CHAPTER V

PERSONALITY AND GIFTEDNESS

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5.0 INTRODUCTION

In this chapter the study of some of the personality traits of the gifted high school students has been undertaken. The same 935 capably gifted subjects served as the main sample of the study, that was later on sub-sampled into a sample of 683 for additionally studying the age variable besides I.Q. and sex, a sample of 325 of functionally gifted subjects and finally a sample of 143 subjects consisting of highly gifted and additional non-gifted subjects, as in the previous chapter. All these subjects were administered the Sixteen Factor Personality Test of R.B. Cattell for the purpose of studying personality traits of the gifted children. This test was translated into Gujarati and adapted for the use of Gujarati speaking children after testing its reliability and validity, as

described in the third chapter. The results on personality traits have been discussed in four ways, as in the preceding chapter on creativity results. (i) The first part of the study concerns 935 intellectually gifted children arranged in 3 x 2 factorial design, representing three levels of I.Q. and two sexes as shown in Table No. 3.4 earlier, with a view to examining main as well as interaction effects of I.Q. and sex. (ii) The second part studies a sample of 683 intellectually gifted, taken out of 935, and arranged in a 2 x 2 x 3 factorial design representing two levels of I.Q., two sexes and three age levels, as in Table 3.5 earlier, with a view to studying main as well as interaction effects of I.Q., sex and age in addition. (iii) Further a sample of 325 functionally gifted subjects out of 935 was taken out and again arranged in a 3 x 2 factorial design representing three I.Q. levels and two sexes, with a view to investigating main as well as interaction contributions of I.Q. and sex to personality traits of the manifest gifted. (iv) And finally a sample of 143 consisting of highly gifted extraordinary and non-gifted backward boys and girls was studied in a 2 x 2 factorial design representing two I.Q. levels, the extraordinary and the backward, as shown in Table No. 3.7 earlier, with a view to comparing the gifted with the non-gifted on the personality traits and examining

the main as well as interaction effects of I.Q. and sex. The descriptions of all these samples have been given earlier. All these subjects were tested on Cattell's 16-Factor Personality Test. Their scores were statistically analysed by the F-test to study significance of overall difference and further by the L.S.D. test to study the sub-group pair difference of each variable on personality traits. The sixteen types of personality scores or traits have been separately analysed by F-test and L.S.D. test and all these results have been summarized in Tables 5.1(i), (ii), (iii), (iv); (a),(b), (c) to 5.16(i),(ii),(iii),(iv); (a), (b), (c) respectively for each of 16 personality traits;

(i) discussing results of the sample of 935,
(ii) discussing results of the sample of 683,
(iii) discussing results of the sample of 325, and
(iv) discussing results of the sample of 143 subjects;

- (a) giving the mean scores of each of main as well as sub-groups,
- (b) summarizing the results of analysis of variance, (F-test), and
- (c) presenting the results of L.S.D. tests on sub-groups. The procedure of presentation is the same as that is followed in the earlier chapter.

All the results have been discussed in the pages that follow.

5.1 PERSONALITY FACTOR A (CYCLOTHYMIA vs SCHIZOTHYMIA) AND GIFTEDNESS

This factor A in Cattell's Personality Test refers to the positive side to cyclical traits such as easy-goingness, co-operativeness, adaptability, trustfulness, soft and warm heartedness, etc.

The scores on this factor obtained by different groups of subjects namely - (i) 935 intellectually gifted subjects arranged in a 3 x 2 factorial design (3 levels of I.Q. x 2 sexes) and other groups separated out from this main group, viz. (ii) 683 intellectually gifted subjects arranged in a 2 x 2 x 3 factorial design (two levels of I.Q. x two sexes x three age levels), (iii) 325 functionally (manifest) gifted subjects arranged in a 3 x 2 factorial design (three I.Q. level x two sexes) and finally (iv) 143 gifted-nongifted subjects arranged in a 2 x 2 factorial design (two extreme I.Q. levels x two sexes) - were all statistically analysed by the F-test and the L.S.D. test; and all these results on this factor have been summarized in Tables 5.1(i),(ii),(iii),(iv) - (a), (b), (c) respectively for the four samples, (a) showing mean scores of main as well as sub-groups, (b) presenting the summary of results of analysis of variance, and (c) summarizing the results of L.S.D. test.

Table 5.1(i)(a) : Showing Mean Scores on Personality Factor A (Cyclothymia vs Schizothymia) of each of Main and Sub-groups (Sample size : 935) (I.Q. x Sex)

		Extraordinary	Very Superior	Superior	Total
Boys :	Nos.	15	76	334	425
	Scores	52	249	1156	1457
	Mean	3.47	3.28	3.46	3.43
Girls :	Nos.	36	145	329	510
	Scores	115	481	1050	1646
	Mean	3.194	3.32	3.191	3.23
Total :	Nos.	51	221	663	935
	Scores	167	730	2206	3103
	Mean	3.27	3.30	3.33	3.32

Table 5.1(i)(b) : Showing Summary of Analysis of Variance Results of

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	2	0.19	0.95	0.29	Not Sig.
Between Sex	1	9.34	9.34	2.84	Not Sig.
Interaction: I.Q. x Sex	2	3.66	1.83	0.56	Not Sig.
Within Groups (Error term)	929	3059.83	3.29		
Total	934	3073.02			

From the statistical table

For df =	2/929	1/929
F at .05 =	3.00	3.85
F at .01 =	4.63	6.66

Table 5.1(i) (c) : Showing Results of L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.96 and at .01 = 2.58)

	Obtained Mean Difference	Required Difference .05	.01	Significance
(i) For I.Q. Differences :				
Among Main Groups -				
Extraordinary vs Very Sup.	.03	.54	.72	Not Sig.
Extraordinary vs Superior	.06	.51	.67	Not Sig.
Very Superior vs Superior	.03	.27	.36	Not Sig.
Among Boys -				
Extraordinary vs Very Sup.	.19	.99	1.32	Not Sig.
Extraordinary vs Superior	.01	.94	1.23	Not Sig.
Very Superior vs Superior	.18	.45	.59	Not Sig.
Among Girls -				
Extraordinary vs Very Sup.	.13	.67	.88	Not Sig.
Extraordinary vs Superior	.01	.63	.83	Not Sig.
Very Superior vs Superior	.13	.35	.46	Not Sig.
(ii) For Sex Differences :				
Among Extraordinary -				
Boys vs Girls	.28	1.10	1.44	Not Sig.
Among Very Superior -				
Boys vs Girls	.04	.51	.67	Not Sig.
Among Superior -				
Boys vs Girls	.27	.28	.36	Not Sig.

Table 5.1(ii)(a) : Showing Mean Scores on Personality Factor A (Cyclothymia Versus Schizothymia) of each of main and Sub-groups.
(Sample Size : 683) (I.Q. x Sex x Age)
(According to Age)

	Age in Years 13			14			15			Total			Total (Sexwise)		
	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean
Boys (M):															
Highly Superior I_1	31	103	3.32	32	111	3.47	32	86	2.68	95	300	3.15	304	1031	3.39
Superior I_2	39	140	3.59	85	287	3.38	85	304	3.57	209	731	3.49			
Girls (F)															
Highly Superior I_1	30	89	2.97	64	220	3.44	71	234	3.29	165	543	3.29	379	1213	3.20
Superior I_2	56	186	3.32	75	224	2.99	83	260	3.13	214	670	3.13			
Total (I.Q.wise)															
Highly Superior I_1	61	192	3.15	96	331	3.45	103	320	3.10	260	843	3.24	683	2244	3.29
Superior I_2	95	326	3.43	160	511	3.19	168	564	3.35	423	1401	3.31			
Total (Agewise)	156	518	3.32	256	842	3.29	271	884	3.26	683	2244	3.29			

Table 5.1(ii)(b) : Showing Summary of Analysis of Variance

Sources of Variance	df	Sum of Squares (SS)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	1	0.78	0.78	0.34	Not. Sig.
Between Sex	1	6.15	6.15	2.68	Not. Sig.
Between Age	2	0.34	0.17	0.07	Not. Sig.
Interaction: I.Q. x Sex	1	9.14	9.14	3.99	Sig.at 0.5
Interaction: I.Q. x Age	2	10.10	5.05	2.21	Not.Sig.
Interaction : Sex x Age	2	0.53	0.26	0.11	Not. Sig.
Interaction : IQ x Sex x Age	2	11.98	5.99	2.61	Not. Sig.
Within Groups (Error term)	671	1537.31	2.29		
Total:	682	1576.33			

From the Statistical Table

df	= 1/671	2/671
F at .05	= 3.857	3.007
F at .01	= 6.681	4.644

Table 5.1(ii)(c): Showing Results of L.S.D. test for Pair Differences among I.Q., Sex and Age Sub-Groups

$$L.S.D. = t\sqrt{MS_w/N_1 + MS_w/N_2}$$

(t for df of MS_w at .05 = 1.96 and at .01 = 2.58)

1	Obtained Mean Differences 2	Required Differences .05 3	.01 4	Significance 5
(i) For I.Q. Differences :				
Among Boys of -				
13 years : Highly Sup. vs Sup.	.18	.71	.93	Not sig.
14 years : ,, ,,	.09	.61	.80	not sig.
15 years ,, ,,	.89	.61	.80	sig. at .01
Among Girls of -				
13 years : ,, ,,	.35	.67	.88	Not sig.
14 years : ,, ,,	.45	.51	.67	not sig.
15 years : ,, ,,	.16	.47	.62	not sig.
(ii) For Sex Differences :				
Among Highly Superior -				
13 years : Boys vs Girls	.35	.76	1.01	not sig.
14 years : ,, ,,	.03	.65	.85	not sig.
15 years : ,, ,,	.61	.63	.83	not sig.
Among Superior -				
13 years ,, ,,	.27	.63	.83	not sig.
14 years ,, ,,	.39	.47	.62	not sig.
15 years ,, ,,	.44	.45	.59	not sig.

contd....

Table 5.1(ii)(c) contd.....

1	2	3	4	5
(iii) For Age Differences -				
Among Main Groups -				
13 years Vs 14 years	.03	.29	.39	not sig.
13 years Vs 15 years	.06	.29	.39	not sig.
14 years Vs 15 years	.03	.25	.34	not sig.
Among Highly Superior Boys :				
13 years Vs 14 years	.15	.74	.98	not sig.
13 years Vs 15 years	.64	.74	.98	not sig.
14 years Vs 15 years	.79	.74	.98	sig.at .05
Among Superior Boys -				
13 years Vs 14 years	.21	.59	.77	Not. sig.
13 years Vs 15 years	.02	.59	.77	not sig.
14 years Vs 15 years	.19	.45	.59	not sig.
Among Highly Superior Girls-				
13 years Vs 14 Years	.47	.67	.88	not sig.
13 years Vs 15 years	.32	.65	.85	not sig.
14 years Vs 15 years	.15	.51	.67	not sig.
Among Superior Girls -				
13 years Vs 14 years	.33	.53	.70	not sig.
13 years Vs 15 years	.19	.51	.67	not sig.
14 years Vs 15 years	.14	.47	.62	not sig.

Table 5.1(iii)(a): Showing Mean Scores on Personality Factor A (Cyclothymia vs Schizothymia) of each of Main and Sub-groups (Sample Size : 325) (I.Q. x Sex)

		Extra-ordinary	Very-Superior	Superior	Total
Boys :	Nos.	10	49	106	165
	Scores	38	166	348	552
	Mean	3.80	3.39	3.28	3.35
Girls :	Nos.	19	51	90	160
	Scores	58	171	270	499
	Mean	3.05	3.35	3.00	3.12
Total :	Nos.	29	100	196	325
	Scores	96	337	618	1051
	Mean	3.31	3.37	3.15	3.23

Table 5.1(iii)(b): Showing Results of Summary of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	2	3.30	1.65	0.84	Not Sig.
Between Sex	1	4.18	4.18	2.12	Not Sig.
Interaction: (I.Q. x Sex)	2	3.41	1.71	0.87	Not Sig.
Within Groups (Error Term)	319	627.34	1.97		
Total	324	638.23			

From statistical table

For df =	2/319	1/319
F at .05 =	3.028	3.868
F at .01 =	4.676	6.716

Table 5.1(iii)(c) : Showing Results of L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t \sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.97 and at .01 = 2.59)

	Obtained Mean Difference	Required Difference .05	.01	Significance
(i) For I.Q. Differences :				
Among Main Groups -				
Extraordinary vs Very Sup.	.06	.57	.75	Not Sig.
Extraordinary vs Superior	.16	.55	.73	Not Sig.
Very Superior vs Superior	.22	.33	.44	Not Sig.
Among Boys -				
Extraordinary vs Very Superior	.41	.97	1.27	Not Sig.
Extraordinary vs Superior	.52	.91	1.19	Not Sig.
Very Superior vs Superior	.11	.47	.62	Not Sig.
Among Girls -				
Extraordinary vs Very Superior	.30	.75	.98	Not Sig.
Extraordinary vs Superior	.05	.69	.91	Not Sig.
Very Superior vs Superior	.35	.49	.65	Not Sig.
(ii) For Sex Differences :				
Among Extraordinary -				
Boys vs Girls	.75	1.08	1.42	Not Sig.
Among Very Superior -				
Boys vs Girls	.04	.71	.93	Not Sig.
Among Superior -				
Boys vs Girls	.28	.39	.52	Not Sig.

Table 5.1(iv)(a): Showing Mean Scores on Personality Factor A (Cyclothymia vs Schizothymia) of each of Main and Sub-groups (Sample Size : 143)
(I.Q. x Sex)

		Extraordinary (Gifted)	Backward (Non-gifted)	Total
Boys	: Nos.	15	61	76
	Scores	52	198	250
	Mean	3.47	3.25	3.29
Girls	: Nos.	36	31	67
	Scores	115	106	221
	Mean	3.19	3.42	3.30
Total	: Nos.	51	92	143
	Scores	167	304	471
	Mean	3.27	3.30	3.29

Table 5.1(iv)(b) : Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	1	0.02	0.02	.008	Not Sig.
Between Sex	1	0.01	0.01	.004	Not Sig.
Interaction: I.Q. x Sex	1	1.39	1.39	0.58	Not Sig.
Within Groups (Error term)	139	334.25	2.40		
Total	142	335.66			

From statistical table

For df = 1/139
F at .05 = 3.91
F at .01 = 6.825

Table 5.1(iv)(c): Showing Results of L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.98 and at .01 = 2.615)

	Obtained Mean Difference	Required Difference .05	.01	Significance
(i) For I.Q. Differences :				
Among Boys -				
Extraordinary vs Backward	.22	.89	1.18	Not Sig.
Among Girls -				
Extraordinary vs Backward	.23	.75	.99	Not Sig.
(ii) For Sex Differences :				
Among Extraordinary -				
Boys vs Girls	.28	.95	1.26	Not Sig.
Among Backward -				
Boys vs Girls	.17	.67	.89	Not Sig.

The maximum score on this factor is ten, and the average scores obtained by the four groups amounted to 3.32, 3.29, 3.23 and 3.29 respectively, i.e., on an average the subjects under study are not high on cyclothymia, i.e., are only somewhat easy-going, adaptable, warm-hearted, etc. the role of other factors under study is discussed below.

The results in Table 5.1(i)(b) reveal that neither giftedness (I.Q.) nor sex nor their interaction played any significant role in contributing to this factor. Even the closer analysis of results by L.S.D. test in Table 5.1(i)(c) shows no sub-group

pair differences anywhere in the main sample of 935 subjects. However, when data were analysed in a 2 x 2 x 3 factorial way for 683 subjects, the interaction between I.Q. and sex was found significant as shown in Table 5.1(ii)(b). This is explained from results in Table 5.1(ii)(c) which shows that though not a single main group was significantly different from the other, highly superior differed from superior among boys of 15 age, and among the highly superior boys, 14 age differed from 15 age; while there were no differences in any group of girls. Further, superior boys scored higher (3.49) than highly superior boys (3.15), while highly superior girls scored higher (3.29) than superior girls (3.13) on this factor A, and this accounts for significant interaction of I.Q. and sex. The results of analysis of data of 325 functionally gifted children in Table 5.1(iii)(b) and also of 143 gifted - nongifted children in Table 5.1(iv)(b) also show that neither I.Q. nor sex nor any interaction was significant.

To sum up, neither giftedness (I.Q.) nor sex, nor age nor their interaction generally played any significant role in contributing to the personality factor A (cyclothymia), except among highly superior boys of 15 (scoring very low 3.15) and superior girls of 15 (with the lowest score of 3.13), accounting for significant I.Q. x sex interaction in I.Q. x Sex x Age design.

5.2 PERSONALITY FACTOR B (GENERAL INTELLIGENCE vs MENTAL DEFECT) AND GIFTEDNESS

The factor B in the test refers on the positive side to general intelligence, carrying with it the ratings on being conscientious, persevering, intellectually cultured, etc.

The scores on this factor obtained by the same four groups of subjects arranged in a factorial design were statistically analysed by the F-test and the L.S.D. test as usual and the results have been summarized in Tables 5.2(i), (ii), (iii), (iv); (a), (b), (c) following the same procedure of presentation as in the earlier factor A.

Table 5.2(i)(a): Showing Mean Scores on Personality Factor B (General Intelligence vs Mental Defect) of each of Main and Sub-groups. (Sample Size :935)
(I.Q. x Sex)

		Extra-ordinary	Very Superior	Superior	Total
Boys :	Nos.	15	76	334	425
	Scores	96	521	2047	2664
	Mean	6.40	6.85	6.28	6.27
Girls :	Nos.	36	145	329	510
	Scores	254	899	1873	3026
	Mean	7.05	6.20	5.69	5.93
Total :	Nos.	51	221	663	935
	Scores	350	1420	3920	5690
	Mean	6.86	6.42	5.91	6.09

Table 5.2(i)(b): Showing Summary of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	2	76.17	38.85	3.76	Sig.at .05
Between Sex	1	26.01	26.01	2.52	Not Sig.
Interaction: I.Q. x Sex	2	31.42	15.71	1.52	Not Sig.
Within Groups (Error term)	929	9603.56	10.34		
Total	934	9737.16			

From the statistical table

For df =	2/929	1/929
F at .05 =	3.00	3.85
F at .01 =	4.63	6.66

Table 5.2(i)(c): Showing Results of L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.96 and at .01 = 2.58)

	Obtained Mean Difference	Required Difference .05	.01	Significance
(i) For I.Q. Differences :				
Among Main Groups -				
Extraordinary vs Very Sup.	0.44	0.99	1.30	Not Sig.
Extraordinary vs Superior	0.95	0.92	1.21	Sig.at .05
Very Superior vs Superior	0.51	0.49	0.65	Sig.at .05

(continued)

(Table 5.2(i)(c) continued)

	Obtained Mean Difference	Required Difference .05	.01	Significance
Among Boys -				
Extraordinary vs Very Superior	.45	1.78	2.35	Not Sig.
Extraordinary vs Superior	.12	1.67	2.19	Not Sig.
Very Superior vs Superior	.57	.94	1.24	Not Sig.
Among Girls -				
Extraordinary vs Very Superior	.85	1.16	1.52	Not Sig.
Extraordinary vs Superior	1.36	1.08	1.44	Sig.at .05
Very Superior vs Superior	.51	.61	.83	Not Sig.
(ii) For Sex Differences :				
Among Extraordinary -				
Boys vs Girls	.65	1.94	2.55	Not Sig.
Among Very Superior -				
Boys vs Girls	.65	.90	1.17	Not Sig.
Among Superior -				
Boys vs Girls	.59	.49	.65	Sig.at .05

Table 5.2 (ii) (a) : Showing Mean Scores on Personality factor B (General Intelligence Versus Mental Defect) of each of main and Sub-Groups.
(Sample Size : 683) (I.Q. x Sex x Age) (According to Age)

	Age in years									Total			Total (Sexwise)		
	13			14			15								
	Nos	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean
Boys (M)															
Highly Superior I_1	31	208	6.70	32	219	6.84	32	225	7.03	95	652	6.86	304	1944	6.39
Superior I_2	39	230	5.89	85	534	6.28	85	528	6.21	209	1292	6.18			
Girls (F)															
Highly Superior I_1	30	180	6.00	64	401	6.26	71	467	6.57	165	1048	6.35	379	2278	6.01
Superior I_2	56	316	5.64	75	444	5.92	83	470	5.66	214	1230	5.74			
Total (I.Q.wise)															
Highly Superior I_1	61	388	6.36	96	620	6.45	103	692	6.71	260	1700	6.53	683	4222	6.18
Superior I_2	95	546	5.74	160	978	6.11	168	998	5.94	423	2522	5.96			
Total (Agewise)	156	934	5.99	256	1598	6.24	271	1690	6.23	683	4222	6.18			

Table 5.2(ii)(b): Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	1	53.47	53.47	51.91	Sig.at .01
Between Sex	1	24.89	24.89	24.16	Sig.at .01
Between Age	2	7.64	3.81	3.69	Sig.at .05
Interaction: IQ x Sex	1	10.89	10.89	10.57	Sig.at .01
Interaction: IQ x Age	2	6.33	3.16	3.06	Sig.at .05
Interaction: Sex x Age	2	0.65	0.31	0.30	Not Sig.
Interaction: IQ x Sex x Age	2	2.25	1.15	1.11	Not Sig.
Within Groups (Error term)	671	695.37	1.03		
Total	682	801.49			

From the statistical table

For df	=	1/671	2/671
F at .05	=	3.857	3.007
F at .01	=	6.681	4.644

Table 5.2(ii)(c) : Shwoing Results of L.S.D. Test for Pair Differences among I.Q. , Sex and Age SubGroups.

$$L.S.D. = t\sqrt{MS_w/N_1 + MS_w/N_2}$$

(t for df of MS_w at .05 = 1.96 and at .01 = 2.58)

1		Obtained Mean Differences	Required Differences .05	.01	Significance.
		2	3	4	5
(i)	For I.Q. Differences :				
	Among Boys of -				
13 years	: Highly Sup. Vs Sup.	.81	.47	.62	sig.at.01
14 years	: ,, ,,	.56	.41	.54	sig.at.01
15 years	: ,, ,,	.82	.41	.54	sig.at.01
	Among Girls of -				
13 years	: ,, ,,	.36	.45	.59	not sig.
14 years	: ,, ,,	.34	.33	.44	sig.at.05
15 years	: ,, ,,	.91	.31	.41	sig.at.01
(ii)	For Sex Differences :				
	Among Highly Superior -				
13 years	: Boys Vs Girls	.70	.51	.67	sig.at.01
14 years	: ,, ,,	.58	.43	.57	Sig.at.01
15 years	: ,, ,,	.46	.43	.57	Sig.at.01
	Among Superior -				
13 years	: ,, ,,	.25	.41	.54	not sig.
14 years	: ,, ,,	.36	.31	.41	Sig.at.05
15 years	: ,, ,,	.55	.31	.41	sig.at.01

Contd....

Table 5.2(ii)(c) contd...

1.	2.	3.	4.	5.
(iii) For Age Differences -				
Among Main Groups :				
13 years Vs 14 years	.25	.20	.27	Sig.at.05
13 years Vs 15 years	.26	.20	.26	Sig.at.05
14 years Vs 15 years	.01	.17	.27	Not.sig.
Among Highly Superior Boys-				
13 years Vs 14 years	.14	.51	.67	not sig.
13 years Vs 15 years	.33	.51	.67	not sig.
14 years Vs 15 years	.19	.49	.65	not sig.
Among Superior Boys -				
13 years Vs 14 years	.39	.39	.52	sig.at.05
13 years Vs 15 years	.32	.39	.52	not sig.
14 years Vs 15 years	.07	.29	.39	not sig.
Among Highly Superior Girls-				
13 years Vs 14 years	.26	.43	.57	not sig.
13 years Vs 15 years	.57	.43	.57	sig.at.01
14 years Vs 15 years	.31	.33	.44	not sig.
Among Superior Girls -				
13 years Vs 14 years	.20	.35	.46	not sig.
13 years Vs 15 years	.02	.37	.49	not sig.
14 years Vs 15 years	.26	.31	.41	not sig.

Table 5.2(iii)(a): Showing Mean Scores on Personality Factor B (General Intelligence vs Mental Defect) of each of Main and Sub-groups (Sample Size : 325) (I.Q. x Sex)

		Extraordinary	Very Superior	Superior	Total
Boys :	Nos.	10	49	106	165
	Scores	71	333	660	1064
	Mean	7.10	6.80	6.23	6.45
Girls :	Nos.	19	51	90	160
	Scores	134	324	524	982
	Mean	7.05	6.35	5.82	6.14
Total :	Nos.	29	100	196	325
	Scores	205	657	1184	2046
	Mean	7.07	6.57	6.04	6.30

Table 5.2(iii)(b): Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	2	37.60	18.80	7.77	Sig.at .01
Between Sex	1	7.86	7.86	3.25	Not Sig.
Interaction: I.Q. x Sex	2	4.99	2.49	1.02	Not Sig.
Within Groups (Error term)	319	771.19	2.42		
Total	324	821.64			

From Statistical table

For df =	2/319	1/319
F at .05 =	3.028	3.868
F at .01 =	4.676	6.716

Table 5.2(iii)(c): Showing Results of L.S.D. Test for Pair Differences among I.Q., Sex Sub-groups

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.97 and at .01 = 2.59)

	Obtained Mean Difference	Required Difference .05	.01	Significance
(i) For I.Q. Differences :				
Among Main Groups -				
Extraordinary vs Very Superior	0.50	0.64	0.85	Not Sig.
Extraordinary vs Superior	1.03	0.61	0.80	Sig. at .01
Very Superior vs Superior	0.53	0.37	0.49	Sig. at .01
Among Boys -				
Extraordinary vs Very Superior	0.30	1.08	1.40	Not Sig.
Extraordinary vs Superior	0.87	1.01	1.32	Not Sig.
Very Superior vs Superior	0.57	0.53	0.70	Not Sig.
Among Girls -				
Extraordinary vs Very Superior	0.70	0.84	1.11	Not Sig.
Extraordinary vs Superior	1.23	0.77	1.01	Sig. at .01
Very Superior vs Superior	0.53	0.53	0.70	Sig. at .05
(ii) For Sex Differences :				
Among Extraordinary - Boys vs Girls	0.05	1.20	1.58	Not Sig.
Among Very Superior - Boys vs Girls	0.45	0.61	0.80	Not Sig.
Among Superior - Boys vs Girls	0.41	0.43	0.57	Not Sig.

