Chapter 8

SEX-WISE DIFFERENTIALS IN STYLES OF LEARNING, LOCUS OF CONTROL, ACHIEVEMENT MOTIVATION, AND INTELLIGENCE OF HIGH-, AVERAGE-, AND LOW-ACHIEVERS.

Efforts which were made here aimed at presenting an analytical picture of the status of correlates of academic achievement of the high-, average-, and low-achievers for both males and females. It was conjectured that sex, perhaps, might explain away the differentials in academic achievement. The following hypotheses were tested:

1. Sex differentials would exist with regard to the styles of learning of students belonging to high-, average-, and low-achieving groups.

2. Sex differentials would exist with regard to the locus of control of students belonging to high-, average-, and low-achieving groups.

3. Sex differentials would exist with regard to the achievement motivation of students belonging to high-, average-, and low-achieving groups.

4. Sex differentials would exist with regard to the IQ of students belonging to high-, average-, and low-achieving groups.

These hypotheses were tested by dividing the three discrepant academic achievement groups (HAs, AAs, & LAs) into two subgroups each, i.e., high-, average-, or low-achievers belonging to male and female groups. The split of these groups on the basis of gender resulted to the composition of relatively small subgroups. There was, however, every possibility that these subgroups lose the normality and linearity of the distribution of their scores pertaining to different measures of variables in the context of academic achievement. Hence, only t test
was applied to verify the above-stated hypotheses. Results have been entered in Table 8.

Table 8 represents 37 sets of t values for all the measures being studied.

Related to each of the 37 measures, three t values have been worked out for male and female groups. The first t value aimed at finding out the significance of difference between mean scores of male and female students belonging to high-achieving group (HAN-HAF). The second t value sought to determine the significance of difference between mean scores, on all measures, of males and females belonging to average-achieving group (AAN-ASF). The last t value sought to explore the significance of difference between mean scores of males and females belonging to low-achieving group (LAN-LAF). These three t values were calculated to test the hypotheses given in the present chapter.

High-Achievers Belonging to Male and Female Groups

For partial testing of the hypotheses of this chapter, high-achievers in the groups of male and female students were studied within themselves. The rationale of these hypotheses was that high-achievers were not homogeneous and could be distinguished on the basis of gender. So, to test this assumption, t value comparing male high-achievers and female high-achievers (HAN-HAF) was calculated, as represented in Table 3. Here, means,
## Reference

For complete reference, please see the following sources:

1. Measuring High-Achievers Average-Achiever Low Achievers

### Table 8

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Male SF</th>
<th>Male FS</th>
<th>Female SF</th>
<th>Female FS</th>
<th>Difference</th>
<th>t Value</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Mean, SD, and t values for males (N=412) and females (N=323)
standard deviations, and t-test comparisons were carried out between male high-achievers and female high-achievers on all measures.

**Academic Achievement**

Table 8 summarizes the results which revealed that the mean and standard deviation for the male high-achievers for academic achievement were 59.30 and 4.72 respectively. Compared with the mean and standard deviation for male high-achievers, the mean achievement score for female high-achievers was 65.81 (SD=4.34), t=9.99, P<.05. This indicated that the mean achievement score for male high-achievers was significantly lower than that reported for female high-achievers. This result tends to support research findings which suggest that girls are generally higher achievers than boys throughout their school years (Carter, 1952; Caslyn & Kenny, 1977; Lao, 1980). They are also more willing to take appropriate action to improve their academic standing by engaging in extended periods of study and taking advantage of additional academic assistance from teachers (Cagly & Whitehead, 1972). These results tend to suggest that successful school performance plays a more significant role in a girl's self-esteem, providing a major source of approval and praise for her, whereas boys tend to seek approval through athletics and other more socially
stereotypic male behaviours (Primavera et al)

