole Hemisphere	6.24	0.013
			ix) Creative Whole Hemisphere	5.92	0.015
			x) Problem Solving Whole Hemisphere	6.10	0.014
			xi) Imagination Whole Hemisphere	9.29	0.002

Styles of Learning and Thinking of the Job Applicants Applied For Armed Forces

Table 14 : Summary of Significant Findings of Two Way ANOVA

S.No.	Effect	Independent Variable	Different Styles of Learning and Thinking (SOLAT)	F	Sig. level
2.	Main	Result	i) Class Preference Left Hemisphere ii) Class Preference Whole Hemisphere iii) Learning Preference Right Hemisphere iv) Interest Left Hemisphere v) Interest Whole Hemisphere	5.03 3.79 4.09 11.50 4.68	0.02 0.05 0.04 0.001 0.03
			vi) Logical/Fractional Left Hemisphere vii) Logical/Fractional Whole Hemisphere viii) Creative Left Hemisphere	4.05 5.04 4.40	0.04 0.02 0.03
3.	Interacti on	Gender X Result	i) Class Preference Whole Hemisphere ii) Learning Preference Left Hemisphere iii) Learning Preference Whole Hemisphere iv) Interest Right Hemisphere v) Interest Whole Hemisphere	5.37 7.19 9.89 6.21 6.39	0.02 0.008 0.002 0.012 0.013
			vi) Divergent/Convergent Left Hemisphere vii) Problem Solving Whole Hemisphere	3.68 4.09	0.05 0.04

PROFILE PLOTS – STYLE OF LEARNING

The profile plot shows the estimated marginal means for each different style of learning and thinking across gender and result. The lines which are either parallel or not intersecting indicates absence of interaction between the independent variables and intersecting lines indicates an interaction