Table 5.2(iv)(a): Showing Mean Scores on Personality Factor B (General Intelligence vs Mental Defect) of each of Main and Sub-groups. (Sample Size: 143)

(I.Q. x Sex)

		Extraordinary (Gifted)	Backward (Non-gifted)	Total
Boys :	Nos.	15	61	76
	Scores	96	240	336
	Mean	6.40	3.93	4.42
Girls :	Nos.	36	31	67
	Scores	254	110	364
	Mean	7.05	3.54	5.43
Total :	Nos.	51	92	143
	Scores	350	350	700
	Mean	6.86	3.80	4.89

Table 5.2(iv)b): Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	1	306.91	306.91	49.90	Sig.at .01
Between Sex	1	36.45	36.45	5.93	Sig.at .05
Interaction: I.Q. x Sex	1	28.84	28.84	4.68	Sig.at .05
Within Groups (Error term)	139	855.23	6.15		
Total	142	1227.43			

From statistical table

For df = 1/139

F at .05 = 3.91

F at .01 = 6.825

Table 5.2(iv)(c): Showing Results of L.S.D. Test for Pair Differences among I.Q., Sex Sub-groups

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w + N_2}$$

(t for df of MS_w at .05 = 1.98 and at .01 = 2.615)

	Obtained Mean Difference	Required Difference .05	.01	Significance
(i) For I.Q. Differences :				
Among Boys -				
Extraordinary vs Backward	2.47	1.41	1.86	Sig.at .01
Among Girls -				
Extraordinary vs Backward	3.51	1.21	1.60	Sig.at .01
(ii) For Sex Differences :				
Among Extraordinary -				
Boys vs Girls	0.65	1.50	1.99	Not Sig.
Among Backward - Boys vs Girls	0.39	1.09	1.44	Not Sig.

The maximum score on this factor is also 10, and the average scores of the four groups of 935, 683, 325 and 143 subjects on this factor B were respectively 6.09, 6.18, 6.30, and 6.86 by the gifted 51 and 3.80 by the backward 92, both making an average of 4.89 on the whole. The subjects under study are above average on this factor, i.e. are somewhat more conscientious; persevering and intellectual. Its relation to other factors is discussed below.

As it would be seen from the results in Table 5.2(i)(b), only giftedness (I.Q.) contributed significantly to this factor B of general intelligence. This is as expected. Among these I.Q. groups, there was no significant difference between the extraordinary and the very superior, but the superior differed both from the extraordinary and the very superior on the whole. No other factor sex nor interaction was significant in analysis of data of 935 subjects.

The closer examination of results of L.S.D. test on data of 935 subjects reveals that no I.Q. groups differed among boys, but among girls only the extraordinary and the superior differed Similarly though there were no sex differences on the whole, the superior group showed sex differences in favour of boys.

The results in Table 5.2(ii)(b) of 683 subjects, analysing the I.Q., sex and age reveals that all the three factors viz. giftedness, sex and age [illegible] contributed significantly to factor B, and in addition shows significant I.Q. x sex and I.Q. x age interactions. Thus, among I.Q. main groups, as expected the highly superior scored significantly higher (6.53) than the superior (5.96); the boys scored significantly higher (6.39) than girls (6.01); and among the age groups, 13 age group was significantly different and lower (5.99) than both the 14 [illegible] age group (with score 6.24) and the 15 age group (with score 6.23) [illegible] both being almost equal.

Examining the L.S.D. test results in Table 5.2(ii)(c) all I.Q. groups differed at all ages and in both sexes, except the highly superior and superior being not different among girls of 13 age. Among sex groups, there were sex differences in all sub-groups, except among superior of 13 age. Among the age groups though there were significant age differences on the whole, especially between 13 vs 14, and 13 vs 15, no sub-group age pair showed significant age differences, except superior boys 13 vs 14 and highly superior girls 13 vs 15. Though the highly superior scored higher than the superior at all three ages or in both sexes, the gap between two I.Q. levels differed at different age and sex levels and this accounted for I.Q. x sex and also I.Q. x age significant interactions.

The results in Table 5.2(iii)(b) of 325 subjects show the same picture as in Table 5.2(i)(b), i.e. only giftedness being significant; the results in Table 5.2(iii)(c) show that extraordinary and very superior are not different, but superior differed from both other I.Q. groups on the whole. Further, among boys no I.Q. group differed; but among girls superior differed from both extraordinary and very superior, both mutually not different as on the whole. There were no sex differences in any sub-group.

Finally, the results of 143 subjects in Table 5.2(iv)(b) reveal that I.Q., sex and their interaction are all significant. The gifted scored definitely higher (6.86) than the non-gifted (3.80); and surprisingly girls scored higher (5.43) than boys (4.42), in contrast to boys getting in all earlier three samples higher than girls (though not always significant). However, the closer examination of figures in Table 5.2(iv)(a) and results in Table 5.2(iv)(c) show that the extraordinary scored significantly higher than the backward both among boys as well as girls on the whole; but among the extraordinary, girls scored higher than boys and among the backward, boys scored higher than girls though not significantly at any I.Q. level. This accounted for significant I.Q. x sex interaction.

To sum up, giftedness was a significantly contributing factor to personality factor B in all cases. Sex was significant in some cases, particularly in case of both superior as well as highly superior of 14 and also 15 ages. Age was significant on the whole and particularly making 13 age group lowly different from 14 age group in case of superior boys, and from 15 age group in case of highly superior girls, all these accounting for significant I.Q. x sex and I.Q. x age interactions.

5.3 PERSONALITY FACTOR C (EMOTIONAL STABILITY OR EGO STRENGTH vs DISSATISFIED EMOTIONALITY) AND GIFTEDNESS

This factor C refers on the positive side to emotional stability; including ego strength, emotional maturity, absence of neuroticism, being calm, phlegmatic, realistic, placid, etc.

The scores on this factor in all four groups were statistically analysed separately and the results have been summarized in Tables 5.3(i),(ii),(iii),(iv) - (a),(b),(c).

Table 5.3 (i)(a): Showing Mean Scores on Personality Factor C (Emotional Stability or Ego Strength vs Dissatisfied Emotionality) of each of Main and Sub-groups (Sample Size:935) (I.Q. x Sex)

		Extra-ordinary	Very Superior	Superior	Total
Boys :	Nos.	15	76	334	425
	Scores	71	371	1587	2029
	Mean	4.73	4.88	4.78	4.77
Girls :	Nos.	36	145	329	510
	Scores	159	676	1501	2336
	Mean	4.41	4.66	4.47	4.58
Total :	Nos.	51	221	663	935
	Scores	230	1047	3088	4365
	Mean	4.50	4.73	4.62	4.67

Table 5.3(i)(b): Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	2	2.41	1.20	0.28	Not Sig.
Between Sex	1	9.27	9.27	2.13	Not Sig.
Interaction: I.Q. x Sex	2	40.10	20.05	4.60	Sig.at .05
Within Groups (Error term)	929	4052.44	4.36		
Total	934	4104.22			

From the statistical table

For df =	2/929	1/929
F at .05 =	3.00	3.85
F at .01 =	4.63	6.66

Table 5.3.(i)(c) : Showing Results of L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.96 and at .01 = 2.58)

	Obtained Mean Difference	Required Difference .05	.01	Significance
(i) For I.Q. Differences :				
Among Main Groups -				
Extraordinary vs Very Sup.	0.23	0.62	0.83	Not Sig.
Extraordinary vs Superior	0.12	0.58	0.77	Not Sig.
Very Superior vs Superior	0.11	0.31	0.41	Not Sig.
Among Boys -				
Extraordinary vs Very Sup.	0.15	1.16	1.52	Not Sig.
Extraordinary vs Superior	0.05	1.08	1.42	Not Sig.
Very Superior vs Superior	0.10	0.53	0.70	Not Sig.

(continued)

(Table 5.3(i)(c) continued)

	Obtained Mean Difference	Required Difference .05	.01	Significance
Among Girls -				
Extraordinary vs Very Sup.	0.25	0.76	1.01	Not Sig.
Extraordinary vs Superior	0.06	0.73	0.95	Not Sig.
Very Superior vs Superior	0.19	0.41	0.54	Not Sig.
(ii) For Sex Differences :				
Among Extraordinary -				
Boys vs Girls	0.32	1.27	1.68	Not Sig.
Among Very Superior				
Boys vs Girls	0.22	0.55	0.75	Not Sig.
Among Superior -Boys vs Girls	0.31	0.31	0.41	Sig.at .05

Table 5.3

Table 5.3(ii)(a) : Showing mean Scores on Personality Factor C (Emotional Stability or Egostrength Versus Dissatisfied Emotionality) of each of Main and Sub-groups. (According to Age)
(Sample size : 683) (I.Q. x Sex x Age)

	Age in years.												Total (Sexwise)		
	13			14			15			Total					
	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean
Boys (m)															
Highly Superior I_1	31	137	4.41	32	160	5.00	32	164	5.12	95	461	4.85	304	1474	4.85
Superior I_2	39	182	4.66	85	401	4.71	85	430	5.05	209	1013	4.84			
Girls (F)															
Highly Superior I_1	30	135	4.50	64	290	4.53	71	328	4.61	165	753	4.56	379	1716	4.53
Superior I_2	56	251	4.48	75	320	4.26	83	392	4.72	214	963	4.50			
Total (I.Q.wise)															
Highly Superior I_1	61	272	4.45	96	450	4.68	103	492	4.77	260	1214	4.66	683	3190	4.67
Superior I_2	95	433	4.55	160	721	4.50	168	822	4.89	423	1976	4.67			
Total (Agewise)	156	705	4.52	256	1171	4.57	271	1314	4.85	683	3190	4.67			

Table 5.3(ii)(b) : Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (SS)	Mean Squares (Variance)	F Ratios	Remarks
Between IQ (Giftedness)	1	0.01	0.01	0.003	Not Sig.
Between Sex	1	17.38	17.38	6.53	Sig.at .05
Between Age	2	14.54	7.27	2.73	Not.Sig.
Interaction : IQ x Sex	1	0.48	0.48	0.18	Not. Sig.
Interaction : IQ x Age	2	3.16	1.58	0.59	Not sig.
Interaction : Sex x Age	2	4.00	2.00	0.75	Not sig.
Interaction : IQ x Sex x Age	2	2.18	1.09	0.41	Not Sig.
Within Groups (error terms)	671	1785.13	2.66		
Total	682	1826.88			

From the statistical table

For	df = 1/671	2/671
	F at .05 = 3.857	3.007
	F at .01 = 6.681	4.644

Table 5.3(ii)(c) : Showing Results of L.S.D. Test for Pair Differences Among I.Q., Sex and Age Sub-Groups.

$$L.S.D. = t \sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.96 and at .01 = 2.58)

1.	Obtained Mean Difference	Required Difference. .05	.01	Significance.
	2	3	4	5
(i) For I.Q. Differences				
Among Boys of -				
13 years: Highly Sup. Vs Superior.	.25	.76	1.01	not sig.
14 years: ,, ,,	.29	.67	.88	not sig.
15 years : ,, ,,	.07	.67	.88	not sig.
Among Girls of -				
13 years : ,, ,,	.02	.73	.95	not sig.
14 years : ,, ,,	.27	.55	.72	Not sig.
15 years : ,, ,,	.11	.51	.67	not sig.
(ii) For Sex Differences :				
Among Highly Superior -				
13 years Boys Vs Girls	.09	.82	1.08	not sig.
14 years Boys Vs Girls	.47	.69	.90	not sig.
15 years Boys Vs Girls	0.51	.69	.90	not sig.
Among Superior -				
13 years Boys Vs Girls	.18	.67	.88	not sig.
14 years Boys Vs Girls	0.45	.51	.67	not sig.
15 years Boys Vs Girls	.33	.49	.65	not sig.

Contd.....

Table 5.3(ii)(c) Contd...

1.	2.	3.	4.	5.
(iii) For Age differences :				
Among Main Groups -				
13 years vs 14 years	.05	.33	.44	Not sig.
13 years vs 15 years	.33	.31	.41	sig.at.05
14 years vs 15 years	.28	.27	.36	sig.at.05
Among Highly Superior Boys				
13 years vs 14 years	.59	.80	1.06	not sig.
13 years vs 15 years	.71	.80	1.06	not sig.
14 years vs 15 years	.12	.80	1.06	not sig.
Among Superior Boys -				
13 years vs 14 years	.65	.63	.83	not sig.
13 years vs 15 years	.39	.63	.83	not sig.
14 years vs 15 years	.34	.49	.65	not sig.
Among Highly Superior Girls-				
13 years vs 14 years	.03	.71	.93	not sig.
13 years vs 15 years	.11	.71	.93	not sig.
14 years vs 15 years	.08	.55	.72	not sig.
Among Superior Girls -				
13 years vs 14 years	.22	.57	.75	not sig.
13 years vs 15 years	.24	.55	.72	not sig.
14 years vs 15 years	.46	.51	.67	not sig.

Table 5.3(iii)(a) : Showing Mean Scores on Personality Factor C (Emotional Stability or Ego Strength vs Dissatisfied Emotionality) of each of Main and Sub-groups (Sample Size 325) (I.Q. x Sex)

		Extra-ordinary	Very Superior	Superior	Total
Boys :	Nos.	10	49	106	165
	Scores	47	237	513	797
	Mean	4.70	4.83	4.84	4.83
Girls :	Nos.	19	51	90	160
	Scores	86	220	431	737
	Mean	4.53	4.31	4.79	4.61
Total :	Nos.	29	100	196	325
	Scores	133	457	944	1534
	Mean	4.59	4.57	4.82	4.72

Table 5.3(iii)(b) : Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	2	4.59	2.29	0.85	Not Sig.
Between Sex	1	4.08	4.08	1.51	Not Sig.
Interaction: I.Q. x Sex	2	3.08	1.54	0.57	Not Sig.
Within Groups (Error term)	319	860.77	2.70		
Total	324	872.52			

From statistical table

For df =	2/319	1/319
F at .05 =	3.028	3.868
F at .01 =	4.676	6.716

Table 5.3(iii)(c): Showing Results of L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w + N_2}$$

(t for df of MS_w at .05 = 1.97 and at .01 = 2.59)

	Obtained Mean Difference	Required Difference .05	.01	Significance
(i) For I.Q. Differences :				
Among Main Groups -				
Extraordinary vs Very Sup.	.02	.69	.91	Not Sig.
Extraordinary vs Superior	.23	.63	.83	Not Sig.
Very Superior vs Superior	.25	.39	.52	Not Sig.
Among Boys -				
Extraordinary vs Very Superior	.14	1.12	1.48	Not Sig.
Extraordinary vs Superior	.14	1.06	1.40	Not Sig.
Very Superior vs Superior	.01	.55	.72	Not Sig.
Among Girls -				
Extraordinary vs Very Superior	.22	.87	1.14	Not Sig.
Extraordinary vs Superior	.26	.81	1.06	Not Sig.
Very Superior vs Superior	.48	.57	.75	Not Sig.
(ii) For Sex Differences :				
Among Extraordinary -				
Boys vs Girls	.17	1.26	.17	Not Sig.
Among Very Superior -				
Boys vs Girls	.52	.65	.85	Not Sig.
Among Superior -				
Boys vs Girls	.05	.47	.62	Not Sig.

Table 5.3(iv)(a): Showing Mean Scores on Personality Factor C (Emotional Stability or Ego Strength vs Dissatisfied Emotionality) of each of Main and Sub-groups. (Sample Size : 143) I.Q. x Sex

		Extra-ordinary (Gifted)	Backward (Non-gifted)	Total
Boys :	Nos.	15	61	76
	Scores	71	232	303
	Mean	4.73	3.80	3.98
Girls :	Nos.	36	31	67
	Scores	159	123	282
	Mean	4.41	3.96	4.21
Total :	Nos.	51	92	143
	Scores	230	355	585
	Mean	4.50	3.85	4.09

Table 5.3(iv)(b): Showing Summary of Analysis of Variance Results of

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	1	13.91	13.91	8.28	Sig. at .0
Between Sex	1	1.76	1.76	1.05	Not Sig.
Interaction: (I.Q. x Sex)	1	.14	0.14	.08	Not Sig.
Within Groups (Error term)	139	234.01	1.68		
Total	142	249.82			

From statistical table

For df = 1/139

F at .05 = 3.91

F at .01 = 6.825

Table 5.3(iv)(c): Showing Results of L.S.D. Test for Pair Differences among I.Q., Sex Sub-groups

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.98 and at .01 = 2.615)

	Obtained Mean Difference	Required Difference .05	.01	Significance
(i) For I.Q. Differences :				
Among Boys -				
Extraordinary vs Backward	.93	.73	.97	Sig.at .05
Among Girls -				
Extraordinary vs Backward	.45	.63	.84	Not Sig.
(ii) For Sex Differences :				
Among Extraordinary -				
Boys vs Girls	.32	.79	1.05	Not Sig.
Among Backward -				
Boys vs Girls	.16	.57	.76	Not Sig.

The maximum score on this factor is ten, and the average scores of the four groups turned out to be 4.67, 4.67, 4.72 and 4.09 respectively, implying that the subjects under study were generally emotionally stable on an average. Results of further analysis are described below.

The results in Table 5.3(i)(b) of 935 subjects show that neither giftedness nor sex was independently significant, but their interaction was significant. The results in Table 5.3(i)(c)

reveal that though neither giftedness nor sex was not significant on the whole, there were just significant sex difference among the superior, and gaps were so unequal with unequal number in each cell that the interaction was made significant, though apparently boys tended to be higher than girls, and the order of I.Q. level sub-groups tended to be the same.

The results of 683 subjects analysed in I.Q. x sex x age design in Table 5.3(ii)(b) showed that only sex was significantly contributing to factor C of emotional stability; the boys were more stable (4.85) than girls (4.53). However, the detailed results in Table 5.3(ii)(c) show that there were no I.Q. differences at any age level among boys or girls. There were no sex differences at any age level or I.Q. level, though significant on the whole. As regards the age differences, (perhaps due to unequal numbers), though not significant on the whole, 15 age group (4.85) differed significantly from both the 13 age group (4.52) and the 14 age group (4.57) both mutually not different; and yet at no I.Q. level nor among any sex, there were not age pair differences significant (again perhaps due to unequal number in each cell).

The results of 325 subjects in Table 5.3(iii)(b) further reveal that neither giftedness nor sex nor the interaction was significant on the whole, or in any sub-group.

Finally, the results of 143 subjects in Table 5.3(iv)(b) reveal that again giftedness was contributing significantly to emotional maturity; the extraordinary scored higher (4.50) than the backward (3.85) on the whole. Neither sex nor interaction was significant. The Table 5.3(iv)(c) shows that only among the boys, the two I.Q. groups differed; not among girls.

To sum up, giftedness was contributing to emotional maturity only in case of boys compared with non-gifted boys. Sex appeared to be significant on the whole, though truly not in any sub-group, in an I.Q. x sex x age study due to unequal trends of unequal numbers in sub-group comparisons. Age was significant only at 15 age making it different from 13 and 14 age groups.

5.4. PERSONALITY FACTOR E (DOMINANCE OR ASCENDANCE vs SUBMISSION) AND GIFTEDNESS

This factor E refers on the positive side to dominant, aggressive, competitive, assertive, independent, stern, solemn, hard, unconventional, attention-getting, tough type of personality.

The scores on this factor of all the four groups were separately analysed in a factorial design by F-test and L.S.D. test, and the results have been summarized in Tables 5.4(i), (ii),(iii), (iv) - (a), (b) and (c) as usual.

Table 5.4(i)(a): Showing Mean Scores on Personality Factor E (Dominance or Ascendance vs Submission) of each of Main and Sub-groups (Sample Size : 935)
(I.Q. x Sex)

		Extra-ordinary	Very Superior	Superior	Total
Boys :	Nos.	15	76	334	425
	Scores	67	351	1612	2030
	Mean	4.46	4.61	4.82	4.78
Girls :	Nos.	36	145	329	510
	Scores	170	617	1311	2098
	Mean	4.72	4.25	3.98	4.11
Total :	Nos.	51	221	663	935
	Scores	237	968	2923	4128
	Mean	4.64	4.38	4.40	4.41

Table 5.4(i)(b): Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	2	3.03	1.51	0.30	Not Sig.
Between Sex	1	101.83	101.83	20.33	Sig.at .01
Interaction: I.Q. x Sex	2	22.80	11.40	2.28	Not Sig.
Within Groups (Error term)	929	4658.33	5.01		
Total	934	4785.99			

From the statistical table

For df =	2/929	1/929
F at .05 =	3.00	3.85
F at .01 =	4.63	6.66

Table 5.4(i)(c): Showing Results of L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w / N_1}$$

(t for df of MS_w at .05 = 1.96 and at .01 = 2.58)

	Obtained Mean Difference	Required Difference .05	.01	Significance
(i) For I.Q. Differences :				
Among Main Groups -				
Extraordinary vs Very Superior	0.26	0.69	0.90	Not Sig.
Extraordinary vs Superior	0.24	0.65	0.85	Not Sig.
Very Superior vs Superior	0.02	0.35	0.46	Not Sig.
Among Boys -				
Extraordinary vs Very Superior	0.15	1.23	1.63	Not Sig.
Extraordinary vs Superior	0.36	1.16	1.52	Not Sig.
Very Superior vs Superior	0.21	0.55	0.72	Not Sig.
Among Girls -				
Extraordinary vs Very Superior	0.47	0.82	1.08	Not Sig.
Extraordinary vs Superior	0.74	0.76	1.01	Not Sig.
Very Superior vs Superior	0.27	0.43	0.57	Not Sig.
(ii) For Sex Differences :				
Among Extraordinary -				
Boys vs Girls	0.26	1.35	1.78	Not Sig.
Among Very Superior -				
Boys vs Girls	0.36	0.63	0.83	Not Sig.
Among Superior - Boys vs Girls	0.84	0.35	0.44	Sig.at .01

Table 5.4 (ii) (a) : Showing Mean Scores on Personality Factor E (Dominance or Ascendance Versus Submission) of each of Main and Sub-groups. (According to age) (Sample Size : 683) (I.Q. x Sex x Age)

	Age in Years												Total (Sexwise)		
	13			14			15			Total					
	No.	Scores	Mean	Nos.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean
Boys (M)															
Highly Superior I_1	31	164	5.29	32	144	4.50	32	136	4.25	95	444	4.68	304	1443	4.75
Superior I_2	39	177	4.53	85	392	4.61	85	430	5.05	209	999	4.77			
Girls (F)															
Highly Superior I_1	30	140	4.66	64	271	4.23	71	306	4.30	165	717	4.34	379	1602	4.23
Superior I_2	56	221	3.94	75	328	4.37	83	336	4.04	214	885	4.13			
Total (I.Q. Wise)															
Highly Superior I_2	61	304	4.98	96	415	4.32	103	442	4.29	260	1161	4.46	683	3045	4.46
Superiod I_2	95	398	4.18	160	720	5.50	168	766	4.55	423	1884	4.45			
Total (Agewise)	156	702	4.50	256	1135	4.33	271	1208	4.46	683	3045	4.46			

Table 5.4(ii)(b) : Showing Summary of Analysis of Variance Results of

Sources of Variance	df	Sum of Squares (SS)	Mean Squares (Variance)	F Ratios	Remarks
Between IQ (Giftedness)	1	0.02	0.02	0.008	Not.sig.
Between Sex	1	45.58	45.58	20.16	Sig.at.01
Between Age	2	0.42	0.21	0.092	Not sig.
Interaction IQ x Sex	1	4.81	4.81	2.12	Not. sig.
Interaction IQ x Age	2	29.88	14.94	6.61	Sig.at.01
Interaction Sex x Age	2	6.36	3.18	1.41	not. sig.
Interaction IQ x Sex x Age	2	4.38	2.19	0.96	not sig.
Within groups (error term)	671	1521.12	2.26		
Total:	682	1612.57			

From the Statistical table

For	df = 1/671	2/671
	F at .05 = 3.857	3.007
	F at .01 = 6.681	4.644

Table 5.4(ii)(c) : Showing Results of L.S.D. Test for Pair Differences among I.Q., Sex and Age Sub-Groups.

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w / N_2}$$

t for df of MS_w at .05 = 1.96 and at .01 = 2.587

	Obtained Mean Difference	Required Difference .05	.01	Significance
1	2	3	4	5
(i) For I.Q. Differences :				
Among Boys of				
13 years Highly Sup. Vs Superior.	0.66	.71	.93	not sig.
14 years ,, ,,	0.11	.61	.80	not sig.
15 years ,, ,,	0.80	.61	.80	sig.at.01
Among Girls of				
13 years ,, ,,	0.72	.67	.88	sig.at.05
14 years ,, ,,	.14	.51	.67	not sig.
15 years ,, ,,	.26	.47	.62	not sig.
(ii) For Sex Differences :				
Among Highly Superior -				
13 year Boys Vs Girls	.63	.76	1.01	not sig.
14 ,, ,, ,,	.27	.65	.85	not sig.
15 ,, ,, ,,	.05	.63	.83	not sig.
Among Superior -				
13 ,, ,, ,,	.59	.63	.83	not sig.
14 ,, ,, ,,	.24	.47	.62	not sig.
15 ,, ,, ,,	1.01	.45	.59	sig.at.01

Contd..

Table 5.4 (ii) (c) contd....

1	2.	3.	4.	5.
(iii) For Age Differences:				
Among Main Groups -				
13 years vs 14 years	.17	.29	.39	not sig.
13 years vs 15 years	.04	.29	.39	not sig.
14 years vs 15 years	.13	.25	.34	not sig.
Among Highly Superior Boys				
13 years vs 14 years	.79	.74	.98	sig.at.05
13 years vs 15 years	1.04	.74	.98	sig.at.01
14 years vs 15. years	.25	.74	.98	not sig.
Among Superior Boys -				
13 years vs 14 years	.08	.59	.77	not sig.
13 years vs 15 years	.52	.59	.77	not sig.
14 years vs 15 years	.44	.45	.59	not sig.
Among Hihgly Superior Girls-				
13 years vs 14 years	.43	.67	.88	not sig.
13 years vs 15 years	.36	.65	.85	not sig.
14 years vs 15 years	.07	.51	.67	not sig.
Among Superior Girls -				
13 years vs 14 years	.43	.53	.70	not sig.
13 years vs 15 years	.10	.51	.67	not sig.
14 years vs 15 years	.33	.47	.62	not sig.

Table 5.4(iii)(a): Showing Mean Scores on Personality Factor E (Dominance or Ascendance vs Submission) of each of Main and Sub-groups. (Sample Size :325) (I.Q. x Sex)

		Extra-ordinary	Very Superior	Superior	Total
Boys :	Nos.	10	49	106	165
	Scores	42	218	486	746
	Mean	4.20	4.45	4.58	4.52
Girls :	Nos.	19	51	90	160
	Scores	93	239	368	700
	Mean	4.89	4.69	4.08	4.38
Total :	Nos.	29	100	196	325
	Scores	135	457	854	1446
	Mean	4.66	4.57	4.36	4.45

Table 5.4(b) : Showing Summary of Analysis of Variance (iii) Results of

Sources of Variance	df	Sum of Squares (Ss)	Mean Square (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	2	4.35	2.17	0.70	Not Sig.
Between Sex	1	1.73	1.73	0.56	Not Sig.
Interaction: I.Q. x Sex	2	8.81	4.41	1.42	Not Sig.
Within Groups (Error term)	319	991.52	3.11		
Total	324	1006.41			

From statistical table

For df =	2/319	1/319
F at .05=	3.028	3.868
F at .01=	4.676	6.716

Table 5.4.(iii)(c): Showing Results of L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w + N_2}$$

(t for df of MS_w at .05 = 1.97 and at .01 = 2.59)

	Obtained Mean Difference	Required Difference .05	.01	Significance
(i) For I.Q. Differences :				
Among Main Groups -				
Extraordinary vs Very Sup.	.09	.73	.96	Not Sig.
Extraordinary vs Superior	.30	.69	.91	Not Sig.
Very Superior vs Superior	.21	.43	.57	Not Sig.
Among Boys -				
Extraordinary vs Very Sup.	.25	1.20	1.58	Not Sig.
Extraordinary vs Superior	0.38	1.14	1.50	Not Sig.
Very Superior vs Superior	0.13	.59	.78	Not Sig.
Among Girls -				
Extraordinary vs Very Sup.	0.20	.93	1.22	Not Sig.
Extraordinary vs Superior	.81	1.17	.89	Not Sig.
Very Superior vs Superior	.61	1.20	1.58	Not Sig.
(ii) For Sex Differences :				
Among Extraordinary - Boys vs Girls	.69	1.36	1.79	Not Sig.
Among Very Superior - Boys vs Girls	.24	.63	.83	Not Sig.
Among Superior - Boys vs Girls	.50	.51	.67	Not Sig.