Styles of Learning

As seen in Table 8, out of the 16 learning style subvariables, significant mean differences were observed only in the following 5 areas: SA, SB, FF, OL, and IP. t values for these subvariables indicated that male high-achievers had significantly lower scores on these subvariables than did the female high-achievers. Their respective mean scores for SA were 12.91 (SD=4.26) compared with 14.11 (SD=3.11), t= 2.22, P<.05 for female high-achievers. For SB, their respective mean scores were 6.42 (SD=2.73) compared with 7.94 (SD=2.20), t= 4.24, P<.05 for female high-achievers. For FF, their respective mean scores were 6.54 (SD=3.42) compared with 7.58 (SD=2.51), t= 2.39, P<.05 for female high-achievers. For OL, their respective mean scores were 10.71 (SD=2.92) compared with 12.20 (SD=2.49), t= 3.82, P<.05 for female high-achievers. Their respective scores for IP were 9.41 (SD=2.63) compared with 11.05 (SD=2.92), t= 4.14, P<.05 for female high-achievers. For the rest of the learning style subvariables, there were no statistically significant mean differences reported between male high-achievers and female high-achievers.

Regarding reproducing orientation, the mean score for male high-achievers was found to be significantly lower than that reported for the female high-achievers, as seen...
As seen in Table 8, the mean score for holistic orientation (HO) for the male high-achievers was 39.25 (SD =7.27), while that for the female high-achievers was 42.81 (SD =6.47), t = 3.60, P<.05. This suggested that male high-achievers achieved significantly lower scores on HO than did female high-achievers.

Table 8 reveals the results of the survey of MO and AO for both sexes, indicating that the mean scores for male high-achievers were highly comparable to those of female high-achievers, as there were no significant mean differences reported between these two groups for MO and AO.

**Locus of Control**

Table 8 presents means, standard deviations, and t values of Locus of control for male high-achievers compared with female high-achievers.

As seen in Table 8, the mean score for male high-achievers was highly comparable to that of female high-achievers, as there was no statistically significant mean difference reported between male high-achievers and female high-achievers for this variable.

**Achievement Motivation**

Table 8 presents means, standard deviations, and t
values of achievement motivation (n-ACH) for male high-achievers compared with female high-achievers.

As seen in Table 8, the mean score for achievement motivation for male high-achievers was 50.44 (SD=6.44), while that for female high-achievers was 57.17 (SD=4.28), t = 2.17, P < .05. This suggested that male high-achievers achieved significantly lower scores on n-ACH than did the female high-achievers.

Intelligence

Table 8 presents the means, standard deviations, and t values of Vint and its subvariables, NVint, DIQ₁, DIQ₂, and DIQ_comb for male high-achievers compared with female high-achievers.

Comparing male high-achievers and female high-achievers on the basis of nine subvariables of Vint, the mean scores of male high-achievers were found to be less than those reported for female high-achievers in the areas of NS, MI, FI, CF, AN, and RS, although statistically significant mean differences were found only for MI, FI, and RS. As can be seen from this table, the mean scores for male high-achievers were above those found for female high-achievers only in areas of VS, VO, and BA. However, none of these mean differences was found to be statistically significant. Their respective mean scores for MI were 3.12 (SD=1.48) compared with 3.57 (SD=1.50),
t = 2.11, P < .05 for female high-achievers. For FI, their respective mean scores were 5.48 (SD = 2.24) compared with 6.31 (SD = 2.44), t = 2.48, P < .05 for female high-achievers. Their respective mean scores for RS were 5.00 (SD = 1.93) compared with 5.56 (SD = 1.78), t = 2.09, P < .05 for female high-achievers.

Table 8 also reveals the results of Vint, NVint, DIQ₁, DIQ₂, and DIQ_{comb} for both male high-achievers and female high-achievers, indicating that male high-achievers had lower scores on these variables than did the female high-achievers, although there were no statistically significant mean differences reported between male high-achievers and female high-achievers for these variables.

Average-Achievers Belonging to Male and Female Groups

The hypotheses of the present chapter were partially tested by the comparison of the two high-achieving groups belonging to male and female categories, partially by the comparison of two average-achieving groups of males and females, and partially by the comparison of two low-achieving groups of males and females. For the latter two, average and low-achievers of male group were compared with average and low-achievers of female group.

In this section, comparison was made between male average-achievers and female average-achievers on the basis of means, standard deviations, and t values presented in Table 8. Here, means, standard deviations,
and t-test comparisons were carried out between the two groups on all measures.

**Academic Achievement**

Regarding academic achievement, the mean score for male average-achievers was found to be significantly lower than that reported for female average-achievers as seen in Table 8, 49.50 (SD=2.32) compared with 57.63 (SD=2.10), t=33.26, P<.05.