Verbal-RH

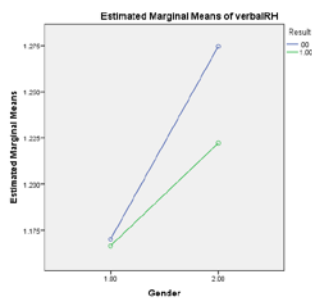


Figure 1

Verbal-LH

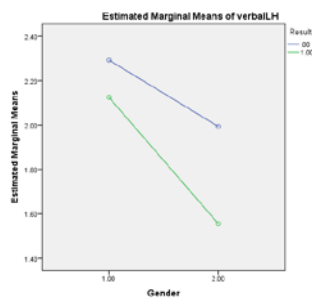


Figure 2

Verbal-WH

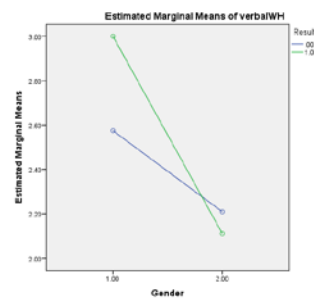


Figure 3

Content-RH

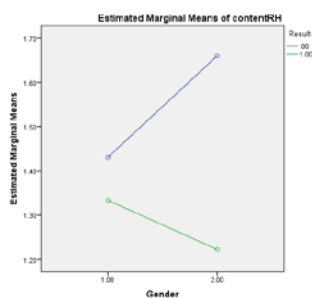


Figure 4

Content-LH

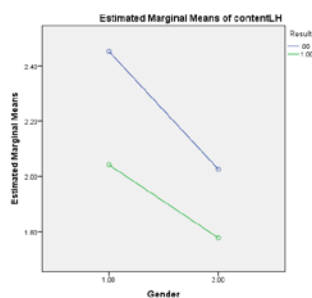


Figure 5

Content-WH

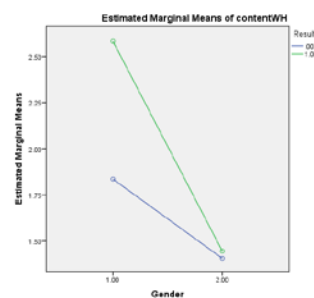


Figure 6

Styles of Learning and Thinking of the Job Applicants Applied For Armed Forces

Class-RH

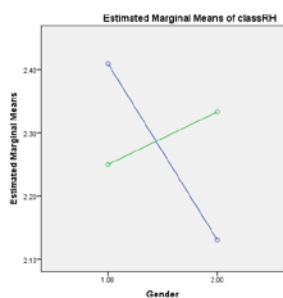


Figure 7

Class-LH

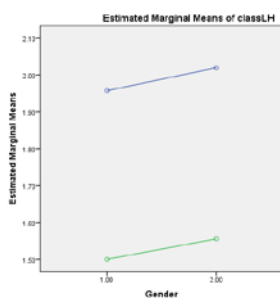


Figure 8

Class-WH

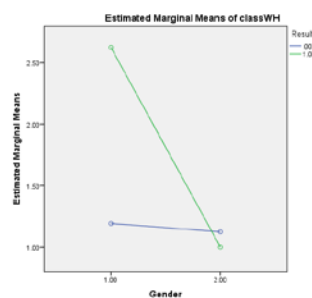


Figure 9

Learn-RH

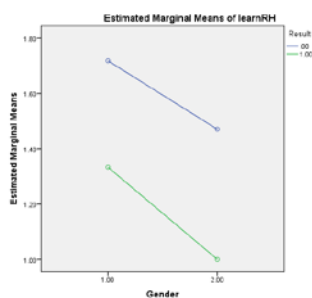


Figure 10

Learn-LH

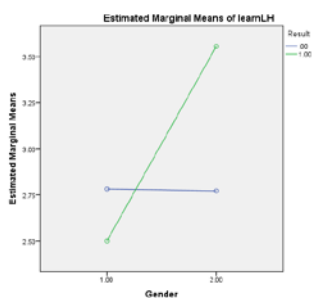


Figure 11

Learn-WH

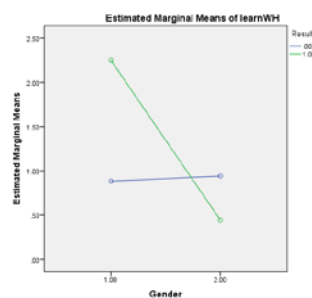


Figure 12

Interest- RH

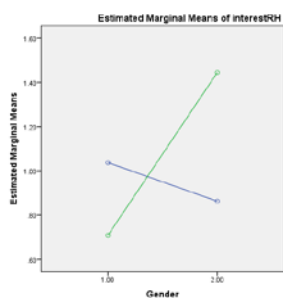


Figure 13

Interest- LH

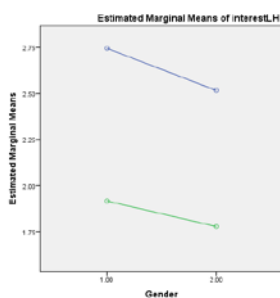


Figure 14

Interest- WH

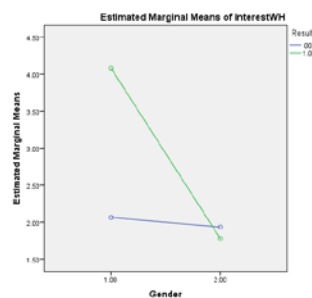


Figure 15

PROFILE PLOTS : STYLE OF THINKING

Logical – RH

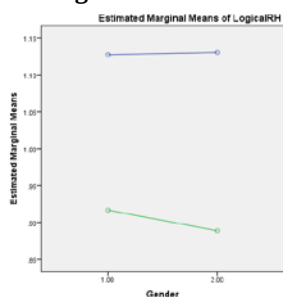


Figure 16

Divergent – RH

Logical – LH

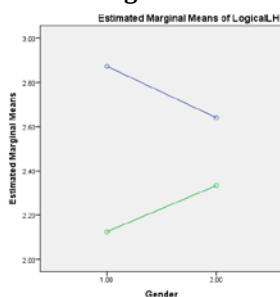


Figure 17

Divergent- LH

Logical – WH

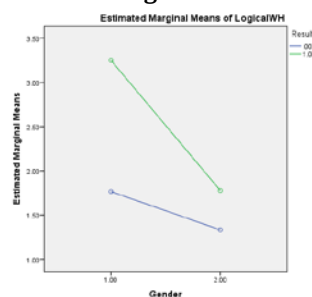


Figure 18

Divergent - WH

Styles of Learning and Thinking of the Job Applicants Applied For Armed Forces

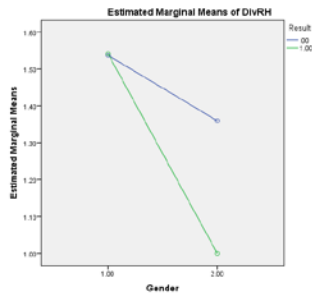


Figure 19

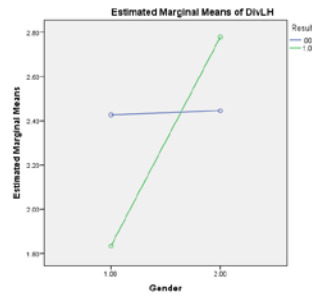


Figure 20

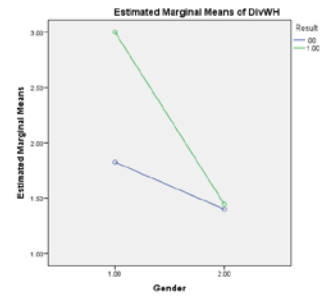


Figure 21

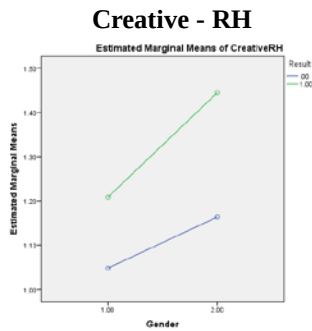


Figure 22

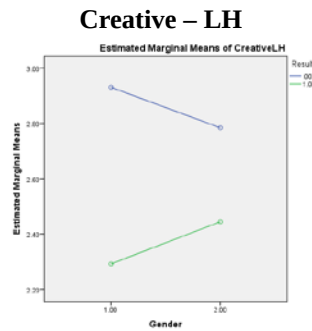


Figure 23

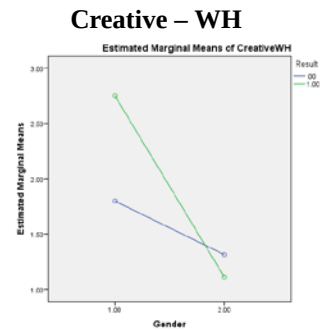


Figure 24

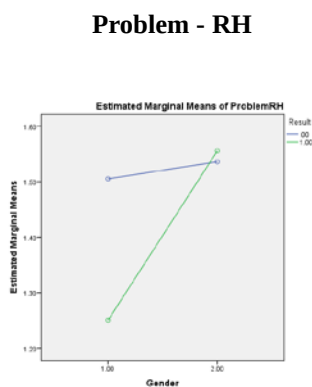


Figure 25

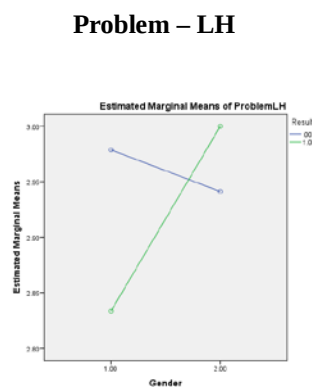


Figure 26

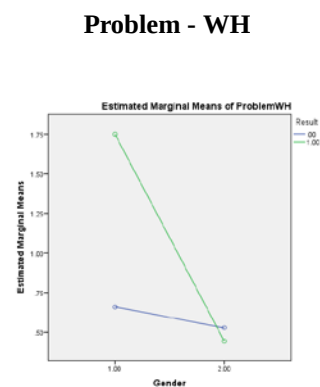


Figure 27

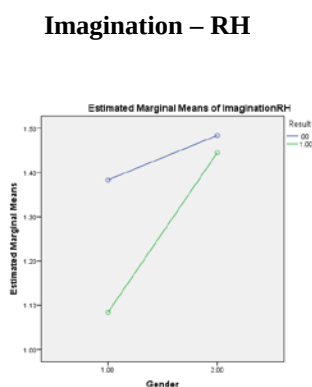


Figure 28

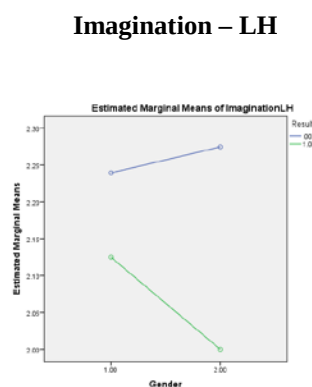


Figure 29

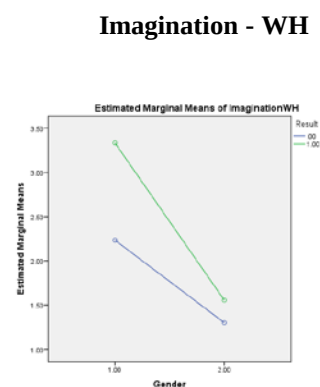


Figure 30