Table 5.4(iv)(a): Showing Mean Scores on Personality Factor E (Dominance or Ascendance vs Submission) of each of Main and Sub-groups. (Sample Size : 143) (I.Q. x Sex)

		Extra-ordinary (Gifted)	Backward (Non-gifted)	Total
Boys	: Nos.	15	61	76
	Scores	67	263	330
	Mean	4.46	4.31	4.34
Girls	: Nos.	36	31	67
	Scores	170	132	302
	Mean	4.72	4.25	4.51
Total	: Nos.	51	92	143
	Scores	237	395	632
	Mean	4.64	4.29	4.42

Table 5.4(iv)(b): Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	1	4.10	4.10	1.12	Not Sig.
Between Sex	1	0.97	0.97	0.27	Not Sig.
Interaction: I.Q. x Sex	1	.24	0.24	.07	Not Sig.
Within groups (Error term)	139	509.52	3.66		
Total	142	514.83			

From statistical table

For df = 1/139

F at .05 = 3.91

F at .01 = 6.825

Table 5.4.(iv)(c): Showing Results of L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_W / N_1 + MS_W / N_2}$$

(t for df of MS_W at .05 = 1.98 and at .01 = 2.615)

	Obtained Mean Difference	Required Difference .05	.01	Significance
(i) For I.Q. Differences :				
Among Boys - Extraordinary vs Backward	.15	1.09	1.44	Not Sig.
Among Girls - Extraordinary vs Backward	.47	.93	1.23	Not Sig.
(ii) For Sex Differences :				
Among Extraordinary - Boys vs Girls	.26	1.17	1.54	Not Sig.
Among Backward - Boys vs Girls	.08	.83	1.10	Not Sig.

The maximum score on this Factor is ten, and the four groups on an average scored 4.41, 4.46, 4.45 and 4.42 respectively, implying that all subjects are in the centre of the scale. The results of statistical analysis are discussed below.

The results in Table 5.4(i)(b) of 935 subjects show that only sex was a significant factor contributing to dominance. Neither giftedness nor interaction was significant. Boys were found more dominant (4.78) than girls (4.11) as expected.

However, the closer examination of the results in Table 5.4(i)(c) show that the sex differences were significant only among the superior, making also the sex differences on the whole significant. No other sub-group pair in I.Q. or sex was significant.

The results in Table 5.4(ii)(b) of 683 subjects also reveal that sex as well as I.Q. x age interaction were significant; neither giftedness nor age nor any other interaction showed significance. Again boys were more dominant (4.75) than girls (4.23) on the whole. However, at 13 for the highly superior were more dominant than the superior, while at 14 and 15 the superior were more dominant than the highly superior, and this accounts for significant interaction between I.Q. x age. The results in Table 5.4(ii)(c) show though giftedness was not significant on the whole the two I.Q. groups differed significantly at 15 age of boys, (superior being more dominant), and at 13 age of girls (highly superior being more dominant), Similarly, though sex differences were significant on the whole, detailed analysis shows significant sex differences only among the superior 15 age group. Similarly, though there were no significant age differences on the whole, the 13 age group differed significantly from 14 age group as well as from 15 age group in case of highly superior boys.

The Table 5.4(iii)(b) of 325 subjects showed neither giftedness nor sex nor their interaction to be significant on the whole or in any sub-group pair.

Finally, the results in Table 5.4(iv)(b) of 143 subjects also showed neither giftedness nor sex nor their interaction to be significant.

To sum up, only sex contributed significantly to dominance, boys being more dominant than girls on the whole and particularly among the superior group of 15 age. The highly superior were higher at 13 and lower at 14 and 15 on dominance, thus accounting for significant I.Q. x age interaction.

5.5 PERSONALITY FACTOR F (SURGENCY vs DESURGENCY) AND GIFTEDNESS

This factor F refers on the positive side to surgency, one of the most important component of extraversion; including the traits of being enthusiastic, happy-go-lucky, talkative, cheerful, frank, expressive, quick and alert etc.

The scores on this factor F of all the four groups were separately analysed statistically by F test and L.S.D. test and the results have been summarized in Tables 5.5(i),(ii), (iii), (iv) - (a), (b), and (c) as usual.

Table 5.5(i)(a): Showing Mean Scores on Personality Factor F (Surgency vs Desurgency) of each of Main and Sub-groups (Sample size : 935)

I.Q. x Sex

		Extra-ordinary	Very Superior	Superior	Total
Boys :	Nos.	15	76	334	425
	Scores	43	247	1042	1332
	Mean	2.87	3.25	3.12	3.13
Girls :	Nos.	36	145	329	510
	Scores	120	482	1042	1644
	Mean	3.33	3.32	3.17	3.22
Total :	Nos.	51	221	663	935
	Scores	163	729	2084	2976
	Mean	3.20	3.30	3.14	3.18

Table 5.5(i)(b) : Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	2	4.01	2.05	0.53	Not Sig.
Between Sex	1	1.85	1.85	0.48	Not Sig.
Interaction: I.Q. x Sex	2	1.19	0.59	0.15	Not Sig.
Within Groups (Error term)	929	3602.68	3.88		
Total	934	3609.73			

From the statistical table

For df =	2/929	1/929
F at .05 =	3.00	3.85
F at .01 =	4.63	6.66

Table 5.5(i)(c): Showing Results of L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.96 and at .01 = 2.58)

	Obtained Mean Difference	Required Difference .05	.01	Significance
(i) For I.Q. Differences :				
Among Main Groups -				
Extraordinary vs Very Sup.	.10	.61	.80	Not Sig.
Extraordinary vs Superior	.06	.51	.67	Not Sig.
Very Superior vs Superior	.16	.29	.39	Not Sig.
Among Boys -				
Extraordinary vs Very Superior	.38	1.08	1.42	Not Sig.
Extraordinary vs Superior	.25	1.02	1.34	Not Sig.
Very Superior vs Superior	.13	.49	.65	Not Sig.
Among Girls -				
Extraordinary vs Very Superior	.01	.73	.95	Not Sig.
Extraordinary vs Superior	.16	.69	.90	Not Sig.
Very Superior vs Superior	.15	.39	.52	Not Sig.
(ii) For Sex Differences :				
Among Extraordinary -				
Boys vs Girls	.46	1.20	1.57	Not Sig.
Among Very Superior				
Boys vs Girls	.07	.55	.72	Not Sig.
Among Superior				
Boys vs Girls	.05	.29	.39	Not Sig.

Table 5.5(ii)(a) : Showing Mean Scores on Personality Factor F(Surgency Versus Desurgency) of Each of Main and Sub-groups.(According to age)
(Sample Size : 683) (I.Q. x Sex : x Age)

	Age in Years												Total (Sexwise)		
	13			14			15			Total					
	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean
Boys (M)															
Highly Superior I_1	31	93	3.00	32	101	3.15	32	101	3.16	95	295	3.10	304	947	3.12
Superior I_2	39	119	3.05	85	265	3.11	85	268	3.15	209	652	3.11			
Girls (F)															
Highly Superior I_1	30	98	3.26	64	207	3.23	71	247	3.47	165	552	3.34	379	1228	3.24
Superior I_2	56	188	3.35	75	241	3.21	83	247	2.97	214	676	3.15			
Total (I.Q.wise)															
Highly Superior I_1	61	191	3.13	96	308	3.20	103	348	3.37	260	847	3.25	683	2175	3.18
Superior I_2	95	307	3.23	160	506	3.16	168	515	3.06	423	1328	3.13			
Total (Agewise)	156	498	3.19	256	814	3.17	271	863	3.18	683	2175	3.18			

Table 5.5 (ii) (b) : Showing summary of Results of analysis of Variance

Sources of Variance	df	Sum of Squares (SS)	Mean Squares (variance)	F Ratios	Remarks.
Between IQ (Giftedness)	1	2.24	2.24	1.10	not. sig.
Between sex	1	2.62	2.62	1.29	not sig.
Between age	2	0.02	0.01	0.004	not sig.
Interaction IQ x Sex	1	1.12	1.12	0.55	not sig.
Interaction IQ x Age	2	4.49	2.25	1.11	not sig.
Interaction Sex x Age	2	1.51	0.76	0.37	not sig.
Interaction IQ x Sex x Age	2	1.90	0.95	0.46	not sig.
Within groups (Error term)	671	1364.86	2.03		
Total	682	1378.76			

From the statistical table

For df =	1/671	2/671
F at .05 =	3.857	3.007
F at .01 =	6.681	4.644

Table 5.5(ii)(c) : Showing Results of L.S.D. Test for Pair Differences among I.Q., Sex and Age Sub-Groups.

$$L.S.D. = t \sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.96 and at .01 = 2.587)

1	Obtained Mean Difference 2	Required Difference .05 3	.01 4	Significance 5
(i) For I.Q. Differences				
Among Boys of				
13 years : Highly Sup vs. Superior	.05	.67	.88	not sig.
14 years : ,, ,,	.04	.59	.77	Not sig.
15years : ,, ,,	.01	.59	.77	not sig.
Among Girls of -				
13 years ,, ,,	.05	.63	.83	not sig.
14 years ,, ,,	.02	.47	.62	not sig.
15 years ,, ,,	0.50	.45	.59	sig.at.05
(ii) For Sex Differences				
Among Highly Seperior of -				
13 years Boys vs Girls	.26	.71	.93	not sig.
14 years ,, ,,	.08	.61	.80	not sig.
15 years ,, ,,	.31	.59	.77	not sig.
Among Superior of -				
13 years ,, ,,	.30	.59	.77	not sig.
14 years ,, ,,	.10	.45	.59	not sig.
15 years ,, ,,	.18	.43	.57	not sig.

Contd...

Table 5.5 (ii) (c) contd.....

1	2	3	4	5
(iii) For Age Differences :				
Among Main Groups -				
13 years vs 14 years	.02	.27	.36	not sig.
13 years vs 15 years	.01	.27	.36	not sig.
14 years vs 15 years	.01	.24	.31	not sig.
Among Highly superior boys -				
13 years vs 14 years	.15	.71	.93	not sig.
13 years vs 15 years	.16	.71	.93	not sig.
14 years vs 15 years	.01	.71	.93	not sig.
Among Superior Boys -				
13 years vs 14 years	.06	.55	.72	not sig.
13 years vs 15 years	.10	.55	.72	not sig.
14 years vs 15 years	.04	.47	.62	not sig.
Among Highly Superior Girls -				
13 years vs 14 years	.03	.63	.83	not sig.
13 years vs 15 years	.21	.61	.80	not sig.
14 years vs 15 years	.24	.49	.65	not sig.
Among Superior Girls -				
13 years vs 14 years	.14	.49	.65	not sig.
13 years vs 15 years	.38	.49	.65	not sig.
14 years vs 15 years	.24	.45	.59	not sig.

Table 5.5(iii)(a): Showing Mean Scores on Personality Factor F(Surgency vs Desurgency) of each of Main and Sub-groups. Sample Size : 325

I.Q. x Sex

		Extra-ordinary	Very Superior	Superior	Total
Boys :	Nos.	10	49	106	165
	Scores	29	143	337	509
	Mean	2.90	2.92	3.18	3.08
Girls :	Nos.	19	51	90	160
	Scores	62	170	293	525
	Mean	3.26	3.33	3.25	3.28
Total :	Nos.	29	100	196	325
	Scores	91	313	630	1034
	Mean	3.14	3.13	3.21	3.18

Table 5.5(iii)(b): Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	2	0.53	0.27	0.15	Not Sig.
Between Sex	1	3.14	3.14	1.69	Not Sig.
Interaction: I.Q. x Sex	2	19.48	9.74	5.24	Sig.at.01
Within Groups (Error term)	319	592.14	1.86		
Total	324	615.29			

From the statistical table

For df =	2/319	1/319
F at .05 =	3.028	3.868
F at .01 =	4.676	6.716

Table 5.5(iii)(c): Showing Results of L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.97 and at .01 = 2.59)

	Obtained Mean Difference	Required Difference .05	.01	Significance
(i) For I.Q. Differences :				
Among Main Groups -				
Extraordinary vs Very Sup.	0.01	0.55	0.73	Not Sig.
Extraordinary vs Superior	0.07	0.53	0.70	Not Sig.
Very Superior vs Superior	0.08	0.33	0.44	Not Sig.
Among Boys -				
Extraordinary vs Very Sup.	0.02	0.92	1.22	Not Sig.
Extraordinary vs Superior	0.28	0.88	1.16	Not Sig.
Very Superior vs Superior	0.26	0.47	0.62	Not Sig.
Among Girls -				
Extraordinary vs Very Sup.	0.07	0.73	0.96	Not Sig.
Extraordinary vs Superior	0.01	0.88	0.67	Not Sig.
Very Superior vs Superior	0.08	0.47	0.62	Not Sig.
(ii) For Sex Differences :				
Among Extraordinary -				
Boys vs Girls	0.36	1.04	1.37	Not Sig.
Among Very Superior -				
Boys vs Girls	0.41	0.53	0.70	Not Sig.
Among Superior -				
Boys vs Girls	0.07	0.37	0.49	Not Sig.

Table 5.5(iv)(a): Showing Mean Scores on Personality Factor F (Surgency vs Desurgency) of each of Main and Sub-groups (Sample Size: 143) (I.Q. x Sex)

		Extra-ordinary (Gifted)	Backward (Non-gifted)	Total
Boys	: Nos.	15	61	76
	Scores	43	236	279
	Mean	2.87	3.93	3.67
Girls	:Nos.	36	31	67
	Scores	120	110	230
	Mean	3.33	3.55	3.43
Total	: Nos.	51	92	143
	Scores	163	346	509
	Mean	3.20	3.76	3.56

Table 5.5(iv)(b): Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	1	10.46	10.46	3.71	Not Sig.
Between Sex	1	2.01	2.01	0.71	Not Sig.
Interaction: I.Q. x Sex	1	2.39	2.39	0.85	Not Sig.
Within Groups (Error term)	139	392.38	2.82		
Total	142	407.24			

From the statistical table

For df = 1/139

F at .05 = 3.91

F at .01 = 6.825

Table 5.5(iv)(c): Showing Results of L.S.D. Test of Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t \sqrt{MS_W / N_1 + MS_W / N_2}$$

(t for df of MS_W at .05 = 1.98 and at .01 = 2.615)

	Obtained Mean Difference	Required Difference .05	.01	Significance
(i) For I.Q. Differences :				
Among Boys -				
Extraordinary vs Backward	1.06	0.95	1.26	Sig. at .05
Among Girls -				
Extraordinary vs Backward	0.22	0.81	1.07	Not Sig.
(ii) For Sex Differences :				
Among Extraordinary -				
Boys vs Girls	0.46	1.03	1.36	Not Sig.
Among Backward -				
Boys vs Girls	0.38	0.73	0.97	Not Sig.

The maximum score on this factor is ten, and the average scores of all the four groups were respectively 3.18, 3.18, 3.18 and 3.56, implying that the group on the whole was a little below average on surgency. Findings of detailed statistical analysis are discussed below.

The results in Tables 5.5(i)(b) and (c) of 935 subjects show that neither giftedness nor sex nor their interaction showed significance in contributing to surgency on the whole or in any sub-group. Similarly, results in Tables 5.5(ii)(b) and (c) also show nowhere significance of any variable on the whole or in any sub-group pair, except the significant I.Q. group differences among girls of 15 age. The results in Tables 5.5(iii)(b) and (c) show only I.Q. x sex interaction to be significant girls at all I.Q. levels tended to be more surgent than boys but among boys, order of I.Q. group on surgency was superior than very superior and last extraordinary. While among girls the order was first very superior, then extraordinary and last superior, this accounting for significant interaction not a single subgroup pair was found significantly different. Similarly, the Table 5.5(iv)(b) shows neither giftedness nor sex nor their interaction to be significant. However, Table 5.5(iv)(c) shows that the backward boys were significantly more surgent than the extraordinary boys, no other pair being significantly different.

To sum up, neither giftedness nor sex nor age contributed significantly to surgency; girls tended to be somewhat more surgent than boys and I.Q. groups did not keep the same position

on surgency in case of boys and girls, and this accounted for significant interaction between I.Q. and sex in analysis of data of 325 functionally gifted subjects.

5.6 PERSONALITY FACTOR G (CHARACTER OR SUPEREGO STRENGTH vs LACK OF RIGID INTERNAL STANDARDS) AND GIFTEDNESS

This factor G refers on the positive side to character or superego strength including the traits of being conscientious persitent, persevering, determined, responsible, emotionally mature, consistent, attentive to people etc.

The scores on this factor obtained by all the four groups were separately analysed by F-test and L.S.D. test, and the results have been summarized in Tables 5.6(i), (ii),(iii),(iv)-(a), (b), (c) as usual.

Table 5.6(i)(a): Showing Mean Scores on Permeability Factor G (Character or Superego Strength vs Lack of Rigid Internal Standards) of each of Main and Sub-groups (Sample Size 935) I.Q. x Sex

		Extra-ordinary	Very Superior	Superior	Total
Boys :	Nos.	15	76	334	425
	Scores	109	515	2206	2830
	Mean	7.27	6.78	6.61	6.66
Girls :	Nos.	36	145	329	510
	Scores	222	961	2319	3502
	Mean	6.70	6.63	7.05	6.87
Total :	Nos.	51	221	663	1150
	Scores	331	1476	4525	6332
	Mean	6.49	6.68	6.83	6,77

Table 5.6(i)(b): Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	2	7.82	3.91	0.66	Not Sig.
Between Sex	1	10.01	10.01	1.68	Not Sig.
Interaction: I.Q. x Sex	2	36.57	18.28	3.07	Sig.at .05
Within Groups (Error term)	929	5534.08	5.96		
Total	934	5588.48			

From the statistical table

For df =	2/929	1/929
F at .05 =	3.00	3.85
F at .01 =	4.63	6.66

Table 5.6(i)(c): Showing results of L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_W / N_1 + MS_W / N_2}$$

(t for df of MS_W at .05 = 1.96 and at .01 = 2.58)

	Obtained Mean Difference	Required Difference .05	.01	Significance
(i) For I.Q. Differences :				
Among Main Groups -				
Extraordinary vs Very Superior	0.19	0.74	0.98	Not Sig.
Extraordinary vs Superior	0.34	0.66	0.90	Not Sig.
Very Superior vs Superior	0.15	0.31	0.41	Not Sig.

(Continued)

(Table 5.6(i)(c) continued)

	Obtained Mean Difference	Required Difference .05	.01	Significance
Among Boys -				
Extraordinary vs Very Sup.	0.49	1.35	1.78	Not Sig.
Extraordinary vs Superior	0.66	1.25	1.65	Not Sig.
Very Superior vs Superior	0.17	0.61	0.80	Not Sig.
Among Girls -				
Extraordinary vs Very Sup.	0.07	0.88	1.16	Not Sig.
Extraordinary vs Superior	0.35	0.84	1.11	Not Sig.
Very Superior vs Superior	0.42	0.47	0.61	Not Sig.
(ii) For Sex Differences :				
Among Extraordinary -				
Boys vs Girls	0.57	1.47	1.93	Not Sig.
Among Very Superior -				
Boys vs Girls	0.15	0.69	0.90	Not Sig.
Among Superior -				
Boys vs Girls	0.44	0.37	0.49	Sig.at .05

Table 5.6(ii)(a) : Showing Mean Scores on Personality Factor G (Character or Superego Strength Versus Lack of Rigid Internal Standards) of Each of Main and Sub-groups (According to age) (Sample size : 683) (I.Q. x Sex x Age)

	Age in Years									Total		
	13			14			15			Total			(Sexwise)		
	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean
Boys (M)															
Highly Superior I_1	31	201	6.48	32	215	6.71	32	206	6.43	95	622	6.54	304	1993	6.56
Superior I_2	39	240	6.15	85	581	6.83	85	550	6.47	209	1371	6.56			
Girls (F)															
Highly Superior I_1	30	202	6.73	64	410	6.40	71	483	6.80	165	1095	6.63	379	2627	6.93
Superior I_2	56	402	7.17	75	534	7.12	83	596	7.18	214	1532	7.15			
Total (I.Q.wise)															
Highly Superior I_1	61	403	6.60	96	625	6.51	103	689	6.68	260	1717	6.60	683	4620	6.76
Superior I_2	95	642	6.75	160	1115	6.96	168	1146	6.82	423	2903	6.86			
Total (Agewise)	156	1045	6.70	256	1740	6.80	271	1835	6.77	683	4620	6.76			

Table 5.6(ii)(b) : Showing Summary of Analaysis of Variance Results of

Sources of Variance	df	Sum of Squares (SS)	Mean Squares (Variance)	F Ratios	Remarks
Between IQ (Giftedness)	1	10.80	10.80	9.55	sig.at.01
Between Sex	1	23.78	23.78	21.04	Sig.at .01
Between Age	2	0.96	0.48	0.42	not. sig.
Interaction; IQ x Sex	1	14.63	14.63	12.94	Sig.at .01
Interaction; IQ x Age	2	3.66	1.83	1.61	not sig.
Interaction; Sex x Age	2	16.14	8.07	7.14	Sig.at .01
Interaction: IQ x Sex x Age	2	0.04	0.02	0.017	not sig.
Within Groups (Error term)	671	761.04	1.13		
Total	682	831.05			

From the statistical table

For	df = 1/671	2/671
	F at .05 = 3.857	3.007
	F at .01 = 6.681	4.644

Table 5.6(ii)(c): Showing Results of L.S.D. Test for Pair Differences among I.Q., Sex and Age Sub-groups

$$L.S.D. = t\sqrt{MS_W / N_1 + MS_W / N_2}$$

(t for df of MS_W at .05 = 1.96 and at .01 = 2.58)

	Obtained Mean Difference	Required Difference .05	.01	Significance
1	2	3	4	5
(i) For I.Q. Difference :				
Among Boys of -				
13 years: Highly Sup. vs Superior	.33	.51	.67	Not Sig.
14 years: " " "	.12	.43	.57	not sig.
15 years: " " "	.04	.43	.57	not sig.
Among Girls of -				
13 years: " " "	.44	.47	.62	not sig.
14 years: " " "	.72	.35	.46	Sig.at .01
15 years: " " "	.38	.33	.44	Sig.at .05
(ii) For Sex Differences :				
Among Highly Superior -				
13 years : Boys vs Girls	.25	.53	.70	not sig.
14 years : " "	.31	.45	.59	not sig.
15 years : " "	.37	.45	.59	not sig.
Among Superior -				
13 years : " "	1.02	.43	.57	Sig.at .01
14 years : " "	.29	.33	.44	not sig.
15 years : " "	.71	.33	.44	Sig.at .01

contd.

Table 5.6(ii)(c) Contd...

1.	2	3	4	5
(iii) For Age difference :				
Among Main Groups -				
13 years vs 14 years	.10	.22	.28	not sig.
13 years vs 15 years	.07	.22	.28	not sig.
14 years vs 15 years	.03	.18	.23	not sig.
Among Highly Superior Boys -				
13 years vs 14 years	.23	.53	.70	not sig.
13 years vs 15 years	.05	.53	.70	not sig.
14 years vs 15 years	.28	.51	.67	not sig.
Among Superior Boys -				
13 years vs 14 years	.68	.41	.54	sig.at.01
13 years vs 15 years	.32	.41	.54	not sig.
14 years vs 15 years	.36	.31	.41	sig.at.05
Among Highly Superior Girls-				
13 years vs 14 years	.33	.45	.59	not sig.
13 years vs 15 years	.07	.45	.59	not sig.
14 years vs 15 years	.40	.35	.46	sig.at.05
Among Superior girls -				
13 years vs 14 years	.05	.37	.49	not sig.
13 years vs 15 years	.01	.39	.52	not sig.
14 years vs 15 years	.06	.33	.44	not sig.

Table 5.6(iii)(a) : Showing Mean Scores on Personality Factor G (Character or Superego Strength vs Lack of Rigid Internal Standards) of each of Main and Sub-groups (Sample Size 325) I.Q. x Sex

		Extra-ordinary	Very Superior	Superior	Total
Boys :	Nos.	10	49	106	165
	Scores	69	343	695	1107
	Mean	6.90	7.00	6.56	6.71
Girls :	Nos.	19	51	90	160
	Scores	118	332	644	1094
	Mean	6.21	6.51	7.16	6.84
Total :	Nos.	29	100	196	325
	Scores	187	675	1339	2201
	Mean	6.45	6.75	6.83	6.77

Table 5.6(iii)(b) : Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	2	3.78	1.89	0.78	Not Sig.
Between Sex	1	1.34	1.34	0.56	Not Sig.
Interaction: I.Q. x Sex	2	122.39	61.20	25.39	Sig.at .01
Within Groups (Error term)	319	767.64	2.41		
Total	324	895.15			

From the statistical table

For	df =	2/319	1/319
F at	.05 =	3.028	3.868
F at	.01 =	4.676	6.716

Table 5.6(iii)(c): Showing Results of L.S.D. Test for Pair Differences among I.Q. and Sub-groups

$$L.S.D. = t\sqrt{MS_W / N_1 + MS_W / N_2}$$

(t for df of MS_W at .05 = 1.97 and at .01 = 2.59)

	Obtain Mean Differences	Required Differences .05	.01	Significance
(i) For I.Q. Differences :				
Among Main Groups -				
Extraordinary vs Very Sup.	0.30	0.64	0.85	Not Sig.
Extraordinary vs Superior	0.38	0.61	0.80	Not Sig.
Very Superior vs Superior	0.08	0.37	0.49	Not Sig.
Among Boys -				
Extraordinary vs Very Sup.	0.10	1.06	1.40	Not Sig.
Extraordinary vs Superior	0.34	1.003	1.32	Not Sig.
Very Superior vs Superior	0.44	0.53	0.70	Not Sig.
Among Girls -				
Extraordinary vs Very Sup.	0.30	0.83	1.09	Not Sig.
Extraordinary vs Superior	0.95	0.77	1.01	Sig.at .05
Very Superior vs Superior	0.65	0.53	0.70	Sig.at .05
(ii) For Sex Differences :				
Among Extraordinary -				
Boys vs Girls	0.69	1.20	1.58	Not Sig.
Among Very Superior -				
Boys vs Girls	0.49	0.61	0.80	Not Sig.
Among Superior -				
Boys vs Girls	0.60	0.43	0.67	Sig.at .01

Table 5.6(iv)(a): Showing Mean Scores on Personality Factor G (Character or Superego Strength vs Lack of Rigid Internal Standards) of each Main and Sub-groups

		Extra-ordinary (Gifted)	Backward (Nongifted)	Total
Boys :	Nos.	15	61	76
	Scores	109	359	468
	Mean	7.27	5.86	6.16
Girls :	Nos.	36	31	67
	Scores	222	159	381
	Mean	6.70	5.13	5.69
Total :	Nos.	51	92	143
	Scores	331	518	849
	Mean	6.49	5.63	5.94

Table 5.6(iv)(b): Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	1	24.25	24.25	7.44	Sig.at .01
Between Sex	1	7.90	7.90	2.42	Not Sig.
Interaction: I.Q. x Sex	1	16.69	16.69	5.12	Sig.at .05
Within Groups (Error term)	139	453.59	3.26		
Total	142	502.43			

From the statistical table

For df = 1/139

F at .05 = 3.91

F at .01 = 6.825

Table 5.6(iv)(c): Showing Results of L.S.D. Test for Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.98 and at .01 = 2.615)

	Obtained Mean Difference	Required Difference .05	.01	Significance
(i) For I.Q. Differences :				
Among Boys - Extraordinary vs Backward	1.41	1.03	1.36	Sig.at .01
Among Girls - Extraordinary vs Backward	1.57	0.87	1.15	Sig.at .01
(ii) For Sex Differences :				
Among Extraordinary - Boys vs Girls	0.57	1.09	1.44	Not Sig.
Among Backward - Boys vs Girls	0.73	0.77	1.02	Not Sig.