**Styles of Learning**

Table 8 reveals the results of the 16 learning style subscales for male average-achievers and female average-achievers, indicating that male average-achievers had greater mean scores on SB, DS, GT and IP, although statistically significant mean difference was observed only in the case of DS as seen in Table 8, 10.83 (SD=3.41) compared with 9.97 (SD=3.14), t=2.38, P<.05. On the other hand, the female average-achievers achieved significantly higher scores on DA, UE, ST, and CL. Their respective mean scores for DA were 11.62 (SD=3.16) compared with 12.78 (SD=2.77), t=3.52, P<.05 for female average-achievers. For UE, their respective mean scores were 11.32 (SD=3.71) compared with 12.22 (SD=3.16), t=2.38, P<.05 for female average-achievers. Their respective mean scores for ST were 11.53 (SD=3.50) compared with 12.36 (SD=2.95), t=2.31, P<.05 for female average-achievers. And for CL,
their respective mean scores were 10.11 (SD=3.02) compared with 11.11 (SD=3.42), t= 2.85. P<.05.

Table 8 also reveals the results of MO, RO, AO, and HO for average-achievers of both sexes, indicating that male average-achievers had noticeably lower scores on these variables than did the female average-achievers, although statistically significant mean difference was observed only for MO, as seen in the table, 45.42 (SD=9.57) compared with 48.39 (SD 9.45), t= 2.85, P<.05.

**Locus of Control**

Table 8 presents means, standard deviations, and t values of locus of control for male average-achievers compared with female average-achievers.

As seen in Table 8, the mean score for male average-achievers, was found to be lower than that reported for female average-achievers, although the t value did not reach the acceptable level of significance as seen in the table, 9.48, (SD=2.87) compared with 10.09 (SD=3.27), t= 1.82, P>.05.

**Achievement Motivation**

Table 8 presents means, standard deviations, and t values of achievement motivation for male average-achievers compared with female average-achievers.

As seen in Table 8, the mean score for male average-achievers was highly comparable to that of female average-achievers, as there was no statistically
significant mean difference reported between the two groups for this variable.

**Intelligence**

Table 8 also presents the means, standard deviations, and t values of the Vint and its subvariables, NVint, DIQ\textsubscript{1}, DIQ\textsubscript{2}, and DIQ\textsubscript{comb} for male average-achievers compared with female average-achievers.

Comparing the male average-achievers and female average-achievers on the basis of nine subvariables of Vint, the mean scores for male average-achievers were found to be significantly below those reported for male average-achievers in all but one subvariable, i.e., VS. Their respective mean scores for NS were 6.82 (SD=2.39) compared with 7.54 (SD=2.61), t= 2.66, P<.05 for female average-achievers. For MI, their respective mean scores were 2.31 (SD=1.46) compared with 3.18 (SD=1.21), t= 5.83, P<.05 for female average-achievers. For FI, their respective mean scores were 4.16 (SD=2.11) compared with 5.42 (SD=2.16), t= 5.39, P<.05 for female average-achievers. For VO, their respective mean scores were 4.21 (SD=1.24) compared with 4.61 (SD=1.52), t= 2.66, P<.05 for female average-achievers. With respect to CF, their respective mean scores were 9.34 (SD=2.82) compared with 10.75 (SD=2.85), t= 4.54, P<.05 for female average-achievers. Their respective mean score for AN were 8.93 (SD=2.96) compared with 10.26 (SD=2.79), t= 4.11, P<.05
for female average-achievers. For BA, their respective mean scores were 3.18 (SD=1.01) compared with 3.52 (SD=1.04), t= 3.04, P<.05 for female average-achievers. Their respective mean scores for RS were 3.66 (SD=1.67) compared with 4.98 (SD=2.01), t= 6.59, P<.05 for female average-achievers.