DISCUSSION

The strategies of cerebral hemispheres – right and left and though different for processing information but are not mutually exclusive rather complement each other to give rise of distinct style of learning and thinking to make decisions for various important progressions of life. The left hemisphere is more involved with language, to process information in an analytic and serial manner, to be characterized by formal logical thinking and conscious processing. In contrast, the right hemisphere appears is more involved with visuospatial information and emotion, to process information in a holistic manner, and to be characterized by concrete and pre-operational thinking and is subconscious or unconscious processing. In terms of the hemispheric distribution of function at sample level of the study, significant individual differences were found in job applicants. Initially, percentages of hemispheric dominance in styles of learning and thinking indicate that the male job applicants who made decisions to make a career in Armed Forces to be an officer showed right hemisphere dominance (48.15%) and least left hemisphere (30.50%). However, the recommended job applicants showed whole hemisphere dominance (57.25%) and least was left hemisphere (27.5%), whereas not recommended job applicants showed right hemisphere dominance (49.10%) and least was left hemisphere (30.97%). While the female job applicants who made decisions to make a career in Armed Forces to be an officer showed right hemisphere dominance (40.71) and least whole hemisphere (23.21), the recommended female job applicants also showed right hemisphere dominance (16.83%) and least was whole hemisphere (9.83%), similarly not recommended also showed right hemisphere dominance (38.56%) and least was whole hemisphere (30.97%). So it can be concluded that recommended male and female are opposite in showing whole hemispheric dominance, male using maximum while female using least. There was same hemispheric dominance across female job applicants in overall, recommended or not