The maximum score on this factor is ten, and the four groups scored on an average respectively 6.77, 6.76, 6.77 and 6.49 by the highly gifted and 5.63 by the non-gifted, making an average of 5.94. The results of further statistical analysis are given below.

The results in Table 5.6(i)(b) of 935 subjects show that neither giftedness nor sex contributed independently and

significantly to character, but their interaction was significant. The results in Table 5.6(i)(c) show significant sex differences only among the superior; no other subgroup pair was significantly different. Boys scored more at first two I.Q. levels, and girls scored more at the third superior I.Q. level. The I.Q. groups stood on character in order of extraordinary, very superior and superior in case of boys, while they stood in order of the superior, the extraordinary and the very superior in case of girls; in other words extraordinary boys and superior girls topped on character, and this accounts for significant I.Q. x sex interaction in study of 935 subjects.

The results in Table 5.6(ii)(b) of 683 subjects reveal that giftedness, sex, I.Q. x sex, and sex x age interaction to be significant. The superior were highest (6.86), than highly superior (6.60) on the whole. Girls were higher (6.93) than boys (6.56) on character. The superior and highly superior were almost equal in case of boys, but both differed more in case of girls, and this accounts for significant I.Q. x sex interaction in the study of 683 subjects. Similarly, the superior were higher on character at all three age levels, but the gap between the two I.Q. levels, at each age level differed in amount, and this accounts for significant I.Q. x age interaction in the study of 683 subjects. The results in

Table 5.6(ii)(c) show that the I.Q. groups, differed only among girls of 14 and 15. There were significant sex differences only among superior of 13 age and 15 age. And among age sub-groups, the 14 age group differed from 13 age and 15 age group among the superior boys, and the 14 age group differed from the 15 age group among highly superior girls - all this accounting for I.Q. x sex and I.Q. x age significant interactions.

Further, the results in Table 5.6(iii)(b) of 325 subjects reveal that neither giftedness nor sex was significant, but their interaction was significant. Boys were higher than girls in first two I.Q. levels, and girls were higher in the third superior level in this analysis of 325 subjects, similar to that in case of analysis of 935 subjects; and the three I.Q. groups stood in order of very superior, extraordinary and superior in case of boys, while superior, very superior, and extraordinary in case of girls; in other words very superior boys and superior girls topped on character; all this accounts for significant I.Q. x sex interaction in the study of 325 subjects. The closer examination of results in Table 5.6(iii)(c shows that the superior differed from the other two I.Q. groups in case of girls, and there were sex differences in case of the superior only in the study of 325 subjects.

Finally, the results in Table 5.6(iv)(b) of 143 subjects show that giftedness, and their interaction were significant,

but not sex. The extraordinary scored higher (6.49) than the backward (5.63) on the whole and boys scored higher (6.16) than girls (5.69) on the whole on character. However, results in Table 5.6(iv)(c) show that the extraordinary were significantly higher than the backward in case of both boys and girls as on the whole. But there were no significant sex differences among the extraordinary or among the backward as on the whole.

The significant I.Q. x sex interaction in this case might be due to unequal gap (in one case significant and insignificant in other case) between pairs of unequal number.

To sum up, giftedness was significantly contributing to character strength, particularly among 14 year and 15 year girls, in favour of the superior. Sex was significant, particularly among the superior of 13 year and 15 year, in favour of girls. Age was not significant on the whole, but the pair 13 vs 14 was different in case of superior boys; and the pair 14 vs 15 differed in case of superior boys as well as highly superior girls, making I.Q. x sex and also sex x age interactions significant.

5.7 PERSONALITY FACTOR H (PARMIA vs THRECTIA) AND GIFTEDNESS

This factor H represents on the positive side of the trait of being adventurous, active, responsive, genial, friendly,

emotional, impulsive, carefree and on the negative side the basic, innate leptosomatic, schizothyme temperament showing the shy, withdrawn, careful, well-behaved syndrome.

The scores on this factor H obtained by the four groups under study were statistically analysed by the F test and the L.S.D. test, and the results have been summarized in Tables 5.7(i),(ii),(iii), (iv) - (a), (b), (c).

Table 5.7(i)(a): Showing Mean Scores on Personality Factor H (Parmia vs Threctia) of each of Main and Sub-groups (Sample Size : 935)
I.Q. x Sex

		Extra-ordinary	Very Superior	Superior	Total
Boys	: Nos.	15	76	334	425
	Scores	63	337	1438	1838
	Mean	4.20	4.43	4.30	4.32
Girls	: Nos.	36	145	329	510
	Scores	144	601	1345	2090
	Mean	4.00	4.14	4.08	4.10
Total	: Nos.	51	221	663	935
	Scores	207	938	2783	3928
	Mean	4.06	4.24	4.19	4.20

Table 5.7(i)b: Showing Summary of Analysis of Variance Results of

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	2	1.44	1.44	0.29	Not Sig.
Between Sex	1	11.90	11.90	2.40	Not Sig.
Interaction : (I.Q. x Sex)	2	0.53	0.53	0.11	Not Sig.
Within Groups (Error term)	929	4596.32	4.95		
Total	924	4610.19			

From the statistical table

For	df =	2/929	1/929
F at	.05 =	3.00	3.85
F at	.01 =	4.63	6.66

Table 5.7(i)(c): Showing Results of L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.96 and at .01 = 2.58)

	Obtained Mean Difference	Required Difference .05	.01	Significance
(i) For I.Q. Differences :				
Among Main Groups -				
Extraordinary vs Very Superior	.18	.69	.90	Not Sig.
Extraordinary vs Superior	.13	.63	.82	Not Sig.
Very Superior vs Superior	.05	.33	.44	Not Sig.
Among Boys -				
Extraordinary vs Very Superior	.23	1.23	1.62	Not Sig.
Extraordinary vs Superior	.10	1.16	1.52	Not Sig.
Very Superior vs Superior	.13	.55	.72	Not Sig.
Among Girls -				
Extraordinary vs Very Superior	.14	.80	1.06	Not Sig.
Extraordinary vs Superior	.08	.76	1.01	Not Sig.
Very Superior vs Superior	.06	.43	.57	Not Sig.
(ii) For Sex Differences :				
Among Extraordinary -				
Boys vs Girls	.20	1.33	1.75	Not Sig.
Among Very Superior -				
Boys vs Girls	.29	.61	.80	Not Sig.
Among Superior -				
Boys vs Girls	.22	.33	.43	Not Sig.

Table 5.7 (ii) (a) : Showing Mean Scores on Personality Factor H (Parmia Versus Threctia) of Each of Main and Sub-groups.

(Sample Size : 683) (According to Age) Type : (I.Q. x Sex x Age)

	Age in Years									Total (Sexwise)		
	13			14			15			Total					
	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean
Boys (M)															
Highly Superior I_1	31	139	4.48	32	137	4.28	32	134	4.18	95	410	4.31	304	1307	4.30
Superior I_2	39	153	3.92	85	358	4.21	85	386	4.54	209	897	4.29			
Girls (F)															
Highly Superior I_1	30	123	4.10	64	276	4.31	71	222	3.12	165	621	3.76	379	1491	3.93
Superior I_2	56	220	3.93	75	288	3.84	83	362	4.36	214	870	4.06			
Total (I.Q.wise)															
Highly Superior I_1	61	262	4.29	96	413	4.30	103	356	3.45	260	1031	3.96	683	2798	4.10
Superior I_2	95	373	3.92	160	646	4.03	168	748	4.45	423	1767	4.17			
Total (Agewise)	156	635	4.07	256	1059	4.14	271	1104	4.08	683	2798	4.10			

Table 5.7(ii)(b) : Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (SS)	Mean Squares (Variance)	F Ratio	Remarks
Between IQ (Giftedness)	1	7.23	7.23	2.25	not sig.
Between sex	1	22.51	22.51	7.03	sig.at .01
Between Age	2	0.65	0.33	0.103	not sig.
Interaction IQ x Sex	1	1.128	1.28	0.4	not sig.
Interaction IQ x Age	2	65.37	32.68	10.21	sig. at .01
Interaction Sex x Age	2	8.97	4.49	1.40	not sig.
Interaction IQ x Sex x Age	2	1.48	0.74	0.23	not sig.
Within groups (Error term)	671	2151.14	3.20		
Total	682	2258.63			

From Statistical table

For df =	1/671	2/671
F at .05 =	3.857	3.007
F at .01 =	6.681	4.644

Table 5.7(ii)(c) : Showing Results of L.S.D. Test for Pair Differences Among I.Q., Sex and Age Sub-Groups.

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.96 and at .01 = 2.58)

1	Obtained mean Difference	Required Difference .05	.01	Significance.
(i) For I.Q. Differences				
Among Boys -				
13 years : High Sup. Vs Superior.	.56	.82	1.08	not sig.
14 years : ,, ,,	.07	.73	.95	not sig.
15 years : ,, ,,	.36	.73	.95	not sig.
Among Girls				
13 years ,, ,,	.17	.78	1.03	not sig.
14 years ,, ,,	.47	.59	.77	not sig.
15 years ,, ,,	1.24	.57	.75	Sig.at.01
(ii) For Sex Differences				
Among Highly superior-				
13 years : Boys Vs Girls	.38	.90	1.19	not sig.
14 years ,, ,,	.03	.76	1.01	not sig.
15 years ,, ,,	1.06	.74	.98	sig.at.01
Among Superior -				
13 years ,, ,,	.01	.73	.95	not sig.
14 years ,, ,,	.37	.55	.72	not sig.
15 years ,, ,,	.18	.55	.72	not sig.

Contd..

Table 5.7(ii)(c) contd....

1.	2	3	4	5
(iii) For Age Differences				
Among Main Groups				
13 years vs 14 years	.07	.35	.46	not sig.
13 yesrs vs 15 years	.01	.35	.46	not sig.
14 years vs 15 years	.06	.31	.46	not sig.
Among Highly Superior Boys-				
13 years vs 14 years	.20	.88	1.16	not sig.
13 years vs 15 years	.20	.88	1.16	not sig.
14 years vs 15 years	.10	.88	1.16	not sig.
Among Superior Boys -				
13 years vs 14 years	.29	.69	.90	not sig.
13 years vs 15 years	.62	.69	.90	not sig.
14 years vs 15 years	.33	.53	.69	not sig.
Among Highly Superior Girls-				
13 years vs 14 years	.21	.78	1.03	not sig.
13 years vs 15 years	.98	.76	1.01	sig.at.05
14 years vs 15 years	1.19	.61	.80	sig at .01
Among Superior Girls				
13 years vs 14 years	.09	.61	.80	not sig.
13 yesrs vs 15 years	.43	.59	.77	not sig.
14 years vs 15 years	.52	.55	.72	not sig.

Table 5.7(iii)(a): Showing Mean Scores on Personality Factor H (Parmia vs Threctia) of each of Main and Sub-groups (Sample Size : 325) (I.Q. x Sex)

		Extra-ordinary	Very Superior	Superior	Remarks
Boys :	Nos.	10	49	106	165
	Scores	37	215	419	671
	Mean	3.70	4.39	3.95	4.07
Girls :	Nos.	19	51	90	160
	Scores	78	224	365	667
	Mean	4.11	4.38	4.06	4.17
Total :	Nos.	29	100	196	325
	Scores	115	439	784	1338
	Mean	3.97	4.39	4.00	4.12

Table 5.7(iii)(b): Showing Results of Summary of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	2	10.80	5.40	1.79	Not Sig.
Between Sex	1	0.84	0.84	0.28	Not Sig.
Interaction: I.Q. x Sex	2	0.76	0.38	0.13	Not Sig.
Within Groups (Error term)	319	963.16	3.02		
Total	324	975.56			

For statistical table

For df =	2/319	1/319
F at .05 =	3.028	3.868
F at .01 =	4.676	6.716

Table 5.7(iii)(c): Showing Results of L.S.D. Test for Pair Differences among I.Q., and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.97 and at .01 = 2.59)

	Obtained Mean Difference	Required Difference .05	.01	Significance
(i) For I.Q. Differences :				
Among Main Groups -				
Extraordinary vs Very Superior	.42	.73	.96	Not Sig.
Extraordinary vs Superior	.03	.69	.91	Not Sig.
Very Superior vs Superior	.39	.41	.54	Not Sig.
Among Boys -				
Extraordinary vs Very Superior	.69	1.18	1.55	Not Sig.
Extraordinary vs Superior	.25	1.12	1.48	Not Sig.
Very Superior vs Superior	.44	.59	.78	Not Sig.
Among Girls -				
Extraordinary vs Very Superior	.27	.93	1.22	Not Sig.
Extraordinary vs Superior	.05	.87	1.14	Not Sig.
Very Superior vs Superior	.32	.59	.78	Not Sig.
(ii) For Sex Differences :				
Among Extraordinary -				
Boys vs Girls	.41	1.34	1.76	Not Sig.
Among Very Superior -				
Boys vs Girls	.01	.69	.91	Not Sig.
Among Superior -				
Boys vs Girls	.11	.51	.67	Not Sig.

Table 5.7(iv)(a): Showing Mean Scores on Personality Factor H (Parmia vs Threctia) of each Main and Sub-groups (Sample Size: 143) (I.Q. X Sex)

		Extra-ordinary (Gifted)	Backward (Non-gifted)	Total
Boys :	Nos.	15	61	76
	Scores	63	245	308
	Mean	4.20	4.01	4.05
Girls :	Nos.	36	31	67
	Scores	144	149	293
	Mean	4.00	4.81	4.37
Total :	Nos.	51	92	143
	Scores	207	394	601
	Mean	4.06	4.28	4.20

Table 5.7(iv)(b): Showing the Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	1	1.64	1.64	1.14	Not Sig.
Between Sex	1	3.66	3.66	2.54	Not Sig.
Interaction: I.Q. x Sex	1	9.60	9.60	6.67	Sig.at .05
Within Groups (Error term)	139	200.22	1.44		
Total	142	215.12			

From statistical table

For df = 1/139

F at .05 = 3.91

F at .01 = 6.825

Table 5.7(iv)(c): Showing Results of L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.98 at .01 = 2.615)

	Obtained Mean Difference	Required Difference .05	.01	Significance
(i) For I.Q. Differences :				
Among Boys -				
Extraordinary vs Backward	.19	.69	.92	Not Sig.
Among Girls -				
Extraordinary vs Backward	0.81	.57	.76	Sig.at .01
(ii) For Sex Differences :				
Among Extraordinary -				
Boys vs Girls	.20	.73	.97	Not Sig.
Among Backward -				
Boys vs Girls	0.80	.53	.71	Sig.at .01

The maximum score on this factor is ten, and the average scores of the four groups were respectively 4.20, 4.10, 4.12 and 4.20, implying that the sample under study was just nearer to active, responsive and friendly on the whole. However, the differences, if any attributed to the role of different factors have been discussed below.

The results in Table 5.7(i)(b) of 935 subjects show that on the whole neither giftedness nor sex nor their interaction contributed significantly to parmia. Even the closer examination

of results of sub-groups in Table 5.7(i)(c) showed lack of significant differences in all cases.

The results of 683 subjects in Table 5.7(ii)(b) studying I.Q. x sex x age reveal that sex as well as I.Q. x age interaction was significant; neither giftedness nor age independently nor any other interaction was significant. The boys scored significantly higher (4.30) than girls (3.93) on this factor.

However, the results in Table 5.7(ii)(c) reveal that though giftedness was not significant on the whole, only one sub-group pair, viz. highly superior vs superior girls of 15 years showed significant difference. Similarly, though there were significant sex differences on the whole, truly only one subgroup pair viz. boys vs girls of highly superior group of 15 years showed significant differences. Age showed significance in only two pairs viz. 13 vs 15 and 14 vs 15 among highly superior girls, though not on the whole. The figures in Table 5.7(ii)(a) show that the highly superior group at 13 and 14 age were higher than the superior, but at age 15 the superior were higher than the highly superior, (and significantly higher among girls), and this accounted for significant I.Q. x age interaction.

The results in Table 5.7(iii)(b) of 325 subjects also shows nowhere significant differences on the whole, as in the

Table 5.7(i)(b), on the whole or in any sub-group pair.

The results of 143 subjects in Table 5.7(iv)(b) show only I.Q. x sex interaction to be significant. The gifted boys scored somewhat higher than gifted girls, while non-gifted girls scored significantly higher than non-gifted boys or, the gifted boys scored somewhat higher than non-gifted boys, while non-gifted girls scored significantly higher than gifted girls. This accounted for significant interaction between I.Q. and sex.

5.8 PERSONALITY FACTOR I (PREMSIA vs HARRIA) AND GIFTEDNESS

This factor I represents on the positive side a person showing a fastidious dislike for crude people and rough occupations, a liking for travel and new experiences, labile, imaginative, aesthetic mind, love for dramatics, a person who is generally sensitive, effiminate, demanding, impatient, attention-seeking, dependent, gentle, etc.

The scores of different four groups on this factor were statistically analysed and results have been summarized in Tables 5.8(i),(ii),(iii),(iv) - (a),(b) and (c).

Table 5.8(i)(a): Showing Mean Scores on Personality Factor I (Premsia vs Harria) of each of Main and Sub-groups (Sample Size : 935) (I.Q. x Sex)

		Extra-ordinary	Very Superior	Superior	Total
Boys :	Nos.	15	76	334	425
	Scores	73	327	1394	1794
	Mean	4.86	4.30	4.17	4.22
Girls :	Nos.	36	145	329	510
	Scores	176	658	1438	2272
	Mean	4.88	4.53	4.37	4.45
Total :	Nos.	51	221	663	935
	Scores	249	985	2832	4066
	Mean	4.88	4.45	4.27	4.35

Table 5.8(i)(b): Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	2	21.06	10.53	2.78	Not Sig.
Between Sex	1	12.66	12.66	3.34	Not Sig.
Interaction: I.Q. x Sex	2	3.45	1.72	0.45	Not Sig.
Within Groups (Error term)	929	3521.17	3.79		
Total	934	3558.34			

From the statistical table

For df =	2/929	1/929
F at .05 =	3.00	3.85
F at .01 =	4.63	6.66

Table 5.8(i)(c): Showing Results of L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_W / N_1 + MS_W / N_2}$$

(t for df of MS_W at .05 = 1.96 and at .01 = 2.58)

	Obtained Mean Differences	Required Differences .05	.01	Significance
(i) For I.Q. Differences :				
Among Total -				
Extraordinary vs Very Sup.	0.43	0.59	0.77	Not Sig.
Extraordinary vs Superior	0.61	0.56	0.75	Sig.at .05
Very Superior vs Superior	0.18	0.29	0.39	Not Sig.
Among Boys -				
Extraordinary vs Very Sup.	0.56	1.08	1.42	Not Sig.
Extraordinary vs Superior	0.69	0.99	1.32	Not Sig.
Very Superior vs Superior	0.13	0.49	0.65	Not Sig.
Among Girls -				
Extraordinary vs Very Sup.	0.35	0.70	0.93	Not Sig.
Extraordinary vs Superior	0.51	0.67	0.88	Not Sig.
Very Superior vs Superior	0.16	0.37	0.49	Not Sig.
(ii) For Sex Differences :				
Among Extraordinary -				
Boys vs Girls	0.02	1.18	1.55	Not Sig.
Among Very Superior -				
Boys vs Girls	0.23	0.55	0.72	Not Sig.
Among Superior -				
Boys vs Girls	0.20	0.29	0.39	Not Sig.

Table 5.8(ii)(a) : Showing Mean Scores on Personality Factor I (Premsia Versus Harria) of Each of Main and Sub-groups. (According to Age)
(Sample Size : 683) (I.Q. x Sex x Age)

	Age in Years												Total (Sexwise)		
	13			14			15			Total					
	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean
Boys (M)															
Highly superior I_1	31	128	4.12	32	136	4.25	32	139	4.34	95	403	4.24	304	1277	4.20
Superior I_2	39	159	4.07	85	366	4.31	85	349	4.10	209	874	4.18			
Gilrs (F)															
Highly Superior I_1	30	149	4.96	64	290	4.53	71	333	4.69	165	772	4.67	379	1724	4.55
Superior I_2	56	248	4.42	75	344	4.58	83	360	4.33	214	952	4.44			
Total (I.Q.wise)															
Highly Superior I_1	61	277	4.54	96	426	4.43	103	472	4.58	260	1175	4.51	683	3001	4.39
Superior I_2	95	407	4.28	160	710	4.44	168	709	4.22	423	1826	4.31			
Total (Agewise)	156	684	4.38	256	1136	4.44	271	1181	4.36	683	3001	4.39			

Table 5.8(ii)(b): Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	1	6.59	6.59	3.39	Not Sig.
Between Sex	1	20.45	20.45	10.54	Sig.at .01
Between Age	2	0.84	0.42	0.21	Not Sig.
Interaction: I.Q. x Sex	1	1.44	1.44	0.74	Not Sig.
Interaction: I.Q. x Age	2	4.23	2.12	1.09	Not Sig.
Interaction: Sex x Age	2	1.68	0.84	0.43	Not Sig.
Interaction: I.Q. x Sex x Age	2	2.56	1.28	0.66	Not Sig.
Within Groups (Error term)	671	1302.15	1.94		
Total	682	1337.06			

From the statistical table -

For df =	1/671	2/671
F at .05 =	3.857	3.007
F at .01 =	6.681	4.644

Table 5.8(ii)(c) : Showing Results of L.S.D. Test for Pair Differences among IQ., Sex, and Age - Sub-Groups.

$$L.S.D. = t \sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.96 and at .01 = 2.58)

1	Obtained mean Difference 2	Required Difference .05 3	.01 4	Significance 5
(1) For I.Q. Differences :				
Among Boys of -				
13 years : Highly Superior Vs Superior.	.05	.63	.83	not sig.
14 years : ,, ,,	.06	.57	.75	not sig.
15 years : ,, ,,	.24	.57	.75	not sig.
Among Girls of -				
13 years ,, ,,	.54	.63	.83	not sig.
14 years ,, ,,	.05	.47	.62	not sig.
15 years ,, ,,	.36	.45	.59	not sig.
(ii) For Sex Differences :				
Among Highly Superior				
13 years Boys vs Girls	.84	.71	.93	sig.at.05
14 years ,, ,,	.28	.59	.77	not sig.
15 years ,, ,,	.35	.59	.77	not sig.
Among Superior -				
13 years : ,, ,,	.35	.59	.77	not sig.
14 years ,, ,,	.27	.43	.57	not sig.
15 years ,, ,,	.23	.41	.54	not sig.

Contd....

Table 5.8(ii)(c) Contd...

1.	2	3	4	5
(iii) For Age Differences :				
Among Main Groups -				
13 years vs 14 years	.06	.27	.36	not sig.
13 years vs 15 years	.02	.27	.36	not sig.
14 years vs 15 years	.08	.24	.31	not sig.
Among Highly Superior Boys -				
13 years vs 14 years	.13	.69	.90	not sig.
13 years vs 15 years	.22	.69	.90	not sig.
14 years vs 15 years	.09	.69	.90	not sig.
Among Superior Boys -				
13 years vs 14 years	.24	.53	.70	not sig.
13 years vs 15 years	.03	.53	.70	not sig.
14 years vs 15 years	.21	.41	.54	not sig.
Among Highly Superior Girls -				
13 years vs 14 years	.43	.61	.80	not sig.
13 years vs 15 years	.27	.59	.77	not sig.
14 years vs 15 years	.16	.47	.62	not sig.
Among Superior Girls				
13 years vs 14 years	.16	.43	.57	not sig.
13 years vs 15 years	.09	.47	.62	not sig.
14 years vs 15 years	.25	.43	.57	not sig.

Table 5.8(iii)(a): Showing Mean Scores on Personality Factor I (Premsia vs Harria) of each of Main and Sub-groups (Sample size:325) (I.Q. x Sex)

		Extra-ordinary	Very Superior	Superior	Total
Boys :	Nos.	10	49	106	165
	Scores	46	208	447	701
	Mean	4.60	4.24	4.22	4.25
Girls :	Nos.	19	51	90	160
	Scores	97	247	395	739
	Mean	5.11	4.84	4.39	4.62
Total :	Nos.	29	100	196	325
	Scores	143	455	842	1440
	Mean	4.93	4.55	4.30	4.43

Table 5.8(iii)(b): Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	2	12.24	6.12	3.46	Sig.at .05
Between Sex	1	11.14	11.14	6.29	Sig.at .05
Interaction: I.Q. x Sex	2	0.91	0.91	0.51	Not Sig.
Within groups (Error term)	319	565.40	1.77		
Total	324	589.69			

From the statistical table -

For df	=	2/319	1/319
F at .05	=	3.028	3.868
F at .01	=	4.676	6.716

Table 5.8(iii)(c): Showing Results of L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_w / N_2 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.97 and at .01 = 2.59)

	Obtained Mean Difference	Required Difference .05	.01	Significance
(i) For I.Q. Differences :				
Among Main Groups -				
Extraordinary vs Very Sup.	.38	.55	.72	Not Sig.
Extraordinary vs Superior	.63	.51	.67	Sig.at .05
Very Superior vs Superior	.25	.31	.41	Not Sig.
Among Boys -				
Extraordinary vs Very Sup.	.36	.91	1.19	Not Sig.
Extraordinary vs Superior	.38	.87	1.14	Not Sig.
Very Superior vs Superior	.02	.45	.60	Not Sig.
Among Girls -				
Extraordinary vs Very Sup.	.27	.73	.96	Not Sig.
Extraordinary vs Superior	.72	.67	.88	Sig.at .05
Very Superior vs Superior	.45	.45	.60	Sig.at .05
(ii) For Sex Differences :				
Among Extraordinary -				
Boys vs Girls	.51	1.02	1.35	Not Sig.
Among Very Superior -				
Boys vs Girls	.60	.53	.70	Sig.at .05
Among Superior -				
Boys vs Girls	.17	.37	.49	Not Sig.