Table 8 also reveals the results of Vint, NVint, DIQ\textsubscript{1}, DIQ\textsubscript{2}, and DIQ\textsubscript{comb} for both male average-achievers and female average-achievers, indicating that male average-achievers had significantly lower scores on these variables than did the female average-achievers. Their respective mean scores for Vint were 46.99 (SD=12.27) compared with 54.46 (SD=12.04), t= 5.60, P<.05 for female average-achievers. For NVint, their respective mean scores were 34.07 (SD=11.30) compared with 38.69 (SD=9.79), t= 3.95, P<.05 for female average-achievers. Their respective mean scores for DIQ\textsubscript{1} (deviation intelligence quotient-1) were 94.11 (SD=13.79) compared with 102.50 (SD=13.54), t= 5.60, P<.05 for female average-achievers. For DIQ\textsubscript{2}, their respective mean scores were 94.75 (SD=15.36) compared with 101.02 (SD=13.30), t= 3.95, P<.05 for female average-achievers. Regarding DIQ\textsubscript{comb}, their respective mean scores were 94.43 (SD=12.86) compared with 101.76 (SD=12.51), t= 5.27, P<.05 for female average-achievers.
Low-Achievers Belonging to Male and Female Groups

The hypothesis of the present chapter were tested partially by the comparison of the two high-achieving groups belonging to both sexes, partially by the comparison of the two average-achieving groups belonging to both sexes and partially by the comparison of the two low-achieving groups belonging to both sexes. In this section, comparison was made between male low-achievers and female low-achievers on the basis of means, standard deviations, and t values presented in Table 8. Means, standard deviations, and t-test comparisons were carried out between the two groups on all measures.

Academic Achievement

Table 8 reveals that the mean and standard deviation for male low-achievers were 38.42 and 5.02 respectively. Compared with the mean and standard deviation for male low-achievers, the mean ACH score for female low-achievers was 47.41 (SD= 4.76), t= 12.82, P< .05. This finding indicated that the mean ACH score for male low-achievers was significantly lower than that reported for female low-achievers.

Styles of learning

Table 8 reveals that for the 16 sub-variables of learning style, only 5 significant mean differences were observed in the areas of RI, IM, DS, NA, and Cl. Table 8
indicated that while male low-achievers had significantly greater scores on DA and NA, the female low-achievers had significantly higher scores on RI, IM, and CL. Their respective mean scores for RI were 11.60 (SD=2.23), compared with 12.53 (SD=3.05), t= 2.48, P<.05 for female low-achievers. For IM, their respective mean scores were 9.02 (SD=3.30) compared with 10.98 (SD=3.34), t= 4.13, P<.05 for female low-achievers. For DS, their respective means scores were 11.67 (SD=3.07) compared with 9.38 (SD=2.93), t=5.34, P<.05 for female low-achievers. With respect to NA, their respective mean scores were 11.14 (SD=3.78) compared with 8.85 (SD=3.40), t=4.41, P<.05 for female low-achievers. Their respective mean scores for CL were 9.58 (SD= 3.45) compared with 11.27 (SD=2.62), t= 3.81, P< .05 for female low-achievers. It is remarkable that for the rest of the learning style subvariables, there were no statistically significant mean differences reported between male low-achievers and female low-achievers.

Table 8 also reveals the result of MO, RO, AO, and HO for both male low-achievers and female low-achievers, indicating that male low-achievers had significantly greater scores on AO than did the female low-achievers, while the female low-achievers achieved significantly higher scores on MO than did the male low-achievers. No significant mean differences were reported between male
Locus of Control

Table 8 presents means, standard deviations, and t values of locus of control for male low-achievers compared with female low-achievers.

As seen in Table 8, the mean score for male low-achievers was highly comparable to that of female low-achievers, as there was no statistically significant mean difference reported between male low-achievers and female low-achievers for this variable.

Achievement Motivation

Table 8 presents means, standard deviations, and t values of achievement motivation for male low-achievers compared with female low-achievers.

As seen in Table 8, the mean score for n-ACH for male low-achievers was 51.00 (SD=5.46), while that for female low-achievers was 52.03 (SD=5.59), t= 1.31, P< .05. This suggests that male low-achievers had lower scores on n-ACH than did the female low-achievers, although the t value did not reach the acceptable level of significance.

Intelligence

Table 8 also presents the means, standard deviations, and t values of Vint and its subvariables, NVint, DIQ1, DIQ2, and DIQcomb for male low-achievers
compared with female low-achievers.