recommended but there was different hemispheric dominance across male job applicants in overall, recommended and not recommended. Hence, according to Hermann (1990), a strong relationship between hemisphere dominance and the way subjects made a living. Whole brain oriented male applicants were more often recommended whereas right brain oriented female applicants were more often recommended for the Armed Forces.

When their mean differences on each dimension of styles of learning and thinking were compared by using two-way ANOVA for main and interaction effect, the *Significant gender differences* were found in following dimensions of style of learning and thinking : male have significantly higher verbal left hemisphere than female ($\text{Mean}_{\text{male}}=2.27$; $\text{Mean}_{\text{female}}=1.96$), $f(1)=3.87, p<.05$; male have significantly higher class preference whole hemisphere than female ($M_m=1.35$; $M_f=1.11$), $f(1)=6.33, p<.01$; female have significantly higher learning preference left hemisphere than male ($M_m=2.75$; $M_f=2.81$), $f(1)=6.90, p<.009$; male have significantly higher learning preference whole hemisphere than female ($M_m=1.03$; $M_f=0.91$), $f(1)=8.70, p<.003$; male have significantly higher interest whole hemisphere than female; ($M_m=2.29$; $M_f=1.92$), $f(1)=8.00, p<.005$; male have significantly higher logical /fractional whole hemisphere than female ($M_m=1.93$; $M_f=1.35$), $f(1)=4.92, p<.02$; female have significantly higher divergent/convergent left hemisphere than male ($M_m=2.35$; $M_f=2.46$), $f(1)=3.99, p<.04$; male have significantly higher divergent/convergent whole hemisphere than female ($M_m=1.95$; $M_f=1.40$), $f(1)=6.24, p<.013$; male have significantly higher creative whole hemisphere than female ($M_m=1.90$; $M_f=1.30$), $f(1)=5.92, p<.015$; male have significantly higher problem solving whole hemisphere than female ($M_m=0.78$; $M_f=0.52$), $f(1)=6.10, p<.014$; male have significantly higher imagination whole hemisphere than female ($M_m=2.35$; $M_f=1.31$), $f(1)=9.29, p<.002$.