Table 5.8(iv)(a): Showing Mean Scores on Personality Factor I (Parmsia vs Harria) of each of Main and Sub-groups (Sample Size 143) (I.Q x Sex)

		Extraordinary (Gifted)	Backward (Non-gifted)	Total
Boys :	Nos.	15	61	76
	Scores	73	256	329
	Mean	4.86	4.19	4.33
Girls :	Nos.	36	31	67
	Scores	176	124	300
	Mean	4.88	4.00	4.48
Total :	Nos.	51	92	143
	Scores	249	380	629
	Mean	4.88	4.13	4.40

Table 5.8(iv)(b): Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	1	18.54	18.54	8.62	Sig.at .01
Between Sex	1	0.78	0.78	0.36	Not Sig.
Interaction: I.Q. x Sex	1	.03	.03	0.013	Not Sig.
Within Groups (Error term)	139	298.93	2.15		
Total	142	318.28			

From the statistical table

For df = 1/139

F at .05 = 3.91

F at .01 = 6.825

Table 5.8(iv)(c): Showing Results of L.S.D. Test for Pair Differences among I.Q. and Sex

$$L.S.D. = t\sqrt{MS_W / N_1 + MS_W / N_2}$$

(t for df of MS_W at .05 = 1.98 and at .01 = 2.615)

	Obtained Mean Difference	Required Difference .05	.01	Significance
(i) For I.Q. Differences :				
Among Boys -				
Extraordinary vs Backward	.67	.83	1.09	Not Sig.
Among Girls -				
Extraordinary vs Backward	.88	.71	.94	Sig.at .05
(ii) For Sex Differences :				
Among Extraordinary -				
Boys vs Girls	.02	.89	1.18	Not Sig.
Among Backward -				
Boys vs Girls	.19	.63	.84	Not Sig.

The maximum score on this factor is ten, and the average scores of the four groups under study were 4.35, 4.39, 4.43 and 4.40 respectively, meaning that the sample on the whole was more or less sensitive, imaginative, gentle, and dependent. The differences due to I.Q., sex and age have been studied in the following lines.

The results of 935 subjects in I.Q. x sex design in Table 5.8(i)(b) show that neither giftedness nor sex nor their interaction was significant on the whole; however, results in Table 5.8(i)(c) show that extraordinary were higher significantly

(4.88) than the superior (4.27). When data of 683 subjects in I.Q. x sex x age design in Table 5.8(ii)(b) were considered, sex was found significant on the whole, not I.Q. not age nor any interaction, and results in Table 5.8(ii)(c) show that there were significant sex differences only among the highly superior group of 13 age. The results of 325 subjects in I.Q. x sex design in Table 3.8(iii)(b) show that both giftedness (I.Q.) and sex were independently contributing significantly to this factor I ; the extraordinary scored highest (4.93), next were the very superior (4.55) and last were the superior (4.30) ; only the superior were significantly different from the extraordinary on the whole and among the girls the superior differed from both extraordinary and very superior. Similarly girls scored higher (4.62) than boys (4.25) on the whole, but truly there were significant sex differences only among the very superior. Finally, the results of 143 subjects in I.Q. x sex design in Table 5.8(iv)(b) and (c) show that only giftedness was significant on the whole and particularly among the girls. Neither sex nor interaction was significant.

To sum up, sex was significantly contributing to factor I, particularly in case of the highly superior group of 13 age or in case of very superior girls always scoring higher,

than boys. Giftedness was significant; particularly in case of extraordinary and very superior girls, making them different from (higher than) the superior or backward.

5.9 PERSONALITY FACTOR L (PROTENSION (PARANOID TENDENCY) vs RELAXED SECURITY) AND GIFTEDNESS

This factor L (having larger variance in male than in female population) refers on the positive side to suspecting, jealous, self sufficient, withdrawn, brooding, tyrannical, hard, irritable individuals, in contrast to the trustful, accepting, cheerful type on the negative side.

The scores of all the four groups on this factor were statistically analysed and the results have been summarized in Tables 5.9(i), (ii), (iii), (iv), - (a), (b), (c).

The maximum score on this factor is ten, and the average scores obtained by the four groups were respectively 5.27, 5.24, 5.32 and 4.81 implying that the group under study was average on this Factor L. The differences due to I.Q., sex and age, have been studied below.

The results of 935 subjects in Table 5.9(i)(b) show that neither giftedness nor sex was independently significant on the whole; or on any sub-group, but their interaction was significantly contributing to this Factor L. Girls were always higher than boys on this factor, but the superior were highest

Table 5.9(i)(a)): Showing Mean Scores on Personality Factor L (Protension (Paranoid tendency) vs Relaxed, Security) of each of Main and Sub-groups (Sample Size: 935) (I.Q. x Sex)

		Extra-ordinary	Very Superior	Superior	Total
Boys :	Nos.	15	76	334	425
	Scores	73	388	1733	2194
	Mean	4.86	5.10	5.18	5.16
Girls :	Nos.	36	145	329	510
	Scores	178	798	1762	2738
	Mean	4.94	5.50	5.35	5.37
Total :	Nos.	51	221	663	935
	Scores	251	1186	3495	4932
	Mean	4.92	5.36	5.27	5.27

Table 5.9(i)(b): Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	2	8.22	4.11	0.90	Not Sig.
Between Sex	1	9.86	4.93	1.08	Not Sig.
Interaction: I.Q. x Sex	2	392.21	196.10	43.01	Sig.at .01
Within Groups (Error term)	929	4239.07	4.56		
Total	934	4649.36			

From the statistical table

For	df = 2/929	1/929
F at	.05 = 3.00	3.85
F at	.01 = 4.63	6.66

Table 5.9(i)(c): Showing Results of L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.96 and at .01 = 2.58)

	Obtained Mean Difference	Required Difference .05	.01	Significance
(i) For I.Q. Differences :				
Among the Main Groups -				
Extraordinary vs Very Sup.	0.44	0.65	0.85	Not Sig.
Extraordinary vs Superior	0.35	0.61	0.80	Not Sig.
Very Superior vs Superior	0.09	0.33	0.44	Not Sig.
Among Boys -				
Extraordinary vs Very Superior	0.24	1.18	1.54	Not Sig.
Extraordinary vs Superior	0.32	1.10	1.44	Not Sig.
Very Superior vs Superior	0.08	0.52	0.70	Not Sig.
Among Girls -				
Extraordinary vs Very Superior	0.56	0.76	1.01	Not Sig.
Extraordinary vs Superior	0.41	0.73	0.95	Not Sig.
Very Superior vs Superior	0.15	0.41	0.54	Not Sig.
(ii) For Sex Differences :				
Among Extraordinary -				
Boys vs Girls	0.08	1.29	1.70	Not Sig.
Among Very Superior -				
Boys vs Girls	0.40	0.59	0.77	Not Sig.
Among Superior -				
Boys vs Girls	0.17	0.33	0.44	Not Sig.

Table 5.9(ii)(a) : Showing Mean Scores on Personality Factor L (Protension (Paranoid tendency) Versus Relaxed, Security) of each of Main and Sub-groups (According to age).

(Sample Size : 683) (I.Q. x Sex x Age)

	Age in Years												Total (Sexwise)		
	13			14			15			Total					
	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean
Boys (M)															
Highly Superior I_1	31	168	5.41	32	165	5.15	32	154	4.81	95	487	5.12	304	1564	5.14
Superior I_2	39	175	4.48	85	443	5.21	85	459	5.40	209	1077	5.15			
Girls (F)															
Highly Superior I_1	30	161	5.36	64	338	5.28	71	384	5.40	165	883	5.35	379	2017	5.32
Superior	56	277	4.94	75	397	5.29	83	460	5.54	214	1134	5.29			
Total (I.Q.wise)															
Highly Superior I_1	61	329	5.39	96	503	5.23	103	538	5.22	260	1370	5.26	683	3581	5.24
Superior	95	452	4.75	160	840	5.25	168	919	5.47	423	2211	5.15			
Total (Agewise)	156	781	5.01	256	1343	5.25	271	1457	5.38	683	3581	5.24			

Table No. 5.9(ii)(b) : Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (SS)	Mean Squares (variance)	F Ratios	Remarks
Between IQ (Giftedness)	1	0.28	0.28	0.11	not sig.
Between Sex	1	5.29	5.29	2.13	not sig.
Between Age	2	13.56	6.78	2.73	not sig.
Interaction IQ x Sex	1	0.01	0.005	0.002	not sig.
Interaction IQ x Age	2	18.61	9.31	3.75	Sig.at .05
Interaction Sex x Age	2	0.54	0.27	0.10	not sig.
Interaction IQ x Sex x Age	2	8.31	4.16	1.67	not sig.
Within Groups (Error term)	671	1669.06	2.48		
Total:	682	1715.66			

	From statistical table	
For	df = 1/671	2/671
	F at .05 = 3.857	3.007
	F at .01 = 6.681	4.644

Table 5.9(ii)(c) : Showing Results of L.S.D. Test for Pair Differences among I.Q., Sex and Age Sub-groups.

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.96 and at .01 = 2.58)

1	Obtained Mean Difference 2	Required Difference .05 3	.01 4	Significance. 5
(i) For I.Q. Differences :				
Among Boys -				
13 years : Highly Sup. vs Superior.	.93	.74	.98	Sig.at.05
14 years ,, ,,	.06	.65	.85	not sig.
15 years ,, ,,	.59	.65	.85	not sig.
Among girls				
13 years ,, ,,	.42	.71	.93	not sig.
14 yesrs ,, ,,	.01	.53	.70	not sig.
15 years ,, ,,	.14	.49	.65	not sig.
(ii) For Sex Differences :				
Among Highly Superior				
13 years : Boys vs Girls	.05	.78	1.03	not sig.
14 years ,, ,,	.13	.65	.85	not sig.
15 years ,, ,,	.59	.67	.88	not sig.
Among Superior				
13 years ,, ,,	.46	.65	.85	not sig.
14 years ,, ,,	.08	.49	.65	not sig.
15 years ,, ,,	.14	.47	.62	not sig.

Contd....

Table 5.9(ii)(c) contd...

1.	2	3	4	5
(iii) For Age Differences :				
Among Main Groups -				
13 years vs 14 years	.24	.31	.41	not sig.
13 yesrs vs 15 years	.37	.31	.41	sig.at.05
14 years vs 15 years	.13	.27	.36	not sig.
Among Hihgly Superior Boys-				
13 years vs 14 years	.26	.78	1.03	not sig.
13 years vs 15 years	.60	.78	1.03	not sig.
14 years vs 15 years	.34	.76	1.02	not sig.
Among Superior Boys-				
13 years vs 14 years	.73	.59	.77	sig.at.05
13 years vs 15 years	.92	.59	.77	sig at .01
14 years vs 15 years	.19	.47	.62	not sig.
Among Highly Superior Girls-				
13 years vs 14 years	.08	.69	.90	not sig.
13 years vs 15 years	.04	.67	.88	not sig.
14 years vs 15 years	.12	.53	.70	not sig.
Among Superior Girls				
13 years vs 14 years	.35	.55	.72	not sig.
13 years vs 15 years	.60	.53	.70	Sig.at.05
14 years vs 15 years	.25	.49	.65	not sig.

Table 5.9(iii)(a): Showing Mean Scores on Personality Factor L (Protension (paranoid tendency) vs Relaxed Security) of each of Main and Sub-groups (Sample Size: 325) (I.Q. x Sex)

		Extra-ordinary	Very Superior	Superior	Total
Boys :	Nos.	10	49	106	165
	Scores	45	252	542	839
	Mean	4.50	5.14	5.11	5.08
Girls :	Nos.	19	51	90	160
	Scores	95	299	496	890
	Mean	5.00	5.86	5.51	5.56
Total :	Nos.	29	100	196	325
	Scores	140	551	1038	1729
	Mean	4.83	5.51	5.30	5.32

Table 5.9(iii)(b): Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	2	10.75	5.38	1.98	Not Sig.
Between Sex	1	18.54	18.54	6.82	Sig.at .01
Interaction: I.Q. x Sex	2	3.76	1.88	0.69	Not Sig.
Within Groups (Error term)	329	866.67	2.72		
Total	324	899.72			

From statistical table -

For	df =	2/319	1/319
F at	.05 =	3.028	3.868
F at	.01 =	4.676	6.716

Table 5.9(iii)(c): Showing Results of L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_W / N_1 + MS_W / N_2}$$

(t for df of MS_W at .05 = 1.97 and at .01 = 2.59)

	Obtained Mean Differences	Required Differences .05	.01	Significance
(i) For I.Q. Differences :				
Among Main Groups -				
Extraordinary vs Very Sup.	0.68	.69	.91	Not Sig.
Extraordinary vs Superior	.47	.63	.83	Not Sig.
Very Superior vs Superior	.21	.39	.52	Not Sig.
Among Boys -				
Extraordinary vs Very Sup.	.64	1.12	1.48	Not Sig.
Extraordinary vs Superior	.61	1.06	1.40	Not Sig.
Very Superior vs Superior	.03	.55	.72	Not Sig.
Among Girls -				
Extraordinary vs Very Sup.	.86	.86	1.14	Sig.at .05
Extraordinary vs Superior	.51	.81	1.06	Not Sig.
Very Superior vs Superior	.35	.57	.75	Not Sig.
(ii) For Sex Differences :				
Among Extraordinary -				
Boys vs Girls	.50	1.26	1.66	Not Sig.
Among Very Superior -				
Boys vs Girls	.72	.65	.85	Sig.at .05
Among Superior -				
Boys vs Girls	.40	.47	.62	Not Sig.

Table 5.9(iv)(a): Showing Mean Scores on Personality Factor L (Protension (paranoid tendency) vs Relaxed, Security) of each of Main and Sub-groups (Sample Size: 143) (I.Q. x Sex)

		Extra-ordinary (Gifted)	Backward (Non-gifted)	Total
Boys :	Nos.	15	61	76
	Scores	73	283	356
	Mean	4.86	4.63	4.68
Girls :	Nos.	36	31	67
	Scores	178	154	332
	Mean	4.94	4.96	4.95
Total :	Nos.	51	92	143
	Scores	251	437	688
	Mean	4.92	4.75	4.81

Table 5.9(iv)(b): Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	1	0.97	0.97	0.33	Not Sig.
Between Sex	1	2.61	2.61	0.89	Not Sig.
Interaction: I.Q. x Sex	1	.33	0.33	0.11	Not Sig.
Within Groups (Error term)	139	406.00	2.92		
Total	142	409.91			

From the Statistical table

For df = 1/139

F at .05 = 3.91

F at .01 = 6.825

Table 5.9(iv)(c): Showing Results of L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.98 and at .01 = 2.615)

	Obtained Mean Difference	Required Difference .05	.01	Significance
(i) For I.Q. Differences :				
Among Boys -				
Extraordinary vs Backward	.23	.97	1.28	Not Sig.
Among Girls -				
Extraordinary vs Backward	.02	.83	1.09	Not Sig.
(ii) For Sex Differences :				
Among Extraordinary -				
Boys vs Girls	.08	1.05	1.39	Not Sig.
Among Backward -				
Boys vs Girls	.33	.75	.99	Not Sig.

among boys, and the very superior scored, highest among the girls, thus accounting for significant interaction.

Similarly, the results of 683 subjects in Table 5.9(ii)(b) showed neither giftedness, nor sex nor age was independently significant, but I.Q. x age interaction was significant. The closer examination of results in Table 5.9(ii)(c) reveals that though I.Q. was not significant on the whole, highly superior scored significantly higher than the superior at 13 age. Similarly, though age was insignificant on the whole, 13

age group differed from 15 age group on the whole, and 13 age group differed from both 14 age group and 15 age group among the superior boys. Sex was not significant on the whole or in any sub-group. The highly superior scored higher than the superior at 13 age, and reverse was the case at 15 age; this accounted for significant interaction between I.Q. and age.

The results of 325 subjects in Table 5.9(iii)(b) and (c) indicate only sex to be significant, and that too only among the very superior. Though there were no I.Q. differences on the whole, the extraordinary differed from the very superior in case of girls on this factor.

The results of 143 subjects in Table 5.9(iv)(b) and (c) show no significant differences in I.Q. or sex anywhere on this factor.

To sum up, giftedness was significant only at age of 13, highly superior scoring higher than the superior. Age was significantly contributing was significant among superior boys, both 14 and 15 scoring significantly higher than 13 age and among superior girls, 15 scoring higher than 13. Sex was significant, particularly among the very superior, girls scoring higher on this factor.

5.10 PERSONALITY FACTOR M (AUTIA vs PRAXERNIA) AND GIFTEDNESS

This factor M represents on the positive side the introverted, absent-minded, unconventional, self-absorbed, frivolous, immature, impractical, imaginative, creative type of the individual, interested in art, theory, basic beliefs, etc.

The scores on this factor obtained by the four groups were statistically analysed by the F-test and the L.S.D. test, and the results have been summarized in Tables 5.10(i), (ii), (iii), (iv) - (a), (b), (c).

The maximum score on this factor is ten, and the average scores of the four groups under study were respectively 4.26, 4.23, 4.22 and 3.83, implying that the sample under study was below average on this factor, or more of a practical, conventional type. The differences due to some of the factors studied are described below.

The results in Table 5.10(i)(b) and (c) of 935 subjects (I.Q. x sex) reveal that giftedness was not significantly contributing to this factor; but only sex was significant. Girls scored higher (4.43) than boys (4.06) on the whole on this factor, and particularly among the very superior and the superior groups. No other sub-group pair was significant.

Table 5.10(i)(a): Showing Mean Scores on Personality Factor M (Autia vs Praxernia) of each of Main and Sub-groups (Sample Size : 935) I.Q. x Sex

		Extra-ordinary	Very Superior	Superior	Total
Boys :	Nos.	15	76	334	425
	Scores	58	289	1379	1726
	Mean	3.86	3.80	4.12	4.06
Girls :	Nos.	36	145	329	510
	Scores	143	652	1463	2258
	Mean	3.98	4.49	4.44	4.43
Total :	Nos.	51	221	663	935
	Scores	201	941	2842	3984
	Mean	3.98	4.25	4.28	4.26

Table 5.10(i)(b) : Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	2	5.65	2.82	0.77	Not Sig.
Between Sex	1	31.10	31.10	8.54	Sig.at .01
Interaction: I.Q. x Sex	2	9.81	4.91	1.35	Not Sig.
Within Groups (Error term)	929	3383.77	3.64		
Total	934	3430.33			

From the statistical table

For df	= 2/929	1/929
F at .05	= 3.00	3.85
F at .01	= 4.63	6.66

Table 5.10(i)(c): Showing Results of L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.96 and at .01 = 2.58)

	Obtained Mean Differences	Required Differences .05	.01	Significance
(i) For I.Q. Differences :				
Among Main Groups -				
Extraordinary vs Very Superior	.27	.59	.77	Not Sig.
Extraordinary vs Superior	.30	.55	.72	Not Sig.
Very Superior vs Superior	.03	.29	.39	Not Sig.
Among Boys -				
Extraordinary vs Very Superior	.06	1.06	1.39	Not Sig.
Extraordinary vs Superior	.26	.98	1.29	Not Sig.
Very Superior vs Superior	.32	.47	.62	Not Sig.
Among Girls -				
Extraordinary vs Very Superior	.51	.70	.93	Not Sig.
Extraordinary vs Superior	.46	.67	.88	Not Sig.
Very Superior vs Superior	.05	.37	.49	Not Sig.
(ii) For Sex Differences :				
Among Extraordinary -				
Boys vs Girls	.12	1.16	1.52	Not Sig.
Among Very Superior -				
Boys vs Girls	.69	.69	.53	Sig.at .01
Among Superior -				
Boys vs Girls	.32	.29	.39	Sig.at .05

Table 5.10(ii)(a): Showing Mean Scores on Personality Factor M (Autia Versus Praxernia) of each of Main and Sub-Groups (According to age).

(Sample Size : 683) (I.Q. x Sex x Age)

	Age in Years												Total (Sexwise)		
	13			14			15			Total					
	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean
Boys (M)															
Highly Superior I_1	31	119	3.83	32	121	3.78	32	114	3.56	95	354	3.72	304	1218	4.01
Superior I_2	39	163	4.17	85	343	4.03	85	358	4.27	209	864	4.13			
Girls (F)															
Highly Superior I_1	30	137	4.56	64	289	4.51	71	293	4.12	165	719	4.35	379	1669	4.40
Superior I_2	56	244	4.35	75	333	4.44	83	373	4.49	214	950	4.43			
Total (I.Q.wise)															
Hihgly Superior I_1	61	256	4.19	96	410	4.55	103	407	3.95	260	1073	4.12	683	2887	4.23
Superior I_2	95	407	4.28	160	676	4.22	168	731	4.35	423	1814	4.28			
Total (Agewise)	156	663	4.25	256	1086	4.24	271	1138	4.20	683	2887	4.23			

Table 5.10 (ii) (b) : Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (SS)	Mean Squares (Variance)	F Ratios	Remarks
Between IQ (Giftedness)	1	4.19	4.19	2.05	not sig.
Between Sex	1	26.60	26.60	13.03	Sig. at .01
Between Age	2	0.35	0.18	0.088	not sig.
Interaction IQ x Sex	1	7.58	7.58	3.71	not sig.
Interaction IQ x Age	2	6.42	3.21	1.57	not sig.
Interaction Sex X Age	2	1.70	0.85	0.42	not sig.
Interaction IQ x Sex x Age	2	1.50	0.75	0.37	not sig.
Within Groups (Error term)	671	1371.49	2.04		
Total:	682	1419.83			

From the Statistical table

For df =	1/671	2/671
F at .05 =	3.857	3.007
F at .01 =	6.681	4.644

Table 5.10(ii)(c) : Showing Results of L.S.D. Test for Pair Difference Among I.Q., Sex and Age Sub-Groups.

$$L.S.D. = t \sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.96 and at .01 = 2.58)

1.	Obtained mean Difference 2	Required Difference .05 3	.01 4	Significance 5
(i) For I.Q. Differences :				
Among Boys				
13 years : Highly Sup. vs Superior.	.34	.67	.88	not sig.
14 years ,, ,,	.25	.59	.77	not sig.
15 years ,, ,,	.71	.59	.77	sig.at.05
Among Girls -				
13 years ,, ,,	.21	.63	.83	not sig.
14 years ,, ,,	.07	.47	.62	not sig.
15 years ,, ,,	.37	.45	.59	not sig.
(ii) For Sex Differences :				
Among Highly Superior				
13 years : Boys vs Girls	.73	.71	.93	sig.at.05
14 years ,, ,,	.73	.61	.80	sig.at.05
15 years ,, ,,	.56	.59	.77	not sig.
Among Superior				
13 years ,, ,,	.18	.59	.77	not sig.
14 years ,, ,,	.41	.45	.59	not sig.
15 years ,, ,,	.22	.43	.57	not sig.

Contd....

Table 5.10(ii)(c) : Contd...

1	2	3	4	5
(iii) For Age Differences				
Among Main Groups				
13 years vs 14 years	.01	.27	.36	not sig.
13 years vs 15 years	.05	.27	.36	not sig.
14 years vs 15 years	.04	.24	.31	not sig.
Among Highly Superior Boys -				
13 years vs 14 years	.05	.71	.93	not sig.
13 years vs 15 years	.27	.71	.93	not sig.
14 years vs 15 years	.22	.71	.93	not sig.
Among Superior Boys -				
13 years vs 14 years	.14	.55	.72	not sig.
13 years vs 15 years	.10	.55	.72	not sig.
14 years vs 15 years	.24	.47	.62	not sig.
Among Highly Superior Girls-				
13 years vs 14 years	.05	.63	.83	not sig.
13 years vs 15 years	.44	.61	.80	not sig.
14 years vs 15 years	.39	.49	.65	not sig.
Among Superior Girls-				
13 years vs 14 years	.09	.49	.65	not sig.
13 years vs 15 years	.14	.49	.65	not sig.
14 years vs 15 years	.05	.45	.59	not sig.

Table 5.10(iii)(a): Showing Mean Scores on Personality Factor M (Autia vs Praxernia) of each of Main and Sub-groups (Sample Size = 325)
(I.Q. x Sex)

		Extra-ordinary	Very Superior	Superior	Total
Boys :	Nos.	10	49	106	165
	Scores	35	192	439	666
	Mean	3.50	3.92	4.14	4.04
Girls :	Nos.	19	51	90	160
	Scores	76	235	395	706
	Mean	4.00	4.61	4.39	4.41
Total :	Nos.	29	100	196	325
	Scores	111	427	834	1372
	Mean	3.83	4.27	4.26	4.22

Table 5.10(iii)(b): Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	2	4.96	2.48	1.06	Not Sig.
Between Sex	1	11.50	11.50	4.91	Sig.at .05
Interaction: I.Q. x Sex	2	5.18	2.59	1.11	Not Sig.
Within Groups (Error term)	319	746.41	2.34		
Total	324	768.05			

From statistical table -

For df =	2/319	1/319
F at .05 =	3.028	3.868
F at .01 =	4.676	6.716

Table 5.10(iii)(c) : Showing Results of L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df MS_w at .05 = 1.97 and at .01 = 2.59)

	Obtained Mean Difference	Required Difference .05	Required Difference .01	Significance
(i) For I.Q. Differences :				
Among Main Groups -				
Extraordinary vs Very Superior	.44	.63	.83	Not Sig.
Extraordinary vs Superior	.43	.59	.78	Not Sig.
Very Superior vs Superior	.01	.37	.49	Not Sig.
Among Boys -				
Extraordinary vs Very Superior	.42	1.04	1.37	Not Sig.
Extraordinary vs Superior	.64	1.03	1.32	Not Sig.
Very Superior vs Superior	.22	.51	.67	Not Sig.
Among Girls -				
Extraordinary vs Very Superior	.61	.83	1.09	Not Sig.
Extraordinary vs Superior	.39	.75	.98	Not Sig.
Very Superior vs Superior	.22	.51	.67	Not Sig.
(ii) For Sex Differences :				
Among Extraordinary -				
Boys vs Girls	.50	1.18	1.55	Not Sig.
Among Very Superior -				
Boys vs Girls	.69	.59	.78	Sig. at .05
Among Superior -				
Boys vs Girls	.25	.41	.54	Not Sig.

Table 5.10(iv)(a): Showing Mean Scores on Personality Factor M (Autia vs Praxemmia) of each of Main and Sub-groups

		Extra-ordinary (Gifted)	Backward (Non-gifted)	Total
Boys :	Nos.	15	61	76
	Scores	58	237	295
	Mean	3.86	3.88	3.87
Girls :	Nos.	36	31	67
	Scores	143	110	253
	Mean	3.98	3.54	3.78
Total :	Nos.	51	92	143
	Scores	201	347	548
	Mean	3.98	3.77	3.83

Table 5.10(iv)(b): Showing Summary of Analysis of Variance Results of

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	1	0.93	0.93	0.29	Not Sig.
Between Sex	1	0.40	0.40	0.13	Not Sig.
Interaction: I.Q. x Sex	1	2.06	2.06	0.66	Not Sig.
Within Groups (Error term)	139	431.58	3.11		
Total	142	434.97			

From statistical table

For df = 1/139

F at .05 = 3.91

F at .01 = 6.825

Table 5.10(iv)(c): Showing Results of L.S.D. Test of Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_W / N_1 + MS_W / N_2}$$

(t for df of MS_W at .05 = 1.98 and at .01 = 2.615)

	Obtained Mean Difference	Required Difference .05	.01	Significance
(i) For I.Q. Differences :				
Among Boys -				
Extraordinary vs Backward	.02	1.01	1.33	Not Sig.
Among Girls -				
Extraordinary vs Backward	.44	.85	1.22	Not Sig.
(ii) For Sex Differences :				
Among Extraordinary -				
Boys vs Girls	.12	1.07	1.41	Not Sig.
Among Backward -				
Boys vs Girls	.34	.77	1.02	Not Sig.

The results in Table 5.10(ii)(b) and (c) of 683 subjects (I.Q. x sex x age) also show that sex was the only significant factor; girls scored higher (4.40) than boys (4.01) on the whole, and particularly among highly superior group of 13 and 14 years. Giftedness was not significant on the whole, but only one pair, viz. highly superior vs superior boys of 15, showed differences. Age was not significant on the whole as well as in any sub-group.

The results in Table 5.10(iii)(b) and (c) of 325 subjects (I.Q. x sex) also indicate significant sex differences, girls scoring higher (4.41) than boys (4.04) on the whole, and particularly among the very superior.

The results in Table 5.10(iv)(b) and (c) show no differences in I.Q. or sex on this factor anywhere.

To sum up, only sex contributed significantly to this factor M, and particularly among the very superior or highly superior of 13 and 14 years.

5.11 PERSONALITY FACTOR N (SHREWDNESS vs NAIVETE) AND GIFTEDNESS

This factor represents on the positive side the shrewd, sophisticated, polished, socially alert, exact, emotionally disciplined, esthetically fastidious, insightful, ambitious individual.

The scores on this factor obtained by the four groups were statistically analysed by the F-test and the L.S.D. test, and the results have been summarized in Tables 5.11(i), (ii), (iii), (iv) - (a), (b), (c).

Table 5.11(i)(a): Showing Mean Scores on Personality Factor N (Shrewdness vs Naivete) of each of Main and Sub-groups. (Sample Size : 935)

(I.Q. x Sex)

		Extra-ordinary	Very Superior	Superior	Total
Boys :	Nos.	15	76	334	425
	Scores	80	429	1802	2311
	Mean	5.33	5.64	5.39	5.44
Girls :	Nos.	36	145	329	510
	Scores	189	789	1767	2745
	Mean	5.25	5.44	5.37	5.38
Total :	Nos.	51	221	663	935
	Scores	269	1218	3569	5056
	Mean	5.27	5.51	5.38	5.41

Table 5.11(i)(b) : Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	2	3.68	1.84	0.33	Not Sig.
Between Sex	1	0.71	0.71	0.13	Not Sig.
Interaction: I.Q. x Sex	2	1.53	0.76	0.14	Not Sig.
Within Groups (Error term)	929	5173.83	5.57		
Total	934	5179.75			

From the statistical table

For df =	2/929	1/929
F at .05 =	3.00	3.85
F at .01 =	4.63	6.66

Table 5.11(i)(c) : Showing Results of L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_W / N_1 + MS_W / N_2}$$

(t for df of MS_W at .05 = 1.96 and at .01 = 2.58)

	Obtained Mean Differences	Required Differences .05	.01	Significance
(i) For I.Q. Differences :				
Among Main Groups -				
Extraordinary vs Very Superior	.24	.73	.95	Not Sig.
Extraordinary vs Superior	.11	.67	.88	Not Sig.
Very Superior vs Superior	.13	.35	.46	Not Sig.
Among Boys -				
Extraordinary vs Very Superior	.31	1.31	1.73	Not Sig.
Extraordinary vs Superior	.06	1.22	1.60	Not Sig.
Very Superior vs Superior	.25	.59	.77	Not Sig.
Among Girls -				
Extraordinary vs Very Superior	.19	.86	1.14	Not Sig.
Extraordinary vs Superior	.12	.80	1.06	Not Sig.
Very Superior vs Superior	.07	.47	.62	Not Sig.
(ii) For Sex Differences :				
Among Extraordinary -				
Boys vs Girls	.08	1.43	1.88	Not Sig.
Among Very Superior -				
Boys vs Girls	.20	.65	.85	NotSig .
Among Superior -				
Boys vs Girls	.02	.35	.46	Not Sig.

Table 5.11(ii)(a) : Showing Mean Scores on Personality Factor N (Shrewness Versus Naivete) on each of Main and Sub-Groups (According to age).

(Sample size : 683) (I.Q. x Sex X Age)

	Age in Years												Total (Sexwise)		
	13			14			15			Total					
	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean
Boys (M)															
Highly Superior I_1	31	174	5.61	32	180	5.62	32	162	5.06	95	516	5.43	304	1663	5.47
Superior I_2	39	205	5.25	85	486	5.71	85	456	5.36	209	1147	5.33			
Girls (F)															
Highly Superior I_1	30	164	5.46	64	350	5.47	71	370	5.21	165	884	5.35	379	2049	5.41
Superior I_2	56	292	5.21	75	412	5.49	83	461	5.55	214	1165	5.44			
Total (I.Q.Wise)															
Highly Superior I_1	61	338	5.54	96	530	5.52	103	532	5.16	260	1400	5.38	683	3712	5.43
Superior I_2	95	497	5.23	160	898	5.11	168	917	5.45	423	2312	5.46			
Total (Agewise)	156	835	5.35	256	1428	5.58	271	1449	5.34	683	3712	5.43			

Table 5.11(ii)(b) : Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	1	1.06	1.06	0.67	Not Sig.
Between sex	1	0.69	0.69	0.44	Not Sig.
Between Age	2	8.41	4.21	2.66	Not Sig.
Interaction: I.Q. x Sex	1	0.17	0.09	0.05	Not Sig.
Interaction: I.Q. x Age	2	8.48	4.24	2.68	Not Sig.
Interaction: Sex x Age	2	3.46	1.73	1.09	Not Sig.
Interaction: I.Q. x Sex x Age	2	0.88	0.44	0.27	Not Sig.
Within Groups (Error term)	671	1062.05	1.58		
Total	682	1084.86			

From the statistical table -

For df	=	1/671	2/671
F at .05	=	3.857	3.007
F at .01	=	6.681	4.644

Table 5.11(ii)(c) : Showing Results of L.S.D. Test For Pair Differences Among I.Q., Sex, and Age Sub-Groups

$$L.S.D. = t \sqrt{MS_W / N_1 + MS_W / N_2}$$

(t for df of MS_W at .05 = 1.96 and at .01 = 2.58)

1	Obtained mean Difference	Required Difference .05	.01	Significance 5
(1) For I.Q. Differences :				
Among Boys -				
13 years : Highly Sup. Vs. Superior.	.36	.59	.77	Not sig.
14 years ,, ,,	.09	.51	.67	not sig.
15 years ,, ,,	.30	.51	.67	not sig.
Among Girls -				
13 years ,, ,,	.25	.55	.72	not sig.
14 years ,, ,,	.03	.41	.54	not sig.
15 years ,, ,,	.34	.39	.52	not sig.
(ii) For Sex Differences :				
Among Highly Superior				
13 years : Boys vs Girls	.15	.63	.83	not sig.
14 years : ,, ,,	.16	.53	.70	not sig.
15 years : ,, ,,	.15	.53	.70	not sig.
Among Superior -				
13 years : ,, ,,	.04	.51	.67	not sig.
14 years : ,, ,,	.22	.39	.52	not sig.
15 years : ,, ,,	.19	.37	.49	not sig.

Contd...

Table 5.11(ii)(c) contd...

1	2	3	4	5
(iii) For Age Differences				
Among Main Groups				
13 years vs 14 years	.23	.25	.33	not sig.
13 years vs 15 years	.01	.25	.33	not sig.
14 years vs 15 years	.24	.22	.28	sig.at.05
Among Highly Superior Boys.				
13 years vs 14 years	.01	.63	.83	not sig.
13 years vs 15 years	.55	.63	.83	not sig.
14 years vs 15 years	.56	.61	.80	not sig.
Among Superior Boys -				
13 years vs 14 years	.46	.47	.62	not sig.
13 years vs 15 years	.11	.47	.62	not sig.
14 years vs 15.years	.35	.37	.49	not sig.
Among Highly Superior Girls-				
13 years vs 14 years	.01	.59	.77	not sig.
13 years vs 15 years	.25	.55	.72	not sig.
14 years vs 15. years	.26	.43	.57	not sig.
Among Superior Girls				
13 years vs 14. years	.28	.43	.57	not sig.
13 years vs 15 years	.34	.43	.57	not sig.
14 years vs 15 years	.06	.39	.52	not sig.

Table 5.11(iii)(a): Showing Mean Scores on Personality Factor N (Shrewdness vs Naivete) of each of Main and Sub-groups. (Sample Size : 325)
(I.Q. x Sex)

		Extra-ordinary	Very Superior	Superior	Total
Boys :	Nos.	10	49	106	165
	Scores	49	277	550	876
	Mean	4.90	5.65	5.19	5.31
Girls :	Nos.	19	51	90	160
	Scores	105	270	490	865
	Mean	5.53	5.29	5.44	5.41
Total :	Nos.	29	100	196	325
	Scores	154	547	1040	1741
	Mean	5.31	5.47	5.30	5.36

Table 5.11(iii)(b): Showing Summary of Analysis of Variance Results of

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	2	1.84	.92	0.39	Not Sig.
Between Sex	1	0.77	0.77	0.32	Not Sig.
Interaction: I.Q. x Sex	2	8.20	4.10	1.73	Not Sig.
Within Groups (Error term)	319	755.79	2.37		
Total	324	766.60			

From the statistical table

For	df =	2/319	1/319
F at	.05 =	3.028	3.868
F at	.01 =	4.676	6.716

Table 5.11(iii)(c) : Showing Results of L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.97 and at .01 = 2.59)

	Obtained Mean Difference	Required Difference .05	.01	Significance
(i) For I.Q. Differences :				
Among Main Groups -				
Extraordinary vs Very Sup.	.16	.63	.83	Not Sig.
Extraordinary vs Superior	.01	.59	.78	Not Sig.
Very Superior vs Superior	.17	.37	.49	Not Sig.
Among Boys -				
Extraordinary vs Very Sup.	.75	1.04	1.37	Not Sig.
Extraordinary vs Superior	.29	1.003	1.32	Not Sig.
Very Superior vs Superior	.46	.51	.67	Not Sig.
Among Girls -				
Extraordinary vs Very Sup.	.24	.83	1.09	Not Sig.
Extraordinary vs Superior	.09	.75	.98	Not Sig.
Very Superior vs Superior	.15	.51	.67	Not Sig.
(ii) For Sex Differences :				
Among Extraordinary -				
Boys vs Girls	.63	1.18	1.55	Not Sig.
Among Very Superior				
Boys vs Girls	.36	.59	.78	Not Sig.
Among Superior				
Boys vs Girls	.25	.41	.54	Not Sig.

Table 5.11(iv)(a): Showing Mean Scores on Personality Factor N (Shrewdness vs Naivete) of each of Main and Sub-groups (Sample Size: 143) (I.Q. x Sex)

		Extra-ordinary (Gifted)	Backward (Non-gifted)	Total
Boys :	Nos.	15	61	76
	Scores	80	244	324
	Mean	5.33	4.00	4.26
Girls:	Nos.	36	31	67
	Scores	189	120	309
	Mean	5.25	3.87	4.61
Total:	Nos.	51	92	143
	Scores	269	364	633
	Mean	5.27	3.94	4.43

Table 5.11(iv)(b): Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	1	56.99	56.99	14.50	Sig.at .01
Between Sex	1	4.33	4.33	1.10	Not Sig.
Interaction: I.Q. x Sex	1	3.90	3.90	0.99	Not Sig.
Within Groups (Error term)	139	545.76	3.93		
Total	142	610.98			

From the statistical table

For df = 1/139

F at .05 = 3.91

F at .01 = 6.825

Table 5.11(iv)(c): Showing Results of L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.98 and at .01 = 2.615)

	Obtained Mean Difference	Required Difference .05	.01	Significance
(i) For I.Q. Differences :				
Among Boys - Extraordinary vs Backward	1.33	1.13	1.49	Sig. at .05
Among Girls - Extraordinary vs Backward	1.38	.99	1.31	Sig. at .01
(ii) For Sex Differences :				
Among Extraordinary - Boys vs Girls	.08	1.21	1.60	Not Sig.
Among Backward Boys vs Girls	.13	.87	1.15	Not Sig.

The maximum score on this factor is ten and the four groups obtained on an average 5.41, 5.43, 5.36 and 5.27 by the gifted and 3.94 by the non-gifted, making an average of 4.43 respectively. This means that the total sample was averagely normal on this factor of shrewdness. The differences due to giftedness (I.Q.), sex and age have been discussed below.

The results in Table 5.11(i)(b) and (c) of 935 subjects (I.Q. x sex) indicate that neither giftedness nor sex nor their interaction was significantly contributing to this factor on the

whole or at any sub-group level. The results in Table 5.11(ii) (b) and (c) of 683 subjects (I.Q. x sex x age) also show that neither I.Q., nor sex nor age nor any interaction made any difference, excepting in one pair of main age group, viz. 14 age vs 15 age, in favour of the 14 age group. The results in Table 5.11(iii)(b) and (c) of 325 subjects (I.Q. x sex) also reveal no differences in I.Q. or sex anywhere. However, results in Tables 5.11(iv)(b) and (c) of 143 subjects (I.Q. x sex) show that giftedness made significant differences on the whole as well as separately among boys and girls, always the gifted scoring higher than the non-gifted on this factor N, neither sex nor I.Q. x sex was significant.

To sum up, neither giftedness nor sex nor age nor any interaction contributed substantially to the factor N. Only the comparison of the gifted with the non-gifted showed that giftedness was significant on the whole as well as among the boys and the girls, i.e., the gifted were higher than the non-gifted on this factor N of shrewdness, and this was as expected.

5.12 PERSONALITY FACTOR O (GUILT PRONENESS vs CONFIDENT, ADEQUACY) AND GIFTEDNESS

This factor O refers on the positive side to guilt proneness. i.e. to the timid, insecure, worrying, or anxious, depressed, sensitive, tender, easily upset, moody, lonely, brooding,

individuals, somewhat like Factor L though distinct from it, it also represents exacting, fussy type having strong sense of duty and phobic symptoms, etc.

The scores on this factor obtained by the four groups were statistically analysed by the F-test and the L.S.D. test, and the results of this statistical analysis have been summarized in Tables 5.12 (i), (ii), (iii) and (iv) , - (a),(b), (c).

The individual can obtain maximally ten on this factor if positively scored. The average scores obtained by the present four groups under study were 2.62, 2.63, 2.59 and 3.21 (average of 2.70 of the gifted and 3.51 of the non-gifted). This indicates that the total sample under study was far below on this factor of guilt proneness, or was normally self-confident and cheerful. The differences made by giftedness, sex and age have been examined below.

The results of 935 subjects (I.Q. x sex) in Table 5.12(i) (b) and (c) reveal that neither giftedness (I.Q.), nor sex nor their interaction was significantly contributing to this factor O on the whole or in any subgroup. Similarly, the results of 683 subjects (I.Q. x sex x age) in Table 5.12 (ii), (b) and (c) also indicate that neither I.Q. nor sex nor age nor any interaction, except the highest I.Q. x sex x age interaction, was significant. Only girls scored significantly higher (more guilt prone) than

Table 5.12(i)(a) : Showing Mean Scores on Personality Factor O (Guilt Proneness vs Confident Adequacy) of each of main and Sub-groups (Sample Size:935)

I.Q. x Sex

		Extra-ordinary	Very Superior	Superior	Total
Boys :	Nos.	15	76	334	425
	Scores	48	167	846	1061
	Mean	3.20	2.19	2.53	2.50
Girls :	Nos.	36	145	329	510
	Scores	88	385	920	1393
	Mean	2.44	2.65	2.79	2.73
Total :	Nos.	51	221	663	935
	Scores	136	552	1766	2454
	Mean	2.70	2.49	2.66	2.62

Table 5.12(i)(b): Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	2	4.66	2.33	0.53	Not Sig.
Between Sex	1	12.79	12.79	2.90	Not Sig.
Interaction: I.Q. x Sex	2	15.19	7.59	1.72	Not Sig.
Within Groups (Error term)	929	4095.59	4.41		
Total	934	4128.23			

From the statistical table

For	df	=	2/929 1/929
F at	.05	=	3.00 3.85
F at	.01	=	4.63 6,66

Table 5.12(i)(c): Showing Results of L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.96 and .01 = 2.58)

	Obtained Mean Difference	Required Difference .05	.01	Significance
(i) For I.Q. Differences :				
Among the Main Groups -				
Extraordinary vs Very Superior	.21	.65	.85	Not Sig.
Extraordinary vs Superior	.04	.61	.80	Not Sig.
Very Superior vs Superior	.17	.31	.41	Not Sig.
Among Boys -				
Extraordinary vs Very Superior	1.01	1.16	1.52	Not Sig.
Extraordinary vs Superior	.67	1.08	1.42	Not Sig.
Very Superior vs Superior	.34	.53	.70	Not Sig.
Among Girls -				
Extraordinary vs Very Superior	.21	.76	1.01	Not Sig.
Extraordinary vs Superior	.35	.73	.95	Not Sig
Very Superior vs Superior	.14	.41	.54	Not Sig.
(ii) For Sex Differences :				
Among Extraordinary -				
Boys vs Girls	.76	1.27	1.68	Not Sig.
Among Very Superior -				
Boys vs Girls	.46	.59	.77	Not Sig.
Among Superior -				
Boys vs Girls	.26	.31	.41	Not Sig.

Table 5.12(ii)(a) : Showing Mean Scores on Personality Factor O (Guilt Proneness Versus Confident, Adequacy) of each of Main and Sub-Groups. (Sample Size : 683) (I.Q. x Sex x Age)(According to Age.)

	Age in Years									Total (Sexwise)		
	13			14			15			Total					
	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean
Boys (M)															
Highly Superior I_1	31	74	2.38	32	78	2.43	32	75	2.34	95	227	2.38	304	757	2.59
Superior I_2	39	113	2.89	85	197	2.31	85	220	2.58	209	530	2.53			
Girls (F)															
Highly Superior I_1	30	89	2.96	64	165	2.57	71	182	2.56	165	436	2.64	379	1037	2.74
Superior I_2	56	160	2.85	75	218	2.90	83	223	2.68	214	601	2.80			
Total (I.Q.wise)															
Highly Superior I_1	61	163	2.67	96	243	2.53	103	257	2.49	260	663	2.55	683	1794	2.63
Superior I_2	95	273	2.87	160	415	2.59	168	443	2.63	423	1131	2.67			
Total (Agewise)	156	436	2.89	256	658	2.57	271	700	2.58	683	1794	2.63			

Table 5.12 (ii)(b) : Showing Summary of Analysis of Variance Results of

Sources of Variance	df	Sum of Squares (SS)	Mean Squares (variance)	F Ratios	Remarks
Between IQ (Giftednness)	1	2.47	2.47	0.87	not sig.
Between Sex	1	10.20	10.20	3.57	Not sig.
Between Age	2	5.73	2.87	1.01	Not sig.
Interaction IQ x Sex	1	1.49	1.49	0.52	Not sig.
Interaction IQ x Age	2	0.55	0.28	0.09	Not sig.
Interaction Sex X Age	2	2.92	1.46	0.51	Not sig.
Interaction IQ x Sex x Age	2	47.47	22.74	7.97	Sig. at .01
Within groups (Error term)	671	1912.97	2.85		
Total	682	1981.80			

From the Statistical table

df =	1/671	2/671
F at .05 =	3.857	3.007
F at .01 =	6.681	4.644

Table 5.12(ii)(c) : Showing Results of L.S.D. Test For Pair Differences among I.Q. Sex, and Age Sub-Groups.

$$L.S.D. = t \sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.96 and at .01 = 2.58)

1	Obtained mean difference 2	Required Difference .05 3	.01 4	Significance 5
(i) For I.Q. Differences				
Among Boys				
13 years : High.Sup. vs. Superior	.50	.80	1.06	not sig.
14 years ,, ,,	.12	.69	.90	not sig.
15 years ,, ,,	.24	.69	.90	not sig.
Among Girls -				
13 years ,, ,,	.11	.74	.98	not sig.
14 years ,, ,,	.33	.57	.75	not sig.
15 years ,, ,,	.12	.53	.70	not sig.
(ii) For Sex Differences				
Among Highly Superior -				
13 year : Boys vs Girls	.58	.84	1.11	not sig.
14 year : ,, ,,	.14	.73	.95	not sig.
15 years ,, ,,	.22	.71	.93	not sig.
Among Superior -				
13 years ,, ,,	.04	.69	.90	not sig.
14 years ,, ,,	.59	.53	.70	sig.at.05
15 years ,, ,,	.10	.51	.67	not sig.

Contd...

Table 5.12 (ii) (c) contd...

1	2	3	4	5
(iii) For Age Differences				
Among Main Groups				
13 years vs 14 years	.32	.33	.44	not sig.
13 years vs 15 years	.31	.33	.44	not sig.
14 years vs 15 years	.01	.29	.39	not sig.
Among Highly Superior Boys-				
13 years vs 14 years	.05	.84	1.11	not sig.
13 years vs 15 years	.04	.84	1.11	not sig.
14 years vs 15 years	.09	.84	1.11	not sig.
Among superior Boys -				
13 years vs 14 years	.58	.65	.85	not sig.
13 years vs 14 years	.31	.65	.85	not sig.
14 years vs 15 years	.27	.51	.67	not sig.
Among Highly Superior Girls-				
13 years vs 14 years	.39	.73	.95	not sig.
13 years vs 15 years	.41	.71	.93	not sig.
14 years vs 15 years	.01	.57	.75	not sig.
Among Superior Girls -				
13 years vs 14 years	.05	.59	.77	not sig.
13 years vs 15 years	.17	.57	.75	not sig.
14 years vs 15 years	.22	.53	.70	not sig.

Table 4.12(iii)(a): Showing Mean Scores on Personality Factor O (Guilt Proneness vs Confident Adequacy) of each of Main and Sub-groups (Sample Size:325)

I.Q. x Sex

		Extra-ordinary	Very Superior	Superior	Total
Boys	: Nos.	10	49	106	165
	Scores	27	103	256	386
	Mean	2.70	2.10	2.42	2.34
Girls	: Nos.	19	51	90	160
	Scores	45	160	250	455
	Mean	2.37	3.14	2.78	2.84
Total	: Nos.	29	100	196	325
	Scores	72	263	506	841
	Mean	2.48	2.63	2.58	2.59

Table 4.12(iii)(b) : Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	2	0.51	0.26	0.10	Not Sig.
Between Sex	1	20.67	20.67	8.17	Sig.at .01
Interaction: I.Q. x Sex	2	13.22	6.61	2.61	Not Sig.
Within Group (Error term)	319	806.35	2.53		
Total	324	840.75			

From the statistical table

For df =	2/319	1/319
F at .05 =	3.028	3.868
F at .01 =	4.676	6.716

Table 5.12(iii)(c): Showing Results of the L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_W / N_1 + MS_W + N_2}$$

(t for df of MS_W at .05 = 1.97 and at .01 = 2.59)

	Obtained Mean Difference	Required Difference .05	.01	Significance
(i) For I.Q. Differences :				
Among Main Groups -				
Extraordinary vs Very Sup.	.15	.67	.88	Not Sig.
Extraordinary vs Superior	.10	.63	.83	Not Sig.
Very Superior vs Superior	.05	.39	.52	Not Sig.
Among Boys -				
Extraordinary vs Very Sup.	.60	1.08	1.42	Not Sig.
Extraordinary vs Superior	.28	1.04	1.37	Not Sig.
Very Superior vs Superior	.32	.55	.73	Not Sig.
Among Girls -				
Extraordinary vs Very Sup.	.77	.84	1.11	Not Sig.
Extraordinary vs Superior	.41	.78	1.04	Not Sig.
Very Superior vs Superior	.36	.55	.73	Not Sig.
(ii) For Sex Differences :				
Among Extraordinary -				
Boys vs Girls	.33	1.22	1.61	Not Sig.
Among Very Superior -				
Boys vs Girls	1.04	.60	.63	Sig.at .01
Among Superior -				
Boys vs Girls	.36	.45	.60	Not Sig.

Table 5.12(iv)(a) : Showing Mean Scores on Personality Factor O (Guilt Proneness vs Confident Adequacy) of each of Main and Sub-groups

		Extra-ordinary (Gifted)	Backward (Non-gifted)	Total
Boys :	Nos.	15	61	76
	Scores	48	202	250
	Mean	3.20	3.31	3.29
Girls :	Nos.	36	31	67
	Scores	88	121	209
	Mean	2.44	3.90	3.12
Total :	Nos.	51	92	143
	Scores	136	323	459
	Mean	2.70	3.51	3.21

Table 5.12(iv)(b): Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	1	23.39	23.39	7.11	Sig.at .01
Between Sex	1	1.04	1.04	0.32	Not Sig.
Interaction: I.Q. x Sex	1	12.20	12.20	3.71	Not Sig.
Within Groups (Error term)	139	457.08	3.29		
Total	142	493.71			

From the statistical table

For df = 1/139

F at .05 = 3.91

F at .01 = 6.825

Table 5.12(iv)(c): Showing the Results of L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .01 = 1.98 and at .01 = 2.615)

	Obtained Mean Differences	Required Differences .05	.01	Significance
(i) For I.Q. Differences :				
Among Boys - Extraordinary vs Backward	.11	1.03	1.36	Not Sig.
Among Girls - Extraordinary vs Backward	1.46	.87	1.15	Sig. at .01
(ii) For Sex Differences :				
Among Extraordinary - Boys vs Girls	.76	1.09	1.44	Not Sig.
Among Backward - Boys vs Girls	0.59	.77	1.02	Not Sig.

boys among the superior group of 14 years, and this accounted for significant I.Q. x sex x age interaction.

The results of 325 subjects (I.Q. x sex) in Table 5.12(iii) (b) and (c) showed however, that only sex was significant, girls scoring higher than boys on the whole, and particularly among the very superior group, while the results of 143 subjects (I.Q. x sex) in Table 5.12(iv)(b) and (c) reveal that only non-giftedness as contrasted with giftedness was significantly

contributing to this factor 0, the non-gifted being more guilt-prone(3.51) than the gifted (2.70) on the whole, and particularly among the girls.

To sum up, neither giftedness nor sex nor age was significantly contributing to the factor 0 of guilt proneness generally. However, when the functionally gifted subjects were studied separately, girls were found more prone to guilt than boys in the very superior group only; and when the gifted were compared with the non-gifted, the non-gifted girls were found more prone to guilt than the gifted girls. In other words, sex was significant in some cases on this factor 0.

5.13 PERSONALITY FACTOR Q_1 (RADICALISM vs CONSERVATISM OF TEMPERAMENT) AND GIFTEDNESS

This factor refers on the positive side to radicalism in political and religious attitudes in general.

The scores on this factor obtained by all the four groups were statistically analysed by the F-test and the L.S.D. test, and the results have been summarized in Tables 5.13 (i), (ii), (iii), (iv) - (a), (b) and (c).

Table 5.13(i)(a): Showing Mean Scores on Personality Factor Q_1 (Radicalism vs Conservatism of temperament) of each of Main and Sub-groups. (Sample Size :935) (I.Q. x Sex)

		Extra-ordinary	Very Superior	Superior	Total
Boys :	Nos.	15	76	334	425
	Scores	100	449	1860	2409
	Mean	6.66	5.90	4.44	5.67
Girls :	Nos.	36	145	329	510
	Scores	209	874	1867	2950
	Mean	5.80	6.02	5.67	5.78
Total :	Nos.	51	221	663	935
	Scores	309	1323	3727	5359
	Mean	6.05	5.98	5.62	5.73

Table 5.13(i)(b): Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Square (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	2	27.85	13.92	3.04	Sig.at .01
Between Sex	1	3.13	3.13	0.68	Not Sig.
Interaction: I.Q. x Sex	2	7.28	3.64	0.79	Not Sig.
Within Groups (Error term)	929	4259.36	4.58		
Total	934	4297.62			

From the statistical table

For df =	2/929	1/929
F at .05 =	3.00	3.85
F at .01 =	4.63	6.66

Table 5.13(i)(c):Showing Results of L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.96 and at .01 = 2.58)

	Obtained Mean Differences	Required Differences .05	.01	Significance
(i) For I.Q. Differences :				
Among Main Groups -				
Extraordinary vs Very Sup.	0.07	0.65	0.85	Not Sig.
Extraordinary vs Superior	0.43	0.61	0.80	Sig.at .05
Very Superior vs Superior	0.36	0.33	0.44	Sig.at .05
Among Boys -				
Extraordinary vs Very Sup.	0.76	1.18	1.54	Not Sig.
Extraordinary vs Superior	2.22	1.10	1.44	Sig.at .01
Very Superior vs Superior	1.46	0.52	0.70	Sig.at .01
Among Girls -				
Extraordinary vs Very Sup.	0.22	0.76	1.01	Not Sig.
Extraordinary vs Superior	0.13	0.73	0.95	Not Sig.
Very Superior vs Superior	0.35	0.41	0.54	Not Sig.
(ii) For Sex Differences :				
Among Extraordinary -				
Boys vs Girls	0.86	1.29	1.70	Not Sig.
Among Very Superior				
Boys vs Girls	0.12	0.59	0.77	Not Sig.
Among Superior -				
Boys vs Girls	1.23	0.33	0.44	Sig.at .01

Table 5.13 (ii) (a) : Showing Mean Scores on Personality Factor Q1 (Radicalism Versus Conservatism of temperament) of each of Main and Sub-Groups. (Sample Size : 683) (I.Q. x Sex x Age) **(According to Age)**

	Age in Years												Total (Sexwise)		
	13			14			15			Total					
	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean
Boys (M)															
Highly Superior I_1	31	186	6.00	32	186	5.81	32	192	6.00	95	564	5.93	304	1722	5.66
Superior I_2	39	186	4.76	85	462	5.43	85	510	6.00	209	1158	5.54			
Girls (F)															
Highly superior I_1	30	178	5.93	64	366	5.71	71	442	6.22	165	986	5.97	329	2185	5.77
Superior I_2	56	306	5.46	75	419	5.58	83	474	5.71	214	1199	5.60			
Total (I.Q.wise)															
Highly Superior I_1	61	364	5.96	96	552	5.75	103	634	6.15	260	1550	5.96			
Superior I_2	95	492	5.17	160	881	5.50	168	984	5.85	423	2357	5.57	683	3907	5.72
Total (Agewise)	156	856	5.49	256	1433	5.60	271	1618	5.97	683	3907	5.72			

Table 5.13(ii)(b): Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Square (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	1	24.41	24.41	11.30	Sig.at .01
Between Sex	1	1.70	1.70	0.79	Not Sig.
Between Age	2	29.28	14.64	6.77	Sig.at .01
Interaction: I.Q. x Sex	1	1.21	1.21	0.56	Not Sig.
Interaction: I.Q. x Age	2	7.90	3.95	1.82	Not Sig.
Interaction: Sex x Age	2	3.02	1.51	0.69	Not Sig.
Interaction: I.Q. x Sex x Age	2	11.71	5.86	2.71	Not Sig.
Within Groups (Error term)	671	1448.78	2.16		
Total	682	1525.59			

From the statistical table

For df =	1/671	2/671
F at .05 =	3.657	3.007
F at .01 =	6.681	4.644

Table 5.13(ii)(c) : Showing Results of L.S.D. Test for Pair Differences Among I.Q., Sex and Age Sub-Groups.

$$L.S.D. = t \sqrt{MS_w / N_1 / + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.96 and at .01 = 2.58)

1	2	3	4	5
	Obtained mean difference	Required Difference .05	0.1	Significance
(i) For I.Q. Differences				
Among Boys				
13 years : Highly Sup. Vs. Superior	1.24	.69	.90	sig.at.01
14 years ,, ,,	.38	.59	.77	not sig.
15 years ,, ,,	0.00	0.59	.77	not sig.
Among Girls-				
13 years ,, ,,	0.47	.65	.85	not sig.
14 years ,, ,,	.13	.49	.65	not sig.
15 years ,, ,,	.51	.47	.62	sig.at.05
(ii) For Sex Differences				
Among Highly Superiors				
13 years : Boys Vs Girls	.07	.74	.98	not sig.
14 years ,, ,,	0.10	.63	.83	not sig.
15 years ,, ,,	.22	.61	.80	not sig.
Among Superior -				
13 years ,, ,,	.70	.61	.80	Sig.at.05
14 years ,, ,,	.15	.45	.59	not sig.
15 years ,, ,,	.29	.45	.59	not sig.

contd.....

Table 5.13 (ii) (c) Contd...

1	2	3	4	5
(iii) For Age Differences				
Among Main Groups				
13 years vs 14 years	0.11	.29	.39	not sig.
13 years vs 15 years	.48	.29	.38	sig.at.01
14 years vs 15 years	.37	.25	.34	sig.at.01
Among Highly Superior Boys-				
13 years vs 14 years	.19	.73	.95	not sig.
13 years vs 15 years	.00	.73	.95	not sig.
14 years vs 15 years	.19	.73	.95	not sig.
Among Superior Boys -				
13 years vs 14 years	.67	.55	.72	sig.at.05
13 years vs 15 years	1.24	.55	.72	sig.at.01
14 years vs 15 years	.57	.45	.59	not sig.
Among Highly Superior Girls-				
13 years vs 14 years	.22	.65	.85	not sig.
13 years vs 15 years	.29	.63	.83	not sig.
14 years vs 15. years	.51	.49	.65	sig.at.05
Among Superior Girls -				
13 years vs 14 years	.12	.51	.67	not sig.
13 years vs 15 years	.25	.49	.65	not sig.
14 years vs 15 years	.13	.45	.59	not sig.

Table 5.13(iii)(a): Showing Mean Scores on Personality Factor Q_1 (Radicalism vs Conservatism of Temperament) of each of Main and Sub-groups (Sample Size:325) (I.Q. x Sex)

		Extra-ordinary	Very Superior	Superior	Total
Boys :	Nos.	10	49	106	165
	Scores	68	295	579	942
	Mean	6.80	6.02	5.46	5.71
Girls :	Nos.	19	51	90	160
	Scores	116	310	523	949
	Mean	6.11	6.08	5.81	5.93
Total :	Nos.	29	100	196	325
	Scores	184	605	1102	1891
	Mean	6.34	6.05	5.62	5.82

Table 5.13(iii)(b): Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Square (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	2	20.93	10.47	4.11	Sig.at .01
Between Sex	1	4.01	4.01	1.57	Not Sig.
Interaction: I.Q. x Sex	2	5.15	2.58	1.01	Not Sig.
Within Groups (Error term)	319	812.20	2.55		
Total	324	842.29			

From statistical table

For df =	2/319	1/319
F at .05 =	3.028	3.868
F at .01 =	4.676	6.716

Table 5.13(iii)(c) : Showing Results of L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.97 and at .01 = 2.59)

	Obtained Mean Difference	Required Difference .05	.01	Significance
(i) For I.Q. Differences :				
Among Main Groups -				
Extraordinary vs Very Superior	.29	0.67	.88	Not Sig.
Extraordinary vs Superior	.72	.63	.83	Sig.at .05
Very Superior vs Superior	.43	.39	.52	Sig.at .05
Among Boys -				
Extraordinary vs Very Superior	.78	1.08	1.42	Not Sig.
Extraordinary vs Superior	1.34	1.04	1.37	Sig.at .01
Very Superior vs Superior	.56	.55	.73	Sig.at .05
Among Girls				
Extraordinary vs Very Superior	.03	.84	1.11	Not Sig.
Extraordinary vs Superior	.30	.78	1.04	Not Sig.
Very Superior vs Superior	.73	.55	.73	Sig.at .01
(ii) For Sex Differences :				
Among Extraordinary -				
Boys vs Girls	.69	1.22	1.61	Not Sig.
Among Very Superior -				
Boys vs Girls	.06	.60	.63	Not Sig.
Among Superior -				
Boys vs Girls	.35	.45	.60	Not Sig.

Table 5.13(iv)(a): Showing Mean Score on Personality Factor Q_1 (Radicalism vs Conservatism of Temperament) of each of Main and Sub-groups (Sample Size : 143) (I.Q. x Sex)

	Extra-ordinary (Gifted)	Backward (Non-Gifted)	Total
Boys : Nos.	15	61	76
Scores	100	254	354
Mean	6.66	4.16	4.66
Total : Nos.	36	31	67
Scores	209	148	357
Mean	5.80	4.77	5.33
Total : Nos.	51	92	143
Scores	309	402	711
Mean	6.05	4.36	4.97

Table 5.13(iv)(b) : Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Square (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	1	93.62	93.62	72.57	Sig.at .01
Between Sex	1	16.00	16.00	12.40	Sig.at .01
Interaction: I.Q. x Sex	1	0.50	0.50	0.39	Not Sig.
Within Groups (Error term)	139	179.77	1.29		
Total	142	289.89			

From the statistical table

For df = 1/139

F at .05 = 3.91

F at .01 = 6.825

Table 5.13(iv)(c): Showing Results of L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.98 and at .01 = 2.615)

	Obtained Mean Difference	Required Difference .05	.01	Significance
(i) For I.Q. Differences :				
Among Boys -				
Extraordinary vs Backward	2.50	.65	.86	Sig.at .01
Among Girls -				
Extraordinary vs Backward	1.03	.55	.73	Sig.at .01
(ii) For Sex Differences :				
Among Extraordinary -				
Boys vs Girls	.86	.69	.92	Sig.at .05
Among Backward -				
Boys vs Girls	.61	.50	.65	Sig.at .05

The maximum score obtained on this factor is ten, and the present four groups attained average scores of 5.73, 5.72, 5.82 and 4.97, implying that the group under study was medium on this radicalism-conservatism scale. The differences due to I.Q., sex and age have been examined below:

The results of 935 subjects (I.Q. x sex) in Table 5.13(i)(b) show that only giftedness (I.Q.) contributed significantly to radicalism on the whole, as expected. As shown by Table 5.13(i)(a) the extraordinary scored highest (6.05), the very superior were

next best (5.98) and the superior were last (5.62), but all being above average. Neither sex nor interaction was found significant. However, the results in Table 5.13(i)(c) show that the extraordinary and the very superior were not mutually different on this factor Q_1, but both these were different from the superior, on the whole, and more particularly among the boys. Though there were no significant sex differences on the whole (girls tending somewhat more radical than boys), superior girls were more significantly radical than superior boys though extraordinary level boys were somewhat more radical and at very superior level, girls were somewhat more radical. The results of 683 subjects (I.Q. x sex x age) in Table 5.13(ii)(b) show that both giftedness as well as age were independently significant on this factor Q_1 ; neither sex nor any interaction was significant. Again, the highly superior were significantly higher on radicalism (5.96) than the superior (5.57) on the whole. Among the age group, radicalism increased with age, the 13 age group scoring 5.49, the 14 age group scoring 5.60 and the 15 age group scoring highest 5.97. The results in Table 5.13(ii)(c) indicate that among the I.Q. groups, the two differed only with respect to boys of 13 and girls of 15, accounting for overall I.Q. differences. Similarly, among age groups the 15 age group differed significantly from both 13 and 14 age groups, which were

mutually not significant on the whole. More closely, 13 age group differed from both 14 and 15 age groups among superior boys, and 14 age group differed from 15 age group in case of highly superior girls - all these making overall age differences to be significant. Though sex was not significant on the whole, there were significant sex differences in case of the superior of 13 years only.

The results of 325 subjects (I.Q. x sex) in Table 5.13 (iii)(b) show that only giftedness was significant; the radicalism increased with greater I.Q. level. However, results in Table 5.13(iii)(c) show that the extraordinary were not different from the very superior, though both these were different from the superior on the whole and among the boys. In case of girls only the very superior differed from the superior. There were sex differences on the whole or in any I.Q. subgroup.

The results of 143 subjects (I.Q. x sex) in Table 5.13(iv) (b) and (c) indicate that both giftedness and sex were independently contributing to radicalism on the whole and in each subgroup pair; the gifted always significantly higher than the non-gifted on radicalism; boys were significantly more radical than girls in the gifted group, and girls were significantly more radical than boys in the nongifted group. Usually in such a case there should be significant interaction,

but it is not found so in the present case, because of unequal numbers in each cell of sub-group. The higher number of non-gifted girls are more radical, and observe the reverse trend of very few gifted boys being more radical.

To sum up, giftedness was found significantly contributing to the factor Q_1 of radicalism, and particularly among boys, making extraordinary and very superior more radical than superior and definitely than the non-gifted. Sex was usually not significant, except among the superior of 13 age; where girls were more radical. Age was significant; the higher the age, the more radical a person, particularly 13 age differed from 14 and 15 age in case of superior boys, and 14 age differed from 15 age in case of highly superior girls, making on the whole 15 age, differed from 13 and 14 age.

5.14. Personality Factor Q_2 (Self Sufficiency vs Group Dependency) and Giftedness

This factor refers on the positive side to self-sufficiency or resourcefulness in contrast to sociably group dependency. This is one of the major factor in intro-version, like factor M.

The scores obtained by the four groups on this factor Q_2 were statistically analysed by the F-test and L.S.D. test, and the results have been summarized in the Tables 5.14(i), (ii), (iii), (iv) - (a), (b), (c).

Table 5.14(i)(a): Showing Scores on Personality Factor Q_2 (Self Sufficiency vs Group Dependency) of each of Main and Sub-groups (Sample Size :935) (I.Q. x Sex)

		Extra-ordinary	Very superior	Superior	Total
Boys :	Nos.	15	76	334	425
	Scores	78	410	1717	2205
	Mean	5.20	5.39	5.14	5.19
Girls :	Nos.	36	145	329	510
	Scores	190	795	1791	2776
	Mean	5.27	5.48	5.44	5.44
Total :	Nos.	51	221	663	935
	Scores	268	1205	3508	4981
	Mean	5.25	5.45	5.29	5.33

Table 5.14(i)(b): Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Square (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	2	4.60	2.30	0.42	Not Sig.
Between Sex	1	15.07	15.07	2.74	Not Sig.
Interaction: I.Q. x Sex	2	0.61	0.30	0.05	Not Sig.
Within Groups (Error term)	929	5121.58	5.51		
Total	934	5141.86			

From the statistical table

For dt =	2/929	1/929
F at .05 =	3.00	3.85
F at .01 =	4.63	6.66

Table 5.14(i)(c): Showing Results of L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.96 and at .01 = 2.58)

	Obtained Mean Difference	Required Difference .05	.01	Results
(i) For I.Q. Differences :				
Among Main Groups -				
Extraordinary vs Very Superior	.20	.73	.95	Not Sig.
Extraordinary vs Superior	.04	.67	.88	Not Sig.
Very Superior vs Superior	.16	.35	.46	Not Sig.
Among Boys -				
Extraordinary vs Very Superior	.19	1.31	1.73	Not Sig.
Extraordinary vs Superior	.06	1.22	1.60	Not Sig.
Very Superior vs Superior	.25	.59	.77	Not Sig.
Among Girls -				
Extraordinary vs Very Sup.	.21	.86	1.14	Not Sig.
Extraordinary vs Superior	.17	.80	1.06	Not Sig.
Very Superior vs Superior	.04	.47	.62	Not Sig.
(ii) For Sex Differences :				
Among Extraordinary -				
Boys vs Girls	.07	1.43	1.88	Not Sig.
Among Very Superior				
Boys vs Girls	.09	.65	.85	Not Sig.
Among Superior -				
Boys vs Girls	.30	.35	.46	Not Sig.

Table 5.14 (ii) (a) : Showing mean Scores on Personality Factor Q2. (Self Sufficiency Versus Group dependency) of each of main and sub groups.
(Sample size : 683) (I.Q. x Sex x Age) (According to Age)

	Age in Years									Total (Sexwise)		
	13			14			15			Total					
	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean
Boys (M)															
Highly superior I_1	31	165	5.32	32	157	4.90	32	164	5.12	95	486	5.11	304	1570	5.16
Superior I_2	39	177	4.53	85	445	5.23	85	462	5.43	209	1084	5.18			
Girls (F)															
Highly Superior I_1	30	180	6.00	64	353	5.51	71	374	5.28	165	907	5.49	379	2056	5.42
Superior I_2	56	306	5.46	75	398	5.30	83	445	5.36	214	1149	5.36			
Total (I.Q.wise)															
Highly Superior I_1	61	345	5.65	96	510	5.31	103	538	5.22	260	1393	5.35			
Superior I_2	95	483	5.08	160	843	5.26	168	907	5.39	423	2233	5.27	683	3626	5.31
Total (Agewise)	156	828	5.31	256	1353	5.29	271	1445	5.33	683	3626	5.31			

Table 5.14(ii)(b): Showing Summary of Analysis of Variance Results of

Sources of Variance	df	Sum of Squares (SS)	Mean Square (Variance)	F Ratios	Remarks
Between IQ (Giftedness)	1	0.99	0.99	0.37	not sig.
Between Sex	1	11.43	11.43	4.26	sig. at .05
Between Age	2	0.32	0.16	0.05	not sig.
Interaction IQ x Sex	1	0.85	0.85	0.32	not sig.
Interaction IQ x Age	2	13.17	6.59	2.45	not sig.
Interaction Sex x Age	2	15.42	7.71	2.87	not sig.
Interaction IQ x Sex x Age	2	7.79	3.89	1.45	not sig.
Within Groups (Error term)	671	1804.85	2.68		
Total:	682	1854.82			

From the statistical table

For df =	1/671	2/671
F at .05 =	3.857	3.007
F at .01 =	6.681	4.644

Table 5.14(ii)(c) : Showing Results of L.S.D. Test for Pair Differences among I.Q., Sex and Age Sub-Groups.

$$L.S.D. = t \sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.96 and at .01 = 2.58)

1	Obtained mean Difference 2	Required Difference .05 3	.01 4	Significance. 5
(i) For I.Q. Differences				
Among Boys -				
13 years Highly Sup. vs. Superior.	0.79	.76	1.01	sig.at.05
14 years ,, ,,	.33	.67	.83	not sig.
15 years ,, ,,	.31	.67	.88	not sig.
Among Girls of -				
13 years ,, ,,	.54	.73	.95	not sig.
14 years ,, ,,	.21	.55	.72	not sig.
15 years ,, ,,	.08	.51	.67	not sig.
(ii) For Sex Differences				
Among Highly Superior-				
13 years : Boys vs Girls	.68	.82	1.08	not sig.
14 years ,, ,,	.61	.69	.90	not sig.
15 years ,, ,,	.16	.69	.90	not sig.
Among Superior				
13 years ,, ,,	.93	.67	.88	Sig.at.01
14 years ,, ,,	.07	.51	.67	not sig.
15 years ,, ,,	.07	.49	.65	not sig.

contd...

Table 5.14(ii)(c) Contd...

1	2	3	4	5
(iii) For Age Differences				
Among Main Groups				
13 years vs 14 years	.02	.33	.44	Not sig.
13 years vs 15 years	.02	.31	.41	not sig.
14 years vs 15 years	.04	.27	.36	not sig.
Among Highly Superior Boys -				
13 years vs 14 years	.42	.80	1.06	not sig.
13 years vs 15 years	.20	.80	1.06	not sig.
14 years vs 15 years	.22	.80	1.06	not sig.
Among Superior Boys				
13 years vs 14 years	.70	.63	.83	sig at.05
13 years vs 15 years	.90	.63	.83	sig at.01
14 years vs 15 years	.20	.49	.65	not sig.
Among Highly Superior Girls-				
13 years vs 14 years	.49	.71	.93	not sig.
13 years vs 15 years	.72	.71	.93	sig at.05
14 years vs 15 years	.23	.55	.72	not sig.
Among Superior Girls -				
13 years vs 14 years	.16	.57	.75	not sig.
13 years vs 15 years	.10	.55	.72	not sig.
14 years vs 15 years	.06	.51	.67	not sig.

Table 5.14(iii)a): Showing Mean Scores on Personality Factor Q_2 (Self Sufficiency vs Group Dependency) of each of Main and Sub-groups (Sample Size :325) (I.Q. x Sex)

		Extra-ordinary	Very Superior	Superior	Total
Boys :	Nos.	10	49	106	165
	Scores	53	271	526	850
	Mean	5.30	5.53	4.96	5.15
Girls:	Nos.	19	51	90	160
	Scores	105	294	494	893
	Mean	5.53	5.76	5.49	5.58
Total:	Nos.	29	100	196	325
	Scores	158	565	1020	1743
	Mean	5.45	5.65	5.20	5.36

Table 5.14(iii)(b): Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	2	13.40	6.70	2.48	Not Sig.
Between Sex	1	15.01	15.01	5.56	Sig.at .05
Interaction: I.Q. x Sex	2	0.18	0.09	.03	Not Sig.
Within Groups (Error term)	319	860.57	2.70		
Total	324	889.16			

From statistical table

For df =	2/319	1/319
F at .05 =	3.028	3.868
F at .01 =	4.676	6.716

Table 5.14(iii)(c): Showing Results of L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.97 and at .01 = 2.59)

	Obtained Mean Difference	Required Difference .05	.01	Significance
(i) For I.Q. Differences:				
Among Main Groups -				
Extraordinary vs Very Sup.	.20	.69	.91	Not Sig.
Extraordinary vs Superior	.25	.63	.83	Not Sig.
Very Superior vs Superior	.45	.39	.52	Sig.at .05
Among Boys -				
Extraordinary vs Very Sup.	.23	1.12	1.48	Not Sig.
Extraordinary vs Superior	.34	1.06	1.40	Not Sig.
Very Superior vs Superior	.57	.55	.72	Sig.at .05
Among Girls -				
Extraordinary vs Very Sup.	.23	.87	1.14	Not Sig.
Extraordinary vs Superior	.04	.81	1.06	Not Sig.
Very Superior vs Superior	.27	.57	.75	Not Sig.
(ii) For Sex Differences -				
Among Extraordinary -				
Boys vs Girls	.23	1.26	1.66	Not Sig.
Among Very Superior -				
Boys vs Girls	.23	.65	.85	Not Sig.
Among Superior -				
Boys vs Girls	.53	.47	.62	Sig.at .05

Table 5.14(iv)(a): Showing Mean Scores on Personality Factor Q_2 (Self Sufficiency vs Group Dependency) of each of Main and Sub-groups (Sample Size : 143) (I.Q. x Sex)

		Extra-ordinary (Gifted)	Backward (Non-gifted)	Total
Boys :	Nos.	15	61	76
	Scores	78	295	373
	Mean	5.20	4.83	4.91
Girls :	Nos.	36	31	67
	Scores	190	145	335
	Mean	5.27	4.67	5.00
Total :	Nos.	51	92	143
	Scores	268	440	708
	Mean	5.25	4.78	4.95

Table 5.14(iv)(b) : Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	1	7.32	7.32	2.31	Not Sig.
Between Sex	1	0.30	0.30	.09	Not Sig.
Interaction: I.Q. x Sex	1	0.27	0.27	0.08	Not Sig.
Within Groups (Error term)	139	440.37	3.17		
Total	142	448.66			

From the statistical table

For df = 1/139

F at .05 = 3.91

F at .01 = 6.825

Table 5.14(iv)(c): Showing Results of L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.98 and at .01 = 2.615)

	Obtained Mean Difference	Required Difference .05	.01	Significance
(i) For I.Q. Differences :				
Among Boys - Extraordinary vs Backward	.37	1.01	1.33	Not Sig.
Among Girls - Extraordinary vs Backward	.60	.87	1.15	Not Sig.
(ii) For Sex Differences :				
Among Extraordinary - Boys vs Girls	.07	1.09	1.44	Not Sig.
Among Backward - Boys vs Girls	.16	.77	1.02	Not Sig.

The maximum score on this factor is ten, and the subjects in the four groups obtained on an average the scores of 5.33, 5.31, 5.36 and 4.95 (made up by 5.25 of the gifted and 4.78 of the non-gifted) respectively, implying that the group on the whole was medium on this self-sufficiency-dependency scale. The differences brought about by I.Q., sex and age have been described below.

The results of 935 subjects (I.Q. x sex) in Table 5.14 (i)(b) and (c) indicate no significant differences in this factor Q_2 due to giftedness, sex or their interaction on the whole or in any subgroup.

The results of 683 subjects (I.Q. x sex x age) in Table 5.14 (ii) (b) and (c) indicate only sex differences to be significant on the whole, girls being more self-sufficiency (5.42) than the boys (5.16) on the whole, but particularly in case of the superior of 13 age. Though giftedness was not significant on the whole, the two I.Q. levels differed only in case of 13 years boys, the highly superior 13 years boys being more self-sufficient than the superior 13 year boys. Age was not significant on the whole; yet among superior boys 13 age differed from both 14 and 15 age, (higher age being more self-sufficient), and among highly superior girls 13 age differed from 15 age only, 13 age being more self-sufficient.

The results of 325 subjects (I.Q. x sex) in Table 5.14(iii) (b) and (c) indicate only sex to be significant on the whole, particularly among the superior group, girls scoring higher. Though giftedness was not significant on the whole, the very superior scored significantly higher than the superior on the total as well as among the boys.

The results of 143 subjects (I.Q. x sex) in Table 5.14(iv)

(b) and (c) indicate no significant differences between I.Q. or sex on the whole or in any sub-group.

To sum up, giftedness was not usually contributing to this factor Q_2 of self-sufficiency, except that highly superior boys of 13 scored significantly higher than superior boys of 13 or very superior scored higher than superior on the whole and particularly among boys. Sex was significantly contributing to self-sufficiency only among the superior of 13 age, girls being more self-sufficient. Age was also not significant on the whole, the 13 age differed significantly from the 14 age and the 15 age group in case of superior boys (higher age being more self-sufficient), and the 13 age differed significantly from the 15 age group in case of highly superior girls, (lower age being more self-sufficient).

5.15 PERSONALITY FACTOR Q_3 (HIGH SELF-SENTIMENT FORMATION vs POOR SELF-SENTIMENT FORMATION) AND GIFTEDNESS

This factor refers on the positive side to high self-sentiment formation, or controlled, exacting will power, association with socially approved character responses, persistence, conscientiousness, as in Factor G.

The scores on this factor Q_3 obtained by the four groups were statistically analysed by the F-test and the L.S.D. test, and the results have been summarized in Tables 5.15(i),(ii),(iii) (iv) - (a), (b) and (c).

Table 5.15(i)(a): Showing Mean Scores on Personality Factor Q_3 (High Self Sentiment Formation vs Poor-Self Sentiment Formation) of each of Main and Sub-groups (Sample Size : 935) (I.Q. x Sex)

		Extra-ordinary	Very Superior	Superior	Total
Boys :	Nos.	15	76	334	425
	Scores	85	422	1973	2480
	Mean	5.66	5.55	5.90	5.84
Girls :	Nos.	36	145	329	510
	Scores	194	850	1976	3020
	Mean	5.39	5.86	6.01	5.92
Total :	Nos.	51	221	663	935
	Scores	279	1272	3949	5500
	Mean	5.47	5.75	5.95	5.88

Table 5.15(i)(b) : Summary of Analysis of Variance Results of ^

Sources of Variance	df	Sum of Squares (Ss)	Mean Square (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	2	15.80	7.90	1.52	Not Sig.
Between Sex	1	1.73	1.73	0.33	Not Sig.
Interaction: I.Q. x Sex	2	5.47	2.73	0.53	Not Sig.
Within Groups (Error term)	929	4834.06	5.20		
Total	934	4857.06			

From the statistical table

For df =	2/929	1/929
F at .05 =	3.00	3.85
F at .01 =	4.63	6.66

Table 5.15(i)(c) : Showing Results of L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.96 and at .01 = 2.58)

	Obtained Mean Differences	Required Difference .05	.01	Significance
(i) For I.Q. Differences : Among Main Groups -				
Extraordinary vs Very Sup.	.28	.69	.90	Not Sig.
Extraordinary vs Superior	.48	.65	.85	Not Sig.
Very Superior vs Superior	.20	.35	.46	Not Sig.
Among Boys -				
Extraordinary vs Very Superior	0.11	1.25	1.65	Not Sig.
Extraordinary vs Superior	0.24	1.18	1.55	Not Sig.
Very Superior vs Superior	0.35	.57	.75	Not Sig.
Among Girls -				
Extraordinary vs Very Superior	0.47	.82	1.08	Not Sig.
Extraordinary vs Superior	.62	.78	1.03	Not Sig.
Very Superior vs Superior	0.15	.45	.59	Not Sig.
(ii) For Sex Differences :				
Among Extraordinary - Boys vs Girls	0.27	1.37	1.81	Not Sig.
Among Very Superior- Boys vs Girls	0.31	.63	.83	Not Sig.
Among Superior - Boys vs Girls	0.11	.35	.46	Not Sig.

Table 5.15(ii)(a): Showing Mean Scores on Personality Factor Q_3 (High Self Sentiment Formation versus Poor-Self-Sentiment Formation) of each of Main and Sub-groups.
(Sample Size: 683) (I.Q. x Sex x Age) (According to Age)

		Age in Years											
		13			14			15			Total		
		No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean
Boys (M)													
Highly Superior	I_1	31	172	5.54	32	177	5.53	32	172	5.37	95	521	5.48
Superior	I_2	39	208	5.33	85	498	5.85	85	492	5.78	209	1198	5.73
Girls (F)													
Highly Superior	I_1	30	192	6.40	64	358	5.59	71	395	5.56	165	945	5.72
Superior	I_2	56	345	6.16	75	417	5.56	83	497	5.98	214	1259	5.88
Total (I.Q.wise)													
Highly Superior	I_1	61	364	5.96	96	535	5.57	103	567	5.50	260	1466	5.6
Superior	I_2	95	553	5.82	160	915	5.71	168	989	5.88	423	2457	5.80
Total (Agewise)		156	917	5.88	256	1450	5.66	271	1556	5.74	683	3923	5.74

Table 5.15(ii)(b) : Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (SS)	Mean Square (variance)	F Ratio	Remarks
Between IQ (Giftedness)	1	4.66	4.66	1.39	not sig.
Between Sex	1	4.35	4.35	1.31	not sig.
Between age	2	4.45	2.23	0.66	not sig.
Interaction IQ x Sex	1	1.63	0.82	0.24	not sig.
Interaction IQ x Age	2	6.71	3.36	1.01	not sig.
Interaction Sex x Age	2	24.59	12.30	3.69	sig at .05
Interaction IQ x Sex xAge	2	2.32	1.16	0.34	not sig.
Within groups (Error term)	671	2235.46	3.33		
Total:	682	2284.17			

From the Statistical table

df =	1/671	2/671
F at .05 =	3.857	3.007
F at .01 =	6.681	4.644

Table 5.15 (ii) (c) : Showing Results of L.S.D. Test for Pair Differences Among I.Q., Sex and Age Sub-Groups.

$$LS.D. = t \sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.96 and at .01 = 2.58)

	Obtained Mean Difference	Required Difference .05	.01	Significance
1	2	3	4	5
(i) For I.Q. Differences				
Among Boys				
13 years : Highly Sup. vs. Superior.	.21	.86	1.14	not sig.
14 years ,, ,,	.32	.74	.98	not sig.
15 years ,, ,,	.41	.74	.98	not sig.
Among Girls				
13 years ,, ,,	.24	.80	1.06	not sig.
14 years ,, ,,	.03	.61	.80	not sig.
15 years ,, ,,	.42	.57	.75	not sig.
(ii) For Sex Differences				
Among Highly Superior				
13 years : Boys vs Girls	.86	.92	1.21	not sig.
14 years : ,, ,,	.06	.70	1.03	not sig.
15 years ,, ,,	.19	.76	1.01	not sig.
Among Superior of				
13 years : ,, ,,	.83	.74	.98	sig at.05
14 years : ,, ,,	.29	.57	.75	not sig.
15 years ,, ,,	.20	.55	.72	not sig.

contd....

Table 5.15(ii)(c) contd...

1	2	3	4	5
(iii) For Age Differences				
Among Main Groups -				
13 years vs 14 years	.22	.37	.49	not sig.
13 years vs 15 years	.14	.35	.46	not sig.
14 years vs 15 years	.08	.31	.41	not sig.
Among Highly Superior Boys -				
13 years vs 14 years	.01	.90	1.19	not sig.
13 years vs 15 years	.17	.90	1.19	not sig.
14 years vs 15 years	.16	.90	1.19	not sig.
Among Superior Boys -				
13 years vs 14 years	.52	.67	.90	not sig.
13 years vs 15 years	.45	.67	.90	not sig.
14 years vs 15 years	.07	.55	.72	not sig.
Among Highly Superior Girls -				
13 years vs 14 years	.81	.78	1.03	sig. at .05
13 years vs 15 years	.84	.78	1.03	sig. at .05
14 years vs 15 years	.03	.61	.31	not sig.
Among Superior Girls -				
13 years vs 14 years	.60	.63	.83	not sig.
13 years vs 15 years	.18	.61	.80	not sig.
14 years vs 15 years	.42	.57	.75	not sig.

Table 5.15(iii)(a): Showing Mean Scores on Personality Factor Q_3 (High Self Sentiment Formation vs Poor Self Sentiment Formation) of each of Main and Sub-groups ; (Sample Size : 325) (I.Q. x Sex)

		Extra-ordinary	Very Superior	Superior	Total
Boys :	Nos.	10	49	106	165
	Scores	58	278	605	941
	Mean	5.80	5.64	5.71	5.71
Girls :	Nos.	19	51	90	160
	Scores	102	319	552	973
	Mean	5.37	6.25	6.13	6.08
Total :	Nos.	29	100	196	325
	Scores	160	597	1157	1914
	Mean	5.51	5.97	5.90	5.89

Table 5.15(iii)(b) : Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	2	4.70	2.35	0.59	Not Sig.
Between Sex	1	11.61	11.61	2.94	Not Sig.
Interaction: I.Q. x Sex	2	6.88	3.44	0.87	Not Sig.
Within Groups (Error term)	319	1260.82	3.95		
Total	324	1284.01			

From the statistical table -

For df =	2/319	1/319
F at .05 =	3.028	3.868
F at .01 =	4.676	6.716

Table 5.15(iii)(c) Showing Results of L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = 1\sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.97 and at .01 = 2.59)

	Obtained Mean Difference	Required Difference .05	.01	Significance
(i) For I.Q. Differences :				
Among Main Groups -				
Extraordinary vs Very Superior	.46	.83	1.09	Not Sig.
Extraordinary vs Superior	.39	.79	1.04	Not Sig.
Very Superior vs Superior	.07	.47	.62	Not Sig.
Among Boys -				
Extraordinary vs Very Superior	.16	1.36	1.78	Not Sig.
Extraordinary vs Superior	.09	1.30	1.71	Not Sig.
Very Superior vs Superior	.07	.67	.88	Not Sig.
Among Girls -				
Extraordinary vs Very Superior	.88	1.04	1.37	Not Sig.
Extraordinary vs Very Superior	.76	.98	1.30	Not Sig.
Very Superior vs Superior	.12	.69	.91	Not Sig.
(ii) For Sex Differences :				
Among Extraordinary -				
Boys vs Girls	.43	1.54	2.02	Not Sig.
Among very Superior -				
Boys vs Girls -	.61	.79	1.04	Not Sig.
Among Superior -				
Boys vs Girls	.42	.55	.73	Not Sig.

Table 5.15(iv)(a) :Showing Mean Scores on Personality Factor Q_3 (High Self Sentiment Formation vs Poor Self Sentiment Formation) of each of Main and Sub-groups (Sample Size : 143) (I.Q. x Sex)

		Extraordinary (Gifted)	Backward (Non-gifted)	Total
Boys :	Nos.	15	61	76
	Scores	85	281	366
	Mean	5.66	4.60	4.82
Girls :	Nos.	36	31	67
	Scores	194	147	341
	Mean	5.39	4.74	5.09
Total :	Nos.	51	92	143
	Scores	279	428	707
	Mean	5.47	4,65	4.94

Table 5.15(iv)(b): Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	1	21.97	21.97	6.37	Sig.at .05
Between Sex	1	2.67	2.67	0.77	Not Sig.
Interaction: I.Q. x Sex	1	1.49	1.49	0.43	Not Sig.
Within Groups (Error term)	139	479.42	3.45		
Total	142	505.55			

From statistical table

For df = 1/139

F at .05 = 3.91

F at .01 = 6.825

Table 5.15(iv)(c): Showing Results of L.S.D. Test for Pairs Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.98 and at .01 = 2.615)

	Obtained Mean Difference	Required Difference .05	.01	Significance
(i) For I.Q. Differences :				
Among Boys - Extraordinary vs Backward	1.06	1.06	1.41	Sig.at .05
Among Girls - Extraordinary vs Backward	.65	.65	.86	Sig.at .05
(ii) For Sex Differences :				
Among Extraordinary - Boys vs Girls	.27	1.13	1.49	Not Sig.
Among Backward - Boys vs Girls	.14	.81	1.07	Not Sig.

The maximum score on this factor Q_3 is ten, and the four groups under study scored on an average 5.88, 5.74, 5.89 and 4.94 (made up by 5.47 of the gifted and 4.65 of the non-gifted). The differences due to I.Q., sex and age have been considered below.

The results of 935 subjects (I.Q. x Sex) in Table 5.15(i)(b) and (c) showed no significant differences anywhere on this factor Q_3. Similarly, the results of 683 subjects (I.Q. x sex x age) in Table 5.15 (ii)(b) and (c) show that neither I.Q. nor sex nor age

nor any interaction was significant, except the significant sex x age interaction. The girls scored higher at age 13 and 15, while boys score higher at age 14 on this factor Q_3, as seen from figures in Table 5.15(ii)(a) and this accounted for significant interaction between sex and age. The closer examination of results in Table 5.15(ii)(c) show that there were significant sex differences in favour of girls among the superior of 13 years; and there were also significant age differences among highly superior girls group - 13 age higher than 14 and also higher than 15 on self-sentiment formation; all this accounted for significant sex x age interaction though neither was significant independently on the whole.

The results of 325 subjects (I.Q. x sex) in Table 5.15(iii)(b) and (c) also show no significant differences in I.Q. or sex anywhere.

The results of 143 subjects (I.Q. x sex) in Table 5.15 (iv)(b) and (c) show that only giftedness was significantly contributing to self-sentiment formation, gifted being higher than the non-gifted on the whole as well as among boys and girls separately. There were no significant sex differences.

To sum up, neither giftedness, nor sex, nor age, nor any interaction, except sex x age, contributed significantly to the factor Q_3 of self-sentiment formation in general. However, girls scored significantly higher than boys in case of superior 13 year age-group; and 13 year age group scored significantly higher than 14 and 15 year age groups in case of highly superior girls, thus accounting for significant sex x age interaction. When the highly gifted compared with the nongifted, the highly gifted scored significantly higher than the non-gifted on the whole as well as among boys and girls separately. In other words giftedness, sex and age contributed to factor Q_3 only under certain conditions.

5.16 PERSONALITY FACTOR Q_4 (HIGH ERGIC TENSION vs LOW ERGIC TENSION) AND GIFTEDNESS

This factor refers on the positive side to tense, excitable, worried, irritable, anxious type, (somewhat similar to factor O or factor L, though distinct from both).

The scores on this factor obtained by the four groups under study were statistically analysed by the F-test and the L.S.D. test, and the results have been summarized in Tables 5.16(i), (ii), (iii), (iv) - (a), (b) and (c).

Table 5.16(i)(a): Showing Mean Scores on Personality Factor Q_4 (High Ergic Tension vs Low Ergic Tension) of each of Main and Sub-groups (Sample Size : 935)

(I.Q. x Sex)

		Extra-ordinary	Very Superior	Superior	Total
Boys :	Nos.	15	76	334	425
	Scores	55	246	1037	1338
	Mean	3.66	3.23	3.10	3.15
Girls :	Nos.	36	145	329	510
	Scores	123	462	1040	1625
	Mean	3.41	3.18	3.16	3.19
Total :	Nos.	51	221	663	935
	Scores	178	708	2077	2963
	Mean	3.49	3.20	3.13	3.17

Table 5.16(i)(b): Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Square (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	2	6.39	3.19	0.80	Not Sig.
Between Sex	1	0.34	0.34	0.09	Not Sig.
Interaction: I.Q. x Sex	2	0.95	0.47	0.12	Not Sig.
Within Groups (Error term)	929	3685.62	3.97		
Total	934	3693.30			

From the statistical table

For df =	2/929	1/929
F at .05 =	3.00	3.85
F at .01 =	4.63	6.66

Table 5.16(i)(c): Showing Results of L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.96 and at .01 = 2.58)

	Obtained Mean Differences	Required Difference .05	.01	Significance
(i) For I.Q. Differences :				
Among Main Groups -				
Extraordinary vs Very Sup.	.29	0.61	0.80	Not Sig.
Extraordinary vs Superior	.36	0.51	0.67	Not Sig.
Very Superior vs Superior	.07	0.29	0.39	Not Sig.
Among Boys -				
Extraordinary vs Very Sup.	.43	1.08	1.42	Not Sig.
Extraordinary vs Superior	.56	1.02	1.34	Not Sig.
Very Superior vs Superior	.13	.49	.65	Not Sig.
Among Girls -				
Extraordinary vs Very Sup.	.23	0.73	.95	Not Sig.
Extraordinary vs Superior	.25	.69	.90	Not Sig.
Very Superior vs Superior	.02	.39	.52	Not Sig.
(ii) For Sex Differences :				
Among Extraordinary -				
Boys vs Girls	.25	1.20	1.57	Not Sig.
Among Very Superior -				
Boys vs Girls	.05	0.55	0.72	Not Sig.
Among Superior -				
Boys vs Girls	.06	0.29	.39	Not Sig.

Table 5.16(ii)(a): Showing Mean Scores on Personality Factor Q_4(High Ergic Tension versus Low Ergic Tension) on each of Main and Sub-groups. (Sample Size : 683)
(I.Q. x Sex x Age) (According to Age)

		Age in years												Total (Sexwise)		
		13			14			15			Total					
		No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean	No.	Scores	Mean
Boys (M)																
Highly Superior	I_1	31	96	3.09	32	101	3.15	32	109	3.40	95	306	3.23	304	945	3.11
Superior	I_2	39	119	3.05	85	255	3.00	85	265	3.11	209	639	3.05			
Girls (F)																
Highly Superior	I_1	30	94	3.13	64	191	2.98	71	257	3.61	165	542	3.28	379	1225	3.28
Superior	I_2	56	186	3.32	75	248	3.30	83	249	3.00	214	683	3.19			
Total (I.Q.wise)																
Highly Superior	I_1	61	190	3.11	96	292	3.04	103	366	3.55	260	848	3.26	683	2170	3.18
Superior	I_2	95	305	3.21	160	503	3.14	168	514	3.05	423	1322	3.12			
Total (Agewise)		156	495	3.17	256	795	3.11	271	880	3.25	683	2170	3.18			

Table 5.16(ii)(b) : Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Square (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	1	2.99	2.99	1.36	not sig.
Between Sex	1	2.58	2.58	1.17	not sig.
Between Age	2	2.64	1.32	0.60	not sig.
Interaction: I.Q. x Sex	1	0.45	0.23	0.11	not sig.
Interaction: I.Q. x Age	2	13.54	6.77	3.09	sig.at .05
Interaction: Sex x Age	2	0.10	0.05	0.02	not sig.
Interaction: I.Q. x Sex x Age	2	5.43	2.72	1.24	not sig.
Within Groups (Error term)	671	1470.74	2.19		
Total	682	1497.57			

From the statistical table

For	df =	1/671	2/671
F at	.05 =	3.857	3.007
F at	.01 =	6.681	4.644

Table 5.16(ii)(c): Showing Results of L.S.D. Test for Pair Differences among I.Q., Sex and Age Sub-groups

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.96 and at .01 = 2.58)

	Obtained Mean Difference	Required Difference .05	.01	Significance
(i) For I.Q. Differences				
Among Boys -				
13 years : Highly Sup. vs. Superior	.04	.69	.90	not sig.
14 years : " " "	.15	.59	.77	not sig.
15 years " " "	.29	.59	.77	not sig.
Among Girls -				
13 years " " "	.19	.65	.85	not sig.
14 years " " "	.32	.49	.65	not sig.
15 years " " "	.61	.47	.62	sig.at .05
(ii) For Sex Differences				
Among Highly Superior -				
13 years : Boys vs Girls	.04	.74	.98	not sig.
14 years : " " "	.17	.63	.83	not sig.
15 years : " " "	.21	.61	.80	not sig.
Among Superior -				
13 years : " " "	.27	.61	.80	not sig.
14 years : " " "	.30	.45	.59	not sig.
15 years : " " "	.11	.45	.59	not sig.

(continued)

Table 5.16(ii)(c) contd.

1	2	3	4	5
(iii) For Age Differences				
Among Main Groups -				
13 years vs 14 years	.06	.29	.39	not sig.
13 years vs 15 years	.08	.29	.39	not sig.
14 years vs 15 years	.14	.25	.34	not sig.
Among Highly Superior Boys -				
13 years vs 14 years	.06	.73	.95	not sig.
13 years vs 15 years	.31	.73	.95	not sig.
14 years vs 15 years	.25	.73	.95	not sig.
Among Superior Boys -				
13 years vs 14 years	.05	.55	.72	not sig.
13 years vs 15 years	.06	.55	.72	not sig.
14 years vs 15 years	.11	.45	.59	not sig.
Among Highly Superior Girls -				
13 years vs 14 years	.15	.65	.85	not sig.
13 years vs 15 years	.48	.63	.83	not sig.
14 years vs 15 years	.63	.49	.65	sig.at .05
Among Superior Girls -				
13 years vs 14 years	.02	.51	.67	not sig.
13 years vs 15 years	.32	.49	.65	not sig.
14 years vs 15 years	.30	.45	.59	not sig.

Table 5.16(iii)(a): Showing Mean Scores on Personality Factor Q_4 (High Ergic Tension vs Low Ergic Tension of each of Main and Sub-groups (I.Q. x Sex) (Sample Size :323)

		Extra-ordinary	Very Superior	Superior	Total
Boys :	Nos.	10	49	106	165
	Scores	37	158	320	515
	Mean	3.70	3.22	3.02	3.12
Girls :	Nos.	19	51	90	160
	Scores	61	167	265	493
	Mean	3.21	3.27	2.94	3.08
Total :	Nos.	29	100	196	325
	Scores	98	325	585	1008
	Mean	3.38	3.25	2.98	3.10

Table 5.16(iii)(b): Showing Summary of Results of Analysis of Variance

Sources of Variance	df	Sum of Squares (Ss)	Mean Square (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	2	7.12	3.56	1.66	Not Sig.
Between Sex	1	0.13	0.13	0.06	Not Sig.
Interaction: I.Q. x Sex	2	1.77	0.89	0.40	Not Sig.
Within Groups (Error term)	319	708.63	2.22		
Total	324	717.65			

From the statistical table -

For df =	2/319	1/319
F at .05 =	3.028	3.868
F at .01 =	4.676	6.716

Table 5.16(iii)(C): Showing Results of L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_W / N_1 + MS_W / N_2}$$

(t for df of MS_W at .05 = 1.97 and at .01 = 2.59)

	Obtained Mean Differences	Required Difference .05	.01	Significance
(i) For I.Q. Differences :				
Among Main Groups -				
Extraordinary vs Very Sup.	.13	.61	.80	Not Sig.
Extraordinary vs Superior	.40	.59	.78	Not Sig.
Very Superior vs Superior	.27	.35	.47	Not Sig.
Among Boys -				
Extraordinary vs Very Sup.	.48	1.02	1.35	Not Sig.
Extraordinary vs Superior	.68	.97	1.27	Not Sig.
Very Superior vs Superior	.20	.51	.67	Not Sig.
Among Girls -				
Extraordinary vs Very Sup.	.06	.79	1.04	Not Sig.
Extraordinary vs Superior	.27	.75	.98	Not Sig.
Very Superior vs Superior	.33	.51	.67	Not Sig.
(ii) For Sex Differences :				
Among Extraordinary -				
Boys vs Girls	.49	1.14	1.50	Not Sig.
Among Very Superior -				
Boys vs Girls	.05	.59	.78	Not Sig.
Among Superior -				
Boys vs Girls	.08	.47	.54	Not Sig.

Table 5.16(iv)(a): Showing Mean Scores on Personality Factor Q_4 (High Ergic Tension vs Low Ergic Tension) of each of Main and Sub-groups (Sample Size : 143) (I.Q. x Sex)

		Extraordinary (Gifted)	Backward (Non-Gifted)	Total
Boys :	Nos.	15	61	76
	Scores	55	236	291
	Mean	3.66	3.86	3.83
Girls :	Nos.	36	31	67
	Scores	123	114	237
	Mean	3.41	3.67	3.54
Total :	Nos.	51	92	143
	Scores	178	350	528
	Mean	3.49	3.80	3.69

Table 5.16(iv)(b) : Showing Summary of Analysis of Variance Results of

Sources of Variance	df	Sum of Squares (Ss)	Mean Squares (Variance)	F Ratios	Remarks
Between I.Q. (Giftedness)	1	3.23	3.23	1.24	Not Sig.
Between Sex	1	3.02	3.02	1.16	Not Sig.
Interaction : I.Q. x Sex	1	1.62	1.62	0.62	Not Sig.
Within Groups (Error term)	139	362.59	2.61		
Total	142	370.46			

From statistical table

For df = 1/139

F at .05 = 3.91

F at .01 = 6.825

Table 5.16(iv)(c): Showing Results of L.S.D. Test for Pair Differences among I.Q. and Sex Sub-groups

$$L.S.D. = t\sqrt{MS_w / N_1 + MS_w / N_2}$$

(t for df of MS_w at .05 = 1.98 and at .01 = 2.615)

	Obtained Mean Differences	Required Difference .05	.01	Signif-icance
(i) For I.Q. Differences :				
Among Boys -				
Extraordinary vs Backward	.20	.93	1.23	Not Sig.
Among Girls -				
Extraordinary vs Backward	.23	.79	1.05	Not Sig.
(ii) Among Sex Differences :				
Among Extraordinary -				
Boys vs Girls	.25	.99	1.31	Not Sig.
Among Backward -				
Boys vs Girls	.19	.71	.94	Not Sig.

The maximum score on this factor Q_4 is ten, and the four groups scored on an average 3.17, 3.18, 3.10 and 3.69 (made up by 3.49 of the gifted and 3.80 of the non-gifted), implying that the groups were far below average on this factor Q_4 i.e., they were not highly tense. The differences due to I.Q., sex and age have been examined below.

The results of 935 subjects (I.Q. x sex) in Table 5.16(i)(b) and (c) show that neither giftedness (I.Q.) nor sex nor their interaction contributed significantly to this factor Q_4.

Similarly, results of 683 subjects (I.Q. x sex x age) in Table 5.16(ii)(b) show that neither I.Q. nor sex nor age nor any interaction, except significant I.Q. x age interaction; showed significance. The closer examination of results in Table 3.16(ii)(c) showsthat highly superior scored significantly higher than superior in case of 15 year girls, while 15 age scored significantly higher than 14 age in case of highly superior girls. There were no other sub-group pair differences. To put it differently, highly superior were significantly higher than superior at 15, and somewhat lower at 13 and 14, and all this accounted for significant interaction between I.Q. and age.

The results of 325 subjects (I.Q. x sex) in Table 5.16 (iii)(b) and (c) also showed that neither giftedness nor sex nor their interaction was significant, as in Table 5.16(i)(b) and (c).

And finally, even the comparison of the gifted and the non-gifted in data of 143 subjects (I.Q. x sex) in Table 5.16(iv) (a), (b), (c) showed that neither I.Q. nor their interaction was significant.

To sum up, neither giftedness nor sex nor age nor any interaction except I.Q. x age, showed significant contribution to factor Q_4 of high ergic tension. Only the highly superior

in case of 15 year old girls, and 15 year old scored significantly higher than 14 year old in case of highly superior girls, thus, accounting for significant I.Q. x age interaction.