Comparing male low-achievers and female low-achievers on the basis of nine subvariables of Vint, the mean scores of male low-achievers were found to be significantly lower than those reported for female low-achievers in all but two variables. Their respective mean scores for NS were 5.92 (SD=2.62) compared with 7.17 (SD=2.52), t= 3.40, P<.05 for female low-achievers. For MI, their respective mean scores were 2.34 (SD=1.51) compared with 3.27 (SD=1.35), t= 4.55, P<.05 for female low-achievers. For FI, their respective mean scores were 4.06 (SD=2.06) compared with 5.45 (SD=2.22), t= 4.56, P<.05 for female low-achievers. For VO, their respective mean scores were 4.19 (SD=1.38) compared with 4.60 (SD=1.08), t= 2.29, P<.05 for female low-achievers. With respect to CF, their respective mean scores were 9.08 (SD=2.89) compared with 10.55 (SD=2.47), t= 3.78, P<.05 for female low-achievers. For AN, their respective mean scores were 8.36 (SD=3.07) compared with 10.55 (SD=2.99), t= 5.03, P<.05 for female low-achievers. Their respective mean scores for RS were 4.17 (SD=1.69) compared with 4.97 (SD=1.79), t= 3.20, P<.05 for female low-achievers. No significant mean differences were observed between male low-achievers and female low-achievers for VS and BA.

Moreover, Table 8 reveals the results of Vint, NVint, DIQ1, DIQ2, and DIQcomb for both male low-achievers and
female low-achievers, indicating that male low-achievers had significantly lower scores on these variables than did the female low-achievers. Their respective mean scores for Vint were 45.71 (SD=12.58) compared with 54.53 (SD=11.14), t=5.16, P<.05 for female low-achievers. For N Vint, their respective mean scores were 33.85 (SD=11.66) compared with 37.24 (SD=9.80), t= 2.18, P<.05 for female low-achievers. Concerning DIQ₁, their respective mean scores were 92.67 (SD=14.14) compared with 102.59 (SD=12.53), t=5.16, P<.05 for female low-achievers. For DIQ₂, their respective mean scores were 94.46 (SD=15.84) compared with 99.06 (SD=13.32), t=2.18, P<.05 for female low-achievers. Regarding DIQ₃, their respective mean scores were 93.56 (SD=13.71) compared with 100.82 (SD=11.70), t=3.95, P<.05 for female low-achievers.

Discussion of Results

The four hypotheses of this chapter assumed that males could be distinguished from the females on the basis of their learning styles, locus of control, achievement motivation, and intelligence. Since it was the measures of academic achievement which differentiated high-, average-, and low-achievers in the total sample for both sexes, it was essentially an examination of some of the relationships between the criterion and gender as well as between the criterion and the independent variables taken separately.
Hypothesis 1

Sex differentials would exist with regard to the styles of learning among students belonging to high-, average-, and low-achieving groups.

Table 8 reveals that out of the 16 learning style dimensions, not even one learning style subvariable significantly differentiated between males and females at all levels of achievement, i.e., high-, average-, and low-achieving groups. However, a few specific learning style measures differentiated males from females at one or two levels of achievement only. For instance, higher mean score on ST did go more with female average-achievers as compared to the male average-achievers. This measure did not, however, significantly demarcate males and females of high- and low-achieving groups. This means that the female average-achievers usually adopt a strategic approach to learning. Besides, learning style dimensions, DA and UE demarcated significantly the male average-achievers and female average-achievers.

Moreover, DS differentiated between male and females, male average-achievers and male low-achievers achieving higher than the female average-achievers and female low-achievers correspondingly. t value of .19 (though nonsignificant) showed the same trend of superiority of male high-achievers to the female high-achievers. In a way, DS might be considered as a common learning style measure
associated with males at all levels of achievement.

Significant t value for learning style subvariable, RI between male low-achievers and female low-achievers was observed. Male low-achievers were found to adopt less of RI approach to studying. Significant t value for IM between male low-achievers and female low-achievers was also observed. Male low-achievers were found to adopt less of IM approach to studying. Again, significant t values for CL between males and females at the average-and low-achievement levels were observed. This indicated that female average-achievers were superior to the male average-achievers in the use of CL approach to studying, and also that the female low-achievers adopted CL approach more frequently than did the male low-achievers. This learning style subvariable did not, however, significantly differentiate between the female high-achievers and the male high-achievers. It only confirmed the direction (t=1.42, P<.05) of the mean difference. Significant t values observed for MO between males and females at the average-and low-achievement levels demonstrated in the same manner that female average-achievers and female low-achievers were much better adapted with the MO learning style than did the male average-achievers and the male low-achievers correspondingly. 'MO' learning style did not, however, significantly differentiate between the male high-achievers and the female high-achievers. It only confirmed the direction (t=.84, P<.05) of the mean difference.
The above discussion did not clear the ground for the acceptance of this hypothesis as only 20 out of 60 t values calculated to verify it came out to be significant at .01 or .05 level. Hypothesis 1 of the present chapter, therefore, stands rejected.

Hypothesis 2

Sex differentials would exist with regard to the locus of control of students belonging to high-, average-, and low-achieving groups.

This hypothesis is not accepted with reference to the number of nonsignificant t values as seen in Table 8, (HA\textsubscript{M}-HA\textsubscript{F}, t=.79, P>.05; AA\textsubscript{M}-AA\textsubscript{F}, t=1.82, P>.05; LA\textsubscript{M}-LA\textsubscript{F}, t=.84, P>.05). Thus, it would appear that the effects of locus of control on academic achievement were the same for both sexes.

It should be noted, however, that other research findings regarding the relationship between sex and locus of control are consistent with small differentials, if any (Jullian & Katz, 1968; Ramanaiah, Ibich, & Schmeck, 1975). Gruzynski (1981), in a study with junior high school sample, reported that locus of control was not contributing significantly to reading achievement.

Hypothesis 3

Sex differentials would exist with regard to the
achievement motivation of students belonging to high-, average-, and low-achieving groups.

This hypothesis stands rejected as only one t value out of the three t values calculated to verify it came out to be significant, as seen in Table 8, (\(H_{A}-HA_{F1} t=2.17, P<.05\); \(AA_{H}-AA_{F}, t=.62, P>.05\); \(LA_{H}-LA_{F}, t=1.31, P>.05\)). Thus, it would appear that the effect of achievement motivation on academic achievement were the same for both sexes.

The direction of these results is in accord with the findings of Dutt and Sabharwal (1973), who found that sex differences did not exist with regard to achievement motivation.

Hypothesis 4

Sex differentials would exist with regard to the IQ of students belonging to high-, average-, and low-achieving groups.

The results showed that three common measures of intelligence including MI, FI and RS significantly differentiated between males and females at all levels of achievement, i.e., high-, average-, and low-achieving groups. Females at all levels of achievement were characterized by higher mathematical ability (MI, & FI) and higher RS.

A few specific measures of intelligence differentiated males from the females at one or two levels of achievement
or. For instance, higher mean score on BA did go more with female average-achievers as compared to male average-achievers. This measure did not, however, significantly differentiate males and females of high-and low-achieving groups. This means that the female average-achievers usually tend to be more logical as compared to the females of high-and low-achieving groups. Similarly, significant t values between males and females at the average-and low-achievement levels for NS, CF, AN, Vint, N Vint, DIQ₁, DIQ₂, and DIQ_comb showed the superiority of female average-achievers and female low-achievers as compared to male average-achievers and to male low-achievers on these dimensions. These variables did not, however, differentiate significantly between male high-achievers and female high-achievers. But their t values of .23, 1.25, .54, 1.06, 1.76, 1.06, 1.76 and 1.56 respectively only pointed to the same trend of superiority of female high-achievers as compared to male high-achievers. In a way, these might also be considered as common measures associated with the females at all levels of achievement.

The above discussion showed that this hypothesis stands accepted in that significant mean differences were obtained between males and females at all the three achievement levels in respect of MI, PI and RS, females achieving significantly higher on these measures. Moreover, eight measures of intelligence including NS, CF, AN, N Vint, DIQ₁, DIQ₂ and DIQ_comb associated significantly more with
the females at the two levels of achievement and the same trend of difference (though, not statistically significant) could be observed for the third level of achievement, BA might be regarded a specific measure of female average-achievers, as it showed significant mean difference as compared to male average-achievers. So in all, 28 t values out of a total of 40 t values obtained came out to be significant at .01 or .05 level, thereby justifying the confirmation of Hypothesis 4 of the present chapter. These results indicated that higher mental ability on the part of the females was, perhaps, a major factor in explaining their better academic performance when compared to the males of the Panjab University College sample.