Significant result differences were found as follows:- recommended applicants have higher class preference left hemisphere than not recommended applicants ($\text{Mean}_{\text{Recommended}}=1.98$; $\text{Mean}_{\text{Not-Recommended}}=1.51$), $f(1)=5.03, p<.02$; recommended applicants have lesser class preference whole hemisphere than not recommended applicants ($M_R=1.16$; $M_{NR}=2.18$), $f(1)=3.79, p<.05$; recommended applicants have higher learning preference right hemisphere than not recommended applicants ($M_R=1.60$; $M_{NR}=1.24$), $f(1)=4.09, p<.04$; recommended applicants have higher interest left hemisphere than not recommended applicants ($M_R=2.64$; $M_{NR}=1.87$), $f(1)=11.50, p<.001$; recommended applicants have lesser interest whole hemisphere than not recommended applicants ($M_R=2.00$; $M_{NR}=3.45$), $f(1)=4.68, p<.03$; recommended applicants have higher logical/fractional left hemisphere than not recommended applicants ($M_R=2.76$; $M_{NR}=2.18$), $f(1)=4.05, p<.04$; recommended applicants have lesser logical/fractional whole hemisphere than not recommended applicants ($M_R=1.57$; $M_{NR}=2.84$), $f(1)=5.04, p<.02$; and recommended applicants have higher creative left hemisphere than not recommended applicants ($M_R=2.86$; $M_{NR}=2.33$), $f(1)=4.40, p<.03$.

Significant interaction effect of gender and result were found in class preference whole hemisphere ($M_m=1.35$; $M_f=1.11$), ($M_R=1.16$; $M_{NR}=2.18$), $f(1)=5.37, p<.02$, learning preference left hemisphere ($M_m=2.75$; $M_f=2.81$), ($M_R=2.77$; $M_{NR}=2.78$), $f(1)=7.19, p<.008$, learning preference whole hemisphere ($M_m=1.03$; $M_f=0.91$), ($M_R=0.90$; $M_{NR}=1.75$), $f(1)=9.89, p<.002$, interest right hemisphere ($M_m=1.00$; $M_f=1.31$), ($M_R=0.95$; $M_{NR}=0.90$), $f(1)=6.21, p<.008$, interest whole hemisphere ($M_m=2.29$; $M_f=1.92$), ($M_R=2.00$; $M_{NR}=3.45$), $f(1)=6.39, p<.002$, divergent/convergent left hemisphere ($M_m=2.35$; $M_f=2.46$), ($M_R=2.43$; $M_{NR}=2.09$), $f(1)=3.68, p<.05$ and problem solving whole hemisphere ($M_m=0.78$; $M_f=0.52$), ($M_R=0.60$; $M_{NR}=1.39$), $f(1)=4.09, p<.04$.

The following dimensions of styles of learning and thinking have differed significantly in all categories (gender, result and their interaction) - class preference whole hemisphere, learning preference left hemisphere, learning preference whole hemisphere, interest whole hemisphere, divergent/convergent left hemisphere, and problem solving whole hemisphere. The logical/fractional whole hemisphere dimension of styles of thinking was only dimension to differ significantly in two categories (gender and result). The problem solving whole hemisphere dimension of styles of thinking was only dimension to differ significantly in two categories (gender and gender x result interaction). The interest right hemisphere dimension of styles of learning was only dimension to differ significantly in two categories (result and gender x result interaction). Thus it can be concluded that the job applicants for Armed Forces are either school pass outs or newly graduate entrants with diverse experience of hobbies, co-curricular activities and leadership roles in their educational journey. Research has indicated that the most successful and innovative leaders integrate both left and right brain processing, thus are more amenable to change, are better able to restore energy resources, are more successful, and are less susceptible to job burnout (Kean, Leary, & Toth, 1993).

FUTURE DIRECTIONS

The same study can be repeated for each entry of the Armed Forces and comparison can be found for male, female and service entry. For screening purpose also, the study can be repeated and correlation between the hemispheric dominance and screening in results can be found. An additional score of styles of learning and thinking may also be included and considered while assessing performance of job applicants.

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Conflict of Interest

There is no conflict of interest.